Faunal Analysis at Fort Hunter:
A French and Indian Supply Fort in Pennsylvania

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Abstract

This faunal analysis is of the private British French and Indian War fort, Fort Hunter. Fort Hunter, originally owned by Samuel Hunter, consisted of the house and a gristmill which was stockaded during the war. Established by the Pennsylvania government, this fort was initially part of a line of defensive forts. The subject of this analysis, Feature 2-06, consists of faunal remains and some mid-eighteenth century nails. Utilizing number of specimens identified (NISP), the minimum number of individuals (MNI), age at death via epiphyseal fusions, chop and saw marks along with spiral fractures and butchering patterns, this analysis attempts to determine who made the deposit and what their diet entailed. Consisting primarily of domesticated animals, the assemblage is hypothesized to have been made by British or Pennsylvanian soldiers. The chop and saw marks were similar to the butcher patterns described in Lyman (1977). While there is some uncertainty of the exact location of Fort Hunter on the Hunter property due to the absence of narrowly dateable artifacts in Feature 2-06, the faunal assemblage composition is highly similar to those of other British French and Indian War forts in Pennsylvania; however, the faunal remains found are not necessarily probative of the occupation of the site before or after the French and Indian War.

Key words: faunal analysis, French and Indian War, zooarchaeology, Pennsylvania, Fort Hunter, British soldier, Pennsylvania soldier, diet, foodways
Chapter I: Introduction

Fort Hunter started as a private fort that was part of the defensive line of forts established by the Pennsylvania government along the Susquehanna River at the onset of the French and Indian War. Private forts are forts situated around residences and other private holdings, but commissioned and garrisoned by the government or the British because the location is of strategic military value (Waddell and Bomberger 1996: 76). Fort Hunter served as a supply fort to Fort Augusta and Fort Halifax (Carr, et. al. 2007: 44). In the vicinity of Fort Hunter were the British colonists of Pennsylvania, many of whom were Quakers, who did not advocate violence. However, due to a few violent incidents such as Penn Creek Massacre, it became necessary for people to protect themselves against the Indians (Carr, et. al. 2007: 45; Hunter 1960: 207; Waddell and Bomberger 1996: 15). Since the British had been forced out of Pennsylvania at the beginning of the French and Indian War, the people of Pennsylvania formed the first Pennsylvanian militia and defense system. The Quakers were scared out of their pacifism into the defense, and only defense, of their homes; however, they refused to build offensive forts and utilize offensive strategies (Hunter 1960: 207).

Initially, it was believed that the Susquehanna River Valley would be the center of conflict; however, the armed conflict ended up occurring in the Ohio Valley (Carr, et. al. 2007:43). Fort Hunter was built on Samuel Hunter’s property and is thought to encompass and include his gristmill (Carr, et. al. 2007:43). The exact site of this stockaded gristmill has not yet been identified, but the precise location of Hunter’s house is known (Carr, et. al.
Fort Hunter was garrisoned throughout the French and Indian War with between 30 to 50 people (Hunter 1960: 352, 355).

At one point during the French and Indian War, the military wanted to close Fort Hunter, but the colonists in the surrounding area demanded that the fort remain operational. The continued military presence at Fort Hunter was needed to ensure the safety of the colonists from Indian attacks encouraged or led by the French (Hunter 1960: 211, 213; Waddell and Bomberger 1996: 16). As a result, Fort Hunter was operational until the end of the French and Indian War.

Although historic documents have shed some light on the significance of Fort Hunter, there are a number of questions that remain unresolved about the site. In 2006, a team of archaeologists from the State Museum of Pennsylvania launched an archaeological excavation of the site that sought to locate the remnants of Fort Hunter (Carr, et. al. 2007:43). Thus far, the excavations at the Hunter property have uncovered 18th and 19th century artifacts including nails, a multitude of ceramics, a cannonball, musket balls, gunflints, and a wide array of glass (Carr, et. al. 2007: 51). These artifacts date a few of the features present at the site. The artifacts found in Feature 2-06, the feature that contained the faunal remains that are the focus of this thesis, only narrow the feature date to the mid-eighteenth century casting uncertainty on who made the deposition and when. Since the French and Indian War conflict lasted from 1756 till 1763, less than a decade, it is difficult to determine whether there is a link between Feature 2-06, the feature that contained the zooarchaeological remains, and the military occupation of the French and Indian War. The
Hunter property was occupied before and after the French and Indian War; however, this ambiguity is not necessarily everlasting. Faunal analysis, ceramics analysis, archaeological work, and historical documentary research, can all assist in determining what time period(s) the features at Fort Hunter belong to, who created and used them, and what their life ways and dietary habits were like.

This faunal analysis specifically examines the dietary habits of the Pennsylvania and British military forces both of whom occupied this site, or the previous inhabitants, and investigate how their diet influenced their life ways. When the information known is insufficient or nonexistent, I will hypothesize about what the faunal data tell us about the military. To put these data into the context of the French and Indian War, the Fort Hunter faunal analysis zooarchaeological data, the bones, will be compared with faunal data from other British French and Indian War forts’ such as Fort Loudoun located in Franklin County Pennsylvania. This will help determine if the assemblage is in fact similar to those of other French and Indian War forts. Overall, the two main objectives of this study are to determine whether Feature 2-06 associated with French and Indian War and to understand the meaning of the faunal data in the context of the lifeways of the site occupants.
Chapter II: Background

Pennsylvania the Eve of the French and Indian War:

The French and Indian War (1754-1763), also known as the Seven Years War, provides the primary historical context surrounding Fort Hunter, a British supply fort in Pennsylvania. The origins of the French and Indian War are in European Wars that were compacted together. The conflict started between Britain and Spain when an English sailor’s ear was cut off by a Spanish Caribbean coast guard, resulting in the War of Jenkins’ Ear. The ear war then merged into the War of Austrian Succession, also known as King George’s War, in 1740. King George’s War was initially between Maria Theresa of Austria and Frederick II the Great of Prussia. France and Spain allied with Prussia against Austria and Britain, positioning the France-Britain rivalry. King George’s War ended in 1748 with the Treaty of Aix-la-Chapelle in which the French and Indian War is rooted (Encyclopædia Britannica 2011). This treaty returned all conquered territories “to their prewar sovereigns.” The British colonists’ most important gain of the war, Fort Louisbourg in Canada, was returned to France, fostering resentment among the British colonists (Waddell and Bomberger 1996: 1). In 1748, another treaty was signed between the Indians and the British Pennsylvanian colonists who were represented by Conrad Weiser at Logstown, which is in close proximity to the original Berks and Lancaster counties and “below the Forks of the Ohio River” (Waddell and Bomberger 1996: 1). This treaty detailed the exclusion of the French in the trading business in this area (Waddell and Bomberger 1996: 1). The trade restriction is significant since the French and Indian War was in essence a dispute over land, resources, and trading rights, especially in the Ohio River Valley (Stotz
This dispute arose out of overlapping land claims based on discovery, exploration, early settlement, long-defunct European peace treaties, large grants from royalty, and minimally priced purchases from Indians resulting in one of the final conflicts between France and Britain in North America (Stotz 1985:5).

Prior to the French and Indian War, the French and British were attempting to claim as much land as possible for their respective countries. From 1749-1750, the French sent out a territorial expedition led by Captain Pierre Céloron de Bienville to claim lands for France. Céloron accomplished this by burying lead plates at the mouths of streams that
entered the Ohio and Allegheny (Waddell and Bomberger 1996: 1). At the same time in 1750, the Ohio Company and the Loyal Land Company, two British Virginia land venture organizations, sent explorers to the west of the Monongahela River for economic development and settlement. The 1609 Virginia Charter encouraged British expansion by aggressively claiming lands. Together with the exclusive Pennsylvania trading rights acquired at Logstown, the increased British presence convinced the French that they needed to fight back against the British imperial activities, thus increasing tensions between the two European countries (Waddell and Bomberger 1996: 1). Due to these rising tensions and land claiming activities, the new Governor of Canada, Marquis Duquesne, ordered the removal of the English from the Ohio River and the construction of forts to defend the area claimed by Captain Pierre Céloron de Bienville (Waddell and Bomberger 1996: 1). These forts were completed by the end of 1753, encircling the “lead-plate line, Presque Island (present day Erie), LeBoeuf (present day Waterfords), and Marshault (present day Franklin) (Waddell and Bomberger 1996: 1)” as seen in Figure 1.
In an attempt to avoid war with the French and to help the Ohio Company, the Governor of Virginia, Robert Dinwiddie, sent George Washington to Fort LeBoeuf to demand the French to demolish their forts, as seen in Figure 2 (Waddell and Bomberger 1996: 1). This message was negatively received at Fort LeBoeuf on December 11th 1752.
resulting in the refusal to tear down the French forts. Shortly thereafter, a small group of British soldiers sought to establish a small outpost, not explicitly built for defensive purposes, at what is now Pittsburgh (Waddell and Bomberger 1996: 1). In 1754, the French sent a small group of soldiers down from Canada to tear down this structure and to replace it with Fort Duquesne (Waddell and Bomberger 1996: 1). Before Dinwiddie knew about the structure’s destruction, he dispatched Washington to the structure “with a company of provincial soldiers of the Virginia Regiment to reinforce the workers at the Forks of the Ohio” (Waddell and Bomberger 1996: 2). The structure fell before Washington arrived and on May 28th 1754, he tracked down the French force a few miles away (Waddell and Bomberger 1996: 2). A confused discourse ensued that resulted in Washington’s order to fire on the French resulting in the defeat of the French force and the death of the French leader, Ensign Joseph Coulon de Villiers, Sieur de Jumonville. Washington, fearing retaliation from a larger force, retreated to Fort Necessity at the Great Meadows eleven miles from Uniontown in U.S. 40, where they were attacked by several hundred French soldiers and one hundred Indian warriors from July 3rd to 4th. Washington tried to hold the fort as long as possible, but ultimately had to surrender on the second day. He signed a document stating that he had assassinated Jumonville, but he may not have understood what he was signing since it was completely in French. Jumonville was considered a French diplomat in charge of military forces, rather than a combatant, which is significant because these positions to Europeans included something akin to diplomatic immunity and this incident helped spark the French and Indian War (Waddell and Bomberger 1996: 2).
This series of events, compounded by strained relationships between the British colonists and the Indians over land rights and power, sparked the French and Indian War (Hunter 1960: 210). The French were successful integrating with the Indians because the Indians resented them less than the British, despite the British’s previous history of peaceful relations (Hunter 1960: 210). The French intermarried with the local Indians and learned their ways while the British and their colonists did not (Bowen 2006: 150). The French effectively utilized the Indians in attacks in armed combat and terrorized a good portion of the frontier, keeping the English on the defensive (Hunter 1960: 209). This is a significant because the French did not have many colonists to defend, and thus they did not fear retaliation (Hunter 1960: 210). How the sequence of events occurred in Pennsylvania was shaped by the Pennsylvanians’ political position on violence, their ability to defend themselves, and the resources available to them.

**The French and Indian War in Pennsylvania and Fort Hunter:**

The British colonists in Pennsylvania were long standing pacifists with little to no military experience, as seen by the extensive travel required to buy a gun and the absence of door bolts in houses (Hunter 1960: 209-210). At the beginning of the war, the colonists were not directly involved; however, conflict did occur within the Pennsylvania borders, and the Virginia troops were forced out of present day Pittsburgh, the Forks of the Ohio, on April 17, 1754 (Hunter 1960: 206). When Braddock was defeated on July 9, 1755, the colonial people and legislators in Pennsylvania were shocked “out of their accustomed security and unwillingness to provide for their own safety (Hunter 1960: 207).” Due to the
strong Quaker voice, the policy in Pennsylvania changed from pacifism to one of defense, not offense.

The Penn's Creek Massacre on October 16, 1755, resulting in the deaths of 13 and the disappearance of 25 Penn Creek inhabitants, ultimately catapulted the Pennsylvanians out of their long-standing peaceful relations with the Indians. There were no British forces to protect the settlers (Hunter 1960: 207; Waddell and Bomberger 1996: 15). This reaction resulted in construction of a line of defensive forts, including Fort Hunter, located near Fishing Creek. Due to this policy of defense, the colonial troops rarely came face to face with the French troops, and the largest provincial garrisons were stationed at forts designed solely for defense (Hunter 1960: 209). The colonists spent most of their time supplying the forts and sheltering other colonists from Indian attack (Hunter 1960: 209).

The Pennsylvanians created their own militia, which served to protect the people of Pennsylvania until the British took over in 1758 (Hunter 1960: 207). This protection was defined by the previously mentioned a chain of defensive forts along the margin of settled portions of the Lancaster and Berks counties (Hunter 1960: 209). These forts were in place to defend the settlers (Hunter 1960: 209). Their troops’ presence served to deter Indian attacks, but unfortunately, the troops could not be everywhere at once (Hunter 1960: 213). Typically unarmed civilians or small groups in the woods were the targets of the Indian attacks (Hunter 1960: 211). In 1759, eleven British soldiers and rangers were shot and scalped alive, while on a wood collecting expedition in Nova Scotia (Brumwell 2002: 184).
Despite these Indian attacks, the Pennsylvanian Assembly was not willing to change its defensive policy to an offensive one, so the Indian attacks continued unchecked (Hunter 1960: 213). The conflict with the Indians was the only reason the Pennsylvania people became involved in the war (Hunter 1960: 213). When the British troops reappeared in the area in 1758, the settlers were more than willing to hand over the military leadership to the British because they wanted the war to end and the financial burden of supplying and paying the military lifted (Hunter 1960: 547; Waddell and Bomberger 1996: 15).

Figure 3. Indian Paths in Pennsylvania (Stotz 1985: 22)
Fort Hunter was a provincial private fort located near the Susquehanna River, in present-day Rockville in Dauphin County and was originally owned by Samuel Hunter (Hunter 1960: 350). As noted earlier, private forts are forts that are located in close proximity to residences and other private holdings, but are commissioned and garrisoned by the government or the British because the location is strategically valuable (Waddell and Bomberger 1996: 76). At one point this was Samuel Hunter’s gristmill, and it was encircled by stockades by January 1st 1756 and garrisoned by provincials from May 1756 to late 1758 (Waddell and Bomberger 1996: 76-77). Fort Hunter was linked with Fort Augusta as a supporting outpost along the Susquehanna, ferrying supplies to Fort Augusta and storing supplies in general (Waddell and Bomberger 1996: 25; Carr, et al. 2007: 45; Hunter 1960: 354). The location along the river was particularly important since the garrison used boats to ship the supplies to Fort Hunter several times a month instead of using wagons and going by land (Carr, et. al. 2007: 45). This is particularly pertinent since the paths used in this area were traditional Indian paths, as seen in Figure 3 (Waddell and Bomberger 1996: 5, 17). These paths were not only used by the Indians and settlers, but also by the French and the British (Waddell and Bomberger 1996: 5). The hazards associated these paths due to Indian attack included ambush caused by continual tribal warfare, tense relations with the settlers, and the French and Indian War (Waddell and Bomberger 1996:11). Military campaigns were especially susceptible to attack. Their heavy, slow moving wagons carrying cannons and supplies frequently became stuck in the mud, making these travelers easy targets for Indian ambushes (Waddell and Bomberger 1996: 11). While land travel was not the only way to move the supplies, the boat transport of supplies to Augusta was possible and avoided the problems associated with the paths.
Fort Hunter was garrisoned by the Augusta Regiment until July 1757. From July 1757 to 1758, when the British took over, the First Battalion under the command of Colonel Weiser of the Pennsylvania Regiment garrisoned the fort. (Hunter 1960: 303). The fort was manned with between 30 to 50 men, including officers, throughout the French and Indian War (Hunter 1960: 352 and 355). Many of the families abandoned their plantations, including the prominent and outspoken John Harris and his family, to move close to Fort Hunter for protection from the Indians (Hunter 1960: 352). The area in eastern Pennsylvania north of the Blue Mountains was initially planned to be a base by the Indians for settler intimidation (Waddell and Bomberger 1996: 25). The establishment of this line of defensive forts, especially Fort Hunter, resulted in fewer raids in Berks, Lancaster, and Northampton counties (Waddell and Bomberger 1996: 25). When the British threatened to
close down Fort Hunter as a result of a conversation between General Lord Loudon, Governor Deny, Clapham, Weiser, and Armstrong, the nearby settlers were so vocal that the fort remained operational and was garrisoned with 50 men (Hunter 1960: 488-489). Ultimately, this defensive fort line was not part of the British offensive plan, but some of the forts, like Fort Hunter, were kept due to their strategic positions and outspoken settlers (Hunter 1960: 545).

**Indians Interactions in the French and Indian War:**

Relations between the Indians and the Pennsylvania colonists ranged from peaceful to belligerent. The Quaker Friendly Association facilitated peaceful relations with the Indians for a time, helping settle land disputes and attending treaty conferences with the Indians (Waddell and Bomberger 1996: 27). The British colonists and military tried to maintain Indians as allies in the war and keep peaceful relations. A good example of how serious the government was about respecting the Indians is seen through an incident that occurred at Fort Hunter. A young Mohawk warrior, allied with the British, was beaten upon entrance to the fort by a sentry and pelted with “snowballs and a pis-pot” when he left. His purpose for going to the fort, according to Lieutenant Colonel Andrew Rollo of the 22nd Foot, was to pay a compliment to the commandant (Brumwell 2002:167). Later the same young warrior was attacked again when he tried to prevent two soldiers from Fort Hunter entering the 'Indian Fort' (Brumwell 2002:167). Without hearing the soldiers’ accounts of the events, Major General Abercromby temporarily replaced the entire garrison, and Sir William Johnson was asked, “to assure the injured parties that they would have all manner of satisfaction” (Brumwell 2002: 167). Abercromby then sent out the message to all the
British posts “to treat our Indians Civilly and to give them provisions to carry them home upon returning from hunting and scouting (Brumwell 2002: 168).”

To describe the relationship between the Indians and the British and Pennsylvanian militaries is one of curiosity and distance. Fraternization between Indians and soldiers was discouraged to keep good relations because both the soldiers and Indians liked to drink which sometimes led to fights (Brumwell 2002: 167). The British soldiers were quite interested in the Indians. For example, the courts accepted John Stephens’ of the 48th Foot admission that he had sneaked away to watch the Indians dance as a convincing alibi, resulting in his acquittal on a robbery charge (Brumwell 2002: 166). While sober relations with the Indian allies were mostly peaceful, drunken relations with the Indian allies along with the French Indian ally relations were not always so.

Both the French and the British courted the Indians with gifts to elicit their help in the war (Brumwell 2002: 165). After the British won the French and Indian War, they stopped giving lavish gifts to the Indians because they were no longer competing for their allegiance with the French. This resulted in tense relations with the Indians due to the Indians’ interest in acquiring European goods (Waddell and Bomberger 1996: 52). Before the conclusion of the war, some of the Indians along the defensive fort line were amicable to the line’s establishment. The establishment of the forts meant that trading centers would be established, and the Indians would gain access to European goods. Some even wished that the forts would be established on the west branch of the Susquehanna River as well (Waddell and Bomberger 1996: 25).
Some quarrelsome Indian groups utilized guerrilla and encircling tactics capitalizing on the surprise element in attacks on settlers and soldiers as prompted by the French (Hunter 1960: 211; Brumwell 2002: 194). The Indians avoided attacking troops and forts, instead targeting defenseless settlers (Hunter 1960: 211; Waddell and Bomberger 1996: 16). The Indians did not fight according to the European ‘code of war’ which called for pains to be taken not to hurt civilians/non-combatants, especially women and children (Brumwell 2002: 181, 186). The British reaction to the Indian tactics and targets resulted in less attention being paid to this code, as seen in their taking less care in who they killed (Brumwell 2002: 186).

The Life of a Soldier:

Initially Pennsylvania was protected by a Pennsylvanian militia from the end of 1755 to 1758 when the British took over (Hunter 1960: 303). Until 1755, Pennsylvania never had had an army nor any substitute such as paid emergency troops or local service (Hunter 1960: 194). In the spring of 1756, the first Pennsylvania militia was comprised of untrained and undisciplined country groupings whose efficiency and size varied (Hunter 1960: 201). This militia was created by the 1st Militia Act on November 25, 1755 and was completely inadequate for the protection of the Pennsylvania frontier. This same law allowed for regularly enlisted paid troops, who served short enlistments, to exist for the purpose of constructing forts (Hunter 1960: 194).
Soldiers were allowed to pick their officers and lacked regulations, which resulted in disciplinary problems (Hunter 1960: 196). This was seen in their unwillingness to serve far from home, especially if they thought their own communities were in danger (Hunter 1960: 194). The authority to implement disciplinary measures was not secured until April 15, 1756; however, this law did not prevent lapses in discipline from occurring (Hunter 1960: 196). Irregular payments contributed to poor discipline as well. At Fort Augusta, the soldiers were not paid between June 1758 to November 1759 (Hunter 1960: 198). When the British took over in 1758, they were responsible for paying, clothing, and providing food and ammunition for the troops. The British paid the soldiers more regularly than the Pennsylvania government (Hunter 1960: 198-199).

Even with more regular payment, the soldiers were not well-paid, led hard lives, and typically did not want to serve for extended periods. The first Pennsylvanian troops did not have uniforms because they were too expensive for the soldiers to buy themselves (Hunter 1960: 199). A soldier’s pay was 6 dollars per month (Hunter 1960: 195). Indian dress, in contrast to strict uniforms, which were colorful and not practical for the Pennsylvania environment, was suggested and well liked by the soldiers (Hunter 1960: 199). Additively, many of the men did not want to reenlist at the end of their service, resulting in a shortage of soldiers. This led to the formation of companies that served three months at a time to allow for more time to build up the troops, as seen at Fort Augusta in the spring of 1757 (Hunter 1960: 200, 203-204).
When the British took command, discipline was enforced and enlistments extended up to five years through the passing of the Recruitment Acts of 1756 and 1757 (Brumwell 2002: 63, 101). However, with this new leadership, the health problem, that had previously plagued the troops, was still present. These “crippling levels of sickness” can be seen in the following example (Brumwell 2002: 150): of the “18,285 effective rank and file contained 21 battalions and 7 independent companies of regulars on the continent in the autumn of 1757, no less than 3,964 were listed as sick” (Brumwell 2002: 157). The number of sick soldiers was approximately 16% of the entire force. However, some battalions were plagued more than others: out of the 777 ‘effective’ soldiers in Webb’s 48th Foot, 424 or 55% were on the sick list (Brumwell 2002: 157). While typhus and dysentery were present due to overcrowding, scurvy was the main reason the troops were sick (Brumwell 2002: 157). Scurvy is caused by a deficiency of fresh meats, fruits, and vegetables, and specifically a deficiency in ascorbic acid, which is more commonly known as vitamin C (Sampson 2006).

**Diet of a Soldier:**

![Figure 5. Pennsylvania Military Rations List per Soldier per Week (Hunter 1960: 194)](image)

The Pennsylvanian ration for each man per week was 3 lbs of Beef, 3 lbs of Pork, 1 lb of fish, and 10.5 lbs of bread or meal, totaling 17.5 lbs per week and one gill, four ounces, of rum per day half distributed in the morning and half in the evening, as seen in Figure 5.
(Hunter 1960: 195). If fish, pork, or both could not be supplied, beef was supplied in replacement (Hunter 1960: 195). The provisions inventory of Fort Hunter, when it was handed over from Capitan Thomas McKee to Captain Nathaniel Mile of Clapham’s regiment, indicated that these meat provisions were typically dried, because no specific meat cuts are mentioned. This provisions list included 279 lbs of dry beef accounted for that morning as well as more than 50 lbs of dry beef, and more than 500 lb of flour, as seen in Figure 6 (Hunter 1960: 354). The British recorded a basic diet of salted pork and hard bread (Brumwell 2002: 151). General Braddock’s expedition ate “‘Indian corn or mouldy Bisket’ with ‘rusty Salt Pork, or Beef’ (Brumwell 2002: 151). Later in 1758, the food for the Forbes expedition deemed “the pork to be ‘extreme bad’; indeed, ‘some was entirely rotten & Stunk’ while much of the flour consisted of meal, and some was not even worthy of that description” (Brumwell 2002: 151).
As seen by these accounts and provisions lists, vegetables were completely absent from the troops' diet resulting in scurvy. The military personnel knew that there was a link between their health problems and their diet, and the soldiers “took considerable risks to supplement” including the robbery of sheep, birds, roots and the raiding of gardens and orchards during the night (Brumwell 2002: 151-152). The British army tried to supplement their soldiers’ diet by brewing and distributing ‘spruce beer,’ which was thought to combat scurvy (Brumwell 2002: 152). The army tried to supplement their soldiers’ diets because often it was “impossible to obtain fresh provisions or vegetables (Brumwell 2002: 153).” Towards the end of the 1750s, the army bartered for milk, eggs, alcohol, and other goods using birds and fish the soldiers had caught in their free time (Brumwell 2002: 153). From 1759 on, the army increasingly relied on Indians to supply them with venison and corn and by the end of the war, isolated outposts were growing crops (Brumwell 2002: 153-154). The fact that the men who could grow the crops were allowed to save much of their pay showed how valued vegetables were and how serious a problem scurvy was (Brumwell 2002: 154). They supplemented their diet by hunting, pillaging, trading, or farming.
The Site:

Figure 7. Topographical Map of the Area Where Fort Hunter Might Have Been Located (Carr, et. al. 2007: Supplement)

The site, designated 36Da159, is located in the current County of Dauphin near Rockville slightly south of the junction of Fishing Creek and the Susquehanna River, as seen in Figure 7 (Carr, et. al. 2007:47; Waddell and Bomberger 1996: 77). The Commonwealth Archaeology Program (CAP) excavations at what is now the Fort Hunter Mansion and Park were undertaken by a team of researchers from the State Museum of Pennsylvania. Since 2006, excavations have yielded hundreds of 18th century artifacts, including a cannon ball, buttons, cufflinks, buckles, musket balls of different calibers, lead straps, many nails with tapered stems and multifaceted heads, French and English gun flints of both musket and
pistol types, kaolin pipe stems, window glass, bottle fragments, ceramics including multiples types of earthenware as seen in Table 1, and multiple features including a bake oven (Carr, et. al. 2007: 43, 51).

**Table 1. Types of Ceramic and the Dates Made and Used.** (Carr, et. al. 2007: 43, 51)

<table>
<thead>
<tr>
<th>Type of Ceramic</th>
<th>Dates Made and Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>combed slipware</td>
<td>1670-1770</td>
</tr>
<tr>
<td>Staffordshire ware</td>
<td>1675-1775</td>
</tr>
<tr>
<td>Whieldon ware</td>
<td>1740-1770</td>
</tr>
<tr>
<td>molded white salt-glaze</td>
<td>1730-1775</td>
</tr>
<tr>
<td>“scratch blue” white salt-glaze stoneware</td>
<td>1744-1775</td>
</tr>
<tr>
<td>tin-glazed earthenware</td>
<td>1600-1750</td>
</tr>
<tr>
<td>Jackfield earthenware</td>
<td>1740-1780</td>
</tr>
<tr>
<td>salt-glazed stoneware</td>
<td>18th Century</td>
</tr>
<tr>
<td>creamware</td>
<td>1762-1820</td>
</tr>
<tr>
<td>hand-painted creamware</td>
<td>1762-1820</td>
</tr>
<tr>
<td>transfer-printed pearlware</td>
<td>1795-1840</td>
</tr>
<tr>
<td>shell edged pearlware</td>
<td>1780-1830</td>
</tr>
</tbody>
</table>

This site is currently understood to be a 19th century and early 20th century manor and agricultural complex (Carr, et. al. 2007: 43). The main goal of these archaeological excavations was to find the remnants of the French and Indian War period fort, Fort Hunter (Carr, et. al. 2007: 43). The fort is thought to have been composed of a blockhouse, defensive ditch, and most likely officer’s quarters (Carr, et. al. 2007: 46). An earlier excavation was conducted in 1964 by Campbell and Ditchburn. This investigation was limited to the west side of the house (Carr, et. al. 2007: 46-47). Carl Dickenson, the site director, tried to ascertain the size, shape, and the percent of the fort construction through research, which yielded inconclusive results (Carr, et. al. 2007: 47).
The site was used for military purposes prior to and during the French and Indian War and again later in 1763 during Pontiac’s Rebellion (Carr, et al. 2007:46). Before the French and Indian War, Samuel Hunter’s family and a generation or two of ancestors preceding him lived on the property. After the military occupation, a stone house, still standing today, was built by Colonel McAllister in two stages (Carr, et al. 2007:46). In 1786, the center of the house was built, and in 1814 a large Federal style front was added. An Italianate overlay and a wooden kitchen were added to the back in 1870. The farm and the house were occupied until 1933 when the house was transformed into a museum. In
1980, the property was given to Dauphin County to be used as a museum and a park. This property is now listed on the National Register of Historic Places (Carr, et. al. 2007:46).

The fort is believed to be located in the general vicinity of the house; however, this claim has yet to be definitively verified. The construction of the house’s basement is believed to have obliterated the blockhouse, but archaeologists are hopeful that a defensive ditch and stockade still exist archaeologically as features in the nearby vicinity. Remote sensing techniques such as ground penetrating radar and a magnetometer were used on the acre-sized area extending from Fishing Creek to the current parking lot (Carr, et. al. 2007:47). Historical documentation places Fort Hunter on Samuel Hunter’s property, just not the precise location on the property.

Additionally, the size and shape of the fortifications are unknown (Carr, et. al. 2007:47). The fort is assumed to have been square in shape since both Fort Augusta and Fort Halifax, two forts along the Susquehanna River that Fort Hunter supplied, were both square (Carr, et. al. 2007:48). It is also assumed that the blockhouse was close to the existing house structure and that the defensive ditch and potential stockade encircled the house and the still to be located gristmill at an unknown distance (Carr, et. al. 2007: 48).

Two trenches of note have been dug. The first trench investigated the anomalies detected using the remote sensing techniques and found a sewer pipe (Carr, et. al. 2007: 49). The second trench was dug parallel to Fishing Creek in the northeast section of the back yard because of the “commanding view of the Susquehanna River” (Carr, et. al. 2007:
This trench yielded multiple features including 2-06, the focus of this thesis, as well as a large volume of 19th century artifacts (Carr, et. al. 2007:47). This trench was first enlarged to a 15 by 20 foot block excavation, and later expanded, yielding many 18th century artifacts including possible military pieces (Carr, et. al. 2007: 48). The artifacts found are primarily domestic in nature, indicating that the most activity at this site was during the McAllister family occupation, dating to the late 18th century to the early 19th century, after the French and Indian War (Carr, et. al. 2007: 54).

![Figure 9. A Photograph of Features 6-07 and 7-07 (Carr, et. al. 2007: Supplement)](image)

The two features mentioned in Carr, et. al. (2007), as seen in Figure 9, along with a partially excavated well from the 2010 excavation season, dominate the excavated portion’s landscape. The well feature’s artifacts have yet to be washed and cleaned;
however, the findings from Feature 6-07 and Feature 7-07 were published in 2007. These features are discussed to contextualize the excavations of Feature 2-06. Feature 6-07 is three feet wide by eight feet long and eighteen inches deep and contained a few pieces of creamware, slip-decorated redware, relatively large bone fragments, large pieces of charcoal, and a plethora of hand forged nails. The nails were vertical in the ground as if they had been nailed into a baseboard at the bottom of the feature. Carr, et. al. speculates that this feature was used for food storage (2007: 52). The color of the soil of Feature 6-07 is lighter than the older features, as dated by the ceramics to the late 18th and early 19th century. This feature dating to the post-fort McAllister occupation, late 18th to early 19th century, is believed to have been opened before the debris accumulation and backfilled quickly, resulting in the lighter dirt mixed with the ceramic fragments (Carr, et. al. 2007: 53).

Feature 7-07 is next to Feature 6-07 and is sub-rectangular, 4.5 feet square and 24 inches deep, easily seen in Figure 11 (Carr, et. al. 2007: 53). This feature contained charcoal, many bone fragments and small ceramic shell sherds, window glass, and case bottle fragments along with an exemplary example of a slip-decorated dish (Carr, et. al. 2007: 53). It is speculated that this feature was a refuse pit, root cellar, or the beginning of a privy (Carr, et. al. 2007: 53). It is not known if this feature is contemporaneous with Feature 2-06, and the stratification is not clear hindering stratigraphic comparison.
Feature 2-06:

![Feature 10. An Ariel View of Feature 2-06 Before It Was Excavated (Carr, et. al. 2007: Supplement)](image)

Feature 2-06, as seen in Figure 10, is located in the oldest section of the mansion, which dates to the 1780s, several decades after the French and Indian War. Feature 2-06 is in the vicinity of features 6-07 and 7-07. The identities of these features were previously speculated.
Feature 2-06 is located near the hypothesized blockhouse, most likely built by the soldiers during their occupation. It was probably destroyed due to its presumed proximity to the later construction of the mansion (Carr, et. al. 2007: 47). Feature 2-06, as seen in Figure 12, contained several post holes, had multiple strata, and was initially identified by an irregularly shaped charcoal stain, interpreted by the excavators as a square
approximately 8 feet long by 8 feet wide (Carr, et. al. 2007:53). This feature contained hand wrought nails and large amounts of burned and unburned bone (Carr, et. al. 2007:53). The faunal assemblage from Feature 2-06 consists of approximately of 3,000 bone fragments.

Figure 12. Mortar Layer of Feature 2-06 (Carr, et. al. 2007: Supplement)

Stratum 2, which is the context that contained these faunal remains, is composed of a layer of ash, mortar, and reddened soil consecutively from latest to earliest deposition, as seen in Figures 12 and 13 (Carr, et. al. 2007:53). Carr, et. al. speculates that this feature might have been a bake oven at one point due to the layer of mortar and reddened soil; however, the function of this feature is in part the subject of this thesis (2007: 53). Postholes bordering in this area may have supported a roof at one point (Carr, et. al. 2007: 53). All soil excavated from this feature was passed through 0.25 inch hardware screen.
Figure 12. Fire Reddened Area Beneath Mortar Area of Feature 2-06. The black upper strata is burned (Carr, et. al. 2007: Supplement)

Figure 13. Cross Section of Feature 2-06 Depicting the Fire Reddened Area Below the Mortar. The pole to the right is a modern utility pole. (Carr, et. al. 2007:)
Discussion:

While a great deal is known about the French and Indian War and Fort Hunter in general, there are a few issues that remain unresolved since the investigations at Fort Hunter are active and ongoing. First, the exact location of Fort Hunter has not been firmly established; however, archaeologists of the State Museum of Pennsylvania believe that the fort is near the mansion. Unfortunately, the only structure that can be confirmed as being built was the blockhouse (Carr, et. al. 2007: 43). However, the postholes encircling feature 2-06 might have held up a roof (Carr, et. al. 2007: 53).

Second, Feature 2-06 cannot be dated due to lack of narrowly dateable evidence like ceramic fragments. A few nails dating to the mid-eighteenth century were found in the feature itself, but no other artifacts were unearthed to more narrowly date the feature, which is needed to definitively link Feature 2-06 with the French and Indian War occupation at Fort Hunter (Carr, et. al. 2007:53). The function of this feature is somewhat unclear, although the presence of reddened soil and mortar could suggest the presence of a bake oven and the bone deposit will be discussed later (Carr, et. al. 2007: 53).

Finally, the site was occupied prior to and after the French and Indian War. Before the war, this area was the site of Samuel Hunter's gristmill. Soon after the French and Indian War, Fort Hunter was used for the same defensive purposes during Pontiac's War (Hunter 1960: 305). The house on the premises is speculated to have been built into a mansion via renovation, so it was most likely occupied prior to, during, and after the war.
The physical location of Fort Hunter along with the political and economic climate during the time of the French and Indian War in Pennsylvania most likely shaped the diet and choices of the military personnel. The interactions with the local colonists, Indians, the Pennsylvania government, and the British military most likely shaped the use of the site and the lives of the men garrisoned there. Analyses such as this faunal analysis will hopefully explain the features already found and using other fort layouts for comparison, help guide the archaeologists to the exact location of Fort Hunter.
Chapter III: Methods

Any analysis of faunal remains begins with bone sorting, identification, sexing, aging, and measuring (Klein & Cruz-Uribe 1984:11). Following the completion of these analyses, zooarchaeologists attempt to determine the number of identified specimens (NISP) and minimum number of individuals (MNI) (Klein & Cruz-Uribe 1984:24-26). This thesis employed methods designed to determine the species of the fauna, age at death, presence or absence of modifications, including butcher cut marks and spiral fractures, and Minimum Number of Individuals (MNI).

Bone sorting is the first crucial step in faunal analysis. For this thesis, the faunal assemblage was first determined to be in one of two categories, identifiable and unidentifiable, and then if possible categorized by the approximate size of the animal. What is deemed “unidentifiable” varies with analyst experience level and the level of fragmentation (Klein & Cruz-Uribe 1984:19). For example, ribs, vertebrae, and epiphyseal fragments are sometimes categorized as unidentifiable depending on the experience level of the analyst (Klein & Cruz-Uribe 1984:18). Dr. Teagan Schweitzer of the Department of Anthropology at the University of Pennsylvania, suggested that if there was any doubt of the identification, the fragment should be classified at unidentifiable (Personal Communication, January 2011). In this analysis, the unidentifiable fragments were not ignored, but rather counted and analyzed using, when possible, the same protocol as the identified bones. Any alterations to the unidentified bones including rodent bite marks and butcher marks were documented along with the presence of mineralization or exposure to
fire. When possible, the approximate size of the animal was documented by categorizing
the individual as, large, medium, or small quadruped or small animal by the examination of
bone thickness, which is directly correlated to the size of the animal. This method is not
exact, but it does give a general estimate of the size of the animals present at Fort Hunter.
Small animals are most likely wild animals while large or medium sized animals at these
sites are usually domesticated animals.

Books and photos were used to classify identifiable bones. If the distinguishing
features were still intact, the bone was determined to be identifiable. First, the type of bone
was assessed, then the species was determined, and finally the left or right side of the
animal from which the bone originated was established. When the species could not be
identified, and the fragment was simply classified by the name of the bone, if the specific
bone was identifiable. Species identification can be problematic since some species, such as
many artiodactyls, resemble each other closely (Bowen 1975:16). It is also difficult to
determine species based on particular parts of the skeleton such as the ribs, sesamoids, and
vertebrae (Klein & Cruz-Uribe 1984:18). The bones were identified, one by one, as they
were pulled out of their container, but if there were multiple bones of the same type, they
were analyzed one after the other (Klein & Cruz-Uribe 1984:21).

I was asked to analyze and identify all fragments, although many professional
zooarchaeologists typically focus their analyses on samples of complete assemblages
(Personal Communication with Dr. Teagan Schweitzer 2011). The entire collection consists
of approximately 3,000 bone fragments distributed in 3 storage boxes. However, the time
allotted for this analysis was not sufficient to identify all of the bones in Feature 2-06. This study focuses on an analysis of the bones in 2 of the 3 boxes. This thesis analyzes a total of 849 bones or approximately 29% of the entire collection.

Anatomy books of domestic animals, like Sisson and Grossman’s 1957 *The Anatomy of the Domestic Animals*, Vol. 1 and 2, were used to identify the species and age at the time of death of the faunal remains. These books provide written descriptions of all of the bones and sketches of some of the bones of different species including horse, cow, pig, and sheep. These books contain tables of age at epiphyseal fusions for different bones. The significance of epiphyseal fusions will be discussed later. The *Atlas of Animal Bones* by Elisabeth Schmid 1972 and *Mammal Bone and Teeth: An Introductory Guide to Methods and Identification* by Simon Hillson 1992 were also used to identify the species of the bones. These books had detailed drawings of different angles and identifiable features of the bone from different species and Schmid’s had sizing rulers alongside the drawings. (Please see Comparative Faunal Remains Bibliography for full listing of sources used.)

Although these reference texts were extremely valuable for this analysis, there were some limitations associated with their use. The Sisson and Grossman (1957) books were not specifically written as analytical tools and the inadequate descriptions of the different bones made it difficult to differentiate among some species. In particular, sizing was not mentioned in these books. The Schmid (1972) and Hillson (1992) books were meant for this purpose, and the Schmid book did quantify sizing; however, there is no substitute for an actual skeletal collection. Ideally a complete comparative skeletal collection would be
provided, increasing the accuracy of these identifications. Other limitations, in this study, include what the analyst expects or assumes (Klein & Cruz-Urîbe 1984:19) and my limited experience.

In addition to using classic faunal identification texts, I compared the Fort Hunter assemblage to a partial skeletal collection I amassed. The comparative collection I created included deer, pig, duck, turkey, and cow bones. A full skeleton was not obtained for any of these animals. Photographs were taken of the skeletal collections of the Department of Biology at Franklin and Marshall College, and Dr. Teagan Schweitzer of the Department of Anthropology at the University of Pennsylvania for comparison.

For all bone fragments, the number and type of marks and burns were counted and assessed. The type of marks observed and assessed were saw, chop, and rodent bite marks. Saw marks are defined as straight marks that show multiple strokes of the blade over the same area while chop marks are defined as one clean strike to the bone leaving only one indentation. To determine whether the marks on the bones were consistent with butchering marks, Lyman’s article (1977) entitled “Analysis of Historic Faunal Remains” was consulted. Rodent bite marks leave specific indentations. Maribel Perez, who does faunal analysis in South America, showed me examples of each kind of mark on the faunal remains from Fort Hunter.

The type of burned bone categories ranged from green bone to white and blue calcined bone. Green bone is bone that was burned after being defleshed. Dry bone is bone
that all of the organic parts, like the muscle and marrow, have decomposed without other processes facilitating the decomposition (Barbian and Magennis 1994: 8). Calcine bone typically has vertical and deep longitudinal fractures, no warping, and was dry when it was burned (Barbian and Magennis 1994: 8). Partial coloring is indicative of the presence of flesh on the bone at the time of incineration; however, this can also occur due to dismemberment prior to burning (Barbian and Magennis 1994: 9).

The presence or absence of spiral fractures, also known as a torsion fracture, which are indicative of the bone having been twisted apart, was noted for long bones. The data were put into a spreadsheet according to the State Museum of Pennsylvania’s specifications. State, county, site #, catalog #, artifact code, specimen #, species were recorded as well as additional information such as the notes about number of bones, type of marks, fractures, siding, etc.

The determination of sex depends on differing skeletal morphology between the sexes of the same species, the number of bones in the body, which varies by species, and size. However, the skeletal parts needed for this kind of identification are rarely available because the portions needed for sexing are usually fragile and are subject to early decomposition or breakage, such as the pelvic and cranial bones (Klein & Cruz-UrIBE 1984:39). Sexing was not performed in this analysis due to my inexperience and the level of bone preservation.
The determination of age is an estimate derived using the fusion of epiphyses and dental criteria (Klein & Cruz-Uribe 1984:41). The epiphyses are typically found at the proximal and distal ends of bones; they are unfused in younger individuals and fused in older individuals (Klein & Cruz-Uribe 1984:41-43). Epiphyses fuse at different chronological ages for different bones in different species (Klein & Cruz-Uribe 1984:43). The estimated ages change with diet, climatic conditions, and breeds (Bowen 1975: 18). The breeds of the animals documented may not be the same as the breeds discovered at the site. There are several problems associated with using epiphyseal fusion as a method of aging. First, we do not have epiphyseal fusion data for wild animals. Second, we do have, the oldest age class is very large and ranges from adults to elderly individuals. Epiphyses are easily removed and degraded, especially when unfused, which generates a predisposition to assign a younger age to the data (Klein & Cruz-Uribe 1984:43).

Another form of age analysis is the examination of wear on teeth, tooth eruption, and the tooth’s “annuli”, which are akin to a growth ring of a tree (Klein & Cruz-Uribe 1984:44). This type of analysis circumvents the problems found in epiphyseal fusions; however, looking at the “annuli” is difficult and requires time, expertise, and equipment (Klein & Cruz-Uribe 1984:45). Due to the absence of dental remains in the Fort Hunter assemblage, this analysis was not performed.

The MNI and the number of identified specimens (NISP) are utilized to examine taxonomic abundance. MNI, measuring the relative abundance of each species, is defined as the smallest number of individuals of a single species that can account for all the bones of
that species present in the faunal collection (Crabtree 1988:76-77). This is not to be confused with the number of species present, which shows the diversity of species present at the site (Crabtree 1988:76). Due to the small sample size, MNI was determined by utilizing both the methods of White (1953) and that of Bokonyl (1970). White's method is to determine the number of left and right-paired elements for each species, while Bokonyl's method was to determine the minimum number of individuals on the basis of size and age. The Bokonyl's method is time consuming and typically not utilized for faunal assemblages (Jolley 1983:65). Size was not used in the calculation since determination of species by relative size was already a source of contention. Instead, relative age and side pairings were used to determine MNI. Typically, using age is seen as a good tool, but too time consuming; however, using age to determine MNI was deemed appropriate for this faunal analysis.

NISP was used cautiously in this analysis. While NISP is easily calculated and is additive, NISP has serious flaws. NISP does not take into account that different species have different numbers of bones resulting in overestimation or underestimation of different species (Klein & Cruz-Uribe 1984:25). These tend to overemphasize the different species that arrive at the site intact versus the species already dismembered, resulting in the over-representation of smaller species (Klein & Cruz-Uribe 1984:25). Finally NISP is altered by fragmentation, resulting in distorted assemblage data (Klein & Cruz-Uribe 1984:25). NISP is only useful when used in conjunction with MNI to determine whether the bones are highly fragmented or whether a wide variety of skeletal elements are represented (Klein & Cruz-Uribe 1984:25). It was determined for this study that NISP was not a useful
diagnostic tool, except for giving an idea of the general quantities of the bones found in the feature.

Biomass analysis was not performed due to the small MNI that were identified. Biomass analysis is an estimate of the weight of meat derived from whole animals or for the specific individuals in the archaeological population (Reitz & Wing 2008:237). In archaeology, this is used to estimate the amount of meat that is derived from archaeological material, negating the need to consider the entire animal or carcass (Reitz & Wing 2008:237). Most of the meat portion of the soldiers’ ration was dried beef, dried pork, or fish; the animals were killed elsewhere. The faunal remains found at Fort Hunter would only indicate how much the soldiers were able to supplement their diets within the restrictions imposed upon them by the military and the environment. To assess how similar Fort Hunter was to other British forts of its size and purpose, provisions receipts and faunal analyses of other forts were examined and compared to help determine if Fort Hunter was differently provisioned. For the forts that were not similar in size or purpose, the size difference and personnel differences were noted.

The identification of approximate size, bone, saw and cut marks, spiral fractures, species, and MNI were the main methods utilized to analyze this faunal assemblage. The identification of species was accomplished by the use of literary sources and a small comparative skeletal collection amassed by myself. The data from these analyses are tabulated in Chapter IV and in Appendix I.
Chapter IV: Results

All of the data collected is from Figure 2-06. The different size classes used in this analysis are large quadruped, medium quadruped, small quadruped, and small animal. Large quadruped is defined as horse and cow. Medium quadruped is defined as deer, sheep, and pig. Small quadruped is defined as any other small quadruped approximately the size of a raccoon, fox, opossum, etc. The size category of small animal is defined as any small animal that is not a quadruped. The small animal size class includes fish, turtles, and birds. For each of these size classes, the data compiled reflects the total number of bone fragments within that class, including those identified as specific animals. The animals and species identified in this analysis are cow (*Bos taurus*), horse (*Equus caballus*), sheep (*Ovis aries*), pig (*Sus scrofa*), deer, turtle, and fish. The species of fish, turtle, and deer were not determined.

The identified animals bones were categorized by what portion of the body they came from: anterior, median, posterior, and ventral. The percentages were calculated within species. Anterior is defined as being from the scapula/front leg forward. Posterior is defined as being from the pelvis back, and median is defined as the portion in between the anterior and posterior. Ventral is defined as the feet. The addition of the ventral category was used because it is difficult to differentiate the back feet from the front feet, and these are either eaten as units, like pigs feet (Lyman 1977: 69), or discarded completely.
Table 2. Tabulated Numbers and Percentages of Number of Fragments, Percent of Assemblage, MNI, and Age. The data presented in this table were derived from Appendix I. The percentages were calculated using the total number of bone fragments analyzed, 849.

<table>
<thead>
<tr>
<th>Fragment Types</th>
<th>No. of Fragments</th>
<th>Percent of Assemblage</th>
<th>MNI</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Quadruped</td>
<td>176</td>
<td>20.73%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Medium Quadruped</td>
<td>208</td>
<td>24.50%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Small Quadruped</td>
<td>120</td>
<td>14.13%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Small Animal</td>
<td>10</td>
<td>1.18%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Unidentified Fragments</td>
<td>335</td>
<td>39.47%</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Cow (*Bos taurus*)
- 33 fragments
- 3.89%
- MNI: 2
- Age: 2-3 years; less than 2 years

Horse (*Equus caballus*)
- 7 fragments
- 0.82%
- MNI: 1
- Age: 27 months - 3 years

Sheep (*Ovis aries*)
- 7 fragments
- 0.82%
- MNI: 1
- Age: older than 4 months

Pig (*Sus scrofa*)
- 6 fragments
- 0.71%
- MNI: 1
- Age: older than 1 year

Deer
- 6 fragments
- 0.71%
- MNI: 1
- Age: -

Turtle
- 3 fragments
- 0.35%
- MNI: 1
- Age: -

Fish
- 1 fragment
- 0.12%
- MNI: 1
- Age: -

As seen in Table 2, the medium quadruped bone fragments are the most prevalent in the analyzed portion of the assemblage at 24.5% followed closely by large quadrupeds at 20.73%. Small quadrupeds provided the next most numerous type of bone fragment calculated at 14.13% of the analyzed portion of the assemblage. The small animal bone fragments made up a small portion with only 1.18% of the total assemblage analyzed. The total unidentified fragments of the sample of analyzed assemblage was 39.47%.

Table 2 shows that the cow bone fragments are the most prevalent in the portion of the analyzed assemblage at 3.89%, which is 4.7 times greater than the horse and sheep and 5.5 times greater than the pig and deer. The second and third most prevalent species found in the analyzed portion of the assemblage are horse and sheep, which tied for second at 0.82% and deer and pig tied for third at 0.71%. The least prevalent animals in the analyzed...
portion of the assemblage, due to the least amount of bones represented in the assemblage, were fish and turtle at 0.12% and 0.35% respectively.

The Minimum Number of Individuals (MNI) for each animal was calculated, as seen in Table 2, yielding at least one individual for all animals except cow. The MNI for cow was determined to be two. The methods implemented in this study for MNI allowed for the determination of two individuals because, although there were no redundancies with limb sides, there were differences in epiphyseal fusions. These differing epiphyseal fusion times allowed for the differentiation of two individuals. The cow and horse individuals are all less than three years of age. All of the MNI calculated specimens are older than four months.
Table 3. Tabulated Totals and Percentages of the Number of Different Saw and Chop Marks and Spiral Fractures on the Bone. The data presented in this table were derived from Appendix I. Spiral fractures were tabulated as presence or absence, since there was never more than one spiral fracture per bone fragment. The spiral fracture percentages were calculated using the total number of bone fragments analyzed, 849 fragments. The saw and chop mark percentages were calculated using the total number of chop and saw marks.

<table>
<thead>
<tr>
<th>Fragment Types</th>
<th>No. Saw Marks (%)</th>
<th>No. Chop Marks (%)</th>
<th>No. Spiral Fractures (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total of Sampled Assemblage</td>
<td>-</td>
<td>-</td>
<td>12 (1.41%)</td>
</tr>
<tr>
<td>Large Quadruped</td>
<td>16 (21.92%)</td>
<td>58 (22.75%)</td>
<td>7 (0.82%)</td>
</tr>
<tr>
<td>Medium Quadruped</td>
<td>27 (36.99%)</td>
<td>54 (21.18%)</td>
<td>1 (0.18%)</td>
</tr>
<tr>
<td>Small Quadruped</td>
<td>0</td>
<td>4 (1.57%)</td>
<td>0</td>
</tr>
<tr>
<td>Small Animal</td>
<td>1 (1.69%)</td>
<td>1 (0.39%)</td>
<td>0</td>
</tr>
<tr>
<td>Unidentified Fragments</td>
<td>29 (39.72%)</td>
<td>138 (54.12%)</td>
<td>4 (0.47%)</td>
</tr>
<tr>
<td>Cow (Bos taurus)</td>
<td>8 (10.96%)</td>
<td>9 (3.53%)</td>
<td>4 (0.47%)</td>
</tr>
<tr>
<td>Horse (Equus caballus)</td>
<td>0</td>
<td>6 (2.35%)</td>
<td>0</td>
</tr>
<tr>
<td>Sheep (Ovis aries)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pig (Sus scrofa)</td>
<td>2 (2.74%)</td>
<td>2 (0.78%)</td>
<td>1 (0.18%)</td>
</tr>
<tr>
<td>Deer</td>
<td>22 (30.14%)</td>
<td>18 (7.06%)</td>
<td>0</td>
</tr>
</tbody>
</table>

Before delving into the data from Table 3, a precautionary warning about the statistics. The calculations used here assume that each chop or saw mark is from a different bone, which is not always the case. Some of the bones had both chop and saw marks on them, but again this is not usually the case. This results in an overestimation of how much of the assemblage has the specific type of mark within a specific category. The unidentified fragments category includes all of the bone fragments that were put into size classes and those that were not, but not those that were identified as a specific animal. These statistics should be looked at generally to see if there are any overarching patterns in the sampled assemblage.
The large quadruped class and the cow had the most spiral fractures, as seen in Table 3. The only other defined animal to have a spiral fracture was the pig with one spiral fracture. The deer, sheep, and horse did not have spiral fractures. The fish and turtle were not included in this table because there were no marks of any kind on their fragments, including spiral fractures.

Table 3 shows that there are more than twice as many chop marks as there are saw marks. Deer had the most chop and saw marks individually and combined than any other identified animal. The identified animal with the second most chop and saw marks was the cow followed by the horse, pig, and sheep respectively. The sheep had no chop or saw marks. The majority of these marks are consistent with butcher patterns (Lyman 1977: 67-73). Those that are not consistent with butchering patterns are primarily defleshing chop marks.

As seen in Table 3, the large quadruped size category has only four more chop marks than the medium quadruped class category, and the medium quadruped class category has eleven more saw marks than the large quadruped class category. Overall, there were more medium quadruped class category bones with human-made marks than the large quadruped class category, by seven marks. Compared to the medium and large class sizes, there were very few marks on the bones for small quadrupeds (four chop marks) and small animals (one saw mark and on chop mark). The unidentified fragments saw mark count was 1.07 times that of the medium quadruped class category and the unidentified chop mark count was 2.38 times that of the large quadruped class category.
The overall percentage of bones with marks made by humans, including the unidentified fragments, was 38.64% of the analyzed portion of the assemblage.

### Table 4. Tabulated Total Numbers and Percentages of Blackened Burned Bone, Calcined Bone, and Rodent Bite Marks.
The data presented in this table were derived from Appendix I. The percentages were derived from the portion of the sample analyzed, 849 fragments.

<table>
<thead>
<tr>
<th></th>
<th>No. Blackened (%)</th>
<th>No. Calcined (%)</th>
<th>Rodent Bite Marks (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total No.</strong></td>
<td>28 (3.30%)</td>
<td>254 (29.92%)</td>
<td>113 (13.31%)</td>
</tr>
</tbody>
</table>

As seen in Table 4, the total percent of the analyzed assemblage that was in a fire was 33.22%, with calcined bone being 9.07 times more prevalent than the blackened burned bone. The rodent bite marks are present on 13.31% of the assemblage. This number might be a bit low due to my inexperience in identifying the rodent bite marks.

### Table 5. Tabulated Total Number and Percentages of Faunal Remains from the Anterior, Median, Ventral, and Posterior Portions of the Identified Animals.
The data presented in this table were derived from Appendix I. The percentages were calculated from the portion of the analyzed assemblage of 849 fragments.

<table>
<thead>
<tr>
<th>Fragment Types</th>
<th>No. from Anterior (%)</th>
<th>No. from Median (%)</th>
<th>No. from Posterior (%)</th>
<th>No. from Ventral (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cow (<em>Bos taurus</em>)</td>
<td>8 (24.24%)</td>
<td>2 (6.06%)</td>
<td>10 (30.30%)</td>
<td>13 (39.39%)</td>
</tr>
<tr>
<td>Horse (<em>Equus caballus</em>)</td>
<td>2 (28.57%)</td>
<td>0</td>
<td>2 (28.57%)</td>
<td>3 (42.86%)</td>
</tr>
<tr>
<td>Sheep (<em>Ovis aries</em>)</td>
<td>6 (75%)</td>
<td>0</td>
<td>0</td>
<td>2 (25%)</td>
</tr>
<tr>
<td>Pig (<em>Sus scrofa</em>)</td>
<td>6 (100%)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Deer</td>
<td>2 (33.33%)</td>
<td>0</td>
<td>1 (16.67%)</td>
<td>3 (50.00%)</td>
</tr>
</tbody>
</table>

The majority of the identified and categorized bone fragments are from the anterior, 53.33%, and the posterior, 21.67%, totaling 75%, as seen in table 5. This pattern is seen in
all the animals except for turtle and fish due to the small amount of identified fragments. In Table 5, only 3.33% of the fragments came from the median portion of the body. These fragments are from a cow. There are fragments from the ventral portion of all of the species except the pig, totaling 35% of the overall analyzed body portion. No bone fragments from the posterior of the sheep and pig were identified.

Overall, the majority of the identified animals from the analyzed sample were younger domestic animals with at least five individuals versus the three minimum number of wild animal individuals present. Of the domestic animals, the animal with the most MNI was cow. Of the identified fragments, large and medium quadrupeds dominated the analyzed sample of the assemblage. The chop and saw marks were predominantly seen on the large and medium quadruped class sizes, with the deer having the most of both mark categories of any identified animal. I tentatively state, due to the calculations, that a sizeable portion of the assemblage, 38.64%, has human made marks of some kind. Of the sample analyzed, 33.22% was exposed to flame and only 13.31% had rodent bite marks. The majority of the bone fragments found came from the anterior, posterior, and ventral portions of the identified animals.
Chapter V: Discussion

First, I will address the analysis of the previously presented data from the last chapter in context of the time period at Fort Hunter. The lives of the soldiers were hard ones with small salaries that were subject to periods of infrequent payment, unfamiliarity with the Indian guerrilla warfare tactics, and health issues such as rampant scurvy (Hunter 1960: 194, 195, 198; Brumwell 2002: 157). The second section will compare the faunal analysis of Fort Hunter to other British Forts from the French and Indian War to determine the extent to which the faunal assemblage at Fort Hunter is typical of what is known about other British Forts in the era of the French and Indian War.

Implications of the Data in the Context of Fort Hunter in Feature 2-06:

Overall the data showed mostly domesticated animals and a few wild animals. The animal remains found at Fort Hunter from Feature 2-06 are cow, horse, sheep, pig, deer, fish, and turtle. The cow, pig, and fish are all documented to be part of the proposed weekly ration for the British/Pennsylvanian soldiers (Hunter 1960:195). However, the meat has been documented as being dried and frequently the pork and fish portions of the rations were unavailable, so the equivalent amount of beef was substituted (Hunter 1960:195). Having live animals and butchering them onsite might require a smoke house to preserve them, which is not documented to be a part of Fort Hunter, nor has one been found thus far on the site. Since only postholes were found and no other structural evidence, like an outline of a structure, it is unlikely these postholes were part of a smokehouse. A smoke house would need to be completely sealed off from the outside world because raw meat
would attract animals. The location of one posthole is in the middle of feature 2-06 as seen in Figures 10 and 12. The disposal of animal remains would not be in the smoke house itself or in its immediate vicinity because again raw meat attracts unwanted animals. The animal waste from butchering would be disposed away from the actual structure. This is reinforced by the fact that this specific post-hole is after the deposition of Feature 2-06.

If the soldiers’ rations arrived already salted, the animals were slaughtered, butchered, and dried elsewhere, not at the site, resulting in no faunal remains (Jolley 1983:71). The faunal remains most likely came from the soldiers’ attempt to supplement their diets, which is documented as being quite risky. Soldiers participated in robbery to steal sheep, birds, fruits, and vegetables during the night (Brumwell 2002: 151-152). It has been documented that the soldiers bartered for milk, eggs, alcohol, and other goods with fish and other game they caught (Brumwell 2002: 153), showing interaction with the local population. This may be how they acquired the domesticated cow, horse, sheep, and pig.

The domesticated animal remains found in Feature 2-06 could be the result of animal husbandry practices or the need for meat. Cows produce milk, sheep wool, and horses transportation; however, all of these animals died at Fort Hunter for whatever reason and were butchered, a topic that I return to in a later section. The age at death for all of the domesticated animals was determined to be older than four months and less than three years, except possibly the pig which is aged to be older than one year. The chop and saw marks seen on the young deceased animals are consistent with butcher or defleshing marks (Lyman 1977: 67-73) might indicate that the animals were purposefully killed for
their meat. As previously mentioned, the soldiers tried to supplement their diets, including their protein intake, and the soldiers were not consistently paid so they might not have had the money to pay for the food for the animals. So as not to waste the animals’ meat and not to cruelly starve the animals, the soldiers may have slaughtered them. The animals might have been slaughtered and portions given to the Indians as gifts of goodwill for alliances and to soothe grievances (Brumwell 2002: 165, 168). Another possibility is that the animals were killed by hostile Indians, and due to their inadequate diets, the soldiers did not waste the meat. Indians were known to harass the colonists (Waddell and Bomberger 1996: 25). This course of action might explain the death of the horse at such a young age. Horses were expensive (Bowen 1975:19) and were quite frequently used for transportation, not food.

Within the identified animals, the greatest proportion of the faunal remains identified from the analyzed assemblage sample were cow bones. Despite the circumstances surrounding the cow's usefulness in life and death, this shows a heavy reliance on cows. On British colonist New England farms like the Mott Farm in Rhode Island, cows were typically used for heavier work than horses (Bowen 1975: 19), yielding the most meat of all the domesticated animals, and also produce milk. As previously mentioned, horses were usually used for lighter work like transportation (Bowen 1975:19). This increased cow presence is seen in the MNI calculations with only one confirmed body of all of the other identified animals and two for cows. This could be because larger animals produce a proportionally greater amount of fragments than smaller animals (Bowen 1975:16). One might speculate that there should be more horse bones, too,
but according to the calculated MNI, there were more confirmed cows than horses. These MNI results may be a product of increased fragmentation, which accounts for the differing bone fragment counts. It must be taken into account that once the inner spongy bone is exposed, the soft surfaces rapidly deteriorate, resulting in reduced survival rate of the bones (Bowen 1975:16). Some of the cow bones had spiral fractures, indicating that the marrow had been removed, and there were no horse bones with spiral fractures. The presence of a spiral fracture on a turtle or fish fragment is not diagnostically indicative of anything, while it is for larger animals. Spiral fractures will be addressed later. How the spiral fractures affected bone counts are not documented; however, the exposure of the spongy bone to the environment from the beginning of the bone’s stay in the refuse pit might result in an underestimate of the number of individuals found.

The horse bones might be accounted for by the horse having an injury or the animal being sick, either resulting in death. Horses are fragile creatures, if one of their legs breaks then the options are to either keep the large animal under sedation for the months required for the bone(s) to heal or kill the creature to put it out of its misery. Since sedation drugs had not been invented during this time, the animal was most likely to be shot. Sudden weather or diet changes along with pathogens can cause a horse to colic, which means the horse has a stomachache. However, since horses cannot throw up, if the stomachache does not resolve itself, the horse dies. The soldiers might have lost a horse in this manner, and did not want to waste the meat resulting in the consumption of the horse as hypothesized by the chop and saw marks present on its bones.
The majority of the faunal remains are from the large and medium quadruped size classes as calculated in Table 2. As previously stated, larger animals produce more fragments (Bowen 1975:16). The accelerated degradation due to the inner spongy bone’s exposure might be responsible for the 39.46% of the analyzed sample assemblage that was too fragmentary to identify as to animal or size class. Differing butcher patterns and cooking techniques for the different animals might also contribute to the differences in bone survival (Bowen 1975:16; Lyman 1977:72). While the effects of rodents are not clear, their presence is indicated by their bite marks on the bones in this assemblage. These animals have the potential to destroy fragile and small bone by gnawing on them (Price 1985:51). Rodent bite marks will be discussed later.

There might have just been more cows killed at the site than other animals as evidenced by the MNI. Slaughtering, butchering, and drying practices were utilized in Pennsylvania (Waddell and Bomberger 1996: 50) and by the army. This established practice along with the larger number of cow remains compared to other animals might indicate that the cows were being processed in this manner at Fort Hunter. This might have been happening on a small scale, but probably not a large one. It takes a staggering amount of beef to feed an army. Derived from the Berks County unit’s pay from Brumwell (1960: 195), to feed 50 men at Fort Hunter for a month it would take 1,400 lbs of meat and 2,100 lbs of bread or meal. It was hard to get supplies to the forts, especially by land (Bowen 2006: 155). Problems with the transportation of live animals through the wilderness were numerous, including Indian attack on small or slow moving groups, poor weather travel conditions, rough terrain including dense brush, and having enough food to feed the live
animals on the journey and after it (Bowen 2006:155, 158; Waddel and Bomberger 1996: 5, 11, 17). This was especially hard during the winter when food would be depleted (Bowen 2006: 155). To remedy this, sometimes the cattle would be herded to a fort and slaughtered there (Bowen 2006:157); however, if that had happened at Fort Hunter, there would be another deposit containing a very large amount of cattle bones or a higher number of calculated MNI within Feature 2-06. The salting and drying process, however, does not necessitate the removal of the bone (Bowen 2006: 159). As previously stated, the supply routes on land were not the best way to transport supplies, and the preferred way, when possible, was by boat, as seen at Fort Michilimackinac (Bowen 2006: 157) and Fort Hunter to Fort Augusta. Fort Hunter was a supporting outpost that stored goods and munitions and shipped them to Fort Augusta and Fort Halifax (Waddell and Bomberger 1996: 25; Carr, et. al. 2007: 45; Hunter 1960: 354). To ship the goods from Fort Hunter to Fort Augusta, boats on the Susquehanna were used instead of using slow and easily targeted wagons on land (Carr, et. al. 2007: 45). Cattle are not easy animals to transport by boat, so the troops were probably supplied with preserved meat that spoiled less quickly, such as beef or lamb rather than pig (Bowen 2006: 158). Salted meats last longer (Bowen 2006: 158), so it is logical that much of the food delivered to the soldiers was salted, as seen in the Fort Hunter inventory report mentioned in Chapter II. It was documented that the livestock was not always slaughtered upon arrival at a fort, and was sometimes kept alive for husbandry practices (Bowen 2006: 159). Husbandry practices however, would require fences and pastures that are not documented nor have been found at the site. Feature 2-06 with the postholes was probably not a fence during the time of the soldier occupation or after the soldier occupation, because one would not dump animal remains
around a fence post that bordered livestock. Animals can smell blood and it might cause unnecessary unrest among the livestock and might attract predators. In conclusion, the cow bones are only 4 times that of the horse with only one more MNI, so it is unlikely that en masse slaughter and drying/salting was occurring.

The wild animals represented in the analyzed sample assemblage were probably acquired by the soldiers hunting to supplement their diets or use for exchange (Brumwell 2002: 151-153). As previously mentioned, the soldiers were not well paid at 6 dollars a month (Hunter 1960: 195) and were sporadically paid (Hunter 1960: 198). Despite being hungry and underpaid, hunting was probably not widely practiced. Hunting requires being quiet in areas infrequently traveled by humans. First, there was a lot of movement in the forests surrounding Fort Hunter with locals, military personnel and convoys, and Indians as seen in the Figure 3 Indian Paths Map. Not only were these wooded areas heavily traveled by people, but the paths used were frequently Indian paths (Waddell and Bomberger 1996: 5,17) making hunting in small parties or by oneself an undesirable situation due to one’s vulnerability to attack (Hunter 1960: 211). This would explain the small number of individuals and bone fragments found at the site for wild animals.

This lack of emphasis on hunting is logical in the context of the heavy reliance of the British and their colonial Pennsylvanian counterparts on their supply systems and the local resources, both of which yielded domesticated animals (Bowen 2006:147). The British and their colonial Pennsylvanian counterparts never made the abundant wildlife around them part of their diets (Bowen 2006:150). They did not intermarry with the Indians who lived
primarily on wildlife and only came prepared to fight the European way (Bowen 2006: 150). In the military, the British soldiers were taught how to handle and load guns, not aim, making hitting a specific target problematic when only one person or a few were shooting (Bowen 2006: 151). The shotgun approach was effective with European massed military tactics in Europe, but not with the Indians (Bowen 2006: 151). The British and their colonial counterparts reluctance to hunt was entrenched in their history, with only the King and wealthy being allowed to hunt during the 17th and 18th centuries (Bowen 2006: 151). Since most of the colonists, Pennsylvania militia, and British soldiers were not descendents of wealthy families (Bowen 2006: 151), the small amounts of wild faunal remains in the sample assemblage, as well as other assemblages discussed later, make sense. Even after King Philip's War in 1675, during which the people learned the advantages of aiming, the people still relied heavily on domesticated animals (Bowen 2006: 151). However, this seeming indifference concerning hunting did not exclude them from the activity.

Spiral fractures are indicative of “meat-based broth diet” since the marrow can be used to make stock for soup or eaten as is (Drunker 1981:63-64; Price 1985:51). The largest number of spiral fractures was in cow bones, with only one other animal specific spiral fracture being identified, pig. This makes sense since the cow bones are large enough to make the effort needed to make this fracture worthwhile. The larger the bone, the more marrow it contains. Bone marrow can also be used to make stock for soup; however, this only required the boiling of the bone, not a spiral fracture. While the other animals represented in this sample did not have spiral fractures, it does not mean that the marrow
was not extracted from the bones by boiling. It cannot be determined if the bones were boiled through examination of the bones. The spiral fractures indicate that marrow was being consumed. This is not surprising since the soldiers had to steal, barter, and hunt to supplement their inadequate diets, and marrow is rich in nutrients (Brumwell 2002: 151-153; Price 1985: 19).

The human made marks examined in this study were chop and saw marks. The majority of the marks were consistent with the butcher patterns set out by Lyman (1977). Some of the marks were defleshing marks, which were not always consistent with Lyman’s butcher patterns; however, these marks did make sense in terms of muscular attachments and location of the defleshing chop marks. There is variation in the orientation and location of butcher mark classes possibly caused by different individuals doing the butchering or different butchering techniques used by different groups (Lyman 1977:71) such as Indians rather than soldiers cutting up the animal. Overall, whoever butchered these animals might have had a butchering technique that more frequently used chopping instead of sawing. There was twice the number of chop marks than there were saw marks. This type of detailed mark tally is not typically done in faunal analyses, so there is nothing to which to compare this statistic. The majority of the marks were on medium and large quadruped bone fragments, which is logical since medium and large quadrupeds need to be butchered before consumption. The small quadruped and small animal class sizes do not require butchering to be cooked and eaten. For example, a fish or opossum were suspended whole over a fire to be cooked (Price 1985:19), while a cow’s meat would have to be taken off the bone in segments to be cooked.
The most chop and saw marks were found on deer bones. This is not surprising since deer are the only wild animals that were found at Fort Hunter that required butchering in the conventional sense. Since deer are wild animals that spend much more time running away from predators than domesticated animals, they have tougher sinews and denser muscle. Dismembering them and scraping the meat off the bones takes more time and effort and therefore an increased amount of human made marks. When compiling and cleaning the comparative skeletal collection used for this analysis, cleaning and separating the deer bones from each other took significantly longer and more effort than defleshing and cleaning the cow and pig bones.

The cow had the second highest amount of chop and saw marks of the animals, which were consistent with the Lyman (1977) butchering patterns. When variation in location on butchered bones was seen, the marks were defleshing marks. For example, there were no marks at all on feet bones, while there would be butcher and defleshing marks on the femur, where a good amount of meat is located. There were fewer marks on the horse and pig, and none on the sheep. The absence of marks does not mean that the animal was not eaten. It just indicates that there were no marks left behind.

The majority of the bones do not have any type of human made mark. Only 19.91% of the sampled assemblage had chop and saw marks. It is important to note that in calculating these numbers, the percentage calculation assumes that each mark came from a different fragment, which is not always the case.
Once the animals have been butchered, or not butchered as the case may be, if the animal is consumed, the meat is cooked. Of the sample assemblage, 33.22% had been exposed to fire in some capacity. This makes sense since humans typically do not eat raw meat, especially cow, horse, pig, sheep, or deer. The absence of burned bone does not indicate that the meat was not cooked. The bones were probably defleshed prior to cooking the meat resulting in green bone, bone defleshed prior to decomposition (Barbian and Magennis 1994:8).

The majority of the burned bone is calcined, completely incinerated (Barbian and Magennis 1994:9), bone at 29.92% of the sampled assemblage. All of the calcined bone fragments exhibited longitudinal fractures and no warping, indicative of the bones being burned after they were dry (Barbian and Magennis 1994:9). These calcined fragments are probably dry bone since calcined bone from green bone is typically warped (Barbian and Magennis 1994:9). This indicates that the faunal remains refuse pit might have been set on fire after the bones were already dry, not directly after butchering. This could have been an effort to get rid of rodents and other scavengers or to reduce the volume of remains to enable more to be piled in the pit. The burning of the remains is supported by the ash layer in Feature 2-06. Both of these scenarios assume that the pit was uncovered and used on a fairly regular basis, the disposal pit for the fort. This is corroborated by numerous faunal remains with rodent bite marks present on bones from throughout the body, 18th century nails, tapering stems, etc (Carr, et. al. 2007: 53). However, the calcined and burned bone fragments do not have rodent bite marks indicating that the rodents did not have time to
eat these bones. These bones might have been burned elsewhere, like indoors, and dumped in the refuse pit. Pennsylvania does get quite cold in the winter and the soldiers were only little, making it almost impossible for the soldiers to buy the needed clothes to survive the winter (Hunter 1960: 195).

The presence of rodents in this pit is known due to the presence of their bite marks on 13.13% of the assemblage. This number under represents the amount of bones with rodent bite marks. This is partially due to my inexperience with recognizing them and erring on the side of caution when there was a question. This number might also be low due to burning the trash in the pit to reduce its volume and the amount of scavengers present, resulting in increased bone decomposition.

Of the sample, 3.30% was blackened bone indicative of green bone burning (Barbian and Magennis 1994:9). There were only 10 fragments out of the entire sample that showed black and white coloration indicative of the burning of fleshe remans (Barbian and Magennis 1994:9), not a prevalent practice. Most likely some of the bones were not defleshed completely due to the difficulty of removing the meat, as is the case with deer. All of the calcined and burned bone fragments are too small to determine what animal the fragments came from. It is important to keep in mind when evaluating this kind of evidence that position of the bone in the fire and bones that were dismembered prior to burning show similar patterns of burned flesh and are not necessarily distinguishable from each other (Barbian and Magennis 1994:9).
The portions of the identified animals found are mostly concentrated in the anterior, posterior, and ventral portions of the animal with very few being from the median portion of the animal. For definitions and figures please see Table 4. The presence of anterior, including cranial, and ventral fragments, poor quality meat sources (Drunker 1981: 63; Lyman 1977: 69) along with bones from the rest of the body, specifically high quality meat source bones (Drunker 1981: 63), indicates that the animals were butchered and eaten at the site (Price 1985:49). The anterior and posterior of the animal are where the majority of the meat is located (Lyman 1977:70, 72). The median portion of the animals only has the ribs and vertebrae, with the rest of the mass being composed of the animals’ viscera, perhaps accounting for the absence of bone fragments represented in this sample from this area of the body. A possible reason for the ventral bones being so prevalent might be due to the manner in which these portions were butchered. As with deer, the feet are typically discarded (Price 1985:50; Jolley 1977:72) and never skinned, being left relatively intact which perhaps facilitated their preservation.

The soldiers’ lives were full of hardship requiring them to scrounge for what they could. The data show a dependence primarily on large and medium domesticated animals, and the range of bones from different parts of the body suggests a relationship between the locals and soldiers. In order to obtain these animals alive for butchering or husbandry at Fort Hunter, the soldiers would have to trade, fish they caught or deer they shot, with the locals or have the livestock transported to the fort, which was a slow, dangerous, and expensive undertaking though the Indian filled woods. Since the exact location of Fort Hunter on the Hunter property is still uncertain, it cannot be stated with absolute certainty
that animal husbandry was practiced. To definitively prove this, historic documents would be needed detailing the full layout of Fort Hunter and fence posts for an animal pen would need to be found. The presence of burned bone and chop and saw marks implies that not only were the animals butchered at Fort Hunter, but they also were eaten there. The other artifacts found in Feature 2-06, such as nails, along with the rodent bite marks found on the faunal assemblage indicate that Feature 2-06 was a refuse pit dating to the mid-eighteenth century that was mainly used for faunal waste.

**Comparative Analysis with Other British Forts:**

To put the data collected in this thesis into context, a comparison is made with other 18th century forts that were used in the French and Indian War: Fort Pelham (1744) on the northern Massachusetts border, Fort Michilimackinac (1715) in the Straits of Mackinac, Fort Loudoun (1756) in eastern Tennessee, and Fort Ligonier (1758) in central Pennsylvania (Bowen 2006:24, 153; MI Historic Preservation Objects; Waddell and Bomberger 1996:87, 90). All of these forts were significantly larger than Fort Hunter, which served only as a supply fort, while the other forts were larger troop forts. Not only were there more men at these forts, but the amount of food eaten at these forts, live or preserved would be significantly greater than that consumed at Fort Hunter. This would and did result in more faunal remains at these sites. At Fort Pelham there were 373 identifiable fragments. Fort Michilimackinac had 364 identifiable fragments, Fort Loudoun had 689 identifiable fragments, and Fort Ligonier had 4,496 identifiable fragments (Bowen 2006: 153). The small number of identifiable fragments at Fort Hunter is partially due to my inexperience and not having a comparative skeletal collection. It is important to note
that these sites were all excavated to different extents. Since the tally of domesticated and wild animals for the comparison forts are presented in percents of the faunal composition, the problem of human to animal ratio is minimized. Another cautionary reminder is that the Hunter property has not been fully excavated, so there is a possibility that there are more faunal deposits in the area.

All the faunal assemblages of these forts were predominantly comprised of domesticated animals (Bowen 153-154) with the exception of Fort Michilimackinac where only 25% of the faunal remains were from domesticated animals. At Fort Pelham 64% of the identified remains were domesticated animals and at Fort Loudoun and Fort Ligonier 94% and 90% respectively (Bowen 2006:153). The percent of the identified fragments from domesticated animals at Fort Hunter was 84%, which is consistent with the other forts. However, Fort Pelham contained remains of exotic birds like a snowy owl and evidence of the fur trade: red fox, beaver, mink, and woodchuck remains (Bowen 2006: 154). Fort Hunter showed no evidence of the fur trade. Its small size and proximity to larger forts like Fort Augusta and Fort Halifax down the Susquehanna River reinforce its mission as a supply fort with little diverse activity. No bird remains of any kind were found in the Fort Hunter assemblage sample, which is not consistent with all of the other forts (Bowen 2006: 153-154). The absence of bird remains does not mean that they were not hunted and traded, or even eaten at the site since bird bones are quite fragile and would have probably decomposed in the fire set in Feature 2-06.
The specific domesticated animal that these forts most heavily relied on was cow, except for Fort Michilimackinac, which was pig (Bowen 2006: 157). Fort Ligonier had large portion of lamb/sheep (Bowen 2006: 157). These may be explained by the mode of transportation needed to deliver supplies to these forts. Fort Michilimackinac had its supplies shipped via boat (Bowen 2006: 157). Cattle probably did not travel as well as pigs, which is probably why the fort relied most heavily on pig meat to feed their soldiers. It is possible that pork was more prevalent in the local and regional economies (Bowen 2006: 157). The argument can be made that the pigs were mostly supplied from the regional and local areas due to pork spoiling faster than beef and mutton (Bowen 2006: 158). The same local economy argument can be made for the increased proportion of lamb/sheep at the Fort Ligonier site. This fort had better-established land routes compared to Fort Pelham and Fort Loudoun because Fort Ligonier was an army relay between Carlisle and Pittsburgh, which was of great importance during Forbes Campaign (Bowen 2006: 157-158). Pittsburgh was founded as a result of this campaign (Bowen 2006: 158). These well established paths would have allowed for easier wagon travel with live animals than less well-established paths, perhaps accounting in part for the larger portion of lamb/sheep present at the site. Fort Pelham and Fort Loudoun were more isolated and harder to reach than Fort Ligonier requiring the wagons and packhorses to travel a greater distance (Bowen 2006: 157). This might have accounted for the hardier cattle being more predominant at these sites or that beef lasts longer when preserved and travels long distance by land better. Since Fort Hunter was in a less populated wilderness area and supplied by land, it is not surprising that cow seems to be the predominant live source of meat as seen in the faunal assemblage sample. Fort Hunter was supplied by land because it
was the best route to the fort due to the supplies coming from landlocked areas. To supply Fort Augusta, the fastest and safest route was via boat on the Susquehanna River (Carr, et. al. 2007: 45).

It is important to note that Fort Hunter was not always staffed by British soldiers like the other forts mentioned here. Fort Hunter was initially established and run by the Pennsylvanian government as one of a line of defensive forts, not offensive, again unlike the other forts mentioned here, with the exception of Fort Loudoun. Fort Pelham was also constructed and run by its Massachusetts state government for a time (Bowen 2006: 148). Since the faunal assemblages of Fort Hunter and Fort Loudon are similar to Fort Pelham in Massachusetts, there appears to be no overarching difference between the dietary life ways of the Pennsylvanian troops and the British. The compatibility of MNI calculations is also important to note, since in the 1970s there were 3 ways of calculating this statistic (Bowen 2006: 163). Bowen does not state how she calculated MNI, nor the methods used by the other analysts. When I began this analysis, I constructed the method of MNI calculation used in this analysis due to the small size of this assemblage and to calculate the most accurate figure possible for the MNI.

**The Function of Feature 2-06:**

The faunal remains being the majority of the artifacts found in Feature 2-06 can lead to the interpretation that the feature was used as refuse pit for faunal remains. The 18th century nails might have been discarded there as trash, or part of a structure such as a bake
oven, could have occupied the area before or after the discarding of the faunal remains in the feature. The calcined bone is most likely not associated with the hypothesized bake oven since, meat is typically not cooked in a bake oven. The faunal remains and the bake oven are not likely to be contemporaneous since the faunal remains have rodent bite marks on them and it is unlikely that the butchering waste would be disposed of directly beside a bake oven. There is no evidence that the feature has been dug up multiple times, so the faunal remains were most likely deposited once and directly after use and decomposing organic matter never smells good. It is very unlikely that the faunal remains were kept and buried later since blood and meat attract animals. It is also unlikely the remains were washed and then kept. Washed clean bones would not attract rodents and those bones, with no remaining meat on them, would not be bitten by the rodents, leaving no rodent bite marks. If the bones were deposited while the hypothesized bake oven was there, there would be bones in the same strata as the bake oven should be with the reddened soil, ash layer, and mortar outlining or within the shape of the bake oven, which is not seen (Figures 12 and 13). The faunal remains are primarily above the reddened soil, ash layer, and mortar.

The post holes around Feature 2-06 suggest that at one point the area was covered, which might indicate that enough butchering was performed to warrant a roof, the weather was that rainy, or there is the possibility that the roof and the faunal discard are not contemporaneous. The chop and saw marks on the bones consistent with Lyman’s (1977) butcher patterns, indicate that the animals were most likely butchered and defleshed at the
site if not right there and discarded in Feature 2-06. The actions of butchering and the disposition of the faunal remains mostly likely occurred in close proximity to one another.

The function of Feature 2-06 was probably at one point a refuse pit for faunal remains; however, this does not exclude the area from being used for a different purpose at another time or occupation dating to the 18th Century. It is important to remember, that the exact location on the Hunter property of Fort Hunter is not known, only the general area in which the fort was located. This results in all of the analysis done in this study to be hinged on the assumption that this site is that of the French and Indian War fort, Fort Hunter. Since excavations are still ongoing, this cannot yet be concretely stated. The results of this study are tentative until further information on the location of the fort or additional documentation is discovered. With the faunal assemblage being similar to other French and Indian War forts, it is likely that this faunal assemblage is French and Indian War period.
Chapter VII: Conclusion

The soldiers’ lives at Fort Hunter were full of hardship, requiring them to scrounge for what they could. The data show a dependence primarily on large and medium domesticated animals. The bones found are from different parts of the body suggesting that the animals were butchered on site. If only choice cuts of meat were present at the site, then bones from the head and feet would most likely be absent because there is not a lot of meat on those areas of the body. To obtain these animals alive for butchering or husbandry at Fort Hunter, the soldiers would have had to trade with the locals, or the livestock was transported to the fort through the military supply system, a slow, dangerous, and expensive undertaking though the Indian filled woods. Since the exact location of Fort Hunter on the Hunter property is still uncertain, it cannot be stated with certainty that animal husbandry was practiced, especially since no posthole line/enclosure has been discovered in the excavations to date. The presence of burned bone and chop and saw marks implies that not only were the animals butchered at Fort Hunter, but at the very least defleshed and most likely eaten there. The other artifacts unearthed in Feature 2-06, such as hand wrought nails, along with the rodent bite marks found on the faunal assemblage indicate that Feature 2-06 was a refuse pit that was not just used for faunal waste. The date of the hypothesized bake oven is still unknown. It is unlikely to be contemporary to the faunal remains, because, as previously stated, rotting and rodent infested remains is not something any modern or historic person would want to cook near. Also, the faunal remains were found mainly above the layers indicative of the bake oven, in
the ash layer, which indicated that the feature was burned at one point, probably to reduce the volume of waste and to dispose of the scavengers eating the decaying organic matter.

Fort Hunter, like other French and Indian War forts, relied primarily on domesticated animals supplied to them by their supply systems and their relations with the locals and their economy. These assemblages lead us to believe that hunting was not a large part of their life way, especially when compared to the French forts that had strong relations with the Indian communities (Bowen 2006: 147). This seeming aversion to hunting is based in their culture dating back to royal England and the British military training, which emphasized massed volleys not aiming (Bowen 2006: 151). The greater absence of wildlife in the Fort Hunter assemblage might be due to the heavily traveled Indian paths in the area as well as the fact that the Indians had initially decided to use this area as their base of operation for harassing the local British colonists (Waddell and Bomberger 1996: 5, 25, 17). Fort Hunter was only a small supply fort garrisoning at the most 50 men (Hunter 1960: 352 and 355), not the large trading centers like Fort Augusta. This is important because some of the faunal remains at the other sites could have been due to the trade between the Indians and the soldiers for wild game (Bowen 2006: 154). The small size of the Fort Hunter assemblage in comparison with the other four larger forts is most likely due to the difference in the number of soldiers to feed at each fort.

While this faunal analysis does not concretely identify Feature 2-06 as a Fort Hunter feature, it does represent an assemblage of similar composition to those of the British and their colonial counterpart armies. Feature 2-06 can only be dated to the mid-eighteenth
century (Carr, et. al. 2007: 53), not the exact time period in which the French and Indian War occurred. Even if this feature were not created by the soldiers of Fort Hunter, this analysis still gives insight into the dietary habits of the people who lived there before the French and Indian War, during the 18th century. They were British colonists and their dietary habits can still give insight into how soldiers lived, since the British and Pennsylvanian militaries depended on the resources of the local areas and have similar dietary patterns (Bowen 2006:147). Feature 2-06 is close to the original house and was renovated during the McAllister and Boas occupations, which is speculated to have destroyed the blockhouse (Carr, et. al. 2007: 46-47). Therefore, it must be kept in mind that the physical layout of the site was different during the mid-eighteenth century than it is today.

Dr. Joanne Bowen did a comparison of Fort Pelham and the Mott farm in Rhode Island, a British colonial farm, and found that the faunal assemblages were quite similar with pig and cow being much more prevalent than sheep (Bowen 2006: 160). However, she had reservations due to the relatively good preservation with teeth still intact in the bone at the Mott farm versus the lose teeth at Fort Pelham (Bowen 2006: 160). Despite this preservation difference, Dr. Bowen was still able to discern the predominance of cow and pig as a staple of the British colonist diet (Bowen 2006: 161). If Feature 2-06 were not created by the soldiers at Fort Hunter, it can still be tentatively said, pending more faunal analyses at other sites, that the diet of Samuel Hunter and his family was similar to that of the Mott farm. However, Samuel Hunter was not a farmer, but rather he ran a gristmill, so this faunal assemblage does not necessarily belong to the civilian occupants. The
assemblage most likely belongs to the French and Indian War soldier occupation with the close similarities in the faunal assemblage composition. A tentative and general conclusion can be drawn that pig and cows were staples in the diet of British colonists during this time, if the environmental conditions surrounding the area were suited to the raising of these animals. A difference seen between Fort Pelham and the Mott farm illustrates that while the assemblages proportionally are similar, there is a greater amount of sheep at the Mott farm (Bowen 2006: 161). This is most likely due to the fields being plowed for several generations creating pasture area for the sheep to be kept (Bowen 2006: 161), illustrating the importance of environmental factors shaping the economy and dietary habits. Pennsylvania at this time was still very much covered by trees, which can be deduced by the fact that Indians still lived nearby and their paths, see Figure 3, were still in existence and use. In sum, despite a small amount of uncertainty surrounding who made Feature 2-06 and when, this faunal analysis shows that the people who made the assemblage were probably French and Indian War British colonists or British soldiers, and their dietary habits were overall not out of the ordinary in comparison with other French and Indian War British and British colonist soldier dietary habits.
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**Comparative Faunal Remains Bibliography**


Appendix I: Faunal Analysis Data