

A Report on the Analysis of Faunal Remains from Mattapany (18ST0390)

Report Submitted to:

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## *Introduction*

This report presents the analysis and interpretation of faunal remains recovered from the Mattapan site (18ST0390) aboard the Naval Air Station Patuxent River in St. Mary's County, Maryland during the excavations conducted from 1981-1982 and 1991-1997 (Pogue 1983, 1987; Chaney and King 1999). The site was occupied from ca. 1660-1740 serving as both a dwelling for some of Maryland's wealthiest residents and as the colony's primary arms magazine. Henry Sewall, the Secretary of Maryland, likely occupied the site from 1663 until his death in 1665, after which Charles Cavlert and his family lived there until 1684. The property continued to be occupied by the Sewall/Calvert family until the 19th century, but the site was abandoned by the 1740s. From 1671 to 1690, the site acted as the primary arms magazine for the Maryland Colony, but the magazine and dwelling were located in two different areas of the site. The faunal remains from the site are unique in that provide insight into the diet of the wealthiest Maryland residents, including the Governor, from the late-17th century into the early-19th century. In addition to this the magazine assemblage provides one of the few examples of a military context dating to the 17th century.

## *Methods*

The assemblage was identified using the comparative zooarchaeological collection at the University of Tennessee, Knoxville. Fragments were identified to the lowest taxonomic level possible. Element, portion, and side of the bone was also recorded and all bone was weighed. Fragments that could not be identified to class were counted and weighed as unidentified. Bone modifications such as butchering marks, rodent and carnivore gnawing, burning, and root etching were also noted in order to better understand taphonomy on the site. Additionally, epiphyseal fusion was recorded for specimens in order to better understand age structure of the assemblage.

The assemblage was then quantified using three standard zooarchaeological measures: number of identified specimens present (NISP), minimum number of individuals (MNI), and biomass.

NISP, number of identified specimens present, is simply a count of fragments. This measure, like all methods for quantifying faunal assemblages has both positive and negative aspects (Grayson 1984). Specifically, NISP has a tendency to be affected by numerous factors, including the ability to identify elements in different animals, laboratory techniques, cultural and natural site formation processes, and recovery methods (Reitz and Wing 1999:192). Despite the biases that come along with these data they are included in the analysis because of their ease of replication and standard use and presentation in zooarchaeological analyses.

MNI, minimum number of individuals, was calculated using the method outlined by White (1953) and taking age of the specimens into consideration, which results in a slightly more accurate estimate. Like NISP, however, this method also has biases that are affected by the same factors (Reitz and Wing 1999:195). In addition, the way in which the data is aggregated in the calculation of MNI can affect the result (Grayson 1984:90-92; Horton 1984:269). First, the entire assemblage, including plow zone and feature contexts, was combined in order to present the entirety of the faunal collection. However, the occupation span of the site is relatively long, 1660-1740, and there are two distinct areas of the site, one associated with a colonial magazine and the other associated with a dwelling. Therefore, the assemblage was separated based upon these two different activity areas.

This was done because it provided some temporal control over the assemblage since the magazine area of the site was only occupied from 1660-1700, and because it allowed for the comparison of assemblages from two different use areas in order to determine if, and how, the diet of the people at the colonial magazine differed from that of the Calverts and others who live

in the dwelling. These three separate groupings of the overall assemblage, the magazine assemblage, and the dwelling assemblage were also used in the calculation of all of the other measures of relative taxonomic abundance, but skeletal portion analyses and age distributions were only calculated for the magazine and dwelling assemblages since these two groups captured all of the faunal data and were determined to be the most interpretively significant.

The final method used for the quantification of the faunal remains from 18ST233 is the biomass measure obtained by using the allometric regression formulae described by Reitz and Wing (1999:72; see also Reitz and Cordier 1983; Reitz et al. 1987). This method relies upon the biological principle that bone weight and meat weight are correlated. In addition, this relationship is the same throughout time; therefore this method of meat weight estimation from bone weight has less potential room for error than other methods (Reitz and Wing 1999:227). However, like MNI, the way in which the units of excavation are grouped can affect the biomass, therefore two biomass calculations were completed, one for the entire assemblage and one for the feature assemblage. Additionally, other concerns with the use of biomass have been raised (Jackson 1989), however it is necessary to employ some form of dietary contribution calculation for species in order to conduct intrasite and intersite comparisons of the relative contribution of species to diet. Biomass appears to be the least biased of the methods available and it has the advantage of being comparable to the useable meat calculations employed in previous large-scale faunal analyses in the Chesapeake (Bowen 1980, 1994, 1996, 1999; Miller 1984, 1988).

In addition to the measures of taxonomic abundance discussed above, a skeletal part frequency analysis was performed on the collection in order to address questions of taphonomy and preference for certain cuts of meat (Binford 1978; Reitz and Wing 1999:202-221; Klippel 2001). An analysis of skeletal part frequency, based on NISP, was performed where elements

were assigned to five categories: head, axial, foot, front quarter, and hind quarter. The archaeological assemblage was then compared to a standard specimen of the same species using percentages. Four taxa (*Bos taurus* (cow), *Sus scrofa* (pig), *Ovis aries* (sheep), and *Ovis/Capra* (sheep/goat)) were analyzed using this method.

Elements were assigned to the skeletal categories as follows. The head category counted the entire skull as one element, the mandible as two, hyoid bones and the teeth. The axial category included the pelvis and all ribs and vertebrae, with the exception of caudal vertebrae. The foot category consisted of all elements including and below the metacarpals and metatarsals. The hind quarter category was represented by the femur, tibia, and patella. Finally, the front quarter category consisted of the scapula, humerus, radius, and ulna.

Determining the age at death for specimens in faunal collections can be used to address a variety of questions including herd management, specific harvest strategies, seasonality and production (Reitz and Wing 1999:178-179). In general, determining the age for most mammals is done through the examination of tooth eruption, tooth wear, and epiphyseal fusion. For the purposes of this report, only epiphyseal fusion of individual elements was examined for the four large mammals present on the site, *Bos taurus*, *Sus scrofa*, *Ovis aries*, and *Ovis/Capra*. These elements included proximal and distal ends of long bones as well as vertebra, pelvis, and calcaneus fragments. The fusion of elements is not as specific as tooth eruption and wear, and often occurs within a time range of a few months and can be affected by various factors (Reitz and Wing 1999:75). For this analysis I relied upon the fusion data generated by Silver (1970) and Schmid (1972:75) to age individual specimens. Additionally, fusion ages for sheep were used for the sheep/goat category. Elements were then placed into one of three distinct age classes: early fusing (generally less than 12 months), middle fusing (generally less than 30 months), and late

fusing (35-42 months) after Chaplin (1971: Table 10). The age ranges for these groups in months are only estimates, and as a result of the nature of epiphyseal fusion, it should be realized that the ages are relative and the actual age for a specimen may be slightly older or younger than indicated. However, the three groups do allow specimens to be assigned to either a juvenile, subadult, or adult category, which can be useful in understanding harvest strategies and the multiple uses of livestock.

### *Taphonomy and Recovery*

Prior to the analysis and interpretation of the faunal remains from Mattapan the processes effecting the preservation of organic remains at the site must be addressed. Needless to say, these taphonomic processes can significantly bias the data, and affect what research questions can be asked and how to address them best. In general, bone preservation for this assemblage appears to be relatively good, which is probably due to the fact that a large proportion of the faunal remains were recovered from features. The presence of small and delicate fish and mammal bones indicates that burial conditions were at least somewhat favorable for the preservation of bone. It is likely that the soil at the site was slightly acidic, which tends to be common in Chesapeake plow zones, specifically plow zone in southern Maryland tends to have a pH around 5.3 (Miller 1984:203-205). Based upon the condition of the faunal remains, preservation bias does not appear to be a major factor affecting this assemblage. However, without data on the actual soil pH at the site its effect on the preservation of bone is only speculative.

Another taphonomic process affecting the assemblage is plowing, which is particularly germane to the magazine assemblage, since the majority of that assemblage (71%) was recovered from plow zone. The major effect that plowing has on bone preservation is related to

fragmentation. In general, assemblages from plow zone tend to be highly fragmented and tend to have an extremely high proportion of unidentifiable bones (Lyman and O'Brien 1987:495-497). However, this problem does not manifest in the magazine assemblage when examining bone size. Bone weight was used as a proxy for size and the results indicate that bones from the magazine assemblage are actually larger than bones from the dwelling, which all derived from sealed features (Table 1). The average weight for a bone fragment in the magazine assemblage was 3.55g, while the average weight per fragment in the dwelling assemblage was 1.35g. However, this difference may actually be due to the composition of the individual assemblages rather than taphonomic processes.

	<b>Overall Assemblage</b>	<b>Dwelling</b>	<b>Magazine Overall</b>	<b>Magazine Features</b>	<b>Magazine Plow Zone</b>
Avg. frag. weight (g)	2.79	1.35	3.55	8.12	1.64
Avg. ID to at least family frag. weight (g)	6.2	3.6	7.1	8.32	5.14
Avg. UID frag. weight (g)	0.41	0.35	0.45	0.53	0.45

Table 1: Table Comparing Bone Fragment Size in Different Contexts at 18ST390.

In general, the dwelling assemblage is more diverse and has more and smaller fish species than the magazine, which may artificially reduce the average bone weight in the assemblage (discussed below). The effects of plowing on bone size can be seen, however, when the magazine's plow zone assemblage is compared to its feature assemblage. Bone fragments from the magazine's plow zone contexts averaged 1.64g while fragments recovered from feature contexts average 8.12g, almost five times as large. These low weights indicate that the assemblage was highly fragmented, probably due to post-depositional processes such as plowing. As a result of the small fragment size on the site, many of these plow zone fragments were identifiable only to class.

Heat alteration has the potential to significantly impact the analysis of faunal remains on a site. Burning usually occurs at temperatures up to 500°C and alters bone by removing the organic material; it generally changes the color of the bone to brown or black. Calcining of bone

occurs at temperatures over 500°C and can shrink the bone and make it more brittle and prone to fragmentation; it usually changes the color of the bone to white or blue-gray (Lyman 1994:384-392; Reitz and Wing 1999:133). Of the 1,566 bone fragments recovered from entire site 179, or roughly 11%, showed evidence of heat alteration. Sixty-two fragments were burned and 117 fragments were calcined (Figure 1). The proportions of heat-altered bone in the dwelling and magazine assemblages closely mirrored those of the overall assemblage with 11%-12% of both assemblages showing evidence of heat alteration (Figure 2 and Figure 3). Clearly, heat alteration does not play a significant role in the analysis of this collection and does not differ greatly between the dwelling and magazine.

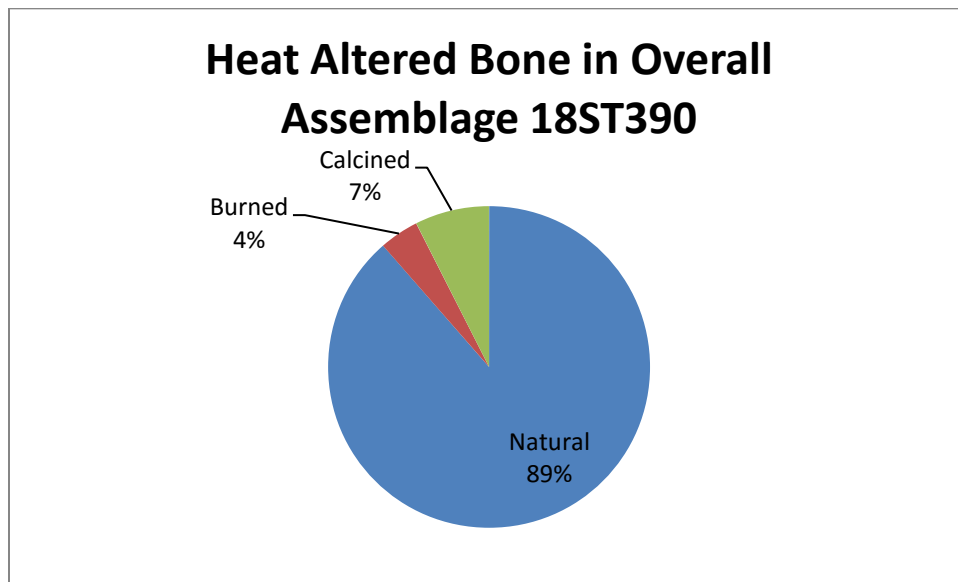


Figure 1: Chart Showing Proportions of Heat Alteration for Overall Assemblage.



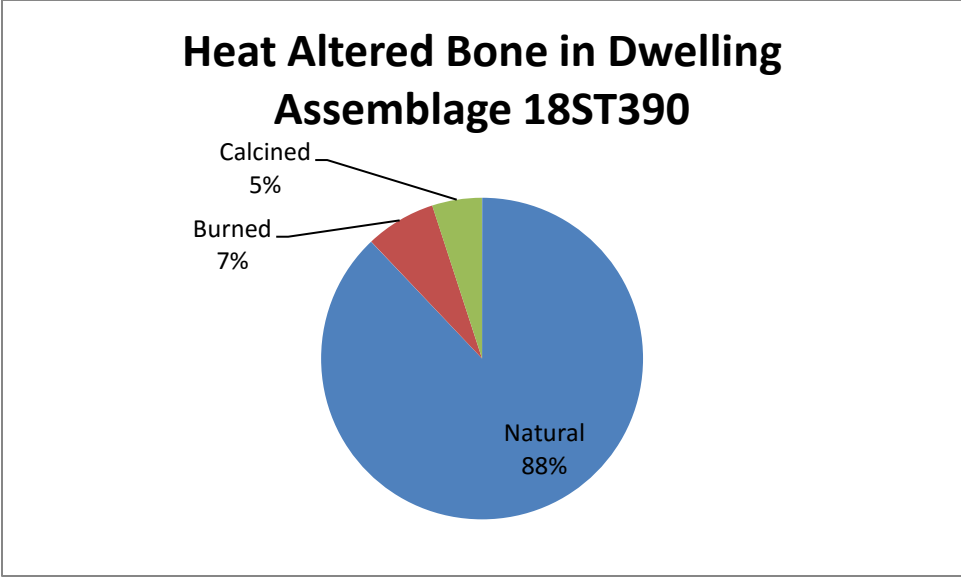


Figure 2: Chart Showing Proportions of Heat Alteration for Dwelling Assemblage.

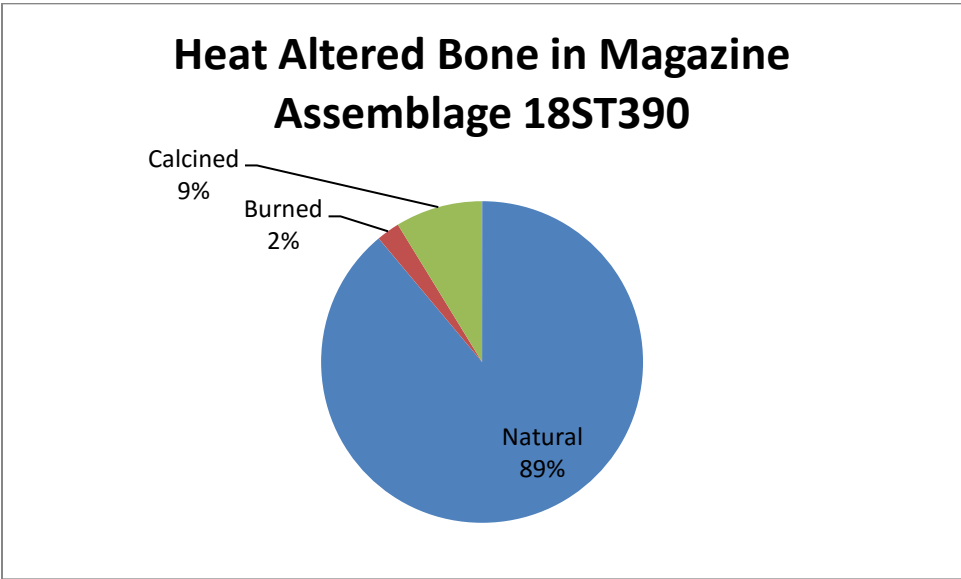


Figure 3: Chart Showing Proportions of Heat Alteration for Magazine Assemblage.

Recovery strategy is exceedingly important in the analysis of any faunal collection, particularly in terms of the diversity of the assemblage and the number of identifiable fragments. All soils on this site were dry-screened through ¼” mesh (Chesapeake Archaeology 2009). While ¼” dry-screening does not capture the smallest bone fragments, such as small fish, bird, and mammal bones, it does serve to recover the majority of the larger species. As such, the

recovery methods using during the excavations at Mattapany should allow for a relatively unbiased representation of larger animal species such as *Bos taurus*, *Gallus gallus* (chicken), or *Acipenser sp.* (sturgeon). However, smaller species, which tend to be composed primarily of fish and birds, will likely be underrepresented in this assemblage. Despite this, the Mattapany assemblage does contain some specimens from smaller species such as *Blarina brevicauda* (short-tailed shrew), *Morone americanus* (white perch), and *Perca flavescens* (yellow perch). Without doubt, ¼” screening is preferable to no screening at all and will generally better represent the diversity of a faunal assemblage than hand-picking artifacts.

### *Overall Results*

The faunal assemblage from Mattapany consisted of 1,566 fragments, 727 (46%) of which were recovered from plow zone, with the remaining 839 fragments recovered from feature contexts. Additionally, 538 fragments (34%) were recovered from the area associated with the 1660-1740 dwelling, while 1,028 fragments (66%) were recovered from the area associated with the 1660-1700 magazine. For the purposes of this section of the report all of the faunal remains will be combined regardless of their context and association and the results of their analysis will be presented (Table 2). The next sections of the report will focus on the dwelling and magazine assemblages in order to determine if and how they differ from one another. This section only addresses measures of taxonomic abundance as a way of presenting general impressions about the entire assemblage. The following sections on the dwelling and the magazine will address the more detailed analyses of skeletal parts and age distributions.

<b>Taxa</b>	<b>NISP</b>	<b>%</b>	<b>MNI</b>	<b>%</b>	<b>Weight (g)</b>	<b>%</b>	<b>Biomass (kg)</b>	<b>%</b>
<u>Mammalia</u>								
<i>Bos taurus</i>	72	4.60%	3	11.54%	2228.4	50.97%	27.11	46.62%
Cf. <i>Bos taurus</i>	2	0.13%			38.6	0.88%	0.71	1.22%
<i>Sus scrofa</i>	95	6.07%	3	11.54%	451.4	10.32%	6.44	11.07%
Cf. <i>Sus scrofa</i>	5	0.32%			27.3	0.62%	0.52	0.89%
<i>Ovis/Capra</i>	5	0.32%	1	3.85%	25.9	0.59%	0.49	0.84%
Cf. <i>Ovis aries</i>	42	2.68%	1	3.85%	513	11.73%	7.23	12.43%
<i>Canis familiaris</i>	12	0.77%	1	3.85%	36.6	0.84%	0.67	1.15%
<i>Didelphis marsupialis</i>	1	0.06%	1	3.85%	1.8	0.04%	0.05	0.09%
<i>Sylvilagus floridanus</i>	4	0.26%	2	7.69%	3.4	0.08%	0.08	0.14%
<i>Sciurus carolinensis</i>	8	0.51%	2	7.69%	3.8	0.09%	0.09	0.15%
<i>Peromyscus</i>	1	0.06%	1	3.85%	0.1	0.00%	0.003	0.01%
Cf. <i>Blarina brevicauda</i>	1	0.06%	1	3.85%	0.05	0.00%	0.001	0.00%
<i>Artiodactyla</i>	325	20.75%			613.5	14.03%	8.49	14.60%
UID <i>Mammalia</i>	850	54.28%			363.45	8.31%	5.3	9.11%
<u>Aves</u>								
<i>Gallus gallus</i>	28	1.79%	2	7.69%	15.45	0.35%	0.25	0.43%
Cf. <i>Gallus gallus</i>	1	0.06%			0.8	0.02%	0.02	0.03%
<i>Branta canadensis</i>	3	0.19%	1	3.85%	4.1	0.09%	0.07	0.12%
Cf. <i>Branta canadensis</i>	1	0.06%			1.4	0.03%	0.03	0.05%
UID <i>Aves</i>	33	2.11%			10.65	0.24%	0.18	0.31%
<u>Osteichthyes</u>								
<i>Acipenser sp.</i>	2	0.13%	1	3.85%	0.5	0.01%	0.02	0.03%
<i>Lepisosteus osseus</i>	1	0.06%	1	3.85%	0.05	0.00%	0.003	0.01%
<i>Morone americanus</i>	10	0.64%	1	3.85%	0.7	0.02%	0.02	0.03%
<i>Perca flavescens</i>	3	0.19%	2	7.69%	0.15	0.00%	0.006	0.01%
UID <i>Osteichthyes</i>	39	2.49%			4.2	0.10%	0.09	0.15%
<u>Reptilia</u>								
Cf. <i>Elaphe obsoleta</i>	3	0.19%	1	3.85%	0.2	0.00%	0.003	0.01%
<i>Testudines</i>	16	1.02%	1	3.85%	26.2	0.60%	0.28	0.48%
<u>Malacostraca</u>								
<i>Decapoda</i>	3	0.19%			0.3	0.01%		
<b>Total</b>	<b>1566</b>		<b>26</b>		<b>4372</b>		<b>58.156</b>	

Table 2: Table Showing Taxonomic Abundance Measures for the Overall Assemblage at 18ST390.

The analysis of the faunal remains from all contexts on the site revealed that the top five most abundant species, based upon NISP, were *Sus scrofa*, *Bos taurus*, *Ovis aries*, *Gallus gallus*, and *Testudines* (turtle). The MNI calculation revealed a total of at least 26 individuals represented in the assemblage. The most abundant species, based upon MNI were *Bos taurus*, *Sus scrofa*, *Sylvilagus floridanus* (cottontail rabbit), *Sciurus carolinensis* (gray squirrel), and *Gallus gallus*. The biomass calculation showed *Bos taurus*, *Ovis aries*, *Sus scrofa*, *Ovis/Capra* (sheep/goat), and *Gallus gallus* to be the top species contributing to diet on the site. Clearly, these three different measures of taxonomic abundance show some variation in terms of the most important dietary contributors in the assemblage. However, it should be noted that, in general *Bos taurus*, *Sus scrofa*, *Ovis aries*, and *Gallus gallus* appear to be the primary sources of meat based upon all of the taxonomic abundance measures. As discussed above, all three of these measures have advantages and disadvantages stemming from aggregation, post-depositional processes, and variation in calculation. Therefore, while all of these data are presented, the following discussions will rely mainly on biomass when addressing dietary contribution as it is one of the least biased measures of the three.

At least 18 distinct species were identified in the faunal assemblage from Mattapan. However, as many as four of these species are commensal meaning that inhabitants of the site would likely have not eaten them and that their presence in the assemblage probably results from natural or non-food-related processes. From the overall analysis of the faunal assemblage it appears that residents of the site relied primarily upon beef, pork, and mutton for their meat diet. Indeed, beef, pork, and mutton account for almost 98% of the total biomass if unidentified and commensal species are removed. It should be noted that domestic species account for more than 98% of the total biomass, while wild species account for 1.7%. Most of the wild biomass is

derived from small wild mammals in the collection, particularly squirrel and rabbit, but at least four fish species, one bird species, and turtle also contribute to non-domestic biomass. The composition of the wild assemblage indicates that the occupants of the site took advantage of available local resources, including fish and waterfowl in the nearby Patuxent River. However, based upon taxonomic abundance measures, it appears that the presence of wild game at the table was exceedingly rare despite Mattapany's proximity to the abundant resources of the river. The lack of any identified fragments from *Odocoileus virginianus* (white-tailed deer) in this assemblage is both odd and interesting, considering that the majority of previously-analyzed sites dating from 1660-1740 have at least some deer fragments in their faunal assemblages (Bowen 1996). This pattern may be indicative of environment, social status, site use, or a combination of these factors and will be addressed below.

### *Dwelling Results*

The faunal assemblage from the dwelling contexts at Mattapany consisted of 538 fragments. For the purposes of this section of the report only the faunal remains recovered from dwelling-related contexts will be examined and the results of their analysis will be presented (Table 3). By examining the dwelling contexts it is possible to compare the faunal assemblage of this high status domestic portion of the site to the faunal assemblage from the garrisoned magazine portion of the site. However, it should be noted that the faunal assemblage from the dwelling spans its occupation from 1660-1740. Rather than trying to phase features to the Calvert period, which would have made the assemblage too small to be of any great interpretive value, all dwelling related contexts were combined, regardless of their temporal association. While this complicates the temporal resolution of this assemblage slightly, it does allow for the comparison of a domestic faunal assemblage to a more military-oriented assemblage.

<b>Taxa</b>	<b>NISP</b>	<b>%</b>	<b>MNI</b>	<b>%</b>	<b>Weight (g)</b>	<b>%</b>	<b>Biomass (kg)</b>	<b>%</b>
<u><b>Mammalia</b></u>								
<i>Bos taurus</i>	7	1.30%	1	5.56%	266	36.58%	4	34.21%
Cf. <i>Bos taurus</i>	1	0.19%			2.6	0.36%	0.06	0.51%
<i>Sus scrofa</i>	43	7.99%	2	11.11%	154.8	21.29%	2.46	21.04%
Cf. <i>Sus scrofa</i>	4	0.74%			22.6	3.11%	0.44	3.76%
<i>Ovis/Capra</i>	1	0.19%	1	5.56%	3.4	0.47%	0.08	0.68%
<i>Didelphis marsupialis</i>	1	0.19%	1	5.56%	1.8	0.25%	0.04	0.34%
<i>Sylvilagus floridanus</i>	3	0.56%	2	11.11%	2	0.28%	0.05	0.43%
<i>Sciurus carolinensis</i>	8	1.49%	2	11.11%	3.8	0.52%	0.09	0.77%
<i>Peromyscus</i>	1	0.19%	1	5.56%	0.1	0.01%	0.003	0.03%
Cf. <i>Blarina brevicauda</i>	1	0.19%	1	5.56%	0.05	0.01%	0.002	0.02%
<i>Artiodactyla</i>	45	8.36%			108.6	14.94%	1.79	15.31%
UID <i>Mammalia</i>	301	55.95%			115.15	15.84%	1.88	16.08%
<u><b>Aves</b></u>								
<i>Gallus gallus</i>	28	5.20%	2	11.11%	15.45	2.12%	0.25	2.14%
Cf. <i>Gallus gallus</i>	1	0.19%			0.8	0.11%	0.02	0.17%
<i>Branta canadensis</i>	3	0.56%	1	5.56%	4.1	0.56%	0.07	0.60%
Cf. <i>Branta canadensis</i>	1	0.19%			1.4	0.19%	0.03	0.26%
UID <i>Aves</i>	32	5.95%			10.15	1.40%	0.17	1.45%
<u><b>Osteichthyes</b></u>								
<i>Morone americanus</i>	10	1.86%	1	5.56%	0.7	0.10%	0.02	0.17%
<i>Perca flavescens</i>	3	0.56%	2	11.11%	0.15	0.02%	0.006	0.05%
UID <i>Osteichthyes</i>	39	7.25%			4.2	0.58%	0.09	0.77%
<u><b>Reptilia</b></u>								
<i>Testudines</i>	2	0.37%	1	5.56%	9	1.24%	0.14	1.20%
<u><b>Malacostraca</b></u>								
<i>Decapoda</i>	3	0.56%			0.3	0.04%		
<b>Total</b>	<b>538</b>		<b>18</b>		<b>727.15</b>		<b>11.691</b>	

Table 3: Table Showing Taxonomic Abundance Measures for the Dwelling Assemblage at 18ST390.

The analysis of the faunal remains from dwelling contexts on the site revealed that the top five most abundant species, based upon NISP, were *Sus scrofa*, *Gallus gallus*, *Morone americanus*, *Bos taurus*, and *Sciurus carolinensis*. The MNI calculation revealed a total of at least 18 individuals represented in the assemblage. The most abundant species, based upon MNI were *Sus scrofa*, *Sylvilagus floridanus*, *Sciurus carolinensis*, *Gallus gallus*, and *Perca flavescens*. The biomass calculation showed *Bos taurus*, *Sus scrofa*, *Gallus gallus*, *Branta Canadensis* (Canada goose), and *Sciurus carolinensis* to be the top species contributing to diet on the site. These three different measures of taxonomic abundance show some variation in terms of the most important dietary contributors in the assemblage. Based upon all three measures of taxonomic abundance *Bos taurus*, *Sus scrofa*, and *Gallus gallus*, appear to be the primary sources of meat in the dwelling assemblage. Like the overall analysis, the following discussions will rely mainly on biomass when addressing dietary contribution as it is one of the least biased measures of the three.

At least 14 distinct species were identified in the dwelling faunal assemblage from Mattapan. In general, the dwelling assemblage is relatively diverse. However, at least three of these species would be considered commensal species or those that ended up in the assemblage through natural processes, such as burrowing and dying. Nevertheless, previously-analyzed sites in the Chesapeake dating from 1660-1740 tend to have between 9 and 29 species per assemblage, averaging 15, which places Mattapan well within that range (Bowen 1996:121-122). From the analysis of this assemblage it appears that residents of the site relied primarily upon beef, pork, and chicken for their meat diet. Indeed, beef, pork, and chicken account for more than 94% of the total biomass if unidentified and commensal species are removed. It should be noted that domestic species account for 93% of the total biomass, while wild species account for the

remaining 7%. Most of the wild biomass stems from rabbit, squirrel, goose, two fish species, and turtle. The reliance on wildlife is generally low in this assemblage, which is common for sites dating from 1660-1740, especially sites associated with high status domestic occupations, like Mattapany (Miller 1984; Bowen 1996:121-122).

A skeletal part frequency analysis for the dwelling assemblage was performed for identified fragments from *Bos taurus*, *Sus scrofa*, and *Ovis/Capra*. As explained above, this analysis quantified fragments from different portions of the skeleton and compared their occurrence on the site with what should be expected from a typical specimen. The skeletal part frequency analysis for *Bos taurus* showed that only front quarter, foot, and head portions of this species occurred in the dwelling contexts, with all of the head portions represented by teeth (Table 4). This pattern stems from the extremely small sample size of seven and should not be seen as representative of cultural processes, but probably indicative of preservation bias. Indeed, teeth and bones in the foot are among the densest in an animal and tend to survive better than other portions of the skeleton (Reitz and Wing 1999:117-118).

<i>Bos taurus</i>	<b>Head</b>	<b>Foot</b>	<b>Axial</b>	<b>Front Quarter</b>	<b>Hind Quarter</b>
Observed Count	3	2	0	2	0
Observed %	43%	29%	0%	29%	0%
Expected %	21%	37%	36%	4%	3%

Table 4: Table Showing Skeletal Part Frequency for *Bos taurus* in the Dwelling Assemblage.

The analysis for *Sus scrofa* revealed generally expected proportion of the different skeletal portions except that no front quarters were present and the axial portions were significantly lower than expected (Table 5). The low occurrence of axial portions may be due to the fact that ribs and vertebrae fragment easily and are often grouped in the general *Artiodactyla* category due to their lack of diagnostic features when fragmented and their similarity to caprine and deer elements. Therefore, it is possible that axial portions for this species are present in the collection to a higher degree, but are simply unidentifiable. Finally, the analysis of skeletal parts



from *Ovis/Capra* also has an extremely small sample of one fragment from the foot. Clearly, this sample is too small to say anything meaningful about, but does help to underscore the scarcity of caprine remains in the dwelling assemblage (Table 6).

<i>Sus scrofa</i>	Head	Foot	Axial	Front Quarter	Hind Quarter
Observed Count	17	24	2	0	4
Observed %	36%	51%	4%	0%	9%
Expected %	21%	50%	24%	3%	2%

Table 5: Table Showing Skeletal Part Frequency for *Sus scrofa* in the Dwelling Assemblage.

<i>Ovis/Capra</i>	Head	Foot	Axial	Front Quarter	Hind Quarter
Observed Count	0	1	0	0	0
Observed %	0%	100%	0%	0%	0%
Expected %	21%	37%	36%	4%	3%

Table 6: Table Showing Skeletal Part Frequency for *Ovis/Capra* in the Dwelling Assemblage.

An age distribution analysis for the dwelling assemblage was also performed for identified fragments from *Bos taurus* and *Sus scrofa*. There were no *Ovis/Capra* bones that could be used in this analysis. With only two *Bos taurus* bones, the sample was far too small to be meaningful and only showed that the two fragments were not from a juvenile specimen (Table 7 and Table 8). The analysis for *Sus scrofa* contained a larger amount of bones, 11, but still not statistically significant (Table 9 and Table 10). Nevertheless, the age distribution showed that the majority of pigs in the dwelling assemblage were likely sub-adults, with only one fragment definitively from a fully mature specimen.

<i>Bos taurus</i> , n=2	Early	Middle	Late
%Fused	100%	0%	0%
%Unfused	0%	0%	0%

Table 7: Table Showing Age Distribution for *Bos taurus* in the Dwelling Assemblage.

Element	Fused	Unfused	Age at Fusion
Proximal Radius	1		12-18
Second Phalanx	1		18-24

Table 8: Table Showing Elements Used in the Age Distribution Analysis of *Bos taurus* in the Dwelling Assemblage.

<i>Sus scrofa</i> , n=11	Early	Middle	Late
%Fused	27%	18%	9%
%Unfused	9%	36%	0%

Table 9: Table Showing Age Distribution for *Sus scrofa* in the Dwelling Assemblage.

Element	Fused	Unfused	Age at Fusion
Vertebral Centrum	1		48-84

Distal Metapodium	2	4	24-27
Proximal Metapodium	1		Fused before birth
First Phalanx	2	1	24

Table 10: Table Showing Elements Used in Age Distribution Analysis of *Sus scrofa* in the Dwelling Assemblage.

### *Magazine Results*

The faunal assemblage from the magazine contexts at Mattapany consisted of 1,028 fragments. For the purposes of this section of the report only the faunal remains recovered from magazine-related contexts will be examined and the results of their analysis will be presented (Table 11). The individual examination of the magazine contexts provides the advantage of a tighter temporal resolution than the dwelling, since it was occupied from 1660-1700, and allows for the examination of a faunal assemblage from an area used mainly for military purposes, a vastly different context than the dwelling. Rather than separating feature and plow zone contexts from this area of the site all magazine-related contexts were combined in order to increase the size of the assemblage and because the relatively short occupation indicates that there should be little to no contamination from other periods.

<b>Taxa</b>	<b>NISP</b>	<b>%</b>	<b>MNI</b>	<b>%</b>	<b>Weight (g)</b>	<b>%</b>	<b>Biomass (kg)</b>	<b>%</b>
<u>Mammalia</u>								
<i>Bos taurus</i>	65	6.32%	3	20.00%	1962.4	53.84%	24.18	49.47%
<i>Cf. Bos taurus</i>	1	0.10%			36	0.99%	0.66	1.35%
<i>Sus scrofa</i>	52	5.06%	3	20.00%	296.6	8.14%	4.42	9.04%
<i>Cf. Sus scrofa</i>	1	0.10%			4.7	0.13%	0.11	0.23%
<i>Cf. Ovis aries</i>	42	4.09%	2	13.33%	513	14.07%	7.23	14.79%
<i>Ovis/Capra</i>	4	0.39%	1	6.67%	22.5	0.62%	0.43	0.88%
<i>Canis familiaris</i>	12	1.17%	1	6.67%	36.6	1.00%	0.67	1.37%
<i>Sylvilagus floridanus</i>	1	0.10%	1	6.67%	1.4	0.04%	0.04	0.08%
<i>Artiodactyla</i>	280	27.24%			504.9	13.85%	7.13	14.59%
<i>UID Mammalia</i>	549	53.40%			248.3	6.81%	3.76	7.69%
<u>Aves</u>								
<i>UID Aves</i>	1	0.10%			0.5	0.01%	0.01	0.02%
<u>Osteichthyes</u>								
<i>Acipenser sp.</i>	2	0.19%	1	6.67%	0.5	0.01%	0.02	0.04%
<i>Lepisosteus osseus</i>	1	0.10%	1	6.67%	0.05	0.00%	0.003	0.01%
<u>Reptilia</u>								
<i>Cf. Elaphe obsoleta</i>	3	0.29%	1	6.67%	0.2	0.01%	0.003	0.01%
<i>Testudines</i>	14	1.36%	1	6.67%	17.2	0.47%	0.21	0.43%
<b>Total</b>	<b>1028</b>		<b>15</b>		<b>3644.85</b>		<b>48.876</b>	

Table 11: Table Showing Taxonomic Abundance Measures for the Magazine Assemblage at 18ST390.

The analysis of the faunal remains from magazine contexts on the site revealed that the top five most abundant species, based upon NISP, were *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Testudines*, and *Canis familiaris* (dog). The MNI calculation revealed a total of at least 15 individuals represented in the assemblage. The most abundant species, based upon MNI were *Bos taurus*, *Sus scrofa*, and *Ovis aries*, with the remaining species represented by one individual. The biomass calculation showed *Bos taurus*, *Ovis aries*, *Sus scrofa*, *Ovis/Capra*, and *Sylvilagus floridanus* to be the top species contributing to diet on the site. These three different measures of taxonomic abundance show some variation in terms of the most important dietary contributors in the assemblage. Based upon all three measures of taxonomic abundance *Bos taurus*, *Sus scrofa*, and *Ovis aries*, appear to be the primary sources of meat in the magazine assemblage. However, it should be noted that all of the sheep bones come from one context that contained the majority of the skeletons of two individuals, perhaps representing the burial or discard of two entire animals. As such, it is possible that these specimens were not eaten, but may have died and been disposed of. Due to this fact, the high proportion of sheep in this assemblage should probably not be seen as representative of diet at the site. Again, like the overall and dwelling analyses the following discussions will rely mainly on biomass when addressing dietary contribution as it is one of the least biased measures of the three.

At least 9 distinct species were identified in the magazine faunal assemblage from Mattapan. In general, the magazine assemblage is not very diverse, particularly since at least two of these species would be considered commensal species or those that ended up in the assemblage through natural processes, such as burrowing and dying. Previously-analyzed sites in the Chesapeake dating from 1660-1700 tend to have between 9 and 29 species per assemblage, averaging 17, which places the Mattapan magazine in the lower end of the range overall, and

well below that range when commensal species are factored out (Bowen 1996:121-122). From the analysis of this assemblage it appears that residents of the site relied primarily upon beef and pork for their meat diet with some mutton (excluding sheep, however, because of its unique context). Indeed, beef and pork account for almost 98% of the total biomass if unidentified and commensal species are removed. It should be noted that domestic species account for more than 99% of the total biomass, while wild species account for around 0.9%. The wild biomass stems from rabbit, sturgeon, longnose gar, and turtle, but is clearly insignificant compared to the domestic species. The reliance on wildlife is very low in this assemblage, considering its time period and its rural setting near the Patuxent River (Miller 1984; Bowen 1996:121-122). The extremely high proportions of beef and pork, coupled with the almost non-existent presence of wild game indicate that diet at the site was likely affected by its use as a military magazine and garrison.

A skeletal part frequency analysis for the magazine assemblage was performed for identified fragments from *Bos taurus*, *Sus scrofa*, *Ovis aries*, and *Ovis/Capra*. As explained above, this analysis quantified fragments from different portions of the skeleton and compared their occurrence on the site with what should be expected from a typical specimen. The skeletal part frequency analysis for *Bos taurus* showed that all portions of this species were present in the magazine contexts and that front and hind quarter portions were much higher than expected while axial and foot portions were moderately lower than expected (Table 12). In general, the sample size for this species is fairly robust and the patterns seen in this analysis do have some interpretive power. It appears that meatier portions of beef, such as the quarters, were favored in this assemblage over the lower utility portions. This may be indicative of preference or food supply at the magazine (discussed below).

<i>Bos taurus</i>	<b>Head</b>	<b>Foot</b>	<b>Axial</b>	<b>Front Quarter</b>	<b>Hind Quarter</b>
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Observed Count	17	7	11	9	13
Observed %	30%	12%	19%	16%	23%
Expected %	21%	37%	36%	4%	3%

Table 12: Table Showing Skeletal Part Frequency for *Bos taurus* in the Magazine Assemblage.

The analysis for *Sus scrofa* revealed that all portions of the skeleton were present, but that head portions were vastly over represented, while quarters were moderately higher than expected and axial and foot portions were much lower than expected (Table 13). The low occurrence of axial portions may be due to the fact that ribs and vertebrae fragment easily and are often grouped in the general *Artiodactyla* category due to their lack of diagnostic features when fragmented and their similarity to caprine and deer elements. The large proportion of head fragments likely stems from the large amount of pig teeth in this assemblage, which are not only resistant to destruction, but also easily identifiable. The sample size of 53 fragments is relatively large and allows for the interpretation of these patterns, which may indicate a slight preference for meatier portions of pork, but also may reveal certain preservation biases in the assemblage.

<i>Sus scrofa</i>	<b>Head</b>	<b>Foot</b>	<b>Axial</b>	<b>Front Quarter</b>	<b>Hind Quarter</b>
Observed Count	36	3	2	9	3
Observed %	68%	6%	4%	17%	6%
Expected %	21%	50%	24%	3%	2%

Table 13: Table Showing Skeletal Part Frequency for *Sus Scrofa* in the Magazine Assemblage.

The analysis of skeletal parts from *Ovis aries* showed that axial, front, and hind quarter portions were higher than expected while head and foot portions were lower than expected (Table 14). Despite the relatively large sample size of 42, however, this distribution likely has little cultural meaning in terms of diet due to the context of the sheep remains. Since these two nearly complete individuals were found in the same feature, it is likely that they are the result of a burial or some kind of disposal after death rather than the remains of a meal, which is supported by the fact that the elements are relatively complete and there are no butchery marks. The *Ovis/Capra* skeletal portion analysis was compromised by a very small sample size of four (Table 15). However, it did show that all portions except for the hind quarter were present.

Clearly, this sample is too small to say anything meaningful, but it does help to underscore the scarcity of caprine remains in the magazine assemblage that are not associated with the two nearly complete sheep.

<i>Ovis aries</i>	Head	Foot	Axial	Front Quarter	Hind Quarter
Observed Count	6	5	17	9	5
Observed %	14%	12%	40%	21%	12%
Expected %	21%	37%	36%	4%	3%

Table 14: Table Showing Skeletal Part Frequency for *Ovis aries* in the Magazine Assemblage.

<i>Ovis/Capra</i>	Head	Foot	Axial	Front Quarter	Hind Quarter
Observed Count	1	1	1	1	0
Observed %	25%	25%	25%	25%	0%
Expected %	21%	37%	36%	4%	3%

Table 15: Table Showing Skeletal Part Frequency for *Ovis/Capra* in the Magazine Assemblage.

An age distribution analysis for the magazine assemblage was also performed for identified fragments from *Bos taurus*, *Sus scrofa*, *Ovis aries*, and *Ovis/Capra*. The age distribution for *Bos taurus* showed that the majority of cows fell into the sub-adult range and most were likely under 3 years old (Table 16 and Table 17). There were no juvenile cows present in the assemblage. The low proportion of fully adult cows in the assemblage may indicate that the cows in the assemblage were being selected for their meat rather than being raised for other purposes, such as dairy, since prime beef tends to come from animals that are not fully mature. Additionally, the sample size for the age distribution for cows is moderately large, 22 bones, which makes the interpretations drawn from this assemblage slightly more reliable than previous age analyses in this collection.

<i>Bos taurus</i> , n=22	Early	Middle	Late
%Fused	50%	27%	14%
%Unfused	0%	0%	23%

Table 16: Table Showing Age Distribution for *Bos taurus* in the Magazine Assemblage.

Element	Fused	Unfused	Age at Fusion
Vertebral Centrum	3	2	84-108
Proximal Femur		1	42
Calcaneus	1		36-42
First Phalanx	2		18-24
Proximal Humerus		1	42-48
Distal Humerus	4		12-18

Distal Metatarsal	1		24-36
Second Phalanx	2		18-24
Distal Tibia	4		24-30
Proximal Tibia		1	42-48

Table 17: Table Showing Elements Used in Age Distribution of *Bos taurus* in the Magazine Assemblage.

The analysis for *Sus scrofa* contained a small amount of bones, eight, and did not constitute a statistically significant sample (Table 18 and Table 19). Nevertheless, the age distribution showed that the majority of pigs in the dwelling assemblage were likely sub-adults, with only one fragment definitively from a fully mature specimen. The *Ovis aries* analysis contained 20 fragments, which revealed that one of the sheep specimens was a fully mature adult, while the second specimen was a sub-adult (Table 20 and Table 21). The *Ovis/Capra* analysis revealed that juvenile and sub-adult specimens were present (Table 22 and Table 23). However, the sample size for this category only consisted of three fragments, far too few to be statistically significant.

<i>Sus scrofa</i> , n=8	<b>Early</b>	<b>Middle</b>	<b>Late</b>
%Fused	88%	0%	13%
%Unfused	0%	0%	0%

Table 18: Table Showing Age Distribution for *Sus scrofa* in the Magazine Assemblage.

<b>Element</b>	<b>Fused</b>	<b>Unfused</b>	<b>Age at Fusion</b>
Distal Humerus	5		18-Dec
Proximal Metacarpal	1		Fused before birth
Proximal Radius	1		12
Proximal Ulna	1		36-42

Table 19: Table Showing Elements Used in Age Distribution of *Sus scrofa* in the Magazine Assemblage.

<i>Ovis aries</i> , n=20	<b>Early</b>	<b>Middle</b>	<b>Late</b>
%Fused	10%	20%	50%
%Unfused	0%	0%	20%

Table 20: Table Showing Age Distribution for *Ovis Aries* in the Magazine Assemblage.

<b>Element</b>	<b>Fused</b>	<b>Unfused</b>	<b>Age at Fusion</b>
Vertebral Centrum	1	2	48-60
Distal Femur	2		36-42
Calcaneus	2		30-36
Proximal Humerus	1	1	36-42
Distal Metatarsal	2		18-28
Acetabulum	2		6-10
Distal Radius	2	1	36-42
Proximal Tibia	2		36-42
Proximal Ulna	2		36-42



Table 21: Table Showing Elements Used in Age Distribution of *Ovis aries* in the Magazine Assemblage.

<i>Ovis/Capra</i> , n=3	<b>Early</b>	<b>Middle</b>	<b>Late</b>
%Fused	33%	33%	0%
%Unfused	33%	0%	0%

Table 22: Table Showing Age Distribution for *Ovis/Capra* in the Magazine Assemblage.

<b>Element</b>	<b>Fused</b>	<b>Unfused</b>	<b>Age at Fusion</b>
Calcaneus	1		30-36
Acetabulum	1		6-10
Proximal Radius		1	36-42

Table 23: Table Showing Elements Used in Age Distribution of *Ovis/Capra* in the Magazine Assemblage.

### *Discussion*

The composition of the Mattapany faunal assemblage, as a whole, appears fairly typical for an assemblage from the Chesapeake dating from 1660-1740. The faunal remains show a strong reliance on beef and pork, with a very low proportion of wild game, trends that became more common as the 18<sup>th</sup> century progressed (Bowen 1996). While there does appear to be an abnormally large amount of sheep bones in the assemblage, this actually stems from the two individuals recovered from a single feature associated with the magazine, which probably do not accurately reflect the dietary practices at the site. More interesting is the fact that no deer bones were identified in the assemblage. This is probably not due to taphonomic processes since the bones from animals of similar size and density were identified, including sheep and goat, but rather it likely stems from the status of the occupants and use of the site (discussed below).

The differences between the dwelling and magazine assemblages are important not only for understanding change in dietary practices over time, but also for discussing the status of site occupants as well as site use and its effect on dietary practices. Therefore, the remainder of this discussion will focus on interpreting and comparing these two assemblages because they offer, arguably, the most meaningful ways of grouping faunal remains, and even other artifact types, on the site. Tacking back and forth between the two assemblages and using information about the site areas and occupants known from previous historical research helps to illuminate the

differences between these two sub-assemblages and what they might mean for the interpretation of the site's history.

The composition of the dwelling assemblage is somewhat atypical of an assemblage dating from 1660-1740 in the Chesapeake in that pork makes up a slightly larger percentage of the potential meat on the site than normal and beef is slightly lower than normal. In general, sites that date to this period average approximately 25% pork and 65% beef (Miller 1984; Bowen 1996). The dwelling assemblage, on the other hand, is composed of around 37% pork and 52% beef. While these numbers are different they are likely not significant first due to a fairly small sample size, only 8 cow bones and 47 pig bones, and secondly due to taphonomic processes that favor pig teeth, of which there were 12. With this knowledge, it is perhaps better to look at the dwelling assemblage in terms of the proportion of wild game present.

Sites from the Chesapeake that dating from 1660-1740 range in the proportion of wild meat represented in their assemblages from 1% to 15%. However, the average for all of these sites combined is almost 8% (Bowen 1996:121-122). The dwelling assemblage at Mattapany falls easily within the range for this period, even approaching the average, with almost 7% wild game comprising the potential meat assemblage. Despite the proximity of the dwelling at Mattapany to the Patuxent River, the inhabitants took little advantage of its marine resources. Only two fish species were present, white perch and yellow perch, both of which are small, and one waterfowl species, the Canada goose. Henry Miller has argued that after about 1660 colonists began to shift away from harvesting large amounts of wild game partially due to increased settlement and security and partially due to the increasing economic value of domestic species (1984, 1988). As a member of the highest echelon of Maryland society, Charles Calvert would have probably been at the forefront of this trend because of his monetary wealth and his

control of vast amounts of labor able to raise domestic stock more efficiently. Later owners of Mattapany would have also continued these practices due to their high socio-economic status.

The low proportion of wild meat in the dwelling assemblage is not surprising in light of previous work and the social status of the site owners. However, the complete lack of deer remains in the assemblage is puzzling. During the course of a brief background review, I could not locate a single site pre-dating 1740 that did not contain at least one deer bone in its faunal assemblage. Due to the extreme rarity of this lack of deer remains, taphonomy must first be considered. While deer bones, in general, are less robust than most cow and pig elements, they generally resemble caprine remains in terms of their size and density. Only one sheep/goat bone was identified in this assemblage, a tarsal, which is an exceedingly dense bone that is resistant to decay. However, less dense cow and pig bones, such as long bone shafts, were able to survive burial, in addition to some very light bird bones. Therefore, it would seem that it should at least have been possible for deer remains to survive in the dwelling assemblage if they were present.

Despite a move away from wild game in the diet of colonist during the late-17<sup>th</sup> and early-18<sup>th</sup> century, even wealthy households still showed evidence of deer consumption, though in much lower proportions than colonists in the mid-17<sup>th</sup> century (Miller 1988:186-187). The decrease in venison over time may have been due to population depletion in the longer settled areas of the colonies (Miller 1988:187). This may have been particularly significant in the area around Mattapany, which was not far from St. Mary's City and had been populated since the 1630s. However, even assemblages from within the town limits of St. Mary's dating from 1660-1740, such as St. John's Phase II and Van Sweringen, contain some deer remains. Therefore, it would stand to reason that if Calvert, or the other well-to-do owners of the dwelling at Mattapany, wanted venison on the table it would have been well within their means to acquire it.

Rather than being a conscious decision to exclude venison from the table at Mattapan by Calvert and the subsequent owners up to 1740, the lack of this species in the assemblage is more likely due to sample problems in the dwelling assemblage. While the entire dwelling assemblage comprises over 500 bones, those that are identifiable to species number only slightly over 100 and mammals account for only 70 of those fragments. Compared to other faunal assemblages, this is not a large sample. This stems from the sampling strategy employed during the excavation of the site that favored the excavation of five-foot square test units and their systematic random placement across the site. As such, cellar and pit features, which often contain the majority of identifiable faunal remains on a site, were only minimally sampled compared to other sites in the Chesapeake faunal database where these types of features were completely or almost completely excavated (Miller 1984; Bowen 1996).

In terms of the domestic species consumed on the site, it is clear that cattle and swine were the primary sources of meat, with sheep/goat contributing a small amount. Preferences for certain portions of these different species, however, are difficult to determine due, again, to small samples. Ages at slaughter for the domestic species are also plagued by this same problem. Generally, however, it appears that pigs were slaughtered around two years of age, which would be consistent with harvesting individuals that roamed the forests and took longer to mature to an appropriate weight than penned animals. There are too few cow elements to even hazard a guess at their mortality profile, but the two elements present indicate specimens older than one year. From this small sample, it appears that the residents of the dwelling at Mattapan enjoyed a rather typical diet for colonists in the Chesapeake from 1660-1740. Even with the knowledge that Charles Calvert lived in this house, there is little in the faunal assemblage that demonstrates his wealth or status. If large features were excavated to a greater extent, then this might not be

the case. Indeed a larger faunal sample would likely reveal evidence of a higher status diet in the forms of more exotic species, prime cuts of meat, and possibly evidence of entertaining guests with large amounts of meat.

The composition of the magazine faunal assemblage is slightly different than what should be expected from a site dating between 1660 and 1700, but this is likely due to the fact that it served as a garrison for troops and not as a domestic site. On average, faunal assemblages from sites in the Chesapeake dating from 1660-1700 are composed of 65% beef, 22% pork, with around 9% wild meat (Bowen 1996). The magazine assemblage is quite different with almost 83% beef, 15% pork, and less than 1% wild meat. Additionally, the assemblage is much less diverse than others of its period, with only 7 non-commensal species present. Based upon the faunal assemblage, the people who lived at the magazine consumed a very monotonous diet of primarily beef, supplemented with some pork. The lack of wild species indicates that there was little time or impetus for hunting or fishing. Fish in the assemblage are only represented by 3 bones, which is a remarkably low amount. The extremely high amount of beef, coupled with the low proportion of wild game may indicate that the people at the site were being provisioned with meat.

Studies of provisioned meat on sites tend to focus on skeletal part distributions or stable carbon isotopes in order to determine if meat was being imported (Klippel 2001). However, in this case, it is unlikely that beef or pork was imported to the site considering that livestock was being raised at the dwelling only 100 yards away and that the majority of the planters in the area also had livestock herds. The skeletal part frequency for beef in the magazine assemblage shows that all parts are represented but that front and hind quarters are much higher than expected. This pattern is not particularly surprising considering that beef would have likely come to the site

either on the hoof from nearby plantations, or perhaps on some occasions in quarters. The skeletal part analysis for pigs shows a similar pattern with a heavy preference for front quarters, but is heavily skewed by the high proportion of head fragments, primarily teeth. The age distribution for cattle indicate that many were likely sub-adults, but some were mature, meaning that some of the cattle were used for other purposes, such as milk or labor, then slaughtered at a later point in life. The ages of pigs generally fall in the sub-adult category, though there is evidence of at least one adult specimen. However, the fact that it would have taken free-roaming swine longer to mature to a size suitable for slaughter explains this distribution.

Examining the skeletal parts and age distributions provides little evidence to support the assertion that meat at the magazine was provisioned. Rather, the evidence for this must come from the composition of the assemblage and what is known about the site from historical records. While the magazine area of the site was likely first used as the home of Henry Sewall in the 1660s, it spent much of the time from 1671-1690 as a magazine for the Proprietary and a garrison for troops (Chaney and King 1999:215). Although the garrison was not permanent, it did support populations of up to 39 soldiers for weeks at a time, depending upon need (Chaney and King 1999:68-70). Despite being intermittent, this high density of occupation at the site for almost two decades would have produced vast amounts of refuse, likely accounting for the majority of faunal remains in the magazine assemblage. The irregular occupation of the site by soldiers would have meant that no livestock was being raised at the site, but instead provided to the inhabitants. Indeed, a 1676 reference to the upkeep of the garrison in the Proceedings of the Council of Maryland allocates nine pounds of tobacco per soldier per day for “provisions and drinke” out of public coffers (AOMOL 15:125). Undoubtedly, this money would have gone toward providing beef, or perhaps pork, to feed the men.

However, soldiers at the magazine were not always provided for during their residence at Mattapany. A 1682 reference in the Proceedings and Acts of the General Assembly provides a salary to the soldiers at the magazine, but states that “they and every of them at their own cost to provide for themselves arms ammunition & provisions for themselves” (AOMOL 7:341-342). Did these soldiers bring meat with them to the magazine or did they purchase it from Calvert or other nearby planters? Regardless of the answer, it becomes clear upon examining the records relating to the site, that the soldiers at the magazine were provisioned at least some of the time. Whether these provisions came in the form of smoked, salted, or barreled meat or animals on the hoof is less clear. The faunal assemblage suggests that the majority of the meat provisions were beef, which was more expensive than pork, but the price was often being paid with public funds which kept the financial burden off of any one individual. Indeed, providing beef to the garrison was probably a financially lucrative venture for local planters. Due to the provisioned meat enjoyed by the soldiers, and their relatively short occupations of the garrison, supplementing their diets with wild game or fish was probably not common, as evidenced by the low diversity of the faunal assemblage. Clearly, some of the assemblage may have been the result of the Sewall occupation of the magazine area, but the unique composition of the assemblage with its low diversity and high proportion of beef seem to suggest that most of the faunal remains represent soldiers intermittently occupying the magazine.

### *Conclusions*

The faunal assemblage from Mattapany, like the site itself, tells two very different stories. The contexts associated with the dwelling, dating from 1660-1740, represent the lives of Maryland’s highest status residents, including Charles Calvert. The faunal assemblage from this area, however, at first glance, appears somewhat atypical for the period. While the proportions of

beef and pork are slightly unexpected, the complete lack of deer remains is astounding. To my knowledge, no other pre-1740 planter faunal assemblage in the Chesapeake is without at least some deer bones. While the lack of deer could be explained by population decline due to hunting or by the high status of the site residents, these hypotheses are not supported by the data. Indeed, there are several pre-1740 assemblages from the heavily settled areas around St. Mary's City and Jamestown that contain deer remains. Also, deer seem to be present in faunal assemblages from this period regardless of socio-economic status. Assuming that taphonomic processes are favorable to the preservation of deer remains, which they seem to be, the only other explanation for the lack of deer is that there is a problem with the sample. Indeed, this appears to be the case at the dwelling where the sample is both small and not drawn from large pit or cellar features as on other Chesapeake sites.

Despite a small sample size and seemingly incomparable contexts of recovery, the assemblage at the dwelling can still provide some insight into the dietary practices of Mattapany's upper class inhabitants. Like many colonists between 1660 and 1740, the people at Mattapany relied heavily on beef and pork for their meat diet with some mutton. However, unlike most people that lived near rivers during this period, the people living in the dwelling at Mattapany appear to have taken little advantage of the river as a source of meat. This is particularly evident in the fish assemblage for the dwelling, which is small in number and contains only two small fish species, white perch and yellow perch. Perhaps the low proportion of fish and other wild game stemmed from Calvert's, and later owners', ability to harness vast amounts of labor that would have made livestock raising easier, therefore reducing the reliance on wild species. However, based upon the sample problems, it is difficult to reach a solid conclusion.



The magazine assemblage, with a larger sample size, is more reliable in terms of the inferences that can be made about the occupants of that portion of the site. The magazine likely began its occupation in the 1660s as the home of Henry Sewall, judging by the mix of domestic and military artifacts (Chaney and King 1999:215). However, by 1671 it served as one of Maryland's major armories and played host to garrisons of soldiers from time to time over the next two decades. In this sense, the faunal assemblage from the magazine is a resource without equal in the 17th-century Chesapeake. Although many sites from the 17<sup>th</sup> century were fortified, all were multi-purpose sites with domestic and military components. Indeed, the majority were fortified homes or homelots. From 1671-1690, the magazine's sole purpose was a military one, there was no permanent domestic component to its use.

This use as a military garrison is clearly reflected in the faunal assemblage from the magazine. The composition of the assemblage is very atypical for a site dating between 1660 and 1700. An exceedingly high proportion of beef, coupled with almost no wild meat seems to indicate that soldiers at the site were being provisioned with meat. This hypothesis is confirmed by historical records that reference payment for soldier's provisions at the garrison, in addition to payment of salaries, which could have been used to purchase meat, either as cuts or on the hoof. The generally short occupations of the magazine probably reduced the need, or desire, to supplement diets with wild game, or perhaps officers did not allow hunting or fishing. Indeed, it may not have been advisable to stray too far from the garrison, since they were often only assembled during times of crisis. Whether meat arrived at the magazine smoke, salted, in barrels, or on the hoof is a question that the faunal assemblage is not able to address. However, common sense dictates that it was probably a combination of preserved and fresh meat. What the assemblage does reveal is that the anomalously high proportion of beef in this assemblage is

almost certainly the result of provisioning at the magazine rather than the refuse from Henry Sewall's table.

Admittedly, there are problems with the Mattapan assembly in terms of sample size. While sample issues make it difficult, or impossible, to address certain questions about life and diet on the site, the assembly is still able to provide a window into colonial life in the region. Like any faunal assembly, or other archaeological assembly, the problems can be mediated by contextualizing and combining the data with other archaeological remains and historic documents. Although the dwelling assembly ultimately provided little new information on the lives of the elite in 17th-century Maryland, the magazine assembly was able to provide important insight into the everyday experiences of colonial Maryland's militia. Both sub-assemblies are unique in their own ways and have the potential to reveal a great deal about the history of the site and the region, particularly when the faunal remains are compared with the other archaeological materials from the site.

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