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An Archaeological Perspective on the African-American Slave Diet at Mount Vernon's House for Families

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AN ARCHAEOLOGICAL PERSPECTIVE ON THE AFRICAN-AMERICAN SLAVE DIET AT MOUNT VERNON'S HOUSE FOR FAMILIES

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This thesis is submitted in partial fulfillment of the requirements for the degree of

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ABSTRACT

The analysis of faunal remains recovered from the House for Families cellar at Mount Vernon illustrates the importance of archaeological research in determining the foodways of the eighteenth-century African-American slave population. The excellent quality of preservation, together with the methods used to excavate the cellar, reveals the diversity of wild species which the House for Families household exploited to increase their nutritional intake.

In reviewing other African-American slave sites of the coastal plains, the tidewater, and the upland region, it becomes apparent that dietary patterns differed in each region. This pattern varied depending on the system of labor, the environmental setting, and the availability of food resources; other factors were also considered, including taphonomic processes, bone preservation, and site excavation methods.

Although historical documents have been a prime source for researching past lifeways, the documentation of the diet and other food related activities of the African-American slaves proves very difficult to extrapolate, as the data may be very limited or altogether absent. The archaeological record provides a more accurate view of the food resources which the slaves procured to supplement their rations. Together, the historical and archaeological resources provide a clearer understanding of the African-American slave diet and the ways in which slaves supplemented their rations.

A total of fifty-eight species have been identified, indicating that domestic cow and pig together with fish, comprised the most important food sources, although numerous wild species and domestic fowl provided a significant supplement. As such, this analysis indicates that the African-American slaves living at Mount Vernon's Mansion House Farm had a much more diverse diet than has been presumed.

AN ARCHAEOLOGICAL PERSPECTIVE ON THE AFRICAN-AMERICAN SLAVE DIET AT MOUNT VERNON'S HOUSE FOR FAMILIES

CHAPTER I

INTRODUCTION: AFRICAN-AMERICAN SLAVERY AND FOODWAYS

African-American material culture has become a popular subject in recent years, and the study of ethnicity remains a critical part of historical archaeology. One aspect of this work, the study of foodways, is directly addressable by the investigation of historic faunal remains. Recent excavations by the Mount Vernon Archaeology Department have provided in ideal assemblage for just such a study.

The excavation of a refuse-filled cellar located within the House for Families slave quarter, dated ca. 1760-1793, at the Mount Vernon Mansion House Farm yielded an assemblage of domestic material culture including more than 25,500 faunal remains. Because there is limited information about the lifeways of Mount Vernon's slaves, and about the daily lives of African-American slaves in Colonial Virginia in general, these faunal remains represent an extremely valuable data source for examining African-American slave foodways at major eighteenth-century plantations.

Many approaches have been developed to study ethnicity through material culture. These approaches are divided into two general categories: 1) broad theories that attempt to deal with ethnic identification as a whole and 2)

theoretical approaches that are more specific in dealing with a segment of identifying ethnic groups (Kelly and Kelly 1980). Areas of research involve how ethnicity is generated, transmitted, or changed within a culture.

One productive approach is to investigate ethnic boundaries, a focus of investigation that defines the group it encloses, rather than its culture directly. These boundaries are social, and identities are maintained when there is interaction with other groups. One of the earliest theories of ethnic boundaries was introduced by Barth (1969:15), who states that "the persistence of ethnic group identity depends on the maintenance of a social boundary. Such boundaries may have territorial counterparts but are primarily characterized by social behavior." Culturally, ethnic boundaries are loosely established and their historical origins reveal much about their genealogical, ritual, and mythological content.

Ethnicity, as others work with it, classifies a group in terms of its most basic general identity, most likely determined by origin and background. In many ways, the material culture data of the archaeological context is more reliable than the historical documents for studying changes in an ethnic group (McGuire 1982). Documentary sources often reflect group biases, but the archaeological data results taken primarily from everyday processes. Both documentary and archaeological data used together provide a means of overcoming the limits of each and a method for examining

changes that is relatively broad-based.

The development of ethnicity studies in historical archaeology evolved as an outgrowth of "writing the history of the inarticulate" (Ascher 1974:10, McKee 1987:31). With the theoretical emphasis on process, this study examined "the ways in which subgroups of the social whole defined themselves and are defined by others; on the ways subgroups behave toward members of their own group and toward other groups; and on the ways subgroups use their group identity as a tool of social action in dealing with the rest of the world" (McKee 1987:31).

The study of ethnicity in historical archaeology has generally focused in three areas: 1) assimilation studies used to measure changes within an ethnic group, 2) ethnic pride studies that enlighten contributions of a group, and 3) criteria studies used to define and identify a specific ethnic group (McGuire 1982). In order to identify facets of ethnicity, material culture markers have been established to help determine the structure of an ethnic group. These markers consist of architecture, ceramics, and faunal remains, which constitute the major portion of the retrievable archaeological context. A combination of archaeological and documentary resources has been used to separate the material culture from social class. One must understand that the archaeological context can differ, depending on the contribution of social class within the ethnic group (McGuire 1982). The ethnic group, for instance,

may be composed of the economically poor or of low social status, thus limiting the size or usefulness of the group's documentary record.

McKee (1987:32) identifies two misconceptions about ethnicity within the realm of historical archaeology: "[the first] is the view of ethnic groups strictly as minority ... [while] the second misconception involves the fact that historical archaeologists rarely discuss ethnicity as a process." In order to overcome these misconceptions the historical archaeologist must consider current concepts from cultural anthropology in working with ethnic identification. Whereas the cultural anthropologist relies on living informants, the historical archaeologist relies on data from historical documents and from the archaeological context revealed by the investigation.

In order to examine and interpret ethnicity of the past, the household needs to be evaluated. The household as defined by Leedecker et al. (1987:236), refers to "a group of individuals who share a common residence"; its composition and life cycle are related to consumer behavior. In an attempt to understand past households, research has focused on activity areas that appear as features such as trash deposits or sheet refuse from which interpretations can be established about ethnicity and social status through the identification of material culture.

In the eighteenth-century Chesapeake Bay region, African and African-American slaves constituted the largest

ethnic population. Africans were first introduced into the colonial Chesapeake region in 1619 by the Dutch. The establishment of plantations in the English colonies of the New World "created the economic demand for slaves from Africa" (Curtin et al. 1978:215). The plantation system of agriculture was centered in the colonies and managed by the English who enslaved Africans to produce commodities for the European market. The importation of African slaves to the New World colonies in the 1600's averaged about 2,000 per year, increasing to about 80,000 per year by the 1780's before declining after this decade.

During the early period Africans were viewed as indentured servants, rather than as slaves, sharing the same household with the planter. By the late seventeenth century, however, they no longer shared the same quarters, resulting in a decrease in the size of the main house and the establishment of a separate quarters for what then became the "slave" population.

The African-American slave society itself developed in the Chesapeake at a slow pace. Kulikoff (1986:319) discusses the development in three stages from 1650 to 1790:

> From roughly 1650 to 1690, blacks assimilated the norms of white society, but the growth of the number of blacks also triggered white repression. The period from 1690 to 1740 was an era of heavy slave imports, small plantation size, and social conflicts among blacks.... Finally, from 1740 to 1790, imports declined and then stopped, plantation sizes increased, the proportion of blacks in the population grew, and divisions among slaves disappeared.

By the end of the eighteenth century, African-American slave populations developed loosely settled communities, formed a flexible kinship system to alleviate stress caused by separation or displacement from the family, and established a scheme of authority and status hierarchy which determined their position within the kin group. Through this development of the slave society and its religion, the slaves "participated as kindred at work and in song, dance, celebrations, prayer, and revivals at home" (Kulikoff 1986:380).

From 1760 to 1820 tobacco farming ceased within some regions of the Chesapeake; it was replaced by the cultivation of grains and the raising of livestock. These changes increased the work routines of the African-American slave labor force by producing a greater diversity of tasks and creating an increased division of labor between the sexes (Carr and Walsh 1988).

Prior to the demise of its economy, tobacco had been the primary cash crop of the Chesapeake region. Tobacco farming was labor intensive and required constant cultivation throughout the year for a period of only four years or less. After the tobacco growing had exhausted the soil, other crops were substituted for a period of time, then the soil was left fallow to restore its nutrients.

The Africans were brought to the colonial Chesapeake to cultivate and harvest the tobacco fields of the planter class on rural plantations. Prior to the 1750's, both

African and African-American slaves almost exclusively provided agricultural skills on the plantation. As African-American slaves became the majority, replacing African immigrants, the opportunity for them to become craftpersons increased. A small percentage of males acquired other skills, for example, carpentry, cooperage, blacksmithing, and bricklaying. Females became involved in other work, serving as house servants and spinners and weavers, although most of them continued to work as field slaves. This brought about a form of hierarchy in the slave population whereby two groups were defined: 1) the house servants and craftpersons who were responsible for the everyday activities of the plantation's main house and 2) the field slaves who cultivated the fields of the planter. The house servants and craftpersons were likely to acquire hand-me-downs from the planter's house and to adopt his cultural ways, whereas the field slaves would rely on their own way of existence, having the opportunity to continue, to some extent, practicing their African heritage during leisure hours.

Two systems of labor were organized within colonial plantations. The implementation of these labor systems varied from plantation to plantation, depending on its size, type of crop, the number of slaves, and the planter. These systems, task and gang, were employed throughout the southeastern plantations of North America. The task system delegated a specific job which the slaves were expected to

complete by the end of the day. If the task was accomplished early, they were given the opportunity to spend the remainder of the day as they wished. Gang labor, on the other hand, consisted of a group of slaves who worked from "sun up to sun down" each day, doing a variety of jobs under the supervision of an overseer.

Archaeological research on African-American slavery has primarily centered on rural plantation sites of the southeastern coastal United States. A plantation has been defined by Orser (1990:114) as "a tract of land used primarily for agricultural production that has discrete spatial limits, a settlement pattern organized in such a way as to maximize economic production, and at least two classes of people—those who work and those who direct—who maintain a unique set of social relations." Its environment was complex and exhibited earth moving activities that changed it in size, composition, and division of labor.

Zooarchaeology, the study of faunal remains, is important in researching and interpreting the diet of the African-American slave population in a plantation system. The analysis of faunal assemblages from eighteenth-century archaeological contexts is critical, in fact, due to the lack of complete documentary sources or ambiguities that exist about the slave population, and more specifically, of their diet.

To expand our knowledge of the foodways and diet of the African-American slave population, the study of

zooarchaeology has become preeminent, as the intent of zooarchaeology is to enable researchers to understand the diet of past slave populations and the system through which foods were procured, distributed, prepared, and consumed (Goody 1982).

The analysis of faunal assemblages from various areas of a household may also provide a better understanding of the internal organization within it, i.e. to define areas of butchering, preparing, or cooking, and the location of refuse deposits. This analysis will also help to provide a better understanding of African-American slave culture and diet.

The analysis of the House for Families faunal assemblage is an attempt to interpret the foodways of the house servants and craftpersons who resided and worked at Mount Vernon's Mansion House Farm, one of the five farms that composed George Washington's Mount Vernon plantation on the shores of the upper Potomac River.

The analysis from the House for Families cellar is intended to better understand how slave diet may have changed from 1760 to the 1790's, and specifically to: 1) establish the importance of fish in their diet; 2) determine what portion of the diet was augmented by raising their own domestic animals, fishing, and hunting wild species; 3) document seasonality within the slave diet; 4) identify the type of provisioning system adopted by Washington; and 5) in combination with an analysis of Washington's documents, to

reveal what rations were provided to the House for Families slaves.

Together, the archaeological and documentary data will demonstrate the diversity of the African-American slave diet. But, since diversity in a faunal assemblage is directly related to archaeological recovery methods, this analysis will also examine the impact of archaeological retrieval methods on interpretations of the relative importance and diversity of species in the diet of the House for Families household.

CHAPTER II

AN OVERVIEW OF DIET FROM AFRICAN-AMERICAN SLAVE SITES

African-American slave studies in the southeastern United States began in the late 1960's with the investigation of slave cabins in Florida and Georgia (Fairbanks 1968; Ascher and Fairbanks 1971). This was important work, and these early studies were vital contributions to future research of "the black experience in America" (Deetz 1977:138).

Archaeological investigation of slave sites has contributed to the study of African-American past lifeways in at least two areas: housing and foodways. The early research and excavation of these sites was undertaken to document the presence of material remains of past African cultures, in hopes of enhancing the understanding of the origin and development of early African-American traditions. These studies focused on coastal plantations where present-day descendants exhibited African traditions in material culture, music, and language (Singleton 1991). Although no tangible evidence was recovered to verify African material remains, more recent studies have examined the living conditions of the slave community within the plantation system.

African-American house sites may support evidence of African influences. Two South Carolina sites, Curriboo and Yaughan, illustrate African-style architecture similar to the African thatch roof house. The structures at these locations were built from mud, as evident in the remains of wall trenches containing a mortar-type clay. The clay was extracted from deposits around the perimeter of their locations. It is assumed that the dwellings were covered with a thatched palmetto leaf roof, which would also conform to African styles. They were presumably constructed by African-American slaves ca. 1740 and used as their residence until ca. 1790, when they were replaced by frame structures (Wheaton and Garrow 1985).

Although it is assumed that the architectural style was influenced by African types, there are still researchers who question this conclusion. Douglas Armstrong downplays such influence, stating "when we recover archaeological remains of ... slave houses and perceive West African influence in design, construction, and use of space, we are forced to rely on vague comparisons and ... observations to establish elements of African continuity ... [the] comparisons [are] based on generalized observations of twentieth-century West African house forms" (Armstrong 1990:8).

The predominant living structure of African-American slaves and their families was the single cabin which varied in size from 9 by 9 feet to 20 by 20 feet (Orser 1990). The size of a dwelling is pertinent when considering the size of

the slave family and the space they needed; sizes varied from plantation to plantation over time and were often constructed according to the planter's instruction, rather than the slaves' preference.

Archaeological research of African and African-American slave sites has centered primarily around structures. Although slave housing is not well documented in the historical record or through archaeological investigations, most researchers concur that early slave dwellings were poorly constructed; in fact, many slaves may have lived in barns, sheds, kitchens, or in communal settings (Singleton 1991).

On a non-architectural level, African-American material culture recovered from the excavation of slave household sites is important in establishing the everyday life of the family group. The study of faunal remains, for example, suggests that most slave households may have cooked single-pot meals. This has been illustrated by a high frequency of fragmented bones, interpreted as small portions of cut-up meat that were placed in a pot for making soups and stews (Singleton 1991).

The primary excavated feature from African-American sites producing significant amounts of faunal remains is the root cellar. Root cellars were dug into the ground within the dwelling; some were unlined, others were lined with boards or bricks, and were used to store items or food and later converted to trash receptacles. Some recovered items

were often stolen from the planters; thus the cellar was used to hide contraband from the masters, providing the present day researcher with an insight into what the slaves considered valuable. As for a better understanding of African-American slave life, "the root cellars ... have turned out to be one of the most important sources of archaeological information about slave life" (Kelso 1986:34).

Charles Fairbanks states that "the development of black-based southern cuisine is amply demonstrated by the food bones found in slave sites that have been excavated" (Fairbanks 1983:23). Through zooarchaeological analysis of animal bones retrieved from these sites, African-American culinary techniques, local cuisine, supplemented wild foods, and diet can be interpreted. This interpretation has increased our knowledge of foods supplemented to the slaves' plantation rations, which are not evident in the historical documents.

Fairbanks' (1968) excavation of two slave cabins on the Kingsley Plantation in northeastern Florida, ca. 1813-1843, was undertaken with the expectation of uncovering evidence of slave craftsmanship within a household, and to see if there was any indication of Africanisms from West African slaves who were brought to the plantation. Through this excavation, as well as the subsequent excavation at a slave cabin at Ryefield Plantation on Cumberland Island, Georgia, ca. 1834-1865 (Ascher and Fairbanks 1971), it was

anticipated that such items would be identified, and would reveal influences from West Africa. Upon completion of the excavations and analysis of the recovered material culture, however, it became clear that no items of clear West African origin or tradition could be documented.

The work was far from a total loss, of course, since among other things results of this research reveal that wild food sources were being exploited by the slave household, although they were not included in the historical record. This enlightened researchers, permitting re-evaluations of their perceptions of African-American diet; notions of the diet, formerly thought of as monotonous, limited, and unappealing, were refined to reveal a diet that not only included rations from the planter, but also encompassed animals raised by the slaves, vegetables grown in their gardens as well as wild flora and wild species of mammal, bird, fish, and shellfish. In some areas, particularly along the coastal plains of Georgia and South Carolina, these supplemental foods represented a very large percentage of the slave diet. This percentage varied depending on the environmental setting of the plantation and the planter (Reitz et al. 1985).

An excavation in 1981, conducted on another slave cabin on the Kingsley Plantation, produced a detailed faunal assemblage of 3,613 elements, 744 of which were identifiable. It exhibited a greater diversity of species, especially regarding wild types that were a part of the

household's diet.

This assemblage included twenty-five species, of which twenty-two were wild (Walker 1985). The slaves apparently exploited varying environmental niches, from high pinelands and wooded areas to fresh and marine waters. The interpretation of the analysis addressed four questions:

1) What contribution to the Kingsley vertebrate faunal sample is made by wild species?
2) Which natural food sources were most prominently exploited by Kingsley slaves for their own benefit?
3) How does animal behavior (activity periods and seasonality) reflect patterns of exploitation and procurement technology at Kingsley Plantation?
4) What status indicators, if any, occur within the Kingsley sample? (Walker 1985:37).

In assessing these questions, Walker used biomass percentage comparisons of wild verses domestic species, the environmental resources available in the surrounding areas of the plantation, and animal behavior related to these areas. One shortcoming is evident based on recent studies; in determining status, relative values placed on cuts of meat are questionable. There may be other variables affecting the quantity or elements, i.e. cultural preferences, taphonomic processes, etc.; these must be considered to better understand the relationship of relative values of meat cuts to various population groups.

The Kingsley Plantation assemblage revealed that wild species contributed 40 percent to the slave diet, a lower percentage than other estuarine sites. Walker (1985) discusses a number of reasons as to why there was a higher

percentage of domestic meat in the diet: extra provisions may have been provided to the household, an upper-class slave family may have inhabited the dwelling, or slaves who were in charge of the permanent operation of the plantation lived there. These are only speculations, however.

Terrestrial wild species represented over 20 percent of the total biomass; fish, 15 percent; and aquatic reptiles, 1 percent. The surrounding brackish waters and salt marshes would have contributed approximately 60 percent of the species identified in the assemblage.

The wild species identified demonstrates that, pertaining to slave activities and seasonal availability, a high percentage of the species within the assemblage were easily exploited on a year-round basis, providing a substantial portion of the households' diet.

Otto's (1984) work on the Cannon's Point Plantation, also an estuarine site located on St. Simons Island in southeast Georgia, investigated the material culture from an early to mid-nineteenth century African-American slave cabin. Included in his presentation was a discussion of the households' diet.

Thirty species were identified from this assemblage, totaling over 4000 elements, of which 936 were identifiable. As with the Kingsley Plantation, the household supplemented the planter's rations with a diversity of wild species. These species were exploited from both aquatic and terrestrial habitats, the latter including both woodlands

and marsh fringes around Cannon's Point. The species from these areas contributed approximately 45 percent of the diet.

Analysis of the wild species shows that fish provided a much higher amount, over 70 percent, of edible meat than other wild species. But both fishing and hunting items were recovered from the cabin during excavation, demonstrating the ability of the slaves to procure food through their own means.

Fishing items recovered included ones used in hook-and-line fishing as well as cast nets. It is unknown if the slaves used boats to fish, but in historical documents of neighboring plantations, it was revealed that slaves made and sold dugout canoes (Otto 1984). The slaves from Cannon's Point Plantation caught a variety of fish species from the Altamaha estuary as well as sounds, rivers, and creeks which encompass St. Simons Island. Arius felis and Bagre marinus, both saltwater catfish species, were the most prevalent of all fish species within the assemblage, fish supplying most of the edible meat. As Otto states, "[f]ish were the most important wild food animal for the slaves ... corroborating Basil Hall's claim that the Cannon's Point slaves spent most of their leisure time fishing" (Hall 1829, quoted in Otto 1984:56).

Faunal analysis undertaken from Cannon's Point and Kingsley Plantations has illustrated both the importance of wild animal species as a supplement to the African-American

slave diet, and also that raising their own fowl and vegetables contributed to the diet, in addition to the provisions issued by the planters. The environmental setting provided a very diverse group of animal species for the slaves to procure; this was demonstrated by the very high percentage of food that had been supplemented to enhance the caloric intake of the rations, which included salt pork, molasses, rice, and issued vegetables, occasionally fresh meat from cow, pig, sheep, and goat.

Otto (1984), as did Walker (1985) concluded through the analysis of the faunal remains that the household prepared stews frequently. Single-pot meals have been recorded in the historical documents from slave descriptions, "the whole [stew] had been boiled ... until the flesh had disappeared from the bones, which were broken in small pieces—a flitch of bacon, some green corn, squashes, tomatoes, and onions had been added" (Ball 1859, quoted in Otto 1984:60-61). Other faunal assemblages from African-American slave sites have supported this conclusion by also producing large quantities of fragmented bone; these fragments were primarily from medium and large mammals, presumably domesticated species (Crader 1984; Singleton 1991).

It is apparent that the African-American slave population along the estuarine environment of the coastal United States supplemented their diet to a larger extent with wild species than the slave population along the tidewater and upland regions of the mid-Atlantic states.

Here, wild species represented anywhere from 40 percent to 65 percent of the total meat diet (Reitz et al. 1985), while in the tidewater and upland regions of Virginia, wild species represent anywhere from 5 to 20 percent of the total meat diet. Depending on the environmental setting of the site, time allotted for hunting, fishing, and gathering by the planter, if any, and the system used for daily activities performed on the plantation, e.g. task or gang labor system, the consumption of wildlife varied.

Excavations at the Kingsmill Quarter, located on the James River tributary of the Chesapeake Bay, revealed an African-American slave structure, measuring 12 by 40 feet, suggesting a dwelling which housed at least two families (Kelso 1984). Within the interior of the dwelling, a total of eighteen root cellars were identified and excavated. One of the cellars, rectangular in shape, produced a sizeable faunal assemblage. The material culture recovered from the cellar indicated a date of ca. 1780-1800. The faunal assemblage revealed little post-depositional damage, demonstrating that the majority of the refuse was deposited into the cellar after the household's meals (McKee 1987).

McKee's analysis of the assemblage focused on three areas: the representative species, the representative elements, and butchery methods. The information gathered from these areas was used to understand the behavior of the African-American slave residents at the Kingsmill Quarter.

The representative species were identified from 1,131

elements out of an assemblage of 2,471 recovered from the excavation of the root cellar. The species identified indicated a very high reliance on domestic mammals, i.e. cow, pig, and sheep, and, to a lesser extent, domestic chicken. The household's diet was supplemented by wild species of fish, turtle, geese, turkey (treated as a wild species by McKee), and other small birds, deer, raccoon, and opossum.

The methods used to quantify the assemblage include both number of identified specimens (NISP) and minimum number of individuals (MNI). Through the implementation of these methods it was determined that the household's diet primarily consisted of equal amounts of beef, pork, and mutton, with chicken and the wild species as a small secondary, but constant, contribution to their diet. Other quantifying methods were not used because of the lack "in any one deposit to represent accurately the continuing normal diet of a group of people" (McKee 1987:34).

The second area of analysis examined the representation of different elements from the domestic mammals to determine if ethnicity could be demonstrated by using specific elements of what is referred to as "high quality and low quality meat cuts." Again, this issue of determining ethnicity or class distinction by "meat cuts" is controversial due to variables which affect the elements, either cultural, biological, or geological.

Butchery, the final area of study, demonstrated how the

carcass was processed. This process was illustrated by distinct patterns: the cutting up of the carcass into small portions, the breaking of long bones for extracting marrow, and meat slicing. From his analysis of butchery patterns, as well as the analysis of the NISP and MNI represented in the assemblage, McKee concluded that the diet of the Kingsmill Quarter household consisted of "low quality," i.e. heads, feet, and bony cuts, domestic meats, supplemented by wild animals which were procured from the perimeter of the plantation, plus forays from the plantation for procurement purposes.

McKee (1988) also examined a nineteenth-century African- American slave cabin at Flowerdew Hundred, on the south side of the James River, several miles from the Kingsmill Quarter. The structure measured 16 by 20 feet; its size and foundation conformed with other area slave dwellings of the century. The faunal assemblage, totaling 1,095 elements, of which 576 were identifiable, was recovered from a twelve-hundred-square-foot excavated area encompassing the cabin's foundation. The refuse was deposited by the household on a daily basis over a period of twenty to thirty years (McKee 1988).

Many processes affected the assemblage before it was recovered for analysis. One of these processes, trampling by the residents, damaged the bone, making identification more difficult; trampling also caused some species, possibly shad and herring, to be eliminated from the assemblage.

Although the assemblage revealed considerable fragmentation, eighteen species were identified. Two species which were not present in the archaeological material, but were recorded in the historical sources, were shad and herring. The absence was most likely due to the fact that their bones are very thin and fragile and also that they were deposited in a high traffic area of continuous use. As was documented in other planters' historical sources, these two species were important to the slave diet as well as a source of income during the spring spawning season (Wharton 1957; McKee 1988; Crader 1990).

One fish species that was prevalent in the assemblage is the freshwater catfish. A total of twenty-one individuals were identified, but there was no mention in the historical records of the planter supplementing the slave rations with this species, as he did with shad and herring. Thus, it is assumed that the household was procuring them during hours of leisure time.

Thirteen wild species were identified from the assemblage, indicating that the household supplemented their rations by procuring animals from the surrounding forest and waters. Although these species contributed to the diet, there was no indication of any regularity or a determination as to the season of procurement. As McKee states, "wild foods in slave diet were not so much a matter of availability, but what slaves chose, and were allowed, to hunt and collect" (McKee 1988:122).

The Flowerdew Hundred slave cabin and Kingsmill Quarter residents occupied similar environmental niches, but their reliance on domestic and wild species differed. Pig represented a higher percentage at Flowerdew Hundred than it did at the Kingsmill Quarter; cow and sheep, on the other hand, represented a higher percentage at the Kingsmill Quarter than at Flowerdew Hundred. The major difference in the wild species between the two households was the quantity of fish recovered. McKee speculates on two reasons for the difference. The first explanation was that specialized activities, i.e. animal husbandry at Kingsmill, provided plenty of meat, thereby lessening the need to supplement the household's diet and fishing by the household at Flowerdew. The second reason was the deposits at the two locations; the short-term deposit at the Kingsmill Quarter may have represented a time of the year when little or no fishing activities occurred, whereas the Flowerdew Hundred cabin represented a continuous use for a period of twenty to thirty years.

The final sites to be discussed with reference to the African-American slave diet are from the upland area: Building "o" at Monticello, a ca. 1770 to 1800 slave dwelling, and slave cabins from the Hermitage in Nashville, Tennessee, dating to the first half of the nineteenth century.

Building "o," measuring 12 by 20.5 feet, was situated, along with other structures, on Mulberry Row (Kelso 1984).

Its location, east of the Appalachian Mountains in central Virginia, offers a different environmental setting from the coastal and tidewater sites. The dwelling provided housing for slaves who were engaged in industrial activities at the Thomas Jefferson's Monticello Plantation.

The excavation conducted on Building "o" produced a faunal assemblage which was recovered from four deposits, which had accumulated over an extended period of time. One of the deposits was from a rectangular root cellar in the center of the dwelling, the other three from dumping areas located outside. The bone from the three outside deposits would have been more susceptible to trampling than the bone from the root cellar.

The assemblage recovered totaled 3,924 elements, of which 1,674 were identifiable (Crader 1990). It produced thirteen species, of which about half represented wild animals that could have been procured from the surrounding area. An interesting observation of the assemblage is the absence of fish, although Thomas Jefferson recorded in his notes that fish were rationed to the slaves. Since there is no discussion about this resource in the analysis, there may be factors relating to the non- representation of fish species in the assemblage.

Rivers adjacent to the plantation could have supplied fish to supplement the rations that were issued to the slaves. With the absence of fish at Building "o," it is possible that the household did not procure fish from the

surrounding water on their own time, as they hunted or trapped wild mammals. There even may have been a restriction prohibiting the slaves from fishing. A final explanation, however, may pertain to either soil preservation and other taphonomic processes at the site, or the method of excavation which may have biased the recovery of the fragile fish bones.

In his historical records, Jefferson frequently referred to fish. In fact, in one of his entries on slave labor he wrote: "A barrel of fish costing $7. goes as far with the labore[r]s as 200 pounds of pork costing $14" (Betts 1953, quoted in Wharton 1957). He was most likely referring to salt herring, which have very thin and fragile bones. The absence of shad and herring was also noted in the Flowerdew Hundred assemblage, although it was recorded in the historical sources.

Domestic animals, i.e. pig, cow, sheep, and chicken, were predominant in the assemblage; although wild species were present, they provided a very small portion to the household's diet, amounting to less than 2 percent. Wild species may have contributed "extra supplements to an already adequate diet" (Crader 1990:698). Of the domestic mammals, pig was more prevalent than cow, but in terms of estimated pounds of useable meat, beef represented a major part of the household's diet.

Some researchers (Crader 1984, 1990; Reitz et al. 1985) suggest that the high representation of cow elements found

in an assemblage does not relate directly to the total rationed provisions of the planter. Instead, they maintain that preserved pork, given as rations, was generally deboned; thus it would not have become part of the archaeological context. But this is not true, at least not for the Chesapeake, New England, and northern parts of the South, where pork traditionally was not deboned before salting (Bowen 1993).

In conclusion, Crader (1990:715) suggests that "higher quality of meats," revealed through the analysis, may represent a mixture of bone primarily due to taphonomic processes. Two possible explanations are discussed: (1) the quality is real and the inhabitants of Building "o" did enjoy better meats, or (2) the bone refuse is somehow a mix of slave and mansion debris, so that the better quality is not necessarily directly associated with the inhabitants of the dwelling (Crader 1990:715).

The Hermitage, located near Nashville, Tennessee on a tributary of the Cumberland River, has produced a number of faunal assemblages related to African-American slaves who were housed in cabins located on the plantation. In 1804, Andrew Jackson acquired the 625-acre Hermitage, developing a successful cotton plantation over the following forty years. For this agricultural system to flourish, a large slave community was established, totaling 130 at its peak.

The faunal assemblages discussed below were recovered from four slave cabins associated with the development of

the plantation: the Yard Cabin, the South Cabin, Cabin 3, and the KES cabin (Breitburg and McKee 1992). The total number of fragments from the four assemblages, excluding mollusca, was 20,710, of which 4,740 were identifiable.

Structure KES represented an early occupation, ca. 1804- 1820, which was replaced by four cabins comprising the field quarter. The assemblage, totaling 3,799, was recovered from an undisturbed deposit. Twenty species were identified from the 1,218 identifiable elements.

Cabin 3, one of the replacement cabins for KES, was abandoned and destroyed in the 1850's. The assemblage, totaling 1,651 elements, was recovered from three root cellars located within the remains of the cabin. The cellars produced twenty-one species from 749 identifiable elements.

The South Cabin was situated amongst a group of slave cabins located at the site of the first Hermitage. The assemblage was recovered from a primary deposit, dating ca. 1820-1860, which was excavated in three zones. This was the largest assemblage, totaling 13,361 elements, of which 1,964 were identifiable, representing twenty-five species.

The Yard Cabin was located adjacent to the mansion, housing Jackson's house servants. The assemblage was also recovered from a primary deposit, dating ca. 1820-1860. The deposit produced 1,898 elements, of which 809 were identifiable, representing thirty-two species.

The basis for interpreting the faunal assemblages from the four households at the Hermitage was minimum number of

individuals (MNI) and meat weights, which were calculated by using the MNI multiplied by the estimated weight of a full grown animal (Breitburg and McKee 1992).

Using MNIs, pig proved to dominate in the diet of all the households. Cow and sheep were less significant, though with relatively similar percentages. The Yard Cabin was represented by 63.4 percent pig and 18.2 percent for both cow and sheep. The South Cabin, however, showed an increase in pig to 77.8 percent and a decrease in cow and sheep to 11.1 percent. The EKS household revealed the highest percentage of pig, 81.3 percent, but the lowest percentage of cow, 6.3 percent, while sheep remained about the same as the South Cabin, 12.5 percent.

It has been suggested (Breitburg and McKee 1992) that the reason the Yard Cabin had a higher percentage of cow and sheep is due to its close proximity to the mansion, allowing the household access to a more diverse food resource (Breitburg and McKee 1992). Also, the low percentage of cow at the KES cabin may illustrate the lesser emphasis of cattle husbandry in the early years of the plantation's operation.

Meat weight values produced a similar result to the MNIs. They demonstrated an increase in pig from the Yard Cabin to the South Cabin to the EKS cabin, whereas cow decreased. An explanation for this result may be "that the further away a slave lived from the Hermitage mansion, the smaller the proportion of beef in his or her diet"

(Breitburg and McKee 1992:8-9). Although this explanation may be biased, due to the data or meat weight calculations, it will be investigated as the data are strengthened through future research.

Other domestic species identified include chicken and turkey. Chicken were found in all four households, whereas turkey was present in only three of the four assemblages. Considering the high MNI counts for chicken, it is probable that the households were raising them on their own, as has been documented in the historical records.

The African-American slave population at the Hermitage Plantation supplemented their rations with a diversity of wild species, which they were hunting, trapping, and fishing. Small mammals, including opossum, squirrel, rabbit, and raccoon, were represented throughout the four assemblages, but only one deer element was identified in the total assemblage. It was recovered from the EKS cabin, the earliest occupation. The absence of deer in the later occupations may indicate that deer was either overhunted, or that Jackson may have placed restrictions on deer hunting in the later operation of the plantation.

Wild game birds were represented by ruffed grouse, dove, quail, goose, and duck. Three bird of prey were identified: two types of owls and a hawk. The two owl species, barn and screech owls, were recovered from the Yard Cabin, along with a variety of small birds. The hawk was recovered from the South Cabin, where only two small bird

species were identified. None of the small bird species were present in the other two assemblages.

Turtles identified in the assemblages included one aquatic species, the softshell turtle, and one terrestrial species, the box turtle. These two species were represented in all but the assemblage from Cabin 3.

Fish species were represented in all four assemblages. Three species from the Yard Cabin were identified: gar, sucker, and freshwater drum. In the South Cabin assemblage these three fish were also present, with the addition of the freshwater catfish. Cabin 3 was represented by two species, the freshwater catfish and the sturgeon, an anadromous species which lives in the ocean except during spawning when it migrates to inland waters. Only one fish element, a member of the freshwater bass family, was identified in the EKS cabin.

This overview of the African-American slave diet in the regions of the coastal plains, the tidewater, and the upland plantations demonstrates the diversity and availability of wild species which were procured and used by the slaves to supplement the rations issued by the planters. The domestic mammals, consisting of cow, pig, sheep, and goat, represented the meat supplied by the planters and in some instances, animals that were stolen from the planters. The domestic fowl, primarily chicken, were most likely raised by the slaves for self-consumption, as would have been the vegetables grown in their garden plots. At times, the

chickens and vegetables were sold, enabling the slaves to purchase items not provisioned to them by the planter, i.e. food, clothing, kitchen wares, etc.

The diversity of wild species and their availability was dependent on the surrounding habitats and their seasonal variation. The coastal plain provided more diverse fish, bird, and mammal resources than the other two regions. These resources would have been available all year; some species would have been limited to certain times of the year in the tidewater region, and even more limited in the upland regions. Also, the wild species of the coastal plains could have been procured more easily with the use of traps, nets, baskets, scoops, or trot lines.

Another important difference between the regions was the system of labor used to operate the plantation. Coastal plain plantations used primarily the task system to cultivate the fields for rice or cotton, which allowed the slaves more opportunity for free time to forage and grow food resources to supplement their rations. Most tidewater and upland plantations used the gang system, which generally required the slaves to work together from "dawn to dusk," allowing for very little daylight for them to forage or to tend their gardens. Thus, in order to procure wild resources for their diet, the slaves would have had to forage on Sunday, their day off, or during evening hours.

It is important to remember that the archaeological record, at this time, is the primary account with which to

demonstrate that indeed the African-American slave households supplemented their rations with wild animals procured on their own time and vegetables grown on their plots, since "these phenomena are largely invisible in the written record" (Reitz et al. 1985:170).

CHAPTER III

THE ANALYSIS OF THE HOUSE FOR FAMILIES FAUNAL ASSEMBLAGE

George Washington first occupied the Mansion House at Mount Vernon, Virginia after the death of Lawrence Washington, his elder half-brother, in 1752. He acquired full title to the property in 1761 from Lawrence's widow. At the time he became proprietor of the Mount Vernon Plantation, his holdings included thirty-six slaves. In 1759, Washington married Martha Dandridge Custis, who brought about twenty-five dower slaves with her to the plantation. Between 1752 and 1773 it is estimated that fifty to seventy-five slaves were purchased by Washington, and by 1786 the African-American slave population at Mount Vernon, which was comprised of almost 8,000 acres divided among five farms (see Figure 1), totaled two hundred sixteen, increasing to three hundred sixteen slaves at the time of Washington's death in 1799 (Jackson and Twohig 1978).

The African-American slave population owned by George and Martha Washington included house servants (maids, cooks, and groomers) and skilled craftpersons (blacksmiths, spinners and weavers, gardeners, and others) who resided on the Mansion House Farm, and the field slaves who resided on the four outlying farms and provided the necessary

agricultural labor force. The house servants and craftpersons, who held a higher social status on the plantation than the field slaves, as was common on most plantations of the era, lived near the Mansion House in a structure known as the House for Families until ca. 1793, at which time Washington completed construction of a new slave quarter adjacent to the greenhouse (see Figure 2). Although there are no interior descriptions of the House for Families structure, there is a ca. 1792 painting of the Mansion House which depicts it as a two-story clapboard dwelling on a brick foundation (see Figure 3). The dwelling most likely had four to six rooms that housed forty to sixty slaves in a communal setting (Pogue and White 1991). The only remaining evidence of the House for Families structure at present is a brick-walled cellar.

In 1984 the Virginia Division of Historic Landmarks (VDHL) intensively excavated the cellar (Outlaw 1985). This brick-walled cellar measured approximately six feet by six feet and was over three feet in depth (see Figure 4). It was used as a storage cellar, but at some point it was converted to a refuse receptacle. The VDHL's excavation removed, stratigraphically, the entire loamy matrix, which contained a large quantity of wood ash and charcoal. One flotation sample from each layer was taken and the remainder was water-screened through a stacked 1/4 inch over 1/16 inch mesh to retrieve the highest quantity and quality of material culture discarded by the residents of the

household. The stratigraphic sequence was represented by three phases and subdivided into twenty layers. The upper phase, Phase III, exhibited evidence of blacksmithing material, indicating that there were secondary deposits within this group. The lower phases, Phase II (the middle phase) and Phase I (the earliest phase), have been established as primary deposits. Together, these three phases comprise an undisturbed eighteenth century deposit dating from ca. 1760 to 1793 (see Figure 5).

In 1989 the Mount Vernon Ladies' Association Archaeology Department undertook the final removal of the remaining matrix, following the same methods as the VDHL excavation, and redefined some of the original layers within the phases (see Figure 6). It was hoped that the more fine-grained stratigraphic sequence shown by the 1989 could be used to interpret on a seasonal basis the procurement of wild food sources from the surrounding habitats. Unfortunately, however, during excavation a portion of the cross-sectioned wall collapsed, and only a relatively small number of faunal remains could be stratigraphically recovered. It was decided that the seasonal study from this sample could not be accomplished, and the interpretation that follows relies on the 1985 faunal material.

The House for Families cellar fill was primarily composed "of numerous relatively thin layers of mixed silty loam, suggesting the space was filled in multiple discrete episodes during occupation" (Pogue and White 1991:2). The

material culture recovered from the cellar fill was represented by over 14,500 artifacts and 25,506 faunal elements. This artifact assemblage suggests a high position in socio-economic terms for an African-American slave household. Its close proximity to the Mansion House created opportunities for the acquisition of items from the Washingtons' household. The variety of goods ranged from purchases made by Washington specifically for his slaves, to hand-me-downs from the Washington family, and goods possibly acquired through theft.

Artifacts recovered through the excavation included ceramics (refined stoneware, slipware, coarse earthenware, tin-glaze earthenware, refined earthenware, and Chinese porcelain), glass (wine bottles, stemware, pharmaceutical bottles, and a vial), utensils and tools, personal belongings, and faunal remains.

This House for Families assemblage significantly demonstrates the importance of site preservation and modern recovery methods to the clarity of the diversity of species that constituted the daily diet of African-American slaves.

In comparison to other faunal assemblages from the tidewater and upland regions of the Chesapeake, the faunal assemblage recovered from the House for Families cellar exhibits exceptional preservation of bone. The methods used to excavate the cellar helped to recover the smallest faunal remains by water-screening through fine mesh screens and flotation. Both the superior preservation of the bone and

the fine-grained excavation procedures enabled the recovery of fragile fish, bird, and mammal remains that may not have otherwise been recovered had other methods been used, or had the conditions differed.

Water-screening and flotation methods used to excavate the cellar also produced many botanical remains. A preliminary analysis of the material (Pogue and White 1991) revealed fruits (cherry, peach, and melon), nuts (pecan and black walnut), and vegetables (lima beans and corn).

Although site preservation and recovery methods are crucial to the retrieval of faunal remains in the archaeological context, truly useful faunal remains may only be analyzed if the following standards are met:

1) if the soils, which compose the excavated feature or layer, are conducive to bone preservation, in terms of pH level, presence of ash, charcoal, or oyster shell, etc. and
2) if the methods in which the feature or layer is excavated—screening, screen mesh size, water-screening, flotation, etc.—are adequate.

Studies have demonstrated (Thomas 1969; Clason and Prummel 1977; Grayson 1981; Shaffer 1992) that small species as well as species with fragile bones, i.e. fish, are not always recovered using standard 1/4 inch mesh.

Much of this is directly related to the soil of the site. If soils are quite clayey or acidic, bone preservation will be lessened, and 1/4 inch screening or trowel picking

may be the only feasible excavation procedure, although regardless of which of the two methods is used, some limited sampling at a finer level is necessary.

The faunal assemblage was submitted to Colonial Williamsburg Foundation's Department of Archaeological Research faunal laboratory for my analysis under the direction of Dr. Joanne Bowen. This study was designed to, among other things, examine the impact of archaeological retrieval methods on interpretations of the diversity and relative importance of taxa in the diet of the House for Families household.

The methods used for identifying and analyzing the House for Families faunal assemblage were typical for Colonial Williamsburg's Zooarchaeology Lab. All bone from the assemblage was sorted into identifiable and unidentifiable elements. The unidentifiable bone was assigned to a taxonomic order by class (fish, bird, mammal, etc.) and element type (long bone, flat bone, rib, vertebra, etc.), then counted and weighed.

The identifiable bone, represented by 4,894 elements, was traced to the lowest possible taxonomic level by using the comparative skeletal collection in the zooarchaeological laboratory, created and maintained by Dr. Bowen. The wild bird and amphibians were identified by using the collections of the Departments of Bird and Herpetology at the Smithsonian Institution's Museum of Natural History. Each element was identified to the lowest taxon possible and

recorded into a dBASE-compatible computer program, which tracks taxon, element, side, location, and weight, as well as other characteristics noted of the element (fusion stage of the epiphysis, relative size, modifications such as burning, butchering, or chewing, etc.). Measurements were taken on elements using the guidelines proposed by Angela von den Driesch (1976). The minimum number of individuals (MNI) was determined by visual comparison, using characteristics such as side, size, age, tooth wear and stage of eruption to estimate the number of individuals present in the assemblage for each taxon. Biomass was based on values established by Reitz and Cordier (1983). With these values entered into the computer program, summary charts were created (Tables 2-4).

Many variables can affect a faunal assemblage, for example, the portions of the animal which were consumed, the methods which were used to dispose of the carcass, the effect of scavengers, natural disintegration by soil, and other taphonomic processes. These variables make it difficult to determine well the assemblage represents what was consumed.

Taphonomy, the study of environmental phenomena and other processes that affect an animal's remains after death (Gifford 1981; Davis 1987), has presented researchers with many challenges. It examines a variety of processes—cultural, biological, and geological—that modify the faunal assemblage from the time it is deposited. These

modifications—soil acidity, climate, carnivores, etc.—are only a few of the natural processes, whereas cultural factors are the result of butchering, trampling, burning, or breakage from field excavation (Grayson 1984; Lyman 1987).

The emphasis of taphonomic research is to determine what processes modified the faunal assemblage in order to accurately reconstruct and interpret the findings (Bonnichsen and Will 1980). The human population is the major taphonomic factor in the formation of an assemblage. The primary taphonomic process that modified the House for Families assemblage was contributed by human activities, including butchering, breaking the bones to extract marrow, and possibly trampling. Breakage of the bone into small fragments may have been the result of cracking from heat in the preparation of soups and stews. Chewing was evident on some of the bone which in the past may have been related to carnivores (mainly dogs), but evidence may suggest that some of the chewing may have been done by humans. The primary evidence for this is revealed by the extremities of chicken long bones chewed on one or both ends (Bowen 1993). Today this is still done among some populations including African-Americans (Ywone Edwards, personal communication 1991). Very little rodent gnawing was present. Weathering of some bone indicated it had been exposed to an open environment for a period of time.

The study of an archaeological faunal assemblage uses quantification as a major tool in its interpretation. It is

used to reflect the relative abundance of each taxon and relate them to other taxa within a layer or feature. There are four measures of relative abundance commonly used. The most basic method, the number of identified specimens (NISP), counts the number of elements to measure the relative abundance of a taxon. The most frequent method used, however, is the minimum number of individuals (MNI), a method which compares right and left sided elements in relation to age, size, etc. to establish the least number of individuals consumed. This measure shows the relative abundance of species, regardless of size. In order to determine the dietary importance of a taxon, two other measures are used. A measure of the minimum meat represented per taxon uses the average weight of the animal to measure the taxonomic abundance (Grayson 1979). Biomass is used to establish the body weight of an animal from the skeletal weight (Wing and Brown 1979). The uses of these quantification methods were applied to the House for Families assemblage to exhibit the relative abundance estimates for species identified in order to interpret the diet of the household and understand their system of subsistence.

Meat weight estimations are used to document relative importance. In order to evaluate a relative contribution of a species to the diet, reliable estimations are needed to reconstruct subsistence strategies. To accomplish these estimations, allometric equations are employed. The most

common ones used are scaling formulas, which look at body and skeletal mass relationships in contrast to bone to body weight, using a fixed percentage (Reitz et al. 1987).

Specific areas of study pertaining to African-American slave foodways include: the methods and techniques for recovering faunal remains from the archaeological context, interpretation of the data from the analysis to determine slave subsistence strategies, and the research of documentary sources containing information on diet to determine the foods rationed and consumed by the slave population.

Questions that can be answered through the analysis of African-American slave foodways include: Are domestic and wild species present? If so, what are the proportions of each? (This may exhibit the importance of foraging for wild species or the degree of animal raising that the slave population was permitted to do.) Were the slaves consuming a limited number of species or a very diverse number? What percent of the domestic species identified were immature? Finally, what was the system of production, distribution, and consumption within the African-American slave population?

Fifty-eight taxa were identified from the House of Families assemblage. Both domestic animals and fish were important food sources, supplemented by other wild species (see Table 1). The major domestic animals included cow (Bos taurus), pig (Sus scrofa), and chicken (Gallus gallus). Fish

(Class Osteichthyes) were represented by three major groups: freshwater catfish (Family Ictaluridae), herring (Family Clupeidae), and the temperate basses (Morone spp.). Ducks (Family Anatidae) comprised the major species of wild bird; the two prominent species were the surface-feeding ducks (Anas spp.) and the diving ducks (Aythya spp.). A brief description of each identified taxon follows.

Crustaceans

The blue crab (Callinectes sapidus) is distributed along the Atlantic coast, and is most prevalent in the Chesapeake Bay area (Lippson and Lippson 1984). Their remains, mostly claws, have been recovered from most colonial period sites throughout the Chesapeake Bay region. They were harvested from the water primarily during the summer months, but also on a limited basis during spring and fall; during the winter months they become dormant, burrowing into the sandy bottom.

Fish

The sturgeon (Acipenser spp.) and the herring (Family Clupeidae) comprise the anadromous species. The sturgeon, a bottom species, inhabited tributaries throughout the Chesapeake Bay during the eighteenth century. Spawning movements begin in the bay region in April, migrating to freshwater tributaries, then returning to saltwater in the fall (Lippson and Lippson 1984).

The herring family is represented by the alewife (Alosa pseudoharengus), the American shad (Alosa sapidissima), and

the Atlantic herring (Clupea harengus). These species begin migrating to the Chesapeake Bay for spawning as early as March. The alewife and Atlantic herring spawn from late March through April in locations of large rivers and small streams, returning to the ocean by summer. Spawning activities for the American shad occur from April to May in open areas of large rivers and small streams, moving out to the ocean by summer (Mansueti and Hardy 1967).

The semianadromous species are comprised of yellow perch (Perca flavescens) and the temperate basses (Morone spp.). In the Chesapeake Bay the yellow perch inhabits the upper portion of the estuary, returning to small shallow streams in late February to spawn through April (Mansueti and Hardy 1967). Two species predominate within the temperate basses: the white perch (Morone americana) and the striped bass (Morone saxatilis). The white perch inhabits the estuarine areas of the bay until spring, when they then migrate upstream to tidal-fresh or low brackish water. Spawning occurs in late March through June. During the winter months they travel to deep channel water. Within the Chesapeake Bay, the white perch maintain their own separate population within each major river system (Lippson and Moran 1974). The striped bass remain indigenous to the river throughout the year, with a small percentage migrating to the bay or possibly the ocean. During the spawning season they return to the same area each year; this occurs in mid-April through June in tidal-fresh to slightly brackish

water in the estuary. They do not appear to spawn within any tributaries (Lippson and Moran 1974).

Freshwater species recovered from the House for Families assemblage include catfish, sucker, pickerel, gar, and the sunfish family.

Freshwater catfish represent the largest fish family within the assemblage. Two species are present, the white catfish (Ictalurus catus), which predominates in this family, and the channel catfish (Ictalurus punctatus). Locally, the white catfish is distributed in the tidal tributaries of the Chesapeake Bay, including the Potomac River mainstream and its tributaries. Spawning occurs in the spring and early summer as they move upstream (Lippson and Moran 1974). The channel catfish represented a very small percentage of the freshwater catfish in the assemblage. Their habits are similar to the white catfish.

Other freshwater species include the gar (Lepisosteus spp.), which inhabit the fresh and brackish tributaries of the Chesapeake Bay. During the spawning season they migrate into shallow waters of rivers and smaller streams in May and June (Lippson and Lippson 1984). The sucker (Family Catostomidae) is primarily a freshwater species, with some species ranging into tidal-fresh or low salinity areas; they are represented by four species in the Potomac River. They spawn in large or small streams in the spring and generally migrate to deeper water in the winter (Lippson and Moran 1974). The channel pickerel (Esox niger) is distributed

throughout the tidal tributaries of the bay and is common in brackish water and streams. They migrate to shallow waters for spawning in early March to mid-April, possibly a second time in October, then migrate to deeper water during winter (Mansueti and Hardy 1967). The sunfish (Lepomis spp.) is common throughout the assemblage. Two species were represented, the bluegill (Lepomis macrochirus) which inhabits shallow protected areas of the tributaries, and the redear sunfish (Lepomis microlophus), which prefers large quiet water, but will travel in open water. During spawning season, from May to August, they both build nests in the shallows, which are devoid of vegetation (Lippson and Lippson 1984).

Amphibians and Reptiles

The bullfrog (Rana catesbeiana) is aquatic and prefers larger areas of water than most frogs. Bullfrogs are known to inhabit lakes, ponds, marshes, and sluggish streams that provide sufficient vegetation for cover, while being large enough to avoid overcrowding. When better habitats are not available, smaller streams are also occupied (Behler and King 1988; Conant 1975).

Turtles are represented by two aquatic species, the snapping turtle (Chelydra serpentina) and the slider/cooter (Pseudemys spp.). The snapping turtle inhabit areas of permanent freshwater, but may enter brackish waters at times. They often bury themselves in mud, exposing only their eyes and nostrils. They are omnivorous feeders. The

slider/cooter inhabit sluggish rivers and shallow streams, marsh areas, lakes, and ponds with aquatic vegetation. Some prefer soft bottom sites while others use areas which support overhangs for sunning (Behler and King 1988; Conant 1975).

Birds

Birds represented in the House for Families assemblage include both wild and domestic, those primarily from the Family Anatidae (geese and ducks) and Family Phasianidae (grouse, partridge, and pheasant).

The Chesapeake Bay provides a primary wintering area for waterfowl using the Atlantic flyway. Its location, size, habitat diversity, and waters provides both submerged vegetation and shellfish sources for a variety of species of the Anatidae family. Their presence in the assemblage indicates scheduling activities by the household on a seasonal basis for procuring food resources.

Ducks are the most prevalent of the wild birds. The Potomac River and its tributaries were seasonally occupied by both surface-feeding and diving species. The mallard (Anas platyrhynchos) ranges throughout much of the Northern Hemisphere. In the Chesapeake Bay region they prefer shallow brackish waters, but some will inhabit bay and coastal marshes, estuarine rivers, or other environmental niches. They are the largest of all surface-feeding ducks, with the exception of the black duck (Anas rubripes). Their diet includes pondweed, wild rice, bullrushes, smartweed, and a

variety of other submerged or emergent plants (Martain et al. 1951). Although "tipping-up" is their common way of feeding, mallards will dive at times to obtain their food. They have a pattern of activity that is polyphasic and these patterns reoccur throughout the day in relation to light, temperature, and other environmental variables (Raitasuo 1964).

The gadwall (Anas strepera) also ranges throughout much of the Northern Hemisphere. Gadwalls in the Chesapeake Bay region prefer brackish estuarine waters for feeding on submerged plants such as clasping-leaf, pondweed, wigeon grass, and water milfoil (Stewart 1962). They are primarily surface-feeders, but will dive on occasion to obtain food; thus they feed in areas of shallow marshes with submerged plants that are abundant and grow close to the surface.

The American widgeon (Anas americana) is a common winter resident of the Chesapeake Bay. They are found primarily in brackish or fresh estuarine bays with submerged plants such as pondweed, wild celery, and wigeon grass. They also tend to feed on aquatic plants dislodged by diving ducks (Stewart 1962).

The ruddy duck (Oxyura jamaicensis) winters in the Chesapeake Bay region, preferring a habitat of brackish to slightly brackish estuaries or shallow coastal lagoons, but during the coldest weather they move to salt estuarine bays (Stewart 1962). Ruddy ducks are divers that feed on submerged plants, crustaceans, and small mollusks.

The majority of wintering North American canvasbacks (Aythya valisineria) use the Atlantic flyway, concentrating in the Chesapeake Bay region, which supports almost three-quarters of the population (Chamberlain 1960). Their habitats in the bay consist of fresh and brackish estuarine bays that provide large beds of submerged plants, wigeon grass, pondweed, eelgrass, mollusks and crustaceans.

During the winter months the redhead (Aythya americana) is most numerous in brackish estuarine bays of the Chesapeake that contain beds of pondweed, clasping-leaf, wigeon, and eelgrass. It has been suggested that severe weather during the winter may cause seasonal shifts of habitat (Stewart 1962).

The ringneck duck (Aythya collaris) prefer habitats in the Chesapeake Bay of fresh or slightly brackish estuarine waters and interior ponds, moving during colder periods to moderately brackish waters. They feed on seeds and vegetative parts of emergent and submergent plants, as well as insects, mollusks, and other aquatic species (Martain et al. 1951; Cottam 1939). Although they are a diving duck they generally feed in shallower water and at times "tip-up" to feed.

During the winter months in the Chesapeake Bay region the greater scaup (Aythya marila) and the lesser scaup (Aythya affinis) are primarily limited to brackish and salt estuarine and coastal bays, although some use fresh water for a brief period (Stewart 1962). Insects, mollusks, and

crustaceans are found predominantly in their diet, but they still consume seeds and other vegetative parts of aquatic plants (Martain et al. 1951).

In the Chesapeake Bay the common goldeneye (Bucephala clangula) is distributed in coastal estuaries during the winter, but may inhabit brackish or salt estuarine bays (Munro 1939). They feed primarily on crustaceans, insects, and aquatic plants (Stewart 1962) during the day and often "raft" in deeper water at night.

In the Chesapeake Bay region during the winter, the common merganser (Mergus merganser) is locally distributed with most inhabiting fresh estuarine bays or marshes, while others may range into slightly brackish environments (Stewart 1962). They primarily inhabit the mouths of upper estuarine regions of rivers which provide relatively transparent water for feeding on fish, their basic diet, in fairly shallow waters.

The Rallidae family is represented by the American coot (Fulica americana). It inhabits ponds, freshwater lakes, marshes, and large rivers, but winters on bays and brackish estuaries of the Chesapeake Bay. It feeds on submerged vegetation and, to a small extent, on aquatic animal species and insects (Johnsgard 1975).

Small game birds of the Phasianidae family are also represented in the assemblage. The bobwhite (Colinus virginianus) and the ruffed grouse (Bonasa umbellus) both prefer brushy habitats with sources of natural plant foods

and water. The bobwhite feeds on weedy herbs and seeds of legumes, whereas the ruffed grouse prefers fruits and berries in the spring and buds and twigs in the winter (Johnsgard 1975).

The now extinct passenger pigeon (Ectopistes migratorius) and the rock dove or domestic pigeon (Columba livia), both from the Columbidae family, are represented by only one element each. The passenger pigeon preferred a forested habitat, foraging in cultivated or open areas adjacent to the forest, whereas the rock dove, an introduced European species, was found more abundantly near human populations, rather than in the natural environment (American Ornithologists' Union 1983).

The great horned owl (Bubo Virginianus) is a nocturnal bird of prey that inhabits deciduous or lowland evergreen forest areas. It will also range into riverine woodlands and swamps (American Ornithologists' Union 1983).

The Passeriformes (perching birds) were probably not used as a food source. The robin (Turdus migratorius) is the only passerine species identified in the assemblage. It inhabits a variety of environmental niches, migrating south during the winter months.

There are three species of domestic birds in the assemblage: chicken (Gallus gallus), goose (Anser anser), and turkey (Meleagris gallopavo). There is no distinct skeletal difference between domestic and wild turkey species; with this in mind, they will be considered domestic

for the purpose of this analysis. It has been suggested that during colonial times the chicken was smaller than today's species (Reitz 1979); this was apparent when the specimens from the assemblage were compared with a modern comparative collection.

Mammals

A diversity of wild game is represented in the House for Families assemblage, including opossum (Didelphis virginiana), eastern cottontail (Sylvilagus floridanus), eastern gray squirrel (Sciurus carolinensis), raccoon (Procyon lotor), and the white- tail deer (Odocoileus virginianus).

The opossum is a nocturnal omnivore that prefers areas of deciduous woodlands associated with a stream system. It may also inhabit areas of grassland and marshes. Their distribution in these habitats is determined by seasonal abundance of food, water, and the availability of den areas (Gardner 1982).

The eastern cottontail prefers a vegetative habitat of perennial grasses or a dense, low growing scrub environment. It is an herbivore, preferring grasses and a wide variety of plants which provide a basic nutritional balance (Chapman et al. 1982).

The eastern gray squirrel predominates in a mature hardwood habitat with a dense undergrowth. Its range may vary depending on food availability, population size, and age. They consume a diversity of foods including acorns, a

variety of nuts, fruits, seeds, certain tree barks, fungi, and insects (Flyger and Gates 1982).

The raccoon is a nocturnal carnivore which inhabits areas near water sources. They are abundant in fresh and saltwater marshes, hardwood swamps, flood plain forests, and at times in mesic hardwoods. They remain active throughout winter, except days that are unusually cold. The raccoon is omnivorous and opportunistic when it comes to food habits, consuming both plant and animal, but overall plants are more important in their diet (Kaufman 1982).

The white-tail deer is the largest of the wild mammal represented in the assemblage. It is an herbivore that adapts to most environmental settings and consumes a diversity of foods, selecting the most nutritional foods available. A number of factors affect its activity within an area, including the number of deer, the season of the year, and the weather conditions (Hesselton and Hesselton 1982). During the early colonial period they were quite prevalent, but overhunting and habitat changes caused a decline in their population in the eighteenth century. This factor, along with an increased use of pig and cow as a more reliable meat source, almost eliminated deer from the diet.

Commensal mammals are those which live with another species and share its food, both animals possibly benefitting from each other through this association (Davis 1987). Commensal species are represented in the assemblage by the shorttail shrew (Blarina brevicauda), Old World rat

(Rattus spp.), house mouse (Mus musculus), and the domestic cat (Felis domesticus). These species lived within the same area as the House for Families household, but it is doubtful they were part of the diet.

The domestic pig (Sus scrofa) was an important food source for the eighteenth-century African-American slave population, as it required little care, was a prolific breeder, and grew quite rapidly. Pigs provided 65-80 percent of dressed meat per individual after slaughter, whereas the cow provided only about 50-60 percent (Reitz 1979). Pork was easier to preserve than beef, and pigs were raised solely for food consumption.

Washington raised pigs on all of his farms, allowing them to run freely in the woods. During the early fall, he began fattening them at the different farms in preparation for slaughter in November and December; the meat was then distributed among the slave households of each farm. Some of the pigs were slaughtered in October for bacon; others that were slaughtered later and not consumed immediately were either smoked, salted, or pickled for preservation purposes.

The domestic cow (Bos taurus) not only provided meat, but also milk, cheese, butter, and served as a draft animal as well. Since beef does not preserve as well as pork, it had to be either consumed immediately or salted. Pound for pound an adult cow's usable meat was much greater than that of the pig, thus providing the House for Families household with a higher meat yield per individual.

Sheep (Ovis aries) and goat (Capra hircus) are generally combined, since their skeletal elements are difficult to distinguish from each other. Neither were considered an important food source during the eighteenth century, due to difficultly in raising them. Although Washington did raise sheep on his farms, they were not an important part of the slave diet. Three elements were identified as sheep. Since Washington never wrote about goats in his records, the other elements may also be sheep; but since no diagnostic characteristics remained to verify this, they were combined.

The Mount Vernon faunal assemblage provides a strong data base because of the diversity of wild species identified, the excellent preservation of the assemblage, and Washington's documents which provided information on the slaves provisioning system. With these strong attributes, can ethnicity be reflected in the assemblage?

The Mount Vernon remains recovered revealed what portion of the animal's meat was consumed. How the carcass was butchered and distributed on the plantation has been viewed as an indicator of status, where the high-quality cuts of meat were consumed by the planter and the low-quality cuts of meat, i.e. heads, feet, and bony parts, were rationed to the slave households. This assumption, however, has been based on modern-day views of cuts of meat. What was considered by most colonists of the eighteenth century as a delicacy, today would not even leave the store. Bowen (1990)

has found evidence that "over fifty sites in the Chesapeake reveal households of all status levels and ethnic affiliations consumed virtually all cuts of meat, including those rejected by contemporary Americans" (Bowen 1993:9).

The way in which bone was fragmented to extract marrow and/or the use of bone in preparing soups or stews by the African-American slave households has also been used as an indicator of a slave assemblage. This evidence was used to demonstrate the use of single-pot meals within the household.

It has been indicated in the historical documents and by historians that the African-American slave diet consisted of poor cuts of meat, i.e., heads, feet, and fatback. Walker (1985:51) interprets the absence of high-quality cuts of meat at the Kingsley slave cabin as "consistent with the view that this is a status indicator of slave sites." Otto (1984) observed that sawed bones were related to high status while chopped bone represented the lower class. This assumption cannot be used for the eighteenth century, since virtually all bone was chopped. The Kingsmill Quarter (McKee 1987) revealed some high-quality cuts of meat, but the elements themselves were very fragmented, suggesting they were of secondary use, possibly in preparation of soups or stews. Crader (1990:699) uses the concept that "the fewer high-quality cuts represented, the lower the status, while the more high-quality cuts, the higher the status." But the assemblage from Building "o" represented elements from the

entire carcass, indicating that high-quality cuts of meat were consumed along with the poor quality cuts.

Researchers have defined poorer cuts of meat as slave-related, since it was assumed that because slaves were both dependant on the plantation owner and poor, they consumed only the heads, feet, and fatback of pigs which were rationed to them. When reviewing other African-American slave faunal assemblages, however, it became apparent that good cuts of pork, beef, and mutton were present, indicating that there was variety in the slaves' diet.

The House for Families faunal assemblage reflects this assessment. Every part of the carcass of both the pig and cow were represented, although the sheep/goat bones represented only certain portions (see Figures 7-9), thus the data from the House for Families assemblage showed that cuts of meat alone did not represent good markers for an African-American slave assemblage. Washington's slaves consumed, along with the heads and feet, the meatier portions such as hams and loins (Bowen 1993).

A second means of identifying African-American slave diet was the single-pot meal. Can, however, we infer that highly fragmented bone represents a slave assemblage? An eighteenth-century account from Jamaica describes slaves during their daily noon breaks, searching for bones from around the houses. After the bones were recovered, they were broken into extremely small fragments, then boiled in preparation of making broth (Leslie 1740, quoted in Abrahams

and Szwed 1983).

The sizable amount of fragmented bone in the House for Families assemblage suggests the household may have been breaking up and boiling the bone for preparing soups and stews. The presence of iron pot fragments among the artifacts recovered from the cellar further substantiates this assumption of preparing single-pot meals. Like faunal assemblages from the other study regions, these faunal assemblages also contained high quantities of fragmented bone, possibly indicating this type of cuisine was prepared on a regular basis.

Although the African-American slaves were raising animal to supplement their rations, the archaeological remains can not tell us which animals were raised or rationed. Evidence from the House for Families assemblage, however, may demonstrate that chickens were raised by the household indicated by the presence of immature bones and by a 1798 reference of a visitor to Mount Vernon. He describes the residence of a slave family, noting that "[f]ive or six hens, each with ten or fifteen chickens, walk there" (Niemcewicz 1965:13).

A third method used to identify an African-American slave assemblage has been the presence of a variety of wild animals. Unfortunately, however, the presence or absence of wild species in an assemblage may also be related to factors other than slaves' own initiatives. First, the environment in which plantations were situated determined availability.

For example, in a diverse habitat, with hardwood forests, wetlands, estuaries, etc., and a suitable climate, a diverse array of wild species would have provided ample opportunities for procuring supplemental foods. In addition, the system of labor regulated the amount of leisure time slaves had to spend fishing and hunting. Whether or not the labor system used to run the plantation restricted slaves' foraging activities can be monitored by the presence or absence of nocturnal animals in the faunal assemblage. If a relatively high number of the wild species were nocturnal, then it might be interpreted that gang system of labor was used, leaving only the evening hours left for slaves to forage.

And lastly, some plantations incorporated fishing into the provisioning system. In faunal assemblages excavated from plantations where fishing was part of the rationing system, the presence of these fish mask the extent to which slaves supplemented rations by fishing.

In the Mount Vernon faunal assemblage a wide range of wild life appeared including many species of fish, ducks, and small wild mammals, indicating at first glance that supplemented foods were extremely important. But documents revealed that fishing was an important part of the provisioning system. My thesis will attempt to demonstrate, by using the analysis of faunal remains, what species were rationed by Washington and which were supplemented by the slaves.

Dietary contributions of different taxa found in the assemblage are assessed in two ways: through pounds of useable meat and with biomass values. The analysis of the identified taxa is interpreted in a number of ways: 1) pounds of useable meat and biomass values are given for the domestic mammal and bird taxa, wild mammal and bird taxa, fish, and domestic verses wild within the three phases, 2) biomass values are given for the domestic mammal and bird taxa, wild mammal and bird taxa, and fish from each layer within Phases I and II (see Figures 17-21), and 3) biomass values are used to compare domestic and wild taxa within the layers of Phases I and II.

The major contributors to the diet of the House for Families residence were the domestic mammals (see Figure 10). They contributed 54 percent of the pounds of useable meat and 52 percent of the biomass in Phase I, and 49 percent of the pounds of useable meat and of the biomass in Phase II, increasing to 68 percent of the pounds of useable meat and 63.5 percent of the biomass in Phase III. In Phase I pig represents 27.5 percent of the pounds of useable meat and 25.6 percent of the biomass, while cow supplies 16 percent of the pounds of useable meat and 15.7 percent of the biomass. In Phase II there is an increase in cow to 31 percent of the pounds of useable meat and 29.3 percent of the biomass, with pig decreasing to 12.3 percent of the pounds of useable meat and biomass. In Phase III, pig increases slightly to 21 percent of the pounds of useable

meat and 20.5 percent of the biomass; cow remains about the same as in Phase II with 32.5 percent of the pounds of useable meat and 29.3 percent of the biomass. Sheep/goat represent less than 10 percent in Phases I and II, 6.5 percent of the pounds of useable meat and 7.2 percent of the biomass in Phase I and 4 percent of the pounds of useable meat and 5.1 percent of the biomass in Phase II, increasing slightly to 13.3 percent of the pounds of useable meat and biomass in Phase III. The domestic birds contributed 3 percent or less of the pounds of useable meat and biomass to the diet. They were most represented in Phase I, with 3 percent of both pounds of useable meat and biomass, decreasing to 2 percent in Phase II, and being significantly lower in Phase III to 0.5 percent of both the pounds of useable meat and biomass.

Altogether, wild mammals and birds contributed relatively little to the bulk of the diet, with 10.3 percent or less. In Phase I they represented 6.5 percent of the pounds of useable meat and 9.6 percent of the biomass; in Phase II, 3.5 percent of the pounds of useable meat and 7.9 percent of the biomass; and in Phase III they represented 8.5 percent of the pounds of useable meat and 10.3 percent of the biomass.

Fish contributed a significant portion to the House for Families diet. In Phase I they represented 6 percent of the pounds of useable meat and 7 percent of the biomass, increasing to 17 percent of the pounds of useable meat and

15 percent of the biomass in Phase II, and decreasing to 8 percent of the pounds of useable meat and 11 percent of the biomass in Phase III.

In general, the archaeological remains from the House for Families cellar suggest that indeed the slaves living there consumed a high percentage and diversity of wild animals. But, it is clear in this case that all wildlife cannot be attributed to slave foraging activities, for Washington regularly rationed herring and shad to his slaves.

The provisioning system Washington implemented at the various farms of Mount Vernon consisted of pork—fresh, smoked, salted, pickled, or as bacon—rationed from pigs raised on each farm. Occasionally, beef and mutton were provided to the slaves by Washington. Salted herring and shad, which were caught at his various fisheries, were also provided.

Washington's documents reveal that fishing was a major activity at Mount Vernon, although determining which species were provisioned and which were procured by the slaves was difficult. However, since rationed fish, herring primarily would have been primarily caught during the spring spawning season, when they were schooling in large numbers, they can be attributed to Washington's spring fishery activities rather than what slaves would have caught on their own time. Alternatively, other fish species which spawn after May would not have been caught in large numbers in his seining

operations. They, therefore, were probably the remains of fish slaves caught. The gar and the sunfish, which spawn during the summer months, and the chain pickerel which may spawn a second time in October, are examples of these fish. Another fish probably caught primarily by slaves on their own was the freshwater catfish.

In their totality, fish were an essential part of the slave diet. Many of these fish were provided through Mount Vernon's fisheries operation, which has been documented for a period of almost forty years, ca. 1760-1799. It was ongoing at several landings near the Mansion House Farm; as Washington wrote, "[I] went to the different Fishing Landings on both sides the River as high as broad Creek ..." (Jackson and Twohig 1978:177). Fishery locations often referenced include Posey landing on the riverside of Union Farm, Ferry Plantation landing, Sheridines Point landing, House landing, and Johnsons Ferry landing (see Figure 11).

In the eighteenth century, a fishery was defined as "... a shore privately owned where the fronting waters have been cleared of obstructions. The owner ... operates a long seine at that place by carrying it offshore in boats and hauling it to land. So long as he ... uses the spot 'regularly' the law protects him ... by making it illegal for any other person to fish with nets within a quarter-mile of 'any part of the shore of the owner of any such fishery'" (Wharton 1957:49).

In the early years of the fisheries operation, seines

were ordered from England. Over a period of six years, a total of ten seines were requested. In 1771 a letter to Robert Cary and Co. from Washington requested a 75 fathom seine, 10 feet deep in the middle and 8 feet deep at both ends. Another letter in 1772 to Bradshaw and Davidson requested three seines 65, 70, and 80 fathoms in length, 12 feet deep in the middle and 7 feet deep at both ends. Over a period of six years, a total of ten seines were requested (Fitzpatrick 1931-44). Later, seines were made at Mount Vernon from locally purchased twine.

Washington's documents tell us these fish were a staple for feeding the slaves at Mount Vernon's farms. As herring were caught the slaves themselves salted them, providing themselevs with rations, which were issued at twenty-a-month per slave. To provide for his slaves in the event that supplies were limited during the season, a quantity of fish was saved from the first "run" during the spring spawning (Jackson and Twohig 1978).

Washington's fisheries operated primarily during the months of March, April, and May when the herring and shad were spawning in the Potomac River and its tributaries. Seines, laid out by boat, were pulled ashore by his slaves both day and night in order to catch as many fish as possible (see Figure 13). As the season advanced, Washington would stop the fisheries operation at each landing, "as few or no fish were caught" (Jackson and Twohig 1978:329). Upon completion of the spring fishing he wrote, "[o]rder my

People to quit hauling, and bring home my Seins" (Jackson and Twohig 1978:329). The seines were then "... thoroughly dried and packed away secre[t]ly from Rats and Mice. Were they to be thoroughly repaired, they would be better for it" (Fitzpatrick 1931-44:447).

Occasionally, the fisheries operation was affected by the weather, resulting in a poor season. Two letters to Washington's manager discuss this dilemma; he wrote "April 28, 1793 ... [t]he late stormy weather has, I fear, not only checked your fishing, but in all probability has put an entire stop to it, as the season is now far spent." On May 12, 1793, he stated "from the constant Easterly Winds which have blown ever since I left Mount Vernon I expect the Fishery would end poorly, and therefore am not disappointed at your report on this head" (Fitzpatrick 1931-44:436, 456).

Most years, however, the fisheries operation proved successful. The herring and shad were cured in salt packed in barrels and sold to the local planters for slave rations or shipped to other ports, often to the West Indies, for sale after his slaves' provisions were sufficient for the year.

The method Washington used to salt cure fish is called pickle curing, which preserved the fish in air-tight barrels. The strong pickle was formed by dissolving salt in the body fluids of the fatty fish. The purpose of salt curing was to prevent or slow down the bacterial spoilage of fish, thus allowing them to be stored for a long period of

time at ordinary temperature without spoilage (Burgess et al. 1967). The salt used at Washington's fisheries operations was brought from Alexandria by boat and stored at the different landings.

Although little information about vessels used in Washington's fisheries operation was revealed in his documents, it is apparent they played a major role in fish procurement, as well as transporting them to market. The main function of the boat during the fishing operation was the placement of the seines. As to who built the boats and operated them, it is difficult to discern, but in January 1787 Washington entered in his diary that "A Mr. Smith-Boat builder came here to build me a Boat ..." (Jackson and Twohig 1978:91). Another source indicated that on April 1, 1797 Washington paid for a boat to be built by a Joshua Humphreys, who was a quality boat builder and ship yard owner (Washington 1797). A probate inventory of Washington's estate after his death included an old fishing boat, a new fishing boat, a large boat, a yawl, and a scow (a square-ended large flat-bottomed barge). There may have been other smaller boats that were not listed, as they may have been considered unimportant or simply may have been overlooked.

In researching Washington's farm reports, it became evident that slaves at the various farms were repairing the fishing boats, as well as other vessels, e.g. the little ship and the great boat. At this point, in researching the documents, it is unclear if any of the slaves were actually

building boats, or using them for their own activities.

Most of the fish identified in the assemblage were freshwater species, or those intolerant to a high salinity regime, indicating that they were procured in the upper Potomac River. No species were identified from the high salinity regime; i.e. weakfish, drum, sheepshead, etc., although a 1768 reference to seining along a sandbar at Cedar Point for sheepshead may indicate that some saltwater species were tolerant to brackish or tidal freshwater (Jackson and Twohig 1978). The size of the species identified were small and probably of non-commercial value, suggesting that "Washington was selective and kept the larger individuals caught at his fishery either to sell or for his own household's consumption, and gave only the small 'panfish' to his slaves" (Bowen 1989:5).

Fish elements represented 80 percent of the total assemblage from the House for Families cellar excavation, demonstrating the importance of this food resource in the slaves diet. Fish resources are characterized by differences in availability, quantity, and quality. Seasonal variation can affect their abundance and quality. They provide a higher calories per pound ratio during the spawning season and become more plentiful during that period. The Chesapeake Bay and its tributaries provided the opportunity for the spring spawning and also a productive fishery during any month of the year. This abundance of fish was of economic significance for the fisheries operation at Mount Vernon. To

evaluate the importance of fish as a food source for the African-American slave population at Mount Vernon, it must be approached in two ways, the cultural and the natural, "for a fish fauna becomes a resource only if resorted by man" (Sauer et al. 1968:IX).

Most of the species represented could have been caught on a hook-and-line, but the absence of any fishing implements from the cellar (Dennis Pogue, personal communication, 1990) and a reference by Washington in 1760 may indicate that hook-and-line fishing was not practiced by the House for Families slaves. But documented evidence shows they did use Washington's seines, for he wrote, "April 13 ... my Negroes asked the lent of the Sein today, but caught little or no Fish" (Jackson and Twohig 1978:153).

Fish provided an important food source for the household residing at the House for Families; they supplied protein, minerals, vitamins, fats, and calories. According to Sauer "[t]he energy value of food fishes, expressed as calories per pound of edible portion, provides a means of comparing the different fishes on a numerical basis" (Sauer et al. 1968:5). The amount of calories provided to the slave diet is directly related to the fat content of the fish. Calories per pound of edible portions of fish present in the assemblage are as follows: freshwater catfish, 1,000 calories per pound; shad and alewife, 600-700 calories per pound; white perch, striped bass, sturgeon, and sucker, 400-500 calories per pound; and chain pickerel and yellow

perch, 350 calories per pound (Sauer et al. 1968). The House for Families assemblage revealed that freshwater catfish was the most prevalent throughout most of the assemblage, thus providing the household with the highest calories per pound of the fish species.

Not only was fishing an activity the House for Families household adopted to supplement their rations, but they also procured waterfowl, birds, and wild mammals which increased the diversity of their diet. Wild species which slaves might have hunted or trapped on their own were the wild ducks and smaller wild mammals. Ducks, which were only available during the late fall and winter months, provided slaves with a source of fresh meat during this season. Some of the smaller wild mammals were nocturnal, i.e. raccoon and opossum for example; this perhaps demonstrates that some of the foraging activities were undertaken after work hours.

Wild species represented approximately 20 percent of the diet within the three phases (see Figure 14). Hunting paraphernalia, including gunflints and lead shot (White 1991), were recovered, indicating that the household engaged in some type of hunting activity. Was the hunting primarily for food, or were they procuring wild foods for Washington's table, keeping the less desirable species for themselves? In one of Washington's diary entries, he wrote about duck hunting, entering the species he killed (mallards, bald faces, spring tail, and teal), but he does not reiterate if any slaves accompanied him (Jackson and Twonhig 1978). Of

the species he described, only the mallard was identified in the House for Families assemblage.

The Chesapeake Bay is the largest estuary in North America. This estuary is the primary destination of literally millions of migratory waterfowl during the winter months. It usually remains unfrozen, providing the perfect condition for diving ducks to feed on submerged aquatic plants, along with clams and crustaceans. As for the dabbling ducks, the brackish marshes and river estuaries are abundant with wild rice and seed-bearing plants.

Migrating waterfowl were represented throughout the assemblage from the cellar fill. Twelve species representing diving, dabbling, and sea ducks were identified. These species could have been procured by the household either by hunting or through capture in nets and traps.

The most common waterfowl species identified was the canvasback (Aythya valisineria), representing 66.5 percent of the total migratory waterfowl recovered from the cellar fill. The canvasback begins migrating from its Canadian breeding grounds in September and begins to arrive on the Chesapeake Bay from the months of October through November, with a peak from approximately the middle of November to mid-December, generally arriving later than most other waterfowl migrating to the region. Canvasbacks begin to return to their breeding grounds from the bay during the month of March.

During their wintering stay, the canvasbacks at times

converge on the waters in large rafts; present-day observations (Meanley 1982) have recorded as many as twenty-five thousand which may be part of one of these rafts.

The upper tidal Potomac River provides one of the best areas for migrating waterfowl because of its many sub-estuaries, bays, smaller rivers, and creeks. During the early part of the twentieth century, large rafts of canvasbacks were recorded in the Potomac opposite Mount Vernon. Other accounts estimate as many as one hundred thousand which had converged on the waters within the general proximity of Mount Vernon (Meanley 1982).

Why was the canvasback so prominent in the assemblage? Was it because they were the most abundant birds, thus making them the easiest to procure, or did the House for Families household prefer their taste over the other waterfowl? As for taste, Wilson in his American Ornithology describes how palatable the canvasback was at the beginning of the nineteenth century:

> The Canvas-back in the rich juicy tenderness of its flesh, and its delicacy of flavor, stands unrivalled by the whole of its tribe or perhaps any other quarter of the world. These killed in the waters of the Chesapeake are generally esteemed superior to all others, doubtless from the great abundance of their favorite food which the rivers produce. At our public dinners ... the Canvas-backs are universal favorites. They not only grace but dignify the table ... (Wilson 1814, quoted in Meanley 1982:173-174).

There may be other reasons for this preference, but we are unable to extract them from the historical documents or

the archaeological context at this time. We know that the canvasback is one of the largest duck species in the bay region and that they are and were considered very tasty, but what is perceived as a delicacy for some may be consumed out of necessity for others.

The presence of migratory waterfowl in the assemblage reveals the season in which they may have contributed to the House for Families diet. We can also make the assumption that Washington allowed the household to either hunt with firearms, or that they used other methods, i.e. nets or traps, in the procurement of the waterfowl species.

Smaller birds identified from the assemblage—quail, doves and pigeons—as well as the smaller Passeriformes, would have been a year-round supplement to the diet of the household. There were a number of techniques used to capture these species; the easiest method would have been the use of firearms, but other bird trapping methods may have also been used, i.e. cage or box fall traps and nets.

One account of a technique used by North Carolina slaves to capture small bird species was by blinding them at night. This method was generally employed during the winter months when brush piles were constructed to attract birds for roosting. The piles were set afire, and as the birds flew out, they were killed by waiting slaves. The birds were either grilled over a fire, fried in pans, or a stew was prepared using them as the main ingredient (Marks 1991).

The last group of animals procured to supplement the

House for Families rations were the wild mammals. Most of them were small, i.e. rabbit, squirrel, opossum, and raccoon. The deer was apparently the only large wild mammal exploited, though it would have provided the most meat of all the wild mammals. Deer, presumably, were primarily hunted with firearms by the slaves, but Washington also may have added venison to their rations from his own hunting excursions. Although it remains unclear in his diaries, he did come upon deer during his fox hunts.

Small wild mammals provided a year-round variety to the diet. They would have been procured by using a number of hunting methods, other than the use of firearms. The hunting devices used may have been constructed from natural materials found in the surrounding habitats, enabling the slaves to capture these species with little expenditure of energy or time. Some of these techniques included the use of several varieties of snares, traps, and downfalls, which were used at anytime of the day or night, and would have been checked by the slaves during their leisure time. Together, these wild resources, along with catfish, pickerel, bluegill, gar, and ducks, are a testimony to the slaves' efforts to supplement rations that were issued by the planter.

The final focus of the research is determining if Washington controlled the slaves procurement of the fish and if he did, whether it increased or decreased over time (McKee 1988).

The assemblage from the House for Families may be interpreted to show how slave diet changed over time. The analysis of the assemblage within the three phases shows the following biomass contributions of fish species to the household's diet (see Figure 12). In Phases I and II, freshwater catfish accounted for the highest percent, 3 percent and 4.7 percent, decreasing to 2.3 percent in Phase III, while the herring family represented its highest percentage, 4.7 percent, in this phase. In Phases I and II, the herring family only accounted for 0.4 percent and 0.7 percent, respectively. The temperate basses accounted for 0.7 percent in Phase I, increasing to 1.5 percent in Phase II, and decreasing to 0.3 percent in Phase III. All other freshwater fish species were represented by 0.9 percent in Phase I, 2.1 percent in Phase II, and 0.8 percent in Phase III.

The changes in fish species percentages within the phases may be interpreted in a number of ways. Was Washington allowing his slaves to retain fish species other than herring and shad from the seines to supplement their diet? He allowed his "Negroes" to "borrow" seines for personal use, thus they could have caught a number of different species for the household's personal consumption. Were the slaves using other sources for procuring the fish, i.e. dip nets, fish traps, fish dams, poisons, etc.?

The dramatic increase of the herring in Phase III may indicate that restrictions were placed on the above

mentioned fishing activities; hence, the herring family became the predominant fish source through rations. Fishing activities of Washington and others may have been depleting the indigenous fish populations in the Potomac River and its tributaries, so that the herring family was the most prevalent species.

Clearly these are not final interpretations or conclusions, only the beginnings of further research.

CHAPTER IV

CONCLUSION: THE AUGMENTATION OF ARCHAEOLOGICAL RESEARCH TO THE HISTORICAL RECORD

Washington's documents reveal the general outline of his provisioning system; the House for Families faunal assemblage has augmented this information, showing that the slaves supplemented their rations. Together, the historical and the archaeological record have helped to identify ethnicity, ie., the ways in which slaves maintained a distinctive diet.

Washington's records also speak to the basic provisioning system, which provided domestic mammals and salt herring to the slaves. In his diaries, Washington reported on the yearly winter slaughter of pigs on the various farms: "4 hogs killed ... for the consumption of my Table—use of my People ..." and he "[o]rdered 4 of the fatting hogs from hence to the Mansn. Ho. to be slaughtered ... the remainder of the Hogs ... to be brot. to the Mansion Ho. this evening to be slaughtered" (Jackson and Twohig 1978:249 and 232). The pork that was not consumed immediately was either smoked, salted, pickled, or used for bacon, thus providing rations for the slaves. Washington's weekly reports indicated that both cow and sheep were also

periodically slaughtered, of which some was used for rations: "... Decreased 1 oald Ox kill and salted up for people ... Beef killed for the use of the farms" (Washington 1795); for the Mansion House Farm the reports say that "... 1 calf sent to the House to be fatned for veal ... Decrease 3 Beef Cattle sent to M. House ... Decrease 1 Lamb sent to Mansion House" (Washington 1796).

In addition, Washington records show in great detail the varying types of fruit and vegetable crops that were being cultivated on his Mount Vernon farms. The fruits which were grown include peach, apple, many varieties of cherry, mulberry, and watermelon; vegetable crops include wheat, corn, oats, turnips, beans, peas, buckwheat, potatoes, carrots, pumpkin, and barley, rye, and hops for use in the distillery. Since Washington found that tobacco farming would not yield a profitable income, he instilled a variety of agricultural crops on his farms as an alternative. When these crops were ready to be harvested by the field slaves, a portion was reserved for rationing, while the remainder was sold.

Documents also show that Washington allowed his slaves to grow supplemental fruits and vegetables, and that he recognized thievery as a regular foraging activity. Niemcewicz wrote, "[w]e entered some Negroes' huts ... [a] small orchard with vegetables was situated close to the huts" (Niemcewicz 1965:13). Washington wrote, "I wish you could find out the thief who robbed the Meat house at Mount

Vernon ... [and] at the same time secure the house against future attempts ... Nathan has been suspected ... Postilion Joe has been caught in similar practices: and Sam, I am sure would not be restrained ..." (Fitzpatrick 1931-44:212). Slaves also may have taken advantage of other situations to increase their food supply, as was reported in a weekly report to Washington: "[t]wo of the River plantn hogs rooted out of the pen & being wild hogs [they] have not been found. I expect the people have killed them ..." (Weekly Farm Reports 1793). In attempt to stop the thievery, Washington increased the allowance of rations for his slaves, so as to deter from "the necessity of thieving to supply the deficiency" (Fitzpatrick 1931-44:437).

The slaves were not only stealing food for consumption, but they may have stolen for the purpose of monetary profit. Washington received complaints from his slaves, during his absence, of "not having been supplied as usual with Fish, and ... that breaking open the house, in which they were deposited, was no other than a pretence to cover a more nefarious mode of disposing of them ... it was hinted that Crow had sold them ..." (Fitzpatrick 1931-44: 337-7).

Sobel, in Personal Ethics in America's Slave Society (1992:6), presents several explanations as to why the slaves may have been stealing. She offers, "... [i]ndeed, slaves widely came to accept that their labor and their very lives had been 'stolen' and that they were entitled to steal in return." African-American slaves thus perpetuated thievery

either to satisfy their hunger, to gain profit, or as a resistance to the inhumane treatments that slavery had introduced to them.

Washington documented his fishery activities throughout his diaries and writings. In researching them it was apparent that shad and herring, which were caught only during the spring spawning season from mid-March through May, represented the primary fish groups produced through the plantation seining activities. This fact has permitted the distinction of which fish were provisioned, and which were probably obtained by the slaves themselves.

The House for Families faunal assemblage provides researchers with detailed information on the foods that comprised an eighteenth-century African-American slave diet. Through the analysis of these food remains previous interpretations of foodways, which are based on documentary sources, may be revised and updated to provide new evidence of ethnicity.

The importance of ethnicity, in understanding the African-American slave population, is how the slaves reacted "to a social setting, melding it and transforming it to meet their needs" (McKee 1987:38). Through analysis of food bones left by the slaves in the archaeological record, it may be possible to better understand the process of ethnicity. Faunal remains provide evidence of how slaves responded to the oppression of slavery through their own procurement of wild species and the raising of animals to increase the

planter's rations. The African-American slave "took the diet provided by their masters and made it into something different and better ... " (McKee 1987:38). Various foraging activities may have created a sense of self-reliance whereby the slaves could supplement their rations in a way they could control, separate from their master.

In the past, the historical record and slave narratives obtained during the early twentieth century from the WPA Federal Writers Project were the primary resources for studying slavery. However, with the inception of historical archaeology, new methods and interpretations have been developed to answer pertinent questions. As the emphasis moved toward a better understanding of the slave populations from an archaeological standpoint, more African-American slave sites were excavated to reveal their material culture. As a result new interpretations of African-American tradition, including foodways, have evolved.

Our knowledge of the diet of the House for Families household has increased substantially from the archaeological research that was conducted. Historical records have shown that these slaves were provided rations consisting primarily of corn, pork, beef, and salt herring. The archaeological record has augmented this view by revealing the variety of wild food sources the slaves added to their diet. Through inference the archaeological record also indicates that by supplementing rations with foods they produced themselves, in combination with fishing and

hunting, slaves living in the House for Families improved their nutritional intake.

Archaeological research also revealed that the supplemental food sources were dependent on the environmental setting of each site. The coastal plain sites have shown there was a greater opportunity for food exploitation year-round, as well as more leisure time with which to procure, grow, or raise food supplements than in the tidewater and upland sites. Up north in Virginia and Tennessee, the climate also created periods of unpredictable seasonal change which, in some instances, would have hampered attempts to supplement their rations.

The presence of such a large number of catfish, which was also noted at Flowerdew and Cannon's Point, may indicate the development of a new African-American cuisine. Freshwater catfish represented the highest biomass and MNI of all the fish in Phases I and II, dropping to second behind the herring family in Phase III. Freshwater catfish also represented a high MNI at Flowerdew, McKee (1988:110) generalized that this "indicates some degree of specialization in procuring and using catfish." Although Cannon's Point (Otto 1984) was located in a marine environment the saltwater catfish was the most prevalent fish species in the assemblage. Could the presence of large numbers of fresh- or saltwater catfish in an historic period assemblage be a reliable indicator of ethnicity? Further investigations need to be undertaken to document other slave

sites to see if, in fact, this suggestion can be supported.

Other indications of ethnicity were found in the House for Families assemblage. Two bone elements identified in the assemblage revealed evidence of modifications (see Figure 15). The most impressive was a raccoon baculum in which the posterior end had been encircled with an incised cut; it was also highly polished. The anterior end exhibited no evidence of modification. Pogue and White (1991) have suggested that the incised cut was used to tie a cord around the baculum for suspension from an individuals neck. Although it is not clear as to what the importance or the function of this object was, one might assume that its purpose be one of fertility. In the past, tailors have used bacula in their trade by sharpening the posterior end and using it for removing basting, or as a ripping tool (Burt 1960). Since there were seamstresses residing at the House for Families in the 1786 list of Washington's slaves, their presence provides yet another possibility as to its function, althought this bone showed no signs of sharping.

The other bone identified from the assemblage which may indicate another use other than food was a complete tarsometatarsus from a great horned owl. It had a number of parallel cut marks just below the proximal end. It may be suggested that these cut marks are associated with the removal of the talon (claw) from the leg. The talon was then used as an object either to be worn around an individual's neck, or suspended as a symbol of fertility or masculinity,

or possibly for some other purpose of spiritual significance.

It appears that clearly the House for Families household was continuing an African tradition, borrowing ideas from local native cultures, or participating in the development of their own African-American tradition using local animal species. Although not explored further as part of this investigation, future research in this area demands that other sites be examined to see if similar objects are present in an archaeological context; their presence may provide a maker for ethnicity. Also, past ethnographies of African, African-American, and Native American descent need to be reviewed to see if there were any similar observations.

Evidence obtained through zooarchaeological research has enhanced our knowledge of eighteenth-century African-American slave foodways. It provides a broader perspective than previously possible in interpreting the system of procurement, distribution, preparation, and consumption of foods. The interpretation reveals the diversity within the diet, indicating that not only were rationed domestic animals present, but also wild food resources, as well as cultivated crops and the raising of domestic fowl. This exemplifies the nutritional spectrum available to African-American slaves who resided at the House for Families. The incorporation of the historical record, augmented with updated archaeological research,

provides an enlightened view in the interpretation of the lifeways of the African-American slave of the colonial Chesapeake.

APPENDIX A: TABLES

Table 1.
Taxa Identified at the House of Families

Latin Name	Common Name	Phases
Callinectes sapidus	Blue Crab	I,II
Class Osteichthyes	Bony Fish	I,II,III
Acipenser spp.	Sturgeon	I,II
Lepisosteus spp.	Gar	I,II
Family Clupeidae	Herring	I,II,III
Alosa pseudoharengus	Alewife	I,II,III
Alosa sapidissima	American Shad	I,II,III
Clupea harengus	Atlantic Herring	II
Family Catostomidae	Sucker	I,II,III
Moxostima spp.	Redhorse	I,II
Family Ictaluridae	Catfish	I,II,III
Ictalurus catus	White Catfish	I,II,III
Ictalurus punctatus	Channel Catfish	I,II
Esox niger	Channel Pickerel	II,III
Perca flavescens	Yellow Perch	I,II,III
Lepomis spp.	Sunfish	I,II,III
Lepomis macrochirus	Bluegill	I,II,III
Lepomis microlophus	Redear Sunfish	I,II
Pomoxis annularis	White Crappie	I
Morone spp.	Temperate Bass	I,II,III
Morone americana	White Perch	I,II,III
Morone saxatilis	Striped Bass	I,II
Morone chrysops	White Bass	I,II
Centropristis ocyurus	Black Sea Bass	II
Class Amphibia	Amphibian	II
Order Anura	Toad or Frog	I
Rana catesbeiana	Bullfrog	I,II
Chelydra serpentina	Snapping Turtle	I,II
Pseudemys spp.	Slider or Cooter	I,II
Class Aves	Bird	I,II,III
Goose spp.	Goose	I,II
Anser spp.	Goose	I,II,III
Anser anser	Domestic Goose	II
Duck spp.	Duck	I,II,III
Anas spp.	Dabbling Duck	I,II,III
Anas platyrhynchos	Domestic Duck or Mallard	I,II
Anas strepera	Gadwall	I
Anas americana	American Widgeon	I
Oxyura jamaicensis	Ruddy Duck	II
Aythya spp.	Pochard	I,II
Aythya valisineria	Canvasback	I,II,III

Table 1 (cont'd).
Taxa Identified at the House of Families

Latin Name	Common Name	Phases
Aythya americana	Redhead	I,II
Aythya collaris	Ring-Necked Duck	I
Aythya marila	Greater Scaup	I
Aythya affinis	Lesser Scaup	I
Bucephala clangula	Common Goldeneye	I
Mergus merganser	Common Merganser	II
Fulica americana	Coot	II
Family Phasianidae	Grouse, Partridge, or Pheasant	I,II,III
Meleagris gallopavo	Turkey	I,II
Gallus gallus	Chicken	I,II,III
Colinus virginianus	Bobwhite	I,II
Bonasa umbellus	Ruffed Grouse	I
Ectopistes migratorius	Passenger Pigeon	II
Columba livia	Rock Dove or Domestic Pigeon	II
Bubo virginianus	Great Horned Owl	II
Order Passeriformes	Perching Bird	II
Turdus migratorius	Robin	I
Class Mammalia	Mammal	I,II,III
Class Mammalia I	Large Mammal	I,II,III
Class Mammalia II	Medium Mammal	I,II,III
Class Mammalia III	Small Mammal	I,II
Didelphis virginiana	Opossum	I,II
Blarina brevicauda	Shorttail Shrew	II
Sylvilagus spp.	Cottontail	I,II
Sylvilagus floridanus	Eastern Cottontail	II
Order Rodentia	Rodent	I,II
Family Sciuridae	Squirrel	III
Sciurus spp.	Squirrel	II
Sciurus carolinensis	Eastern Gray Squirrel	I,II,III
Rattus spp.	Old World Rat	I,III
Rattus rattus	Roof Rat	I,II
Mus musculus	House Mouse	I,II
Procyon lotor	Raccoon	II,III
Felis domesticus	Domestic Cat	I,II
Order Artiodactyla I	Sheep, Goat, Deer, or Pig	I,II
Order Artiodactyla II	Sheep, Goat, or Deer	I,II
Sus scrofa	Domestic Pig	I,II,III
Odocoileus virginianus	White-Tailed Deer	I,II,III
Bos taurus	Domestic Cow	I,II,III
Bos taurus/Equus sp.	Domestic Cow, Horse, or Ass	II
Ovis aries	Domestic Sheep	II

Table 2.
Summary of Faunal Remains
Phase I (ca. 1759-1769)

Taxon	NISP	Pct.	MNI Ad/IM*	Pct.	Meat Weight Ad/IM	Total	Pct.	Skeletal Weight	Pct.	Biomass	Pct.
Callinectes sapidus	2	<0.1	1/ 0	0.6	0.2/ 0.0	0.2	<0.1	0.2	<0.1	<0.01	<0.1
Class Osteichthyes	1441	33.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	46.7	2.3	0.66	2.1
Acipenser spp.	1	<0.1	1/ 0	0.6	100.0/ 0.0	100.0	5.8	0.3	<0.1	0.02	0.1
cf. *Acipenser* spp.	2	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.5	<0.1	0.02	0.1
Lepisosteus spp.	85	2.0	4/ 0	2.5	20.0/ 0.0	20.0	1.2	4.9	0.2	0.13	0.4
Family Clupeidae	93	2.1	7/ 0	4.4	2.8/ 0.0	2.8	0.2	1.9	0.1	0.06	0.2
cf. Family Clupeidae	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	<0.1	<0.1	<0.01	<0.1
Alosa pseudoharengus	2	<0.1	2/ 0	1.3	0.8/ 0.0	0.8	<0.1	0.1	<0.1	0.01	<0.1
Alosa sapidissima	20	0.5	2/ 0	1.3	6.4/ 0.0	6.4	0.4	1.5	0.1	0.05	0.2
Family Catostomidae	3	0.1	1/ 0	0.6	1.0/ 0.0	1.0	0.1	0.9	<0.1	0.04	0.1
cf. *Moxostima* spp.	1	<0.1	1/ 0	0.6	0.8/ 0.0	0.8	<0.1	0.1	<0.1	0.01	<0.1
Family Ictaluridae	120	2.8	16/ 0	10.0	32.0/ 0.0	32.0	1.9	20.2	1.0	0.36	1.2
cf. Family Ictaluridae	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.1	<0.1	0.01	<0.1
Ictalurus catus	111	2.5	18/ 0	11.3	36.0/ 0.0	36.0	2.1	28.7	1.4	0.47	1.5
cf. *Ictalurus punctatus*	9	0.2	3/ 0	1.9	6.0/ 0.0	6.0	0.3	2.9	0.1	0.09	0.3
Perca flavescens	18	0.4	7/ 0	4.4	7.0/ 0.0	7.0	0.4	1.5	0.1	0.02	0.1
cf. *Perca flavescens*	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1
Lepomis spp.	21	0.5	8/ 0	5.0	3.2/ 0.0	3.2	0.2	0.8	<0.1	0.01	<0.1
cf. *Lepomis* spp.	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	<0.1	<0.1	<0.01	<0.1
Lepomis macrochirus	4	0.1	2/ 0	1.3	0.8/ 0.0	0.8	<0.1	0.3	<0.1	0.01	<0.1
Lepomis microlophus	1	<0.1	1/ 0	0.6	0.6/ 0.0	0.6	<0.1	0.2	<0.1	<0.01	<0.1
cf. *Pomoxis annularis*	1	<0.1	1/ 0	0.6	0.6/ 0.0	0.6	<0.1	0.1	<0.1	<0.01	<0.1
Morone spp.	84	1.9	4/ 0	2.5	4.0/ 0.0	4.0	0.2	6.6	0.3	0.09	0.3
Morone americana	93	2.1	22/ 0	13.8	23.0/ 0.0	23.0	1.3	8.3	0.4	0.11	0.4
Morone saxatilis	3	0.1	4/ 0	2.5	30.0/ 0.0	30.0	1.7	0.6	<0.1	0.01	<0.1

* Ad=Adult, IM=Immature.

Table 2 (cont'd).
Summary of Faunal Remains
Phase I (ca. 1759-1769)

Taxon	NISP	Pct.	MNI Ad/IM	MNI Pct.	Meat Weight Ad/IM	Meat Weight Total	Meat Weight Pct.	Skeletal Weight	Skeletal Weight Pct.	Biomass	Biomass Pct.
cf. *Morone saxatilis*	4	0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.4	<0.1	0.01	<0.1
cf. *Morone chrysops*	5	0.1	1/ 0	0.6	1.2/ 0.0	1.2	0.1	0.8	<0.1	0.01	<0.1
Order Anura	1	<0.1	2/ 0	1.3	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1
cf. Order Anura	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1
Rana catesbeiana	3	0.1	2/ 0	1.3	0.2/ 0.0	0.2	0.0	0.5	<0.1	<0.01	<0.1
Chelydra serpentina	1	<0.1	1/ 0	0.6	10.0/ 0.0	10.0	0.6	1.4	0.1	0.04	0.1
cf. *Pseudemys* spp.	1	<0.1	1/ 0	0.6	3.0/ 0.0	3.0	0.2	1.1	0.1	0.03	0.1
Class Aves	442	10.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	36.0	1.8	0.53	1.7
Goose spp.	2	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	2.5	0.1	0.05	0.2
Anser spp.	19	0.4	2/ 0	1.3	14.0/ 0.0	14.0	0.8	30.5	1.5	0.46	1.5
cf. *Anser* spp.	5	0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	2.6	0.1	0.05	0.2
Duck spp.	34	0.8	0/ 0	0.0	0.0/ 0.0	0.0	0.0	15.0	0.7	0.24	0.8
cf. Duck spp.	2	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	2.3	0.1	0.04	0.1
Anas spp.	11	0.3	2/ 0	1.3	3.0/ 0.0	3.0	0.2	6.7	0.3	0.12	0.4
Anas platyrhynchos	1	<0.1	1/ 0	0.6	2.0/ 0.0	2.0	0.1	0.8	<0.1	0.02	0.1
Anas strepera	1	<0.1	1/ 0	0.6	1.6/ 0.0	1.6	0.1	0.5	<0.1	0.01	<0.1
cf. *Anas americana*	2	<0.1	1/ 0	0.6	1.4/ 0.0	1.4	0.1	0.7	<0.1	0.02	<0.1
Aythya spp.	8	0.2	2/ 0	1.3	2.0/ 0.0	2.0	0.1	5.4	0.3	0.10	0.3
Aythya valisineria	23	0.5	3/ 0	1.9	6.0/ 0.0	6.0	0.3	19.4	1.0	0.30	1.0
cf. *Aythya valisineria*	2	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	1.2	0.1	0.02	0.1
Aythya americana	2	<0.1	1/ 0	0.6	1.6/ 0.0	1.6	0.1	5.0	0.2	0.09	0.3
cf. *Aythya collaris*	1	<0.1	1/ 0	0.6	1.0/ 0.0	1.0	0.1	2.4	0.1	0.05	0.1
Aythya marila	1	<0.1	1/ 0	0.6	1.5/ 0.0	1.5	0.1	1.2	0.1	0.02	0.1
Aythya affinis	1	<0.1	1/ 0	0.6	1.5/ 0.0	1.5	0.1	0.9	<0.1	0.02	0.1
cf. *Aythya affinis*	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.5	<0.1	0.01	<0.1
cf. *Bucephala clangula*	1	<0.1	1/ 0	0.6	1.6/ 0.0	1.6	0.1	0.3	<0.1	0.01	<0.1
Family Phasianidae	27	0.6	0/ 4	2.5	0.0/ 2.0	2.0	0.1	10.2	0.5	0.17	0.5

Table 2 (cont'd).
Summary of Faunal Remains
Phase I (ca. 1759-1769)

Taxon	NISP	Pct.	MNI Ad/IM	MNI Pct.	Meat Weight Ad/IM	Meat Weight Total	Meat Weight Pct.	Skeletal Weight	Skeletal Pct.	Biomass	Biomass Pct.
cf. Family Phasianidae	3	0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	1.3	0.1	0.03	0.1
Meleagris gallopavo	16	0.4	1/ 0	0.6	7.5/ 0.0	7.5	0.4	35.8	1.8	0.53	1.7
Gallus gallus	29	0.7	4/ 0	2.5	10.0/ 0.0	10.0	0.6	16.8	0.8	0.27	0.9
Colinus virginianus	2	<0.1	1/ 0	0.6	0.5/ 0.0	0.5	<0.1	0.3	<0.1	0.01	<0.1
Bonasa umbellus	1	<0.1	1/ 0	0.6	0.5/ 0.0	0.5	<0.1	0.4	<0.1	0.01	<0.1
Turdus migratorius	1	<0.1	1/ 0	0.6	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1
Class Mammalia	961	22.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	180.7	8.9	2.83	9.1
Class Mammalia I	72	1.7	0/ 0	0.0	0.0/ 0.0	0.0	0.0	176.8	8.7	2.77	8.9
Class Mammalia II	294	6.7	0/ 0	0.0	0.0/ 0.0	0.0	0.0	248.1	12.3	3.76	12.1
Class Mammalia III	14	0.3	0/ 0	0.0	0.0/ 0.0	0.0	0.0	2.0	0.1	0.05	0.2
Didelphis virginiana	15	0.3	1/ 0	0.6	8.0/ 0.0	8.0	0.5	12.0	0.6	0.25	0.8
cf. *Sylvilagus* spp.	1	<0.1	1/ 0	0.6	2.0/ 0.0	2.0	0.1	0.5	<0.1	0.01	<0.1
Order Rodentia	4	0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.6	<0.1	0.02	0.1
Sciurus carolinensis	6	0.1	1/ 0	0.6	1.0/ 0.0	1.0	0.1	2.5	0.1	0.06	0.2
Rattus spp.	11	0.3	1/ 0	0.6	0.0/ 0.0	0.0	0.0	1.1	0.1	0.03	0.1
cf. *Rattus rattus*	4	0.1	1/ 0	0.6	0.0/ 0.0	0.0	0.0	0.4	<0.1	0.01	<0.1
Mus musculus	5	0.1	3/ 0	1.9	0.0/ 0.0	0.0	0.0	0.4	<0.1	0.01	<0.1
Felis domesticus	1	<0.1	1/ 0	0.6	0.0/ 0.0	0.0	0.0	3.9	0.2	0.09	0.3
Order Artiodactyla I	4	0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	20.6	1.0	0.40	1.3
cf. Order Artiodactyla II	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	2.8	0.1	0.07	0.2
Sus scrofa	143	3.3	3/ 1	2.5	300.0/ 50.0	350.0	20.3	559.4	27.7	7.82	25.1
cf. *Sus scrofa*	6	0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	7.4	0.4	0.16	0.5
Odocoileus virginianus	2	<0.1	1/ 0	0.6	100.0/ 0.0	100.0	5.8	16.5	0.8	0.33	1.1
Bos taurus	28	0.6	2/ 1	1.9	800.0/ 50.0	850.0	49.2	314.7	15.6	4.66	14.9
cf. *Bos taurus*	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	11.6	0.6	0.24	0.8

Table 2 (cont'd).
Summary of Faunal Remains
Phase I (ca. 1759-1769)

Taxon	NISP	Pct.	MNI Ad/IM	MNI Pct.	Meat Weight Ad/IM	Meat Weight Total	Meat Weight Pct.	Skeletal Weight	Skeletal Pct.	Biomass	Biomass Pct.
Ovis aries/Capra hircus	10	0.2	2/ 0	1.3	70.0/ 0.0	70.0	4.1	112.8	5.6	1.85	5.9
cf. *Ovis aries/Capra hircus*	2	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	17.2	0.9	0.34	1.1
Total	**4358**	**100.0**	**156/6**	**100.0**	**---/ ---**	**1728.3**	**100.0**	**2022.7**	**100.0**	**31.16**	**100.0**

Table 3.
Summary of Faunal Remains
Phase II (ca. 1769-1779)

Taxon	NISP	Pct.	MNI Ad/IM	MNI Pct.	Meat Weight Ad/IM	Meat Weight Total	Meat Weight Pct.	Skeletal Weight	Skeletal Pct.	Biomass	Biomass Pct.
Callinectes sapidus	1	<0.1	1/ 0	0.3	0.2/ 0.0	0.2	<0.1	0.1	<0.1	<0.01	<0.1
Class Osteichthyes	12603	64.5	0/ 0	0.0	0.0/ 0.0	0.0	0.0	337.5	8.1	3.30	5.7
Acipenser spp.	1	<0.1	3/ 0	1.0	300.0/ 0.0	300.0	10.6	15.9	0.4	0.30	0.5
cf. *Acipenser* spp.	8	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	1.8	<0.1	0.06	0.1
Lepisosteus spp.	186	1.0	6/ 0	1.9	30.0/ 0.0	30.0	1.1	13.8	0.3	0.27	0.5
Family Clupeidae	307	1.6	1/ 0	0.3	0.4/ 0.0	0.4	<0.1	5.9	0.1	0.15	0.3
Alosa pseudoharengus	176	0.9	23/ 0	7.3	9.2/ 0.0	9.2	0.3	5.4	0.1	0.14	0.2
Alosa sapidissima	67	0.3	14/ 0	4.5	44.8/ 0.0	44.8	1.6	5.3	0.1	0.13	0.2
Clupea harengus	8	<0.1	4/ 0	1.3	1.6/ 0.0	1.6	0.1	0.3	<0.1	0.02	<0.1
Family Catostomidae	72	0.4	9/ 0	2.9	9.0/ 0.0	9.0	0.3	10.2	0.2	0.22	0.4
cf. Family Catostomidae	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.2	<0.1	0.01	<0.1
cf. *Moxostima* spp.	6	<0.1	4/ 0	1.3	3.2/ 0.0	3.2	0.1	0.9	<0.1	0.04	0.1
Family Ictaluridae	546	2.8	33/ 0	10.5	66.0/ 0.0	66.0	2.3	112.1	2.7	1.28	2.2
Ictalurus catus	440	2.3	44/ 0	14.0	88.0/ 0.0	88.0	3.1	122.5	2.9	1.37	2.4
cf. *Ictalurus punctatus*	6	<0.1	3/ 0	1.0	6.0/ 0.0	6.0	0.2	0.9	<0.1	0.04	0.1
Esox niger	2	<0.1	1/ 0	0.3	0.0/ 0.0	0.0	0.0	2.3	0.1	0.07	0.1
cf. *Esox niger*	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	<0.1	<0.1	<0.01	<0.1
Perca flavescens	84	0.4	18/ 0	5.7	18.0/ 0.0	18.0	0.6	6.7	0.2	0.09	0.2
cf. *Perca flavescens*	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1
Lepomis spp.	43	0.2	9/ 0	2.9	3.6/ 0.0	3.6	0.1	2.4	0.1	0.04	0.1
cf. *Lepomis* spp.	6	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1
Lepomis macrochirus	32	0.2	6/ 0	1.9	2.4/ 0.0	2.4	0.1	2.1	0.1	0.03	0.1
Lepomis microlophus	8	<0.1	4/ 0	1.3	2.4/ 0.0	2.4	0.1	1.5	<0.1	0.02	<0.1
Morone spp.	326	1.7	9/ 0	2.9	9.0/ 0.0	9.0	0.3	20.7	0.5	0.26	0.4
Morone americana	587	3.0	50/ 0	15.9	50.0/ 0.0	50.0	1.8	43.1	1.0	0.51	0.9
Morone saxatilis	71	0.4	9/ 0	2.9	67.5/ 0.0	67.5	2.4	7.7	0.2	0.10	0.2
cf. *Morone saxatilis*	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1

Table 3 (cont'd).
Summary of Faunal Remains
Phase II (ca. 1769-1779)

Taxon	NISP	Pct.	MNI Ad/IM	MNI Pct.	Meat Weight Ad/IM	Meat Weight Total	Meat Weight Pct.	Skeletal Weight	Skeletal Pct.	Biomass	Biomass Pct.
cf. *Morone chrysops*	3	<0.1	1/ 0	0.3	1.2/ 0.0	1.2	<0.1	0.3	<0.1	0.01	<0.1
cf. *Centropristis ocyurus*	1	<0.1	1/ 0	0.3	0.0/ 0.0	0.0	0.0	<0.1	<0.1	<0.01	<0.1
Class Amphibia	4	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.5	<0.1	<0.01	<0.1
Rana catesbeiana	3	<0.1	2/ 0	0.6	0.2/ 0.0	0.2	<0.1	0.5	<0.1	<0.01	<0.1
Chelydra serpentina	2	<0.1	1/ 0	0.3	10.0/ 0.0	10.0	0.4	6.6	0.2	0.11	0.2
Pseudemys spp.	2	<0.1	1/ 0	0.3	3.0/ 0.0	3.0	0.1	15.8	0.4	0.20	0.3
Class Aves	1563	8.0	0/ 0	0.0	0.0/ 0.0	0.0	0.0	110.5	2.7	1.48	2.6
Goose spp.	3	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.9	<0.1	0.02	<0.1
Anser spp.	13	0.1	2/ 0	0.6	14.0/ 0.0	14.0	0.5	18.5	0.4	0.29	0.5
cf. *Anser* spp.	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.8	<0.1	0.02	<0.1
Anser anser	1	<0.1	1/ 0	0.3	6.0/ 0.0	6.0	0.2	1.6	<0.1	0.03	0.1
Duck spp.	11	0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	2.9	0.1	0.05	0.1
cf. Duck spp.	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1
Anas spp.	9	<0.1	3/ 0	1.0	4.5/ 0.0	4.5	0.2	5.5	0.1	0.10	0.2
Anas platyrhynchos	3	<0.1	1/ 0	0.3	2.0/ 0.0	2.0	0.1	1.4	<0.1	0.03	<0.1
Oxyura jamaicensis	2	<0.1	1/ 0	0.3	1.0/ 0.0	1.0	<0.1	1.2	<0.1	0.02	<0.1
Aythya spp.	1	<0.1	1/ 0	0.3	1.0/ 0.0	1.0	<0.1	0.5	<0.1	0.01	<0.1
Aythya valisineria	10	0.1	2/ 0	0.6	4.0/ 0.0	4.0	0.1	8.9	0.2	0.15	0.3
Aythya americana	1	<0.1	1/ 0	0.3	1.6/ 0.0	1.6	0.1	0.8	<0.1	0.02	<0.1
Mergus merganser	1	<0.1	1/ 0	0.3	2.6/ 0.0	2.6	0.1	0.9	<0.1	0.02	<0.1
Fulica americana	1	<0.1	1/ 0	0.3	1.0/ 0.0	1.0	<0.1	0.4	<0.1	0.01	<0.1
Family Phasianidae	111	0.6	0/ 7	2.2	0.0/ 3.5	3.5	0.1	39.4	0.9	0.58	1.0
Meleagris gallopavo	13	0.1	1/ 0	0.3	7.5/ 0.0	7.5	0.3	20.3	0.5	0.32	0.5
cf. *Meleagris gallopavo*	2	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	1.1	<0.1	0.02	<0.1
Gallus gallus	50	0.3	3/ 1	1.3	7.5/ 1.0	8.5	0.3	16.6	0.4	0.26	0.5
cf. *Gallus gallus*	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1
Colinus virginianus	11	0.1	2/ 0	0.6	1.0/ 0.0	1.0	<0.1	1.9	<0.1	0.04	0.1

Table 3 (cont'd).
Summary of Faunal Remains
Phase II (ca. 1769-1779)

Taxon	NISP	Pct.	MNI Ad/IM	MNI Pct.	Meat Weight Ad/IM	Meat Weight Total	Meat Weight Pct.	Skeletal Weight	Skeletal Pct.	Biomass	Biomass Pct.
Ectopistes migratorius	1	<0.1	1/ 0	0.3	0.5/ 0.0	0.5	<0.1	0.1	<0.1	<0.01	<0.1
cf. *Columba livia*	1	<0.1	1/ 0	0.3	0.5/ 0.0	0.5	<0.1	0.4	<0.1	0.01	<0.1
Bubo virginianus	1	<0.1	1/ 0	0.3	2.6/ 0.0	2.6	0.1	2.9	0.1	0.05	0.1
Order Passeriformes	2	<0.1	1/ 0	0.3	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1
Class Mammalia	1254	6.4	0/ 0	0.0	0.0/ 0.0	0.0	0.0	292.4	7.0	4.36	7.5
Class Mammalia I	149	0.8	0/ 0	0.0	0.0/ 0.0	0.0	0.0	369.0	8.9	5.37	9.3
Class Mammalia II	409	2.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	377.4	9.1	5.48	9.5
Class Mammalia III	42	0.2	0/ 0	0.0	0.0/ 0.0	0.0	0.0	7.6	0.2	0.16	0.3
Didelphis virginiana	8	<0.1	2/ 0	0.6	16.0/ 0.0	16.0	0.6	17.7	0.4	0.35	0.6
Blarina brevicauda	1	<0.1	1/ 0	0.3	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1
cf. *Blarina brevicauda*	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1
cf. *Sylvilagus* spp.	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.2	<0.1	0.01	<0.1
Sylvilagus floridanus	1	<0.1	1/ 0	0.3	2.0/ 0.0	2.0	0.1	2.5	0.1	0.06	0.1
Order Rodentia	1	<0.1	1/ 0	0.3	0.0/ 0.0	0.0	0.0	0.2	<0.1	0.01	<0.1
Sciurus spp.	1	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1
Sciurus carolinensis	7	<0.1	1/ 0	0.3	1.0/ 0.0	1.0	<0.1	3.1	0.1	0.07	0.1
cf. *Rattus rattus*	3	<0.1	1/ 0	0.3	0.0/ 0.0	0.0	0.0	0.6	<0.1	0.02	<0.1
Mus musculus	3	<0.1	1/ 0	0.3	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1
Procyon lotor	2	<0.1	1/ 0	0.3	15.0/ 0.0	15.0	0.5	7.8	0.2	0.17	0.3
cf. *Felis domesticus*	1	<0.1	0/ 1	0.3	0.0/ 0.0	0.0	0.0	0.3	<0.1	0.01	<0.1
Order Artiodactyla I	13	0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	76.5	1.8	1.30	2.3
Order Artiodactyla II	11	0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	11.6	0.3	0.24	0.4
Sus scrofa	118	0.6	5/ 1	1.9	500.0/ 50.0	550.0	19.5	495.1	11.9	7.00	12.1
cf. *Sus scrofa*	3	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	5.5	0.1	0.12	0.2
Odocoileus virginianus	3	<0.1	1/ 0	0.3	100.0/ 0.0	100.0	3.5	57.7	1.4	1.01	1.7
Bos taurus	54	0.3	3/ 1	1.3	1200.0/ 50.0	1250.0	44.2	1219.4	29.3	15.76	27.2
cf. *Bos taurus*	8	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	69.5	1.7	1.20	2.1

Table 3 (cont'd).
Summary of Faunal Remains
Phase II (ca. 1769-1779)

Taxon	NISP	Pct.	MNI Ad/IM	MNI Pct.	Meat Weight Ad/IM	Meat Weight Total	Meat Weight Pct.	Skeletal Weight	Skeletal Pct.	Biomass	Biomass Pct.
Bos taurus/Equus sp.	1	<0.1	1/ 0	0.3	0.0/ 0.0	0.0	0.0	6.0	0.1	0.13	0.2
Ovis aries	3	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	57.5	1.4	1.01	1.7
Ovis aries/Capra hircus	15	0.1	3/ 0	1.0	105.0/ 0.0	105.0	3.7	87.3	2.1	1.47	2.5
cf. *Ovis aries/Capra hircus*	3	<0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	13.6	0.3	0.28	0.5
Total	**19535**	**100.0**	**303/11**	**100.0**	**---/ ---**	**2826.5**	**100.0**	**4160.0**	**100.0**	**57.88**	**100.0**

Table 4.
Summary of Faunal Remains
Phase III (ca. 1779-1790s)

Taxon	NISP	Pct.	MNI Ad/IM	MNI Pct.	Meat Weight Ad/IM	Meat Weight Total	Meat Weight Pct.	Skeletal Weight	Skeletal Weight Pct.	Biomass	Biomass Pct.
Class Osteichthyes	1265	78.6	0/ 0	0.0	0.0/ 0.0	0.0	0.0	8.4	2.8	0.17	2.9
Family Clupeidae	111	6.9	7/ 0	12.5	2.8/ 0.0	2.8	0.4	7.3	2.4	0.17	3.0
Alosa pseudoharengus	38	2.4	8/ 0	14.3	3.2/ 0.0	3.2	0.4	2.1	0.7	0.07	1.2
Alosa sapidissima	12	0.7	7/ 0	12.5	22.4/ 0.0	22.4	3.1	0.6	0.2	0.03	0.5
Family Catostomidae	2	0.1	2/ 0	3.6	2.0/ 0.0	2.0	0.3	0.2	0.1	0.01	0.2
Family Ictaluridae	9	0.6	1/ 0	1.8	2.0/ 0.0	2.0	0.3	1.0	0.3	0.04	0.7
Ictalurus catus	10	0.6	8/ 0	14.3	16.0/ 0.0	16.0	2.2	3.2	1.0	0.09	1.6
Esox niger	1	0.1	1/ 0	1.8	0.0/ 0.0	<0.1	<0.1	0.5	0.2	0.02	0.4
Perca flavescens	1	0.1	1/ 0	1.8	1.0/ 0.0	1.0	0.1	0.1	<0.1	<0.01	<0.1
Lepomis spp.	1	0.1	1/ 0	1.8	0.4/ 0.0	0.4	0.1	<0.1	<0.1	<0.01	<0.1
cf. *Lepomis* spp.	1	0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1
Lepomis macrochirus	1	0.1	1/ 0	1.8	0.4/ 0.0	0.4	0.1	0.1	<0.1	<0.01	<0.1
Morone americana	8	0.5	4/ 0	7.1	4.0/ 0.0	4.0	0.6	0.4	0.1	0.01	0.1
Morone spp.	11	0.7	3/ 0	5.4	3.0/ 0.0	3.0	0.4	0.6	0.2	0.01	0.2
cf. *Morone* spp.	1	0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	<0.1
Class Aves	18	1.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	2.9	0.9	0.05	1.0
Anser spp.	1	0.1	1/ 0	1.8	7.0/ 0.0	7.0	1.0	8.9	2.9	0.15	2.6
Duck spp.	4	0.2	0/ 0	0.0	0.0/ 0.0	0.0	0.0	1.1	0.4	0.02	0.4
Anas spp.	4	0.2	1/ 0	1.8	1.5/ 0.0	1.5	0.2	1.8	0.6	0.04	0.6
Aythya valisineria	1	0.1	1/ 0	1.8	2.0/ 0.0	2.0	0.3	0.7	0.2	0.02	0.3
Family Phasianidae	1	0.1	0/ 1	1.8	0.0/ 0.5	0.5	0.1	0.3	0.1	0.01	0.1
Gallus gallus	1	0.1	1/ 0	1.8	2.5/ 0.0	2.5	0.3	0.8	0.3	0.02	0.3
Class Mammalia	30	1.9	0/ 0	0.0	0.0/ 0.0	0.0	0.0	4.1	1.3	0.09	1.7
Class Mammalia I	5	0.3	0/ 0	0.0	0.0/ 0.0	0.0	0.0	16.5	5.4	0.33	5.8
Class Mammalia II	42	2.6	0/ 0	0.0	0.0/ 0.0	0.0	0.0	23.8	7.8	0.46	8.1
cf. Family Sciuridae	1	0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	0.1
Sciurus carolinensis	1	0.1	1/ 0	1.8	1.0/ 0.0	1.0	0.1	0.3	0.1	0.01	0.2

Table 4 (cont'd).
Summary of Faunal Remains
Phase III (ca. 1779-1790s)

Taxon	NISP	Pct.	MNI Ad/IM	MNI Pct.	Meat Weight Ad/IM	Meat Weight Total	Meat Weight Pct.	Skeletal Weight	Skeletal Pct.	Biomass	Biomass Pct.
cf. *Sciurus carolinensis*	2	0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	0.1	<0.1	<0.01	0.1
Rattus spp.	1	0.1	1/ 0	1.8	0.0/ 0.0	0.0	0.0	<0.1	<0.1	<0.01	<0.1
Procyon lotor	1	0.1	1/ 0	1.8	15.0/ 0.0	15.0	2.1	1.5	0.5	0.04	0.7
Sus scrofa	13	0.8	1/ 0	1.8	100.0/ 0.0	100.0	13.9	59.2	19.4	1.04	18.3
cf. *Sus scrofa*	1	0.1	0/ 0	0.0	0.0/ 0.0	0.0	0.0	5.5	1.8	0.12	2.2
Odocoileus virginianus	1	0.1	1/ 0	1.8	100.0/ 0.0	100.0	13.9	11.9	3.9	0.24	4.3
Bos taurus	5	0.3	1/ 0	1.8	400.0/ 0.0	400.0	55.4	99.8	32.7	1.66	29.3
Ovis aries/Capra hircus	4	0.2	1/ 0	1.8	35.0/ 0.0	35.0	4.8	41.4	13.6	0.75	13.3
Total	**1609**	**100.0**	**55/1**	**100.0**	**---/ ---**	**721.7**	**100.0**	**305.4**	**100.0**	**5.66**	**100.0**

APPENDIX B: FIGURES

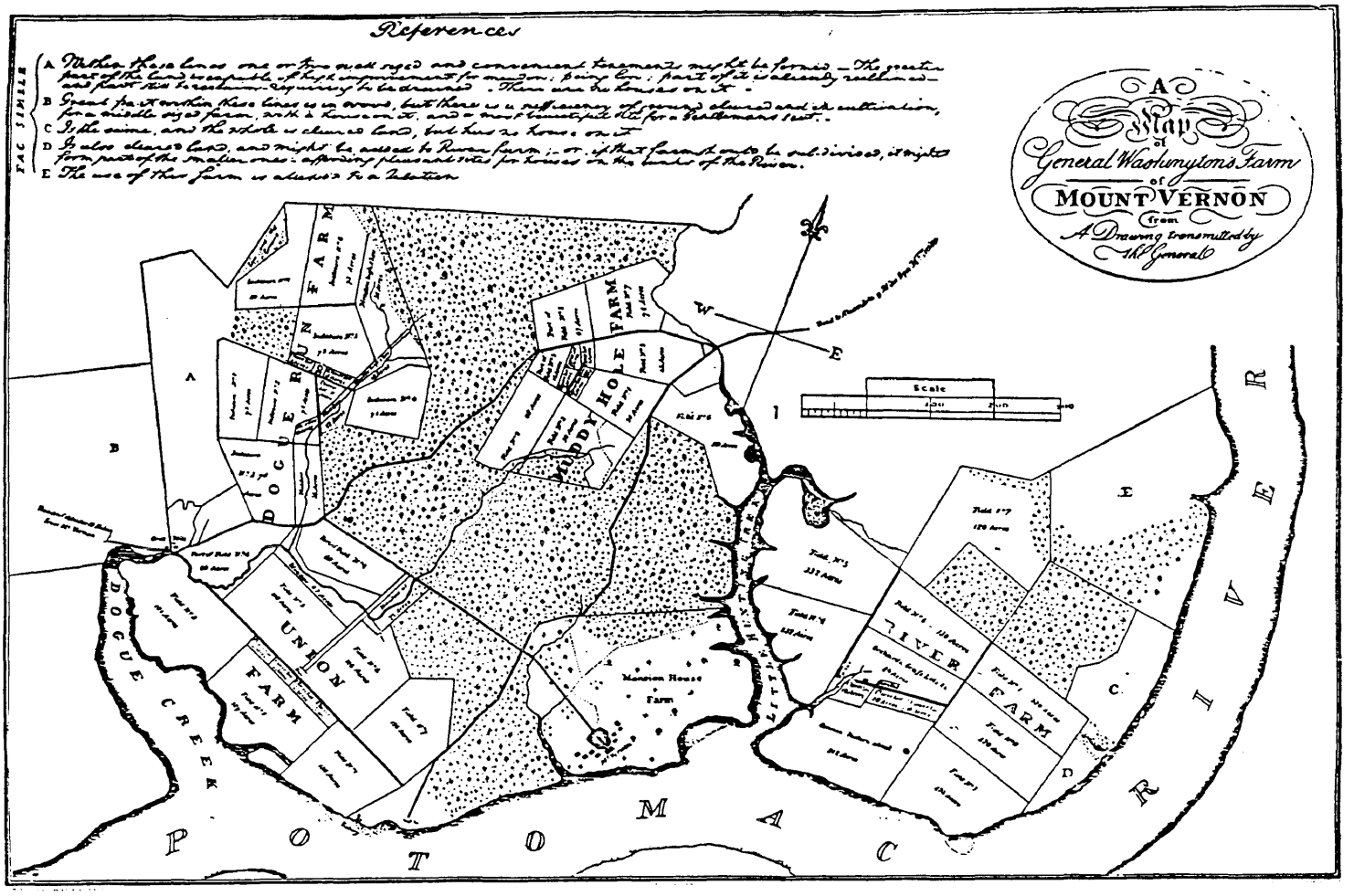


FIGURE 1.
1793 PLAT OF THE MOUNT VERNON PLANTATION.
(Drawn by George Washington)

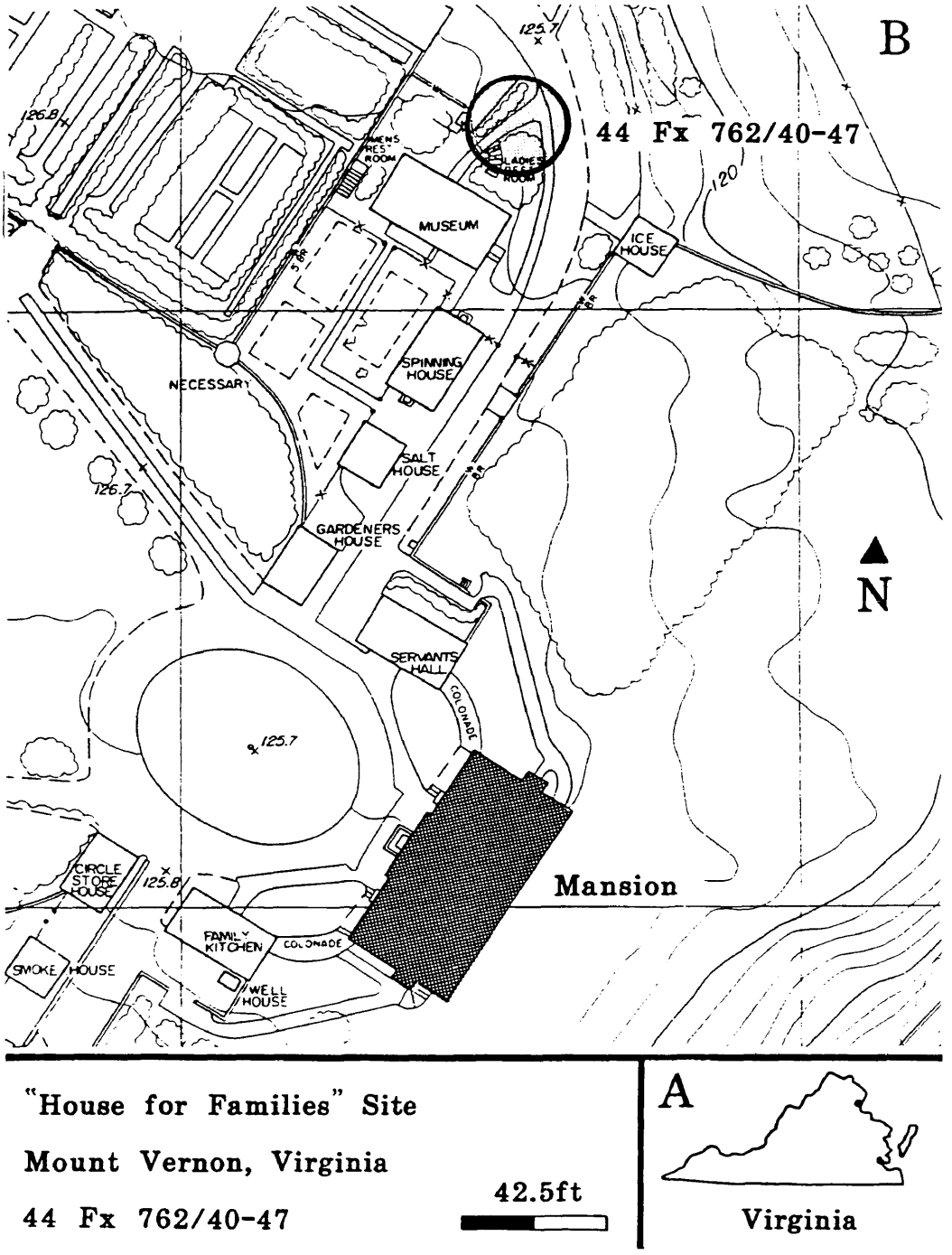


FIGURE 2.
LOCATION OF THE HOUSE FOR FAMILIES CELLAR.
(Mount Vernon Ladies' Association)

FIGURE 3.
A CA. 1792 PAINTING WHICH INCLUDED THE HOUSE FOR FAMILIES STRUCTURE.
(Mount Vernon Ladies' Association)

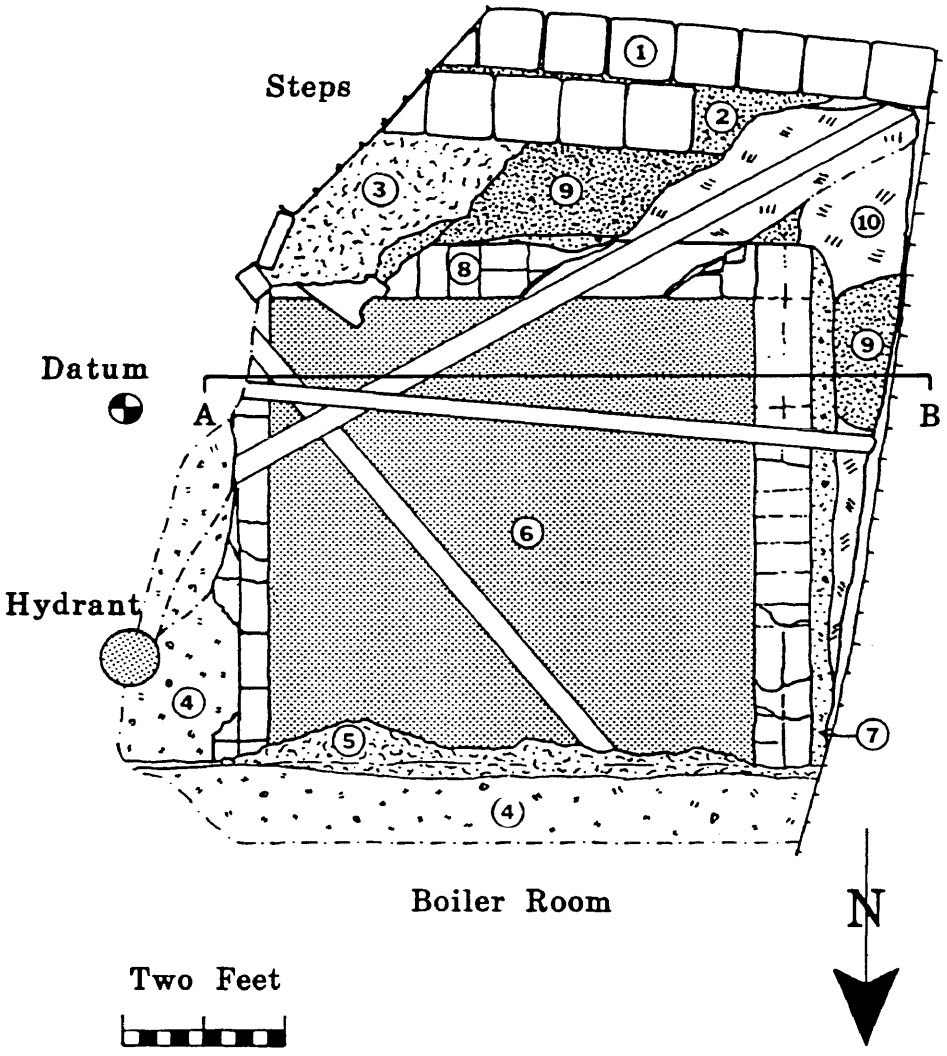


FIGURE 4.
SITE PLAN OF THE HOUSE FOR FAMILIES CELLAR.
(Mount Vernon Ladies' Association)

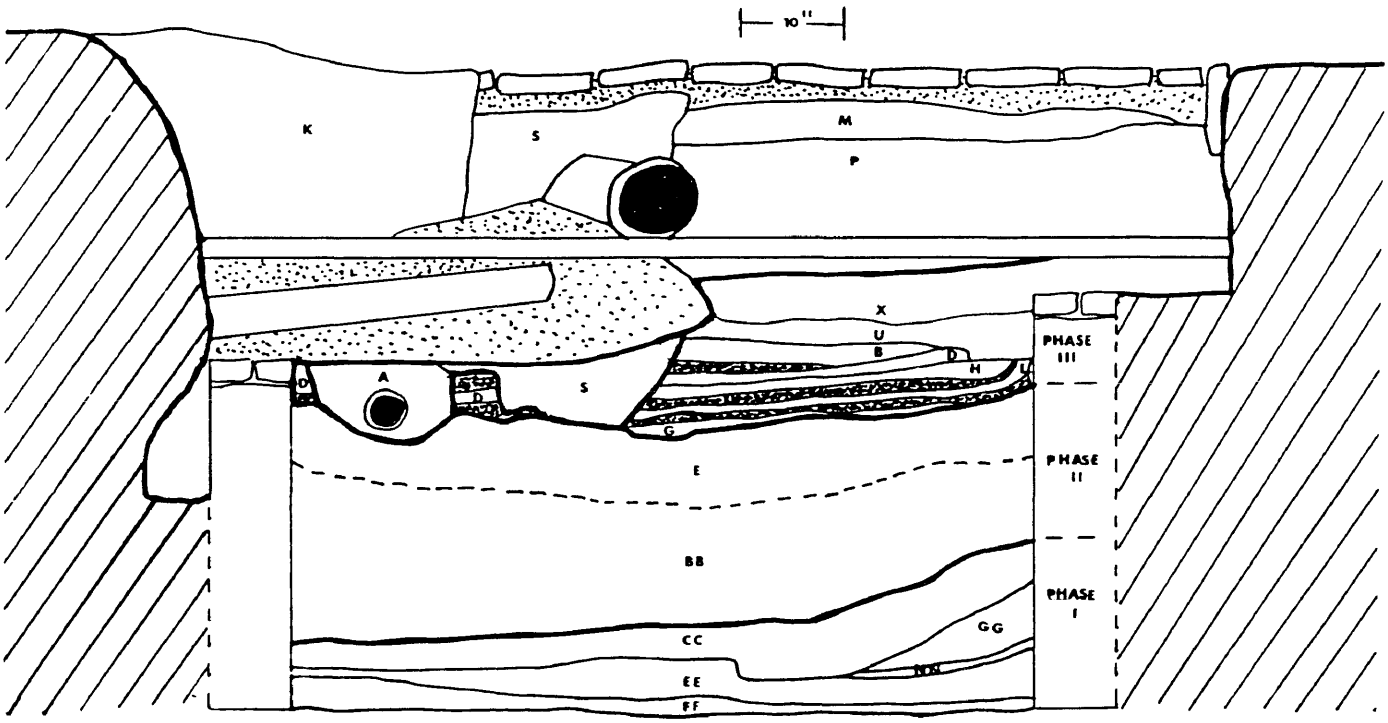


FIGURE 5.
1985 PROFILE OF THE CELLAR'S SOUTH WALL.
(Virginia Department of Historic Landmarks)

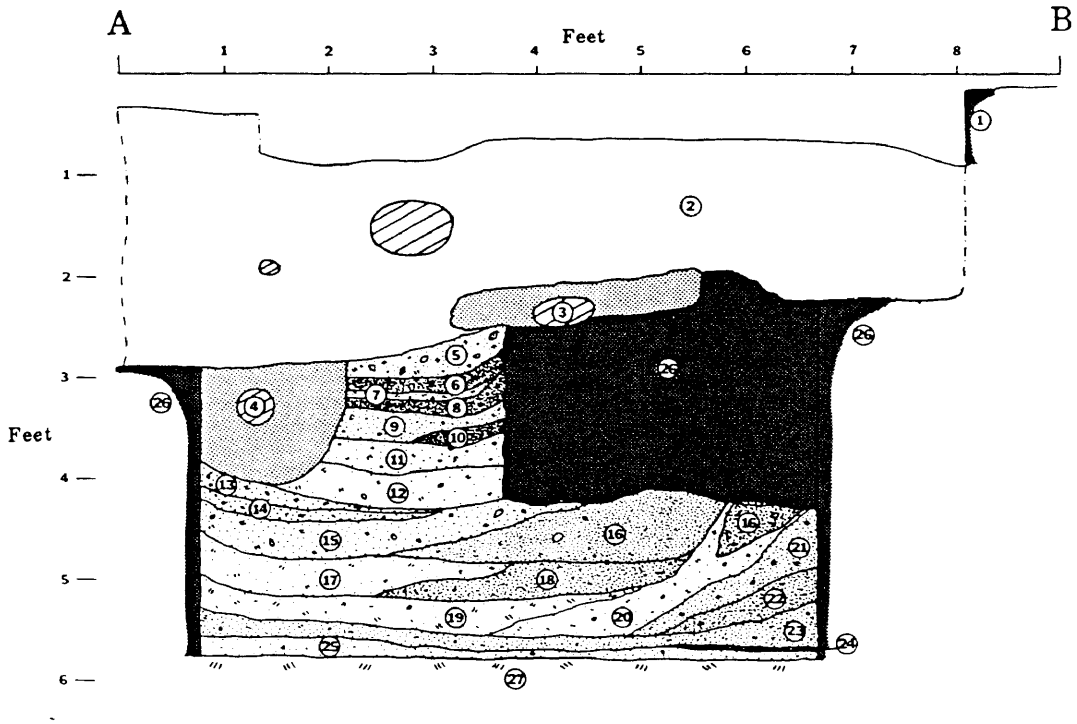


FIGURE 6.
1989 PROFILE OF THE CELLAR'S SOUTH WALL.
(Mount Vernon Ladies' Association)

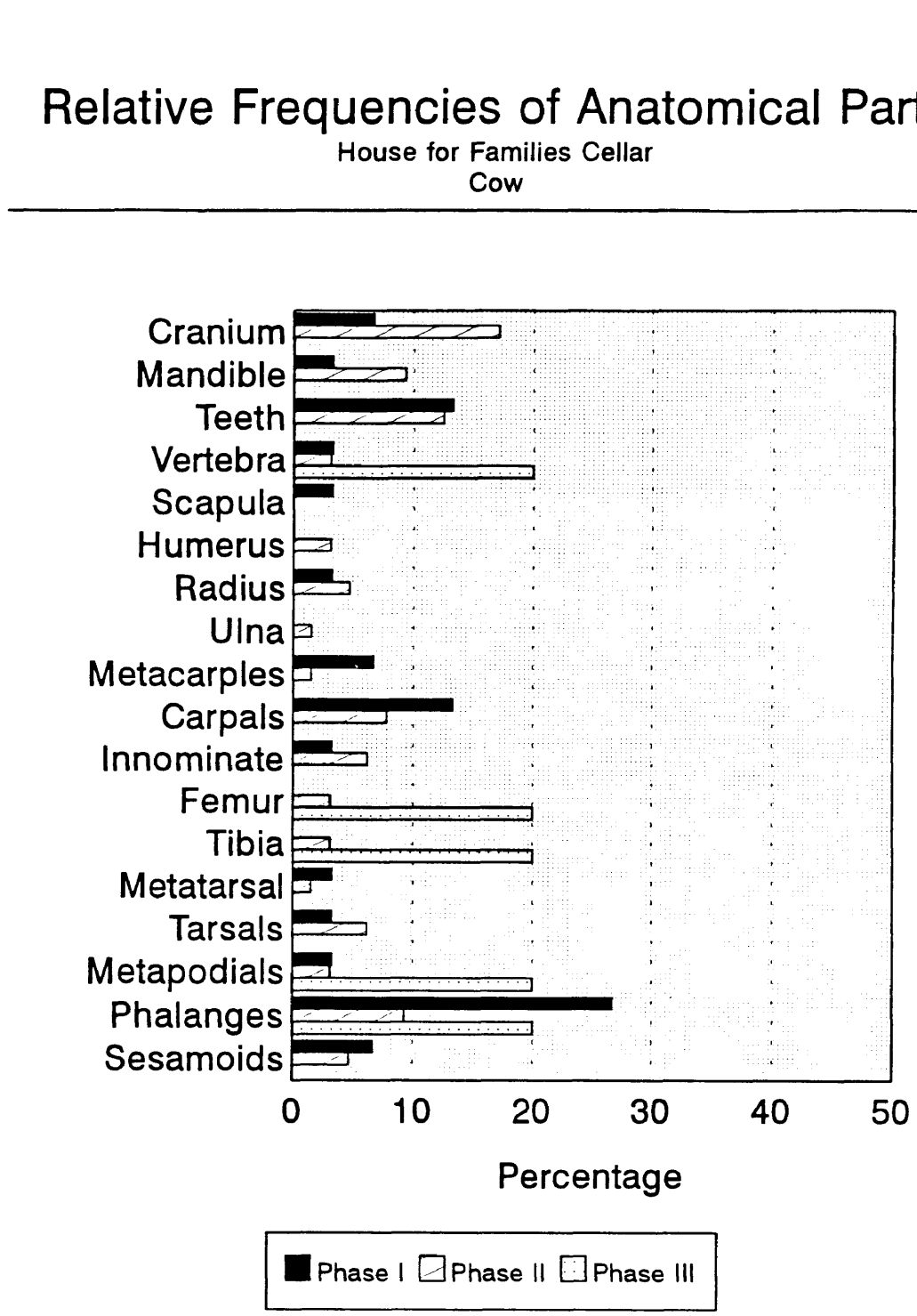


FIGURE 7.
COW ELEMENT DISTRIBUTIONS, PHASES I, II, AND III.

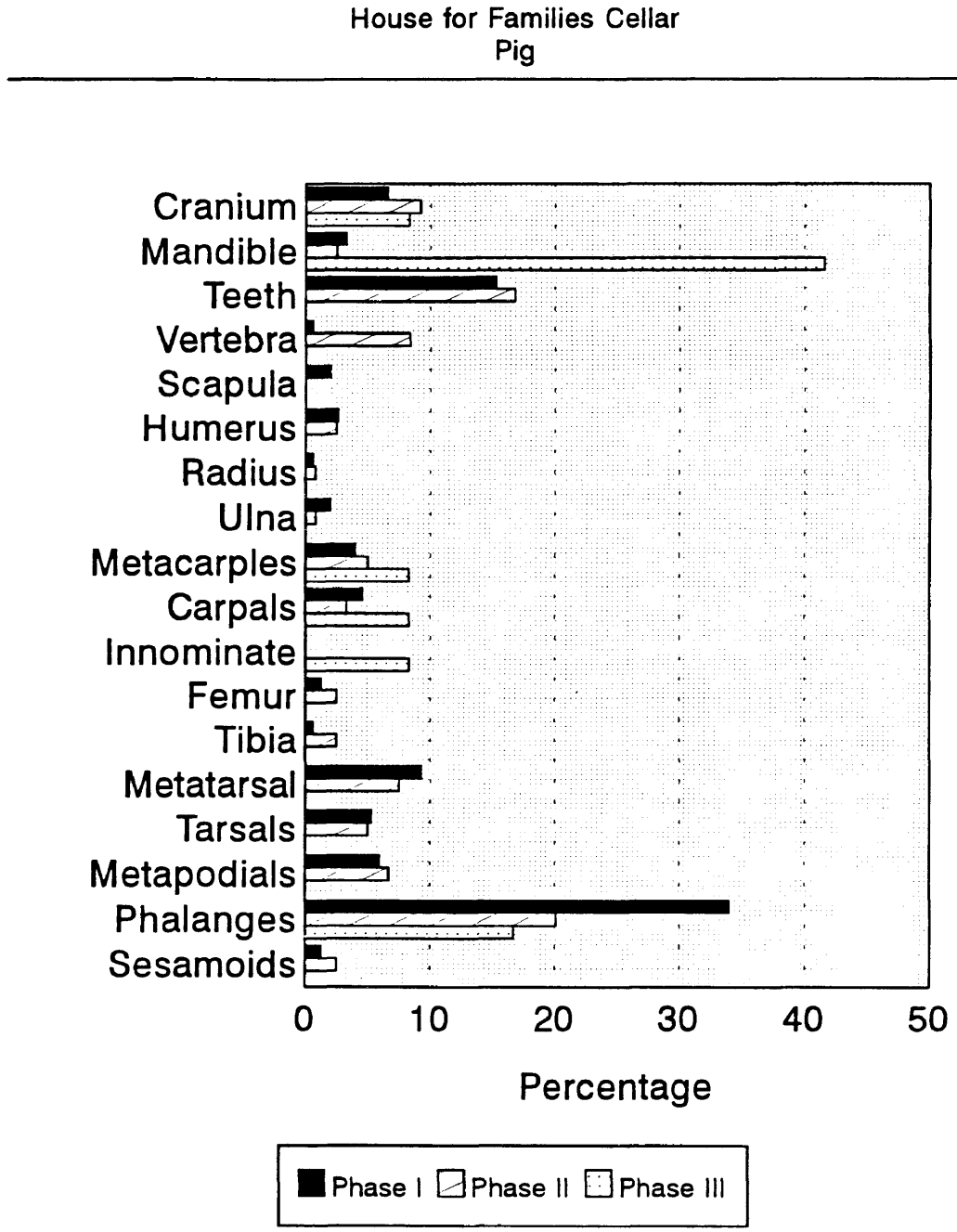


FIGURE 8.
PIG ELEMENT DISTRIBUTIONS, PHASES I, II, AND III.

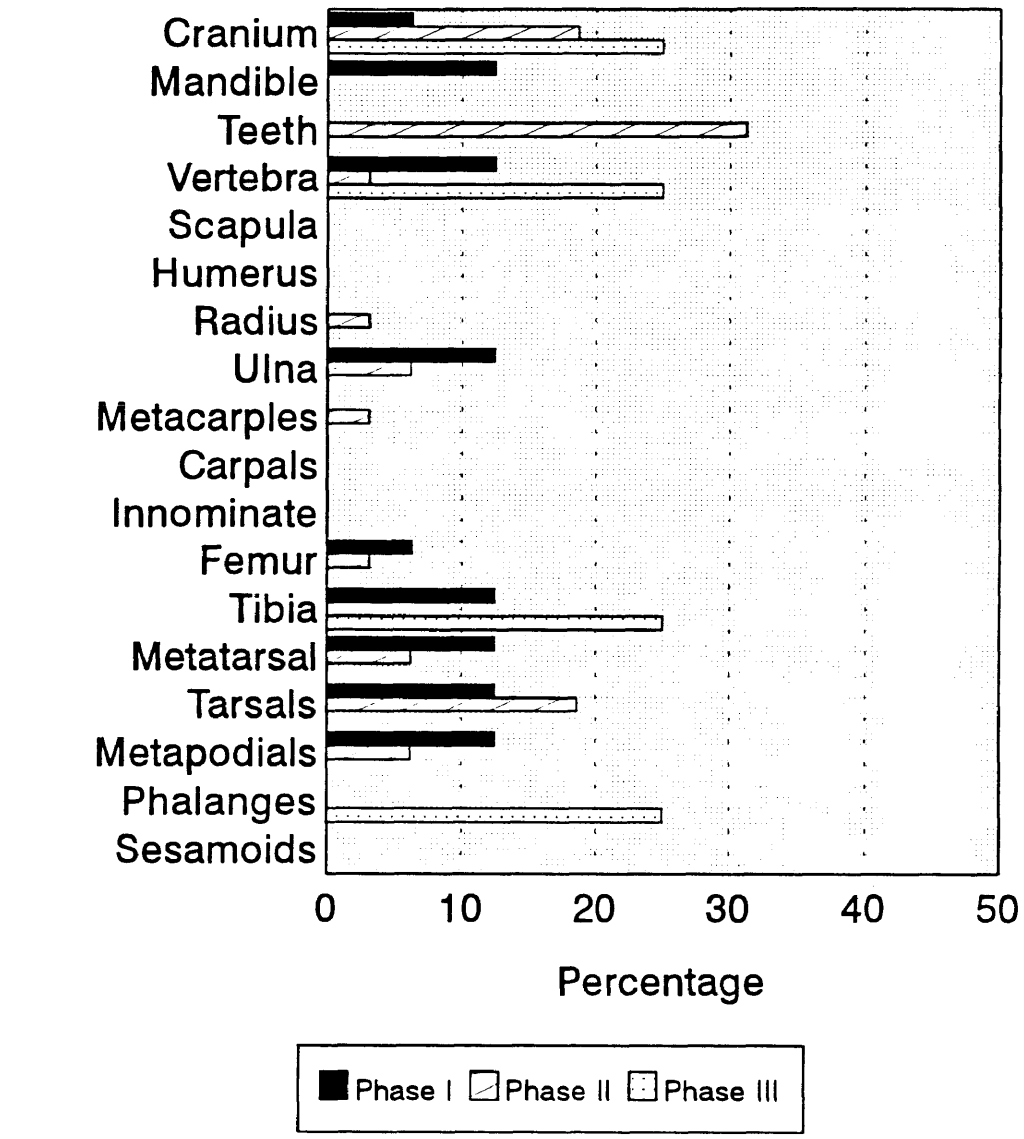


FIGURE 9.
SHEEP/GOAT ELEMENT DISTRIBUTIONS, PHASES I, II, AND III.

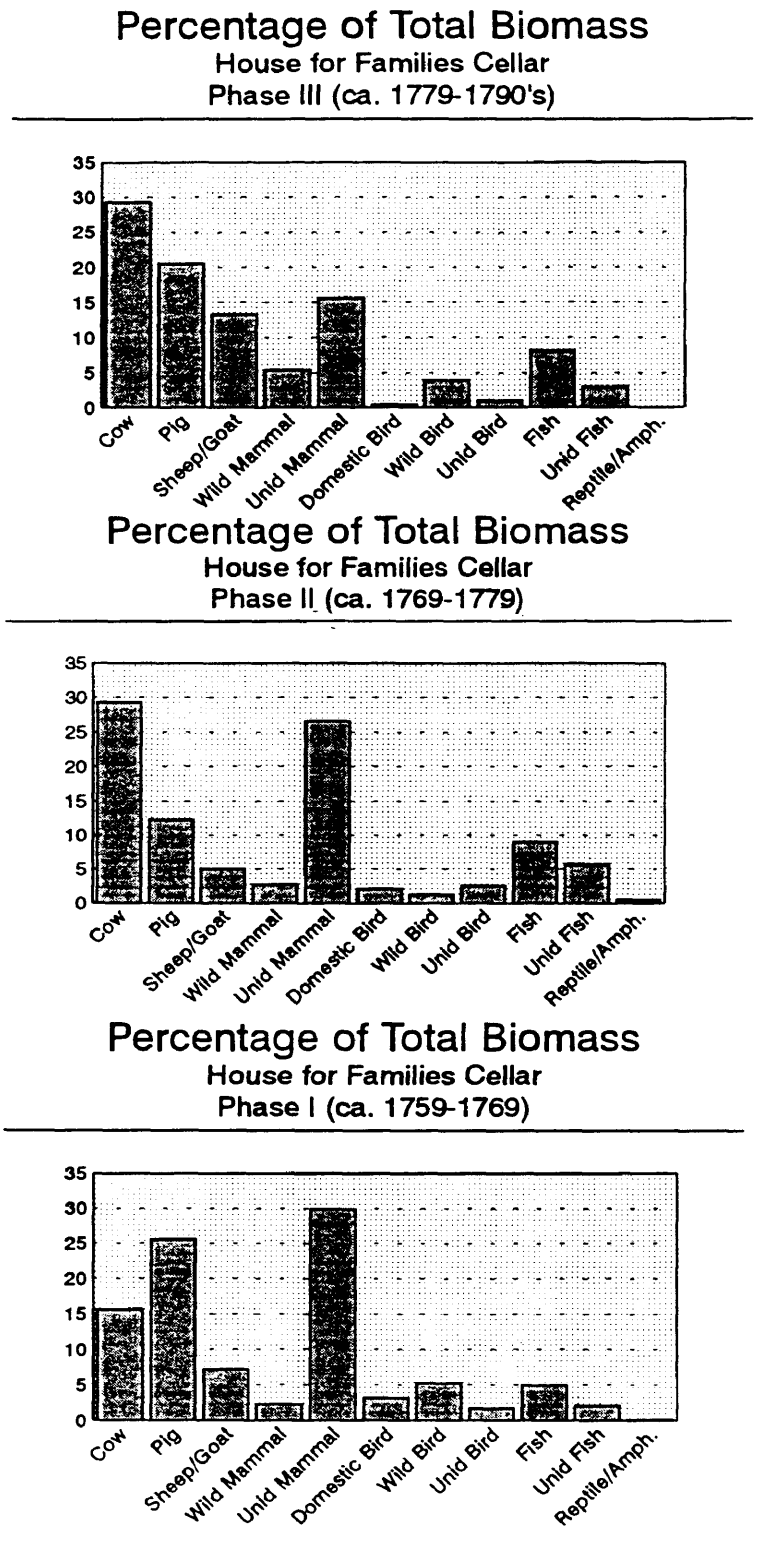


FIGURE 10.
RELATIVE DIETARY IMPORTANCE OF IDENTIFIED TAXA, PHASES I, II, AND III.
(Values based on Reitz and Cordier 1983)

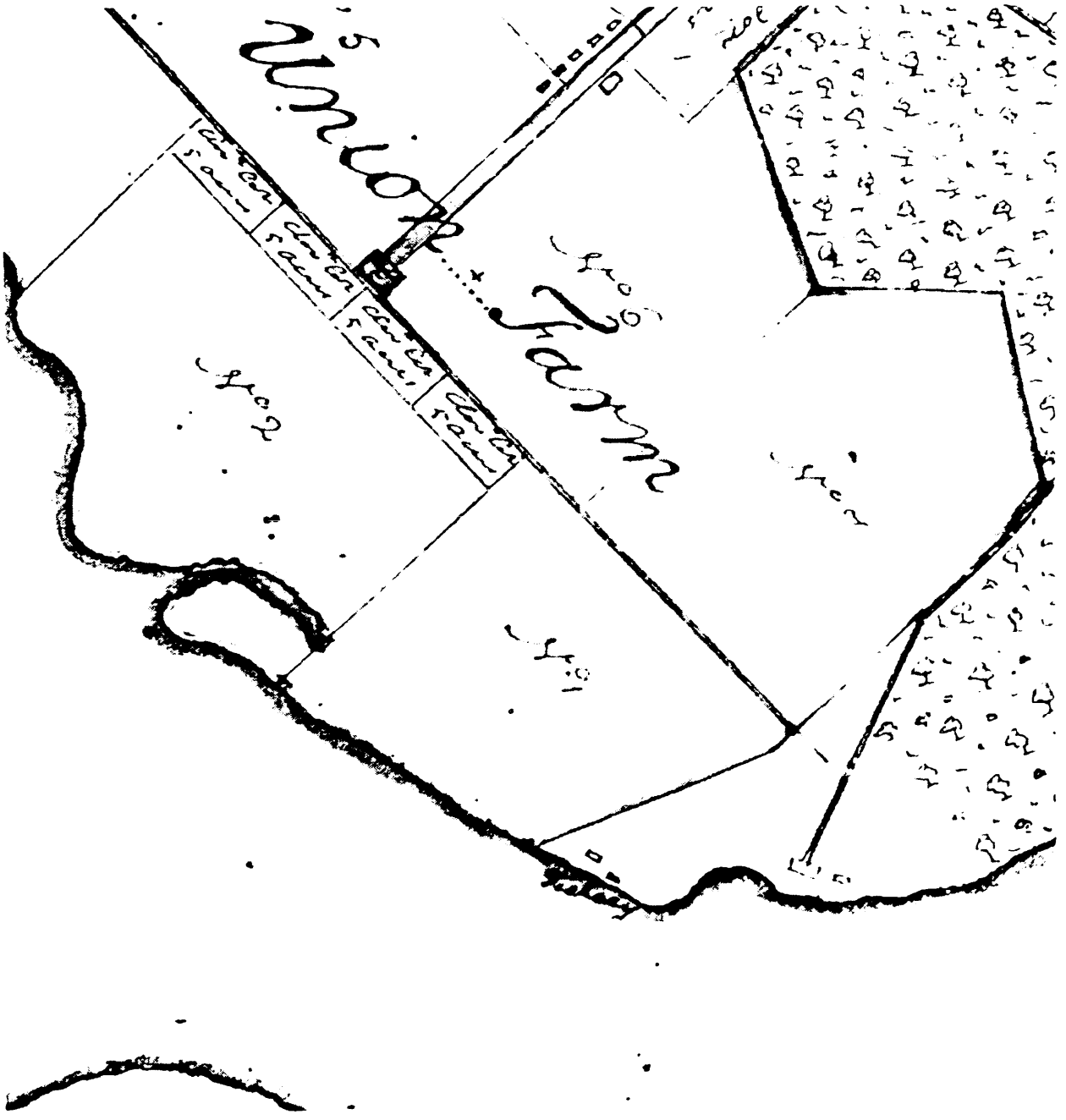


FIGURE 11.
LOCATION OF A FISHERY AT UNION FARM, ONE OF THE FARMS OF THE MOUNT VERNON PLANTATION.
(From the 1793 plat)

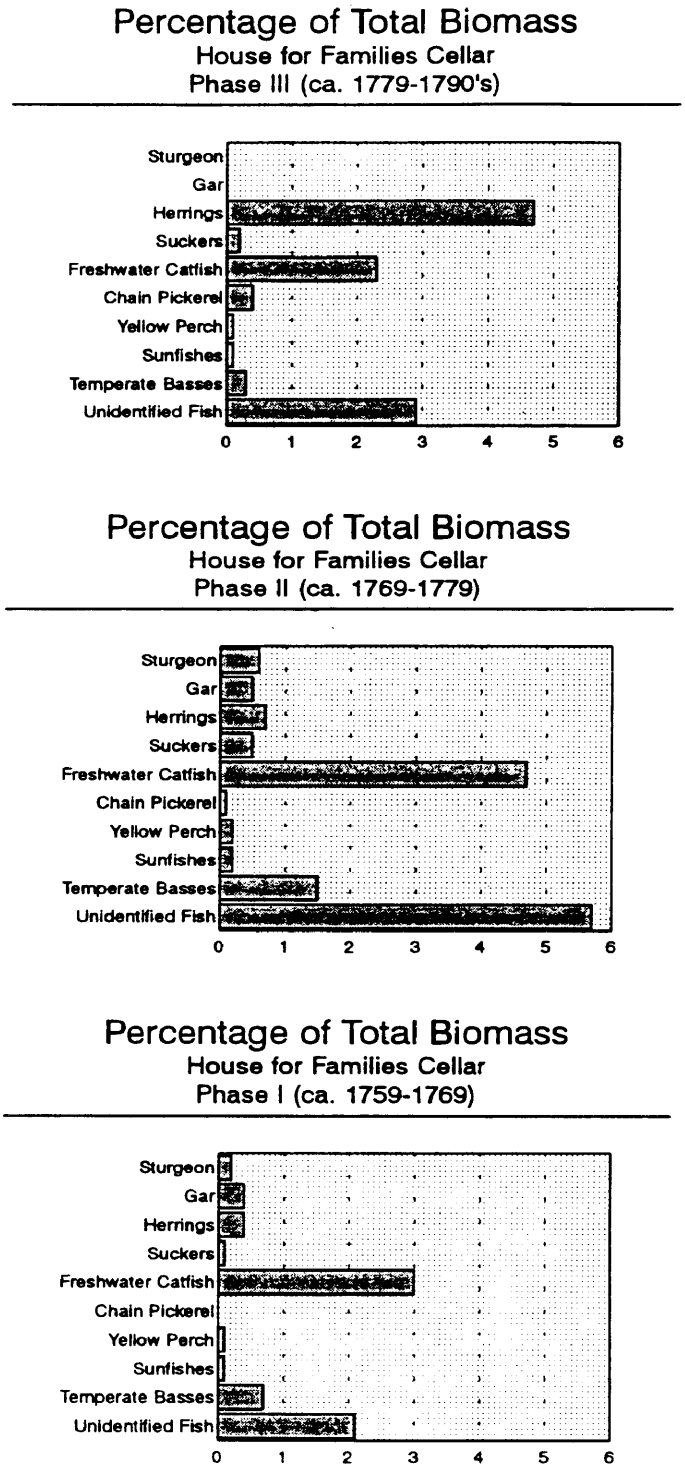


FIGURE 12.
RELATIVE DIETARY IMPORTANCE OF FISH, PHASES I, II AND III.
(Values based on Reitz and Cordier 1983)

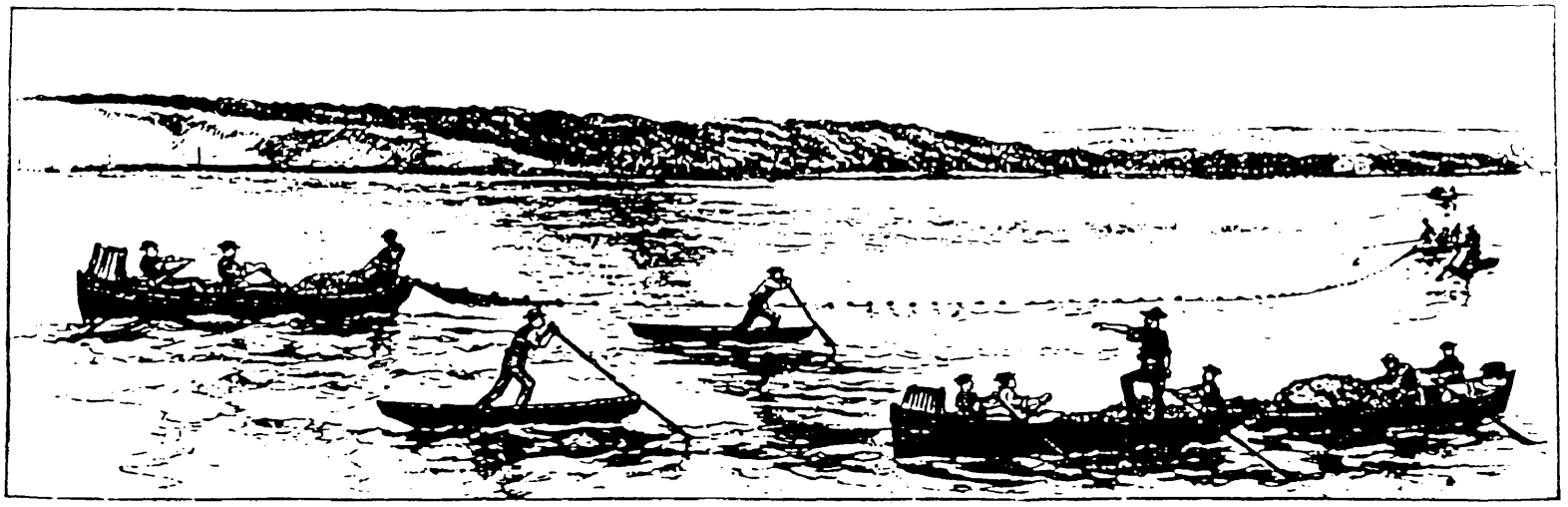


FIGURE 13.
SETTING AND PULLING THE SEINE.
(Goode, G. 1879, The History of the Atlantic Menhaden)

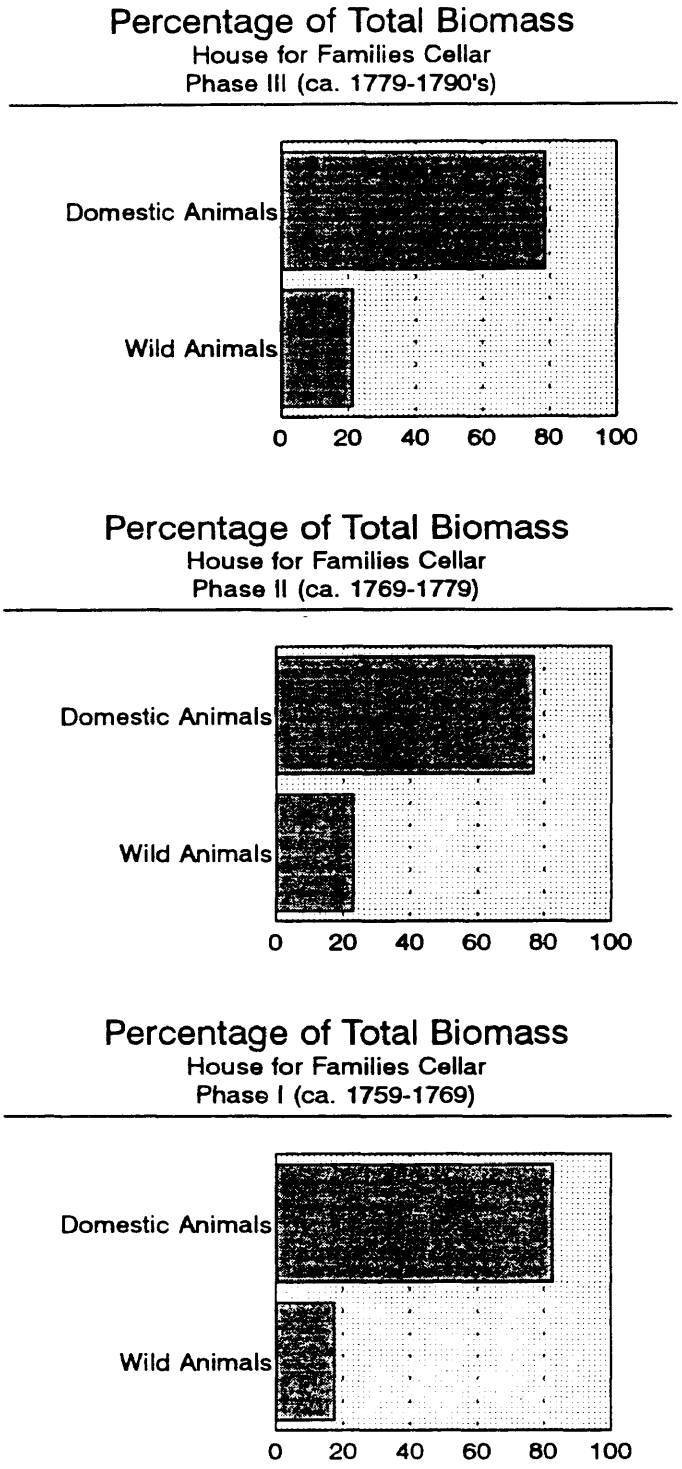


FIGURE 14.
RELATIVE DIETARY IMPORTANCE OF WILD AND DOMESTIC TAXA, PHASES I, II, AND III.
(Values based on Reitz and Cordier 1983)

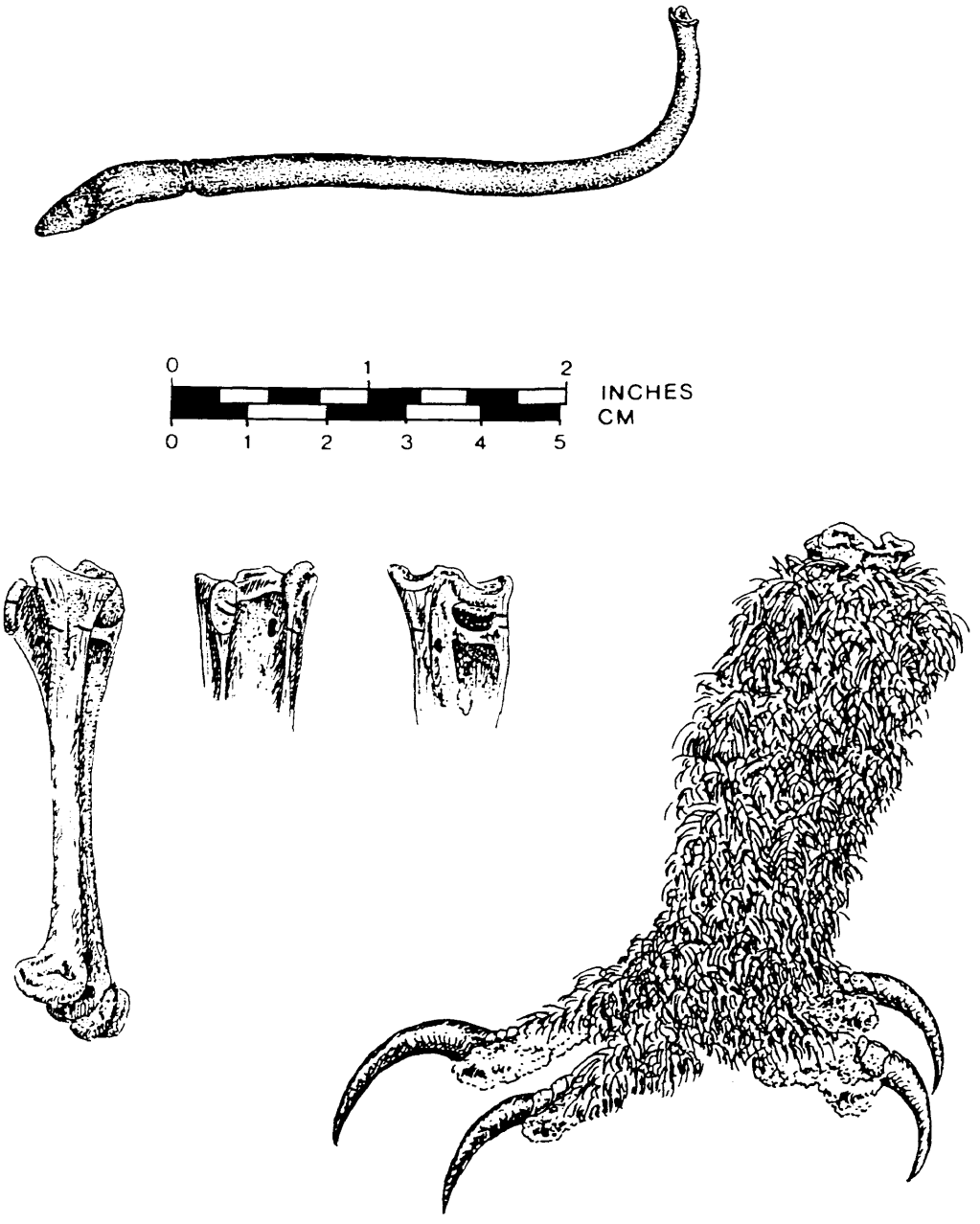
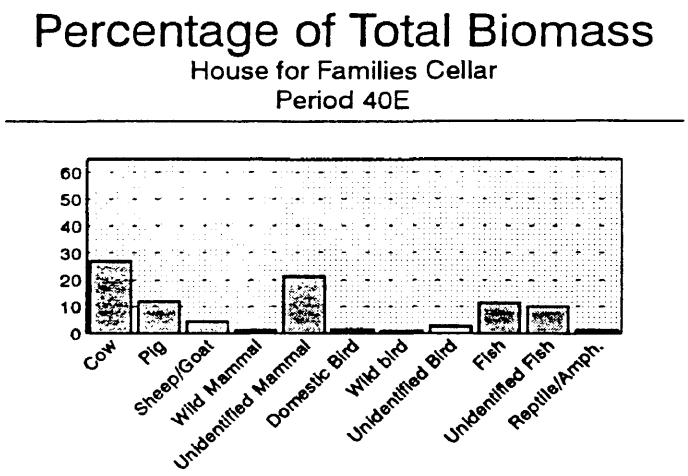
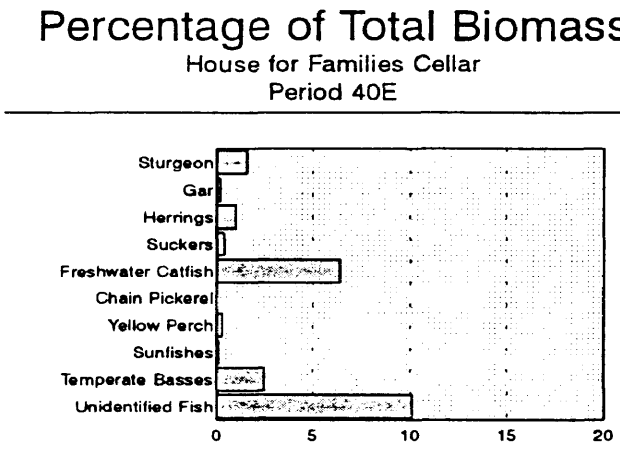


FIGURE 15.
RACCOON BACULUM (TOP) AND THE TARSOMETATARSUS OF THE GREAT HORNED OWL (BOTTOM).





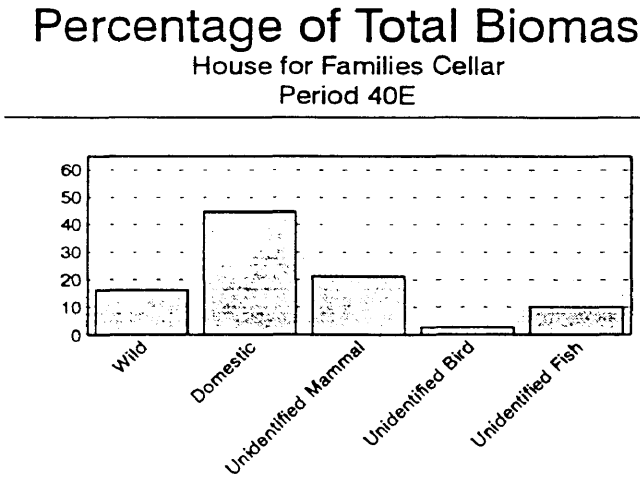
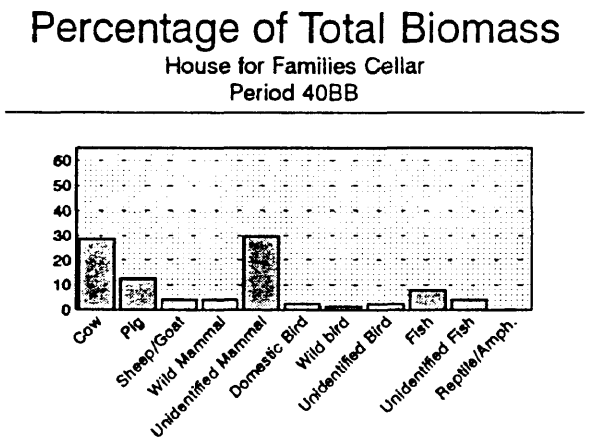
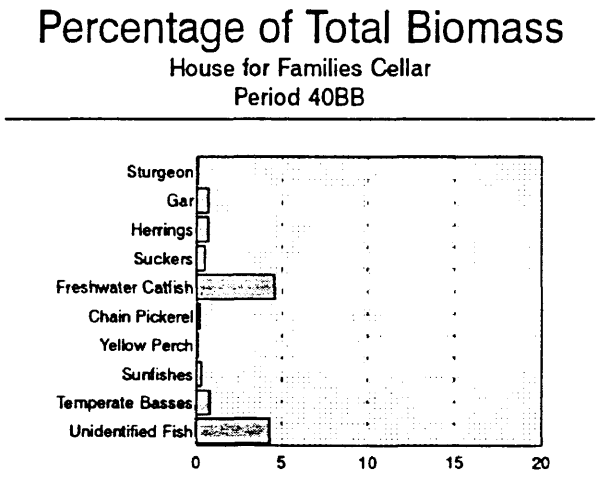


FIGURE 16.
RELATIVE DIETARY IMPORTANCE OF PERIOD E (PHASE II).
(Values based on Reitz and Cordier 1983)





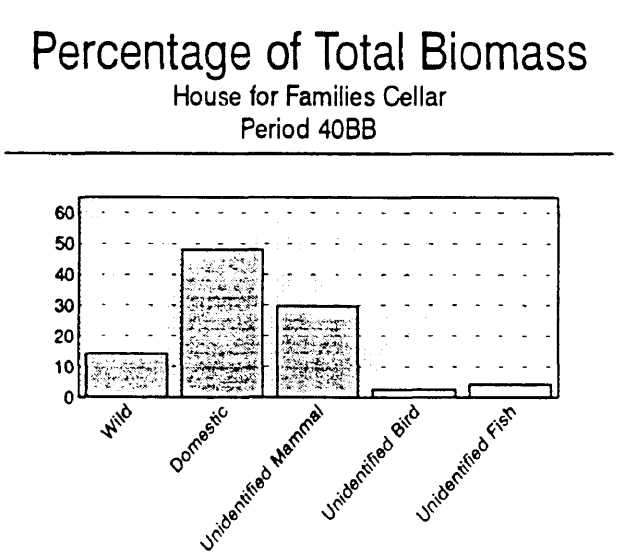
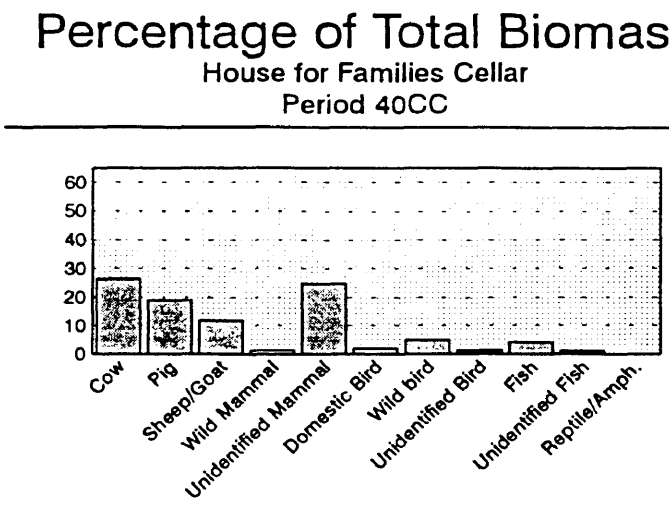
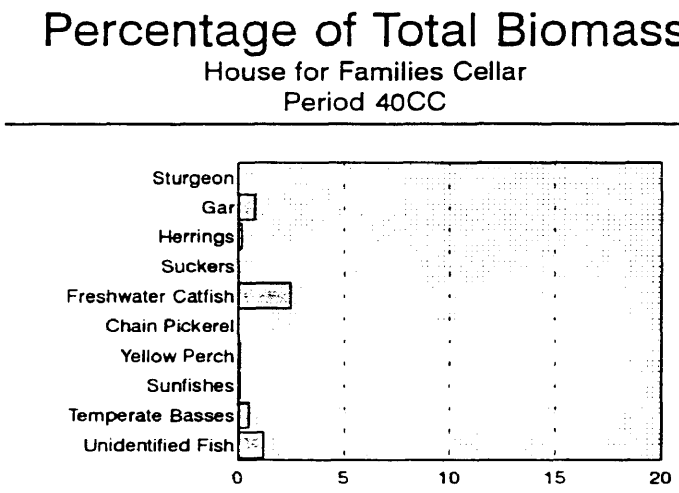


FIGURE 17.
RELATIVE DIETARY IMPORTANCE OF PERIOD BB (PHASE II).
(Values based on Reitz and Cordier 1983)





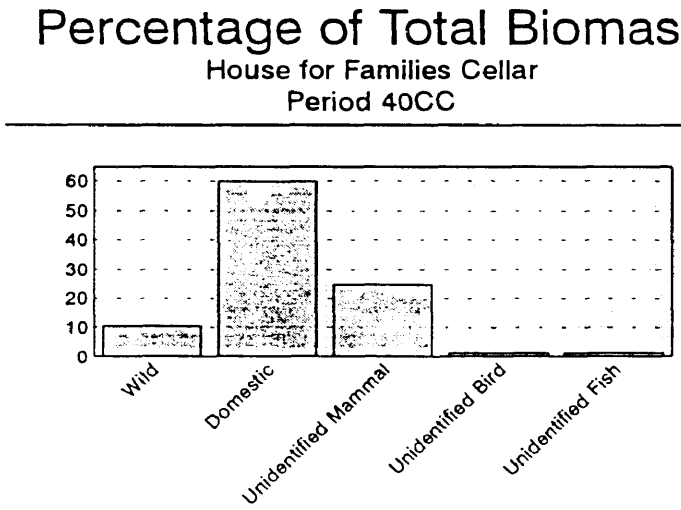
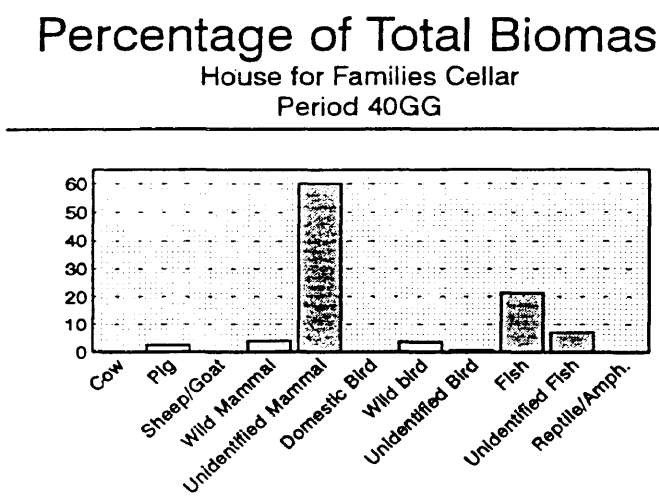
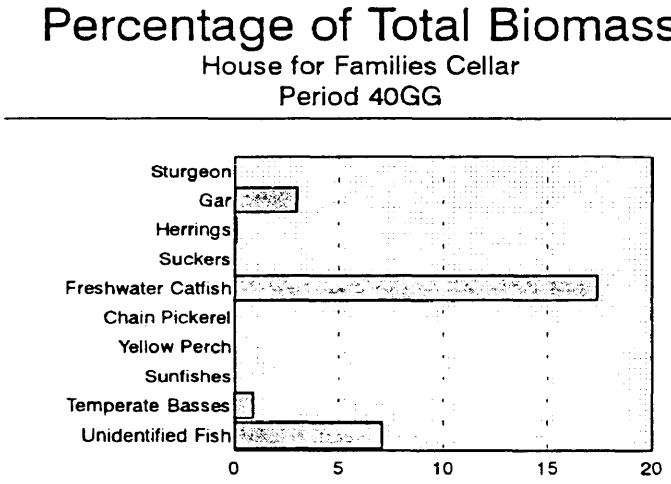


FIGURE 18.
RELATIVE DIETARY IMPORTANCE OF PERIOD CC (PHASE I).
(Values based on Reitz and Cordier 1983)





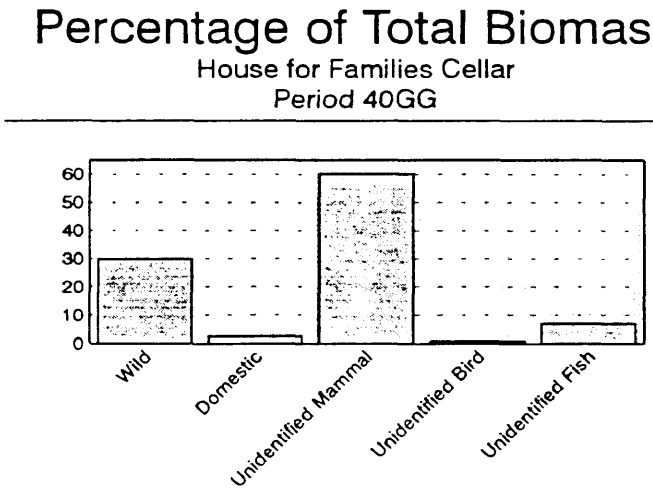


FIGURE 19.
RELATIVE DIETARY IMPORTANCE OF PERIOD GG (PHASE I).
(Values based on Reitz and Cordier 1983)

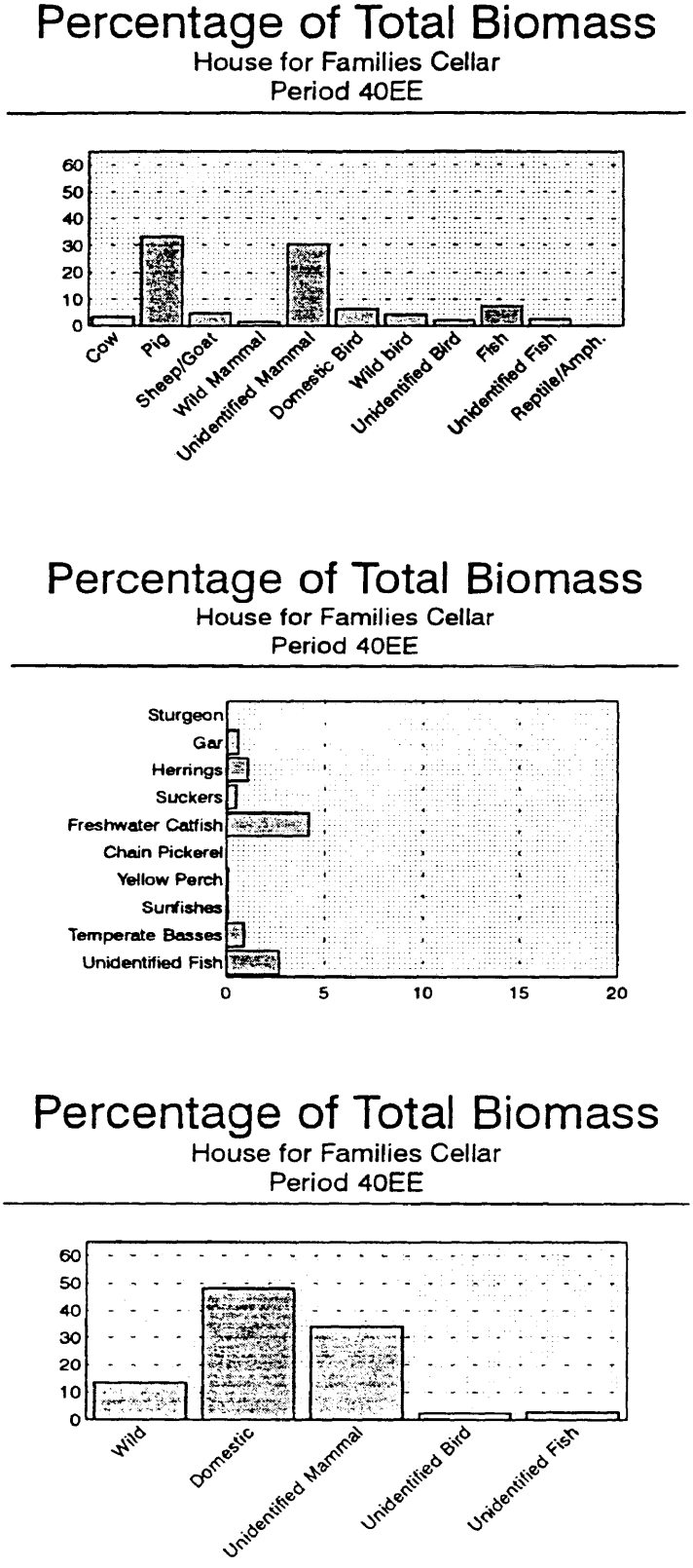
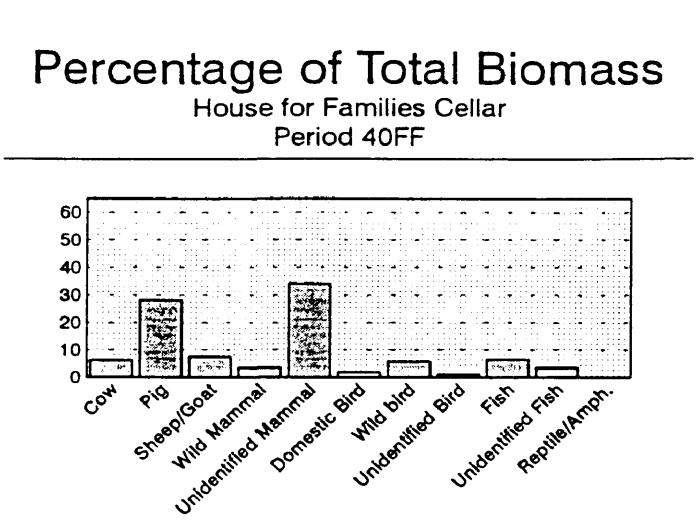
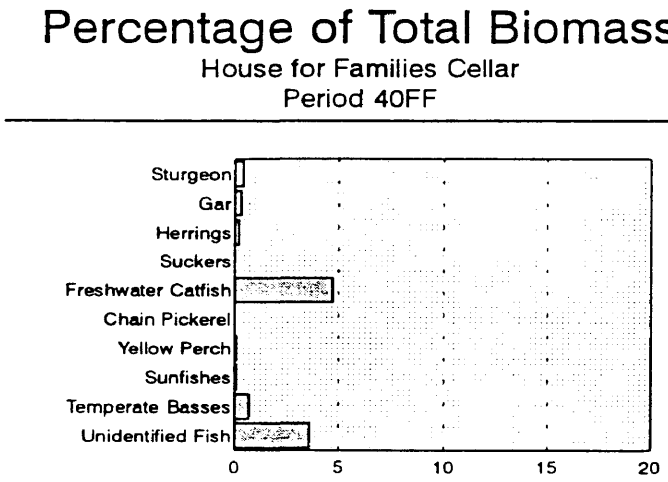


FIGURE 20.
RELATIVE DIETARY IMPORTANCE OF PERIOD EE (PHASE I).
(Values based on Reitz and Cordier 1983).





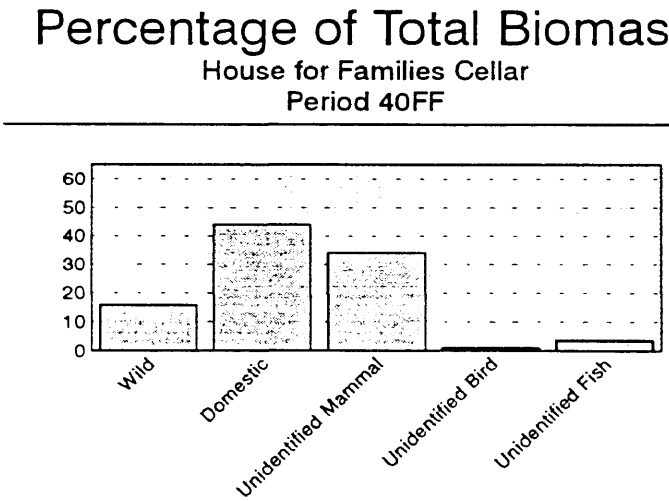


FIGURE 21.
RELATIVE DIETARY IMPORTANCE OF PERIOD FF (PHASE I).
(Values based on Reitz and Cordier 1983)

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