
CHAPTER 8. MATERIAL CULTURE

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The excavations at Fort Rosalie produced a wealth of diverse artifacts. After each fieldwork session was complete, all artifacts were taken to SEAC for processing. Following established procedures, the majority of the artifacts were cleaned by hand-brushing with water and thoroughly air-dried. Classification and cataloging of artifacts followed the guidelines set forth in *The Cataloging Manual for Archeological Objects Vols. I, II, & III* (NPS 1990) and *The Museum Handbook, Museum Records, Part II* (NPS 1984). Project personnel conducted artifact analysis and entered data into the Southeast Archeological Catalog System (SACS). Upon completion of the analysis, the cataloged data were converted from SACS into the ReDiscovery cataloging program.

Delicate artifacts were dry-brushed, and select metal artifacts were sent for additional conservation treatment. Stable, curated artifacts were labeled with the park acronym and their assigned catalog number in indelible ink. Small and/or delicate materials, metals, and human bones were not labeled, but the park acronym and catalog numbers were recorded on the bags or vials in which the artifacts were housed. This information was also recorded on a paper tag placed in each container.

All data collected and generated during these projects are curated at the Southeast Archeological Center under SEAC Accession number 1992. Data include, but are not limited to, field notes, maps, shovel test forms, photographic logs and negatives, field specimen (FS) logs, artifacts, correspondence, and all reports generated as a result of this project. All materials were subsequently turned over to the Archeological Collections and Information Management division for curation.

Five preliminary artifact categories were used to separate and analyze the materials recovered from the excavations: animal,

mineral, vegetal, composite, and unidentified materials. The mineral category included items manufactured from materials such as stone, clay, and glass. The animal and vegetal categories included all faunal and floral remains. The composite category was applied to all materials that were produced from more than one material type. The materials were further subdivided into 15 categories based on their material type. These included glass (such as windowpane, mirror, and vessel fragments), clay, metal (such as nails, cooking pots, and cutlery), stone, synthetics, wood, bone, shell, fiber, hide, and other plant materials. All artifacts were weighed and counted—as appropriate—then entered into a database to facilitate interpretation.

Each artifact was classified according to function, and functional categories were adapted from the revised version of Robert G. Chenhall's (1988; Bourcier et al 2010) system for classifying cultural objects. Categories laid out by Chenhall include by-products from food and energy production; personal artifacts such as clothing, ornamentation, and toiletries; recreational activities; armaments; and building components, such as bricks, nails, and hinges. Also included is the general category of tools and equipment that is subdivided into categories such as food service and food processing, masonry and stoneworking, and technological remains.

In this chapter the artifacts are discussed first by Chenhall's categories, followed by material types grouped according to their perceived origin as either Native American or European. Those items where origin is unknown have been broken out separately. Longer discussions about specific categories of objects in each of these categories are presented in their corresponding sections.

A total of 135,832 artifacts and 1,892 bags of unsorted materials, weighing

375,249.4 grams, were recovered from the field investigations (Table 8-1). This chapter summarizes the majority of the material cultural remains that were recovered from all years of excavation.

ARMAMENTS

A total of 810 objects that could be considered armament, weighing 4,533.31g, was recovered (Table 8-2). A small number of items (n=31) were modern brass cartridge casings and shotgun shells and were discarded. The largest group represented in the armament category was shot (n=578, 1,797.86g), with birdshot (n=420), buckshot (n=72), canister (n=1), musket (n=79), and pistol (n=6) balls all present. A grenade and a cannonball were also encountered, as were musket and rifle parts such as side plates and butt plates, and the blade of a sword (Figure 8-1). One hundred thirty-five stone gunflints or artifacts related to the manufacture of gunflints were found, including 51 gunspalls, 44 prismatic flints, and 52 unassigned. The unassigned are mostly small linear flint fragments

“Militaria” is used here as a catchall for items with military or potential military function. Militaria make up less than 1 percent

Table 8-1. Summary of artifact categories recovered from Fort Rosalie.

Material	Count	Quantity (Bags)	Weight (g)
Bone	80,625	1	33,190.68
Ceramic	30,148	141	112,530.24
Clay	—	350	65,870.51
Glass	5,761	—	8,251.88
Metal	4,471	459	71,018.09
Osteological	3	—	2,840.8
Other Animal	20	—	36.61
Other Minerals	20	237	30,445.8
Plant Materials	406	109	8,076.99
Shell	955	—	143.32
Soil (Sample)	—	7	990.51
Stone	13,109	456	39,595.30
Synthetic	229	—	137.58
Vegetable Fibers	3	—	0.17
Wood	82	132	2,120.91
Total	135,832	1,892	375249.4

of the total artifact assemblage of survey but are crucial in understanding the interaction between military and civilian life at the French frontier fort.

The French Army of the early eighteenth century was one of the most dominant military forces in the world, forged in the flames of constant warfare under the Sun King, Louis XIV. The primary weapon of the early eighteenth century French infantry man was a muzzle loading flintlock musket, the Charleville. The first French pattern musket, the Charleville, was a 0.69 caliber smoothbore weapon that first saw use in 1717. The 1717 model would have been in use during the wars with the Natchez. The model was updated in 1728 (375,000 of this model were built). The 1728 was developed one year before the destruction of Fort Rosalie by the Natchez and therefore would most likely not have been employed in the fort’s defense against them. However, it could certainly have been present during later occupations of the fort. The Charleville was not built in large quantities and as such was reserved for those infantry men stationed in Europe, as the European theater was seen as a priority. As was typical with most governments and armies of the eighteenth century, new equipment was often issued to units destined for Europe, the most prestigious



Figure 8-1. Grenade recovered during excavations. NATC 30494.

Table 8-2. Militaria recovered from Ft. Rosalie excavations.

Object	Count	Weight (g)
Bullet (.22 non-jacketed; .44. indeterminate)	3	26.31
Bullet, Minié ball, non-jacketed	2	50.9
Cannonball, 1.60"	1	207.13
Brass cartridge casings	29	58.18
Flintlock	1 (2 mend)	216.37
Grenade	1	824.48
Trigger guard, brass	1	13.89
Gunflint		
Prismatic	44	165.75
Spall	51	270.49
Other (gunflint)	52	59.42
Powder horn, brass	1	57.17
Rifle/musket	9	691.3
Shotgun shell	2	3.95
Shot		
Bird shot	420	118.29
Buck shot	72	88.64
Canister	1	128.7
Musket shot	79	1,400.71
Pistol ball	6	61.52
Sprue	24	29.31
Sword, blade	1	55.34
Total	800	4,533.31

theater; older-style surplus armaments were used to resupply those troops stationed in the New World.

The French soldiers may also have been armed with early Fusil de Chasse muskets, 0.60-0.62 caliber trade guns. These guns were generally considered to be of a lesser quality than the military issued muskets (such as the Charleville) and were often used to barter during trading missions with the native populations. Large quantities of the English and French trade guns were shipped to North America during this period for use by the military (e.g., 500 trade guns were shipped to Fort Louis in 1704) (Hamilton 1964:128). These guns—manufactured during the 1690s-1730s—would have been more available as equipment in the New World, as they were cheap and there was a large surplus.

On the other hand, the Brown Bess, a standardized musket developed for the British army, was first introduced in 1742. A distinguishing feature of the Brown Bess is its large caliber: 0.77in. Large stocks of these weapons were shipped to America prior to and during the American Revolutionary War. The British government had a habit of shipping surplus older model muskets to troops in the New World while providing the troops in Europe with the newer models. The British troops that occupied Natchez at Fort Panmure, 1763-1768, would most likely have been armed with the 1742 or later model Brown Bess. Local British militia from 1778-1781 would most likely have a mix of hunting and trade weapons.

All three of these weapons use a flintlock mechanism but were equipped to use different caliber munitions. Of particular interest is the difference between the Charleville and Brown Bess where the large gap between caliber sizes makes it possible to differentiate between occupations and cultural groups (Cornelison et al. 2016). Additionally, the two largest categories of militaria are directly attributable to firearms: lead shot (75 percent) and gunflints (16 percent). A study of these two types of artifacts has been shown at other sites to provide valuable information as to the timeframe and the nationality of a site’s occupants (Brain 1979; Carvalhaes 2011).

Lead Shot

There are 578 pieces of identifiable lead shot in the collection. Lead shot was categorized according to caliber (Tables 8-3, 8-4; Figure 8-2). All calibers were provided using the linear regression formula advanced by Dan Sivilich at Monmouth Battlefield (Sivilich 1996). This logarithm provides caliber estimates based on the weight of the lead shot and is crucial for measuring deformed shot, as well as providing a more consistent data set when compared to traditional caliper methods, which can vary depending on measuring points and operator. The formula is as follows:

$$\text{Caliber or Diameter in inches} = 0.223204 \times (\text{Weight in grams})^{1/3}$$

A chart showing the distribution by size of shot recovered during the SEAC investigations at Fort Rosalie helps to establish perspective of the overall variation in caliber sizes (Figure 8-3). Using calculated caliber, the type of weapon used to fire the shot can be inferred and in some cases who manufactured the shot based on its size (Figure 8-4).

A total of 79 musket balls were recovered during the project. Fifty-three were unfired, and 24 were fired; of these, one was chewed and another modified (possibly chewed/carved). With respect to determining the cultural affinity of lead shot, the caliber range of the musket balls is perhaps most useful although trace element analysis is also another avenue worthy of future exploration. When adjusted for windage (the space between the projectile of a smoothbore gun and the surface of the bore, typically <0.04 in. and >0.10 in.) a Brown Bess could fire a 0.67-0.70 caliber ball; the smaller, earlier French trade muskets such as the Fusil de Chasse with calibers of 0.60-0.62 in. most likely used balls ranging from 0.50-0.58 cal. The larger the windage the less accuracy and force a projectile has, reducing the firearm's overall effectiveness, but the smaller the windage, the more likely the ball becomes stuck or difficult to load after multiple firings due to fouling of the barrel from black powder. For instance, the Prussian

Nothardt musket (1801), with a windage of 0.04in., was remarked by troops as having increased fouling and greater recoil, suggesting that such a windage was too small for even short term usage (Rothenberg 1978:65).

The 1717 and 1728 French pattern musket, or Charleville, with a bore diameter of 0.69in. could realistically fire munitions of less than 0.68 cal., though given fouling the larger caliber balls (0.66-0.68in.), would be difficult to load after several firings, potentially becoming lodged in the barrel and resulting in an explosion. This means that the Charleville most likely fired a 0.59-0.64 cal. sized ball; 26 of the musket balls contained in the current study sample fit this category. Therefore, musket balls of a caliber greater than 0.68 in. are most likely of English origin, belonging to the much larger Brown Bess with its bore diameter of 0.77in. There were two musket balls in this range in the current study sample, a 0.69 and a 0.70 caliber ball. The British assumed control of Natchez in 1763 as part of the Treaty of Paris. The occurrence of larger caliber balls within the excavations is likely the result of this transition in power.

Forty-nine musket balls fell between the 0.51-0.58 cal. range, suggesting they were intended for the Fusil de Chasse or comparable trade guns, though they could have been intended as pistol balls as the caliber ranges overlap that of the 1733 French Dragoon pistol (0.63 in.), the first pistol standardized for the French army. These pistols could have



Figure 8-2. Lead shot arranged by caliber from smallest (left) to largest (right). From left to right: NATC 36737, NATC 38161, NATC 36733, NATC 36731, NATC 26945, NATC 30651, NATC 28941, NATC 26710, NATC 35295.

been used by the officers and troops of the second Fort Rosalie built in 1730, and were generally considered personal equipment, meaning that they were not typically issued by the government. Many officers procured their own firearms, meaning that there was little standardization.

Five potential rifle balls with calibers between 0.42-0.48” were also recovered at Fort Rosalie. The long rifle was used in the Americas ca. 1700 through the American Revolution, gaining in popularity around the time of the Seven Years War. The rifle balls could be from trappers who frequented the Fort Rosalie outpost

for trade, though it cannot be discounted that they could have also belonged to the British period of occupation.

Buckshot accounts for six percent of the lead shot assemblage recovered during the project, while birdshot makes up 79 percent. The presence of buckshot could be related to hunting activities (being a common load for shooting deer) and/or buck and ball loads (a common load for the military). A buck and ball load describes loading a musket with a standard caliber sized ball and several smaller “bucks,” creating a devastating shotgun effect at closer ranges (Stange 2000). It is not uncommon for smaller caliber, buckshot and birdshot, to make up the majority of lead shot at an eighteenth century site. For instance at the nearby Grand Village of the Natchez, 135 buck and bird shot were recovered compared to 29 musket balls (Neitzel 1983:115).

Historical documentation records that in 1704, Fort Louis on the Mobile Bay received 2,500 *livres* of lead bullets (1133 kg) and 3,000 *livres* of small shot (1360 kg). In 1733, Fort Louis received 20,000 *livres* of lead bullets weighing 28-32 balls to the *livre*, 10,000 *livres* of shot, and 20,000 gunflints (Hamilton 1980:129). Hamilton (1980:128) suggests that, based on the French shipping manifests, musket balls that weighed 28 to 32 balls to the *livre* was the dominant size French trade gun ammunition, which when converted to caliber, is 0.62-0.55 inches. It is interesting to note that in 1704 more small shot was delivered than lead bullets by 500 *livres*. In 1733, the lead bullet shipment doubles small shot, but there is still an increase of 7,000 *livres*. Small shot makes up a significant portion of the manifest in the early years when the French were attempting to establish viable bases of operation.

The predominant size of the musket ball shipped to the colonial possessions from France appears to have measured between 0.54-0.58 cal., with an average of 0.56 cal. based on archeological research at sites such as Fort Michilimackinac, the Fatherland site, and Fort St. Pierre (Brown 1975b:206-209). In fact, the majority of musket balls analyzed from 10 of the

Table 8-3. Lead shot count and caliber ranges from Fort Rosalie using calculate caliber.

Shot	Caliber
Musket ball (79)	0.50-.75”
Pistol Ball (8)	0.37-.49”
Buckshot (36)	0.21-.36”
Birdshot (456)	0.09-.20”

Table 8-4. Counts and calibers of musket balls from Fort Rosalie survey using calculated caliber

Caliber	Count	Origin	
0.51	1	Trade rifles or handguns	
0.52	2		
0.53	2		
0.54	1		
0.55	5		
0.56	8		
0.57	7		
0.58	23		
0.59	8		French
0.60	10		
0.61	1		
0.62	1		
0.63	1		
0.64	1		
0.66	2	English	
0.68	1		
0.69	1		

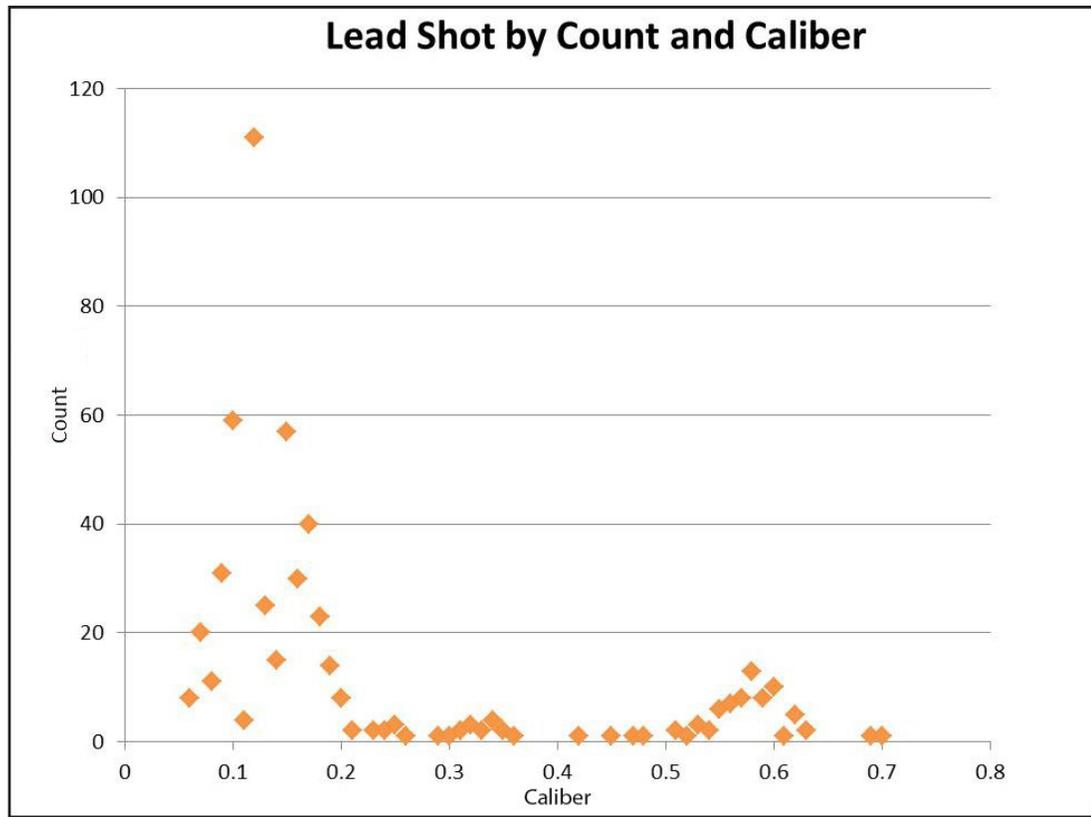


Figure 8-3. Chart of lead shot recovered during the Fort Rosalie excavations.

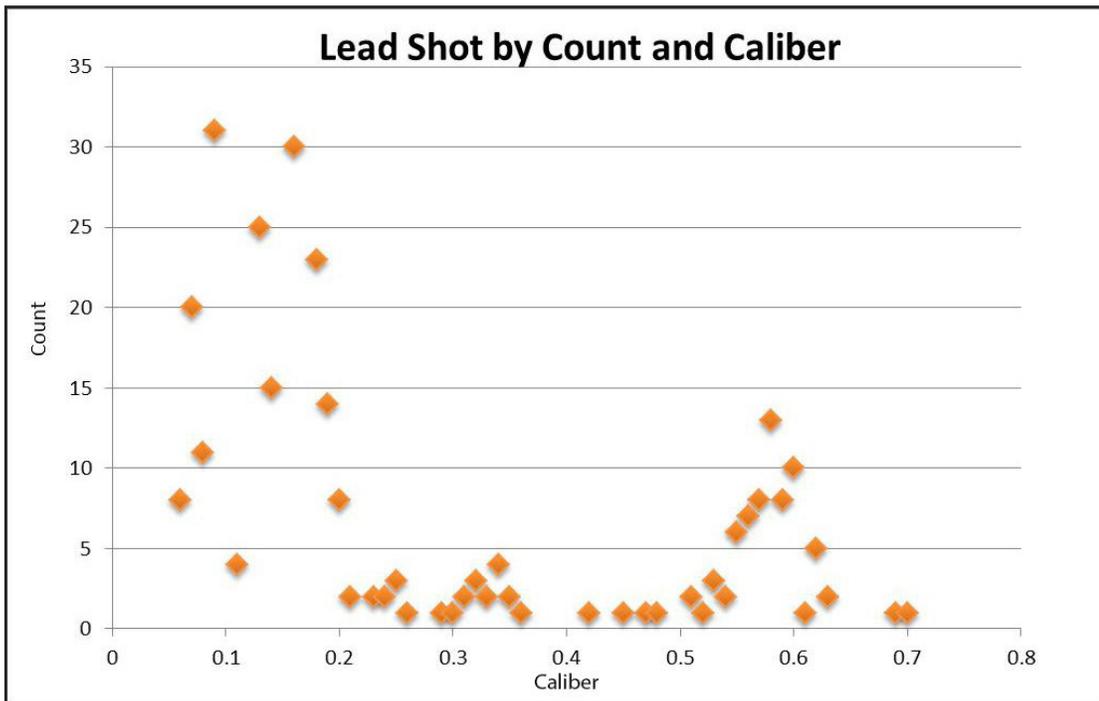


Figure 8-4. Chart of lead shot recovered from Fort Rosalie with outliers removed.

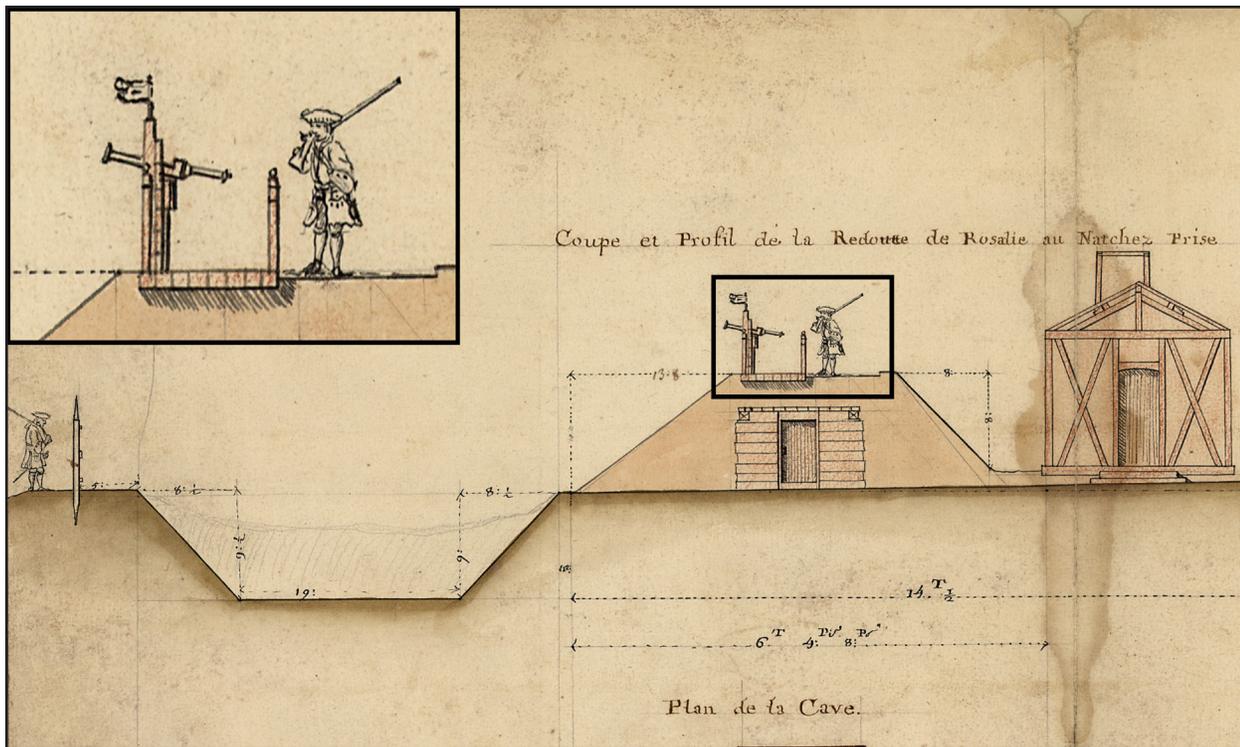


Figure 8-5. Profile of Fort Rosalie with a close-up of the fort's main gain. Notice the swivel gun located atop the battlements. Coupe et profil de la redoute de Rosalie au Natchez, Alexandre de Batz, 1732. Image courtesy of the Library of Congress.

12 sites in Table 8-5 show that the majority of musket balls fall between 53-58 cal. (Hamilton 1988). Fort Rosalie's musket balls average 0.57 in., with the majority falling between 0.55-0.60 in. This falls very close to the historical counts provided by Hamilton (1980:129) of 0.55-0.62 cal. balls provided to Fort Louis. In short, the overall makeup of lead shot from Fort Rosalie falls in line with other early French outpost settlements of the Mississippi river valley.

Cannonball (Swivel Gun)

Close examination of the Alexandre de Batz 1732 profile of Fort Rosalie clearly illustrates the existence of small swivel cannon atop the redoubt near the main gate of the rebuilt fort. Swivel guns were typically used on ships for close quarter's engagement or on smaller landing craft, but they were also known to be used as artillery in defense of forts, usually mounted on a bastion or near the gate. A ½ lb. swivel gun has a bore of 1.5 in., making it capable of firing a 1.3 in. solid shot. Similar guns were used at Fort Necessity and other

frontier forts prior to and during the French and Indian wars (Russell 2005). A large solid, iron shot was recovered with a caliber of 1.3 in. and weight of 128 g, which is consistent with swivel cannon shot from the period, corroborating the Alexandre de Batz 1732 depiction of the fort (Figure 8-5).

Anti-Personnel Hand Grenade

King Louis XIV of France developed the grenadier as an official type of soldier and company throughout his army reforms late in the seventeenth century. According to Rene Chartrand, Lt. Col. Martinet introduced the idea of having men detailed to throw grenades in the Regiment du Roi in 1667. By 1670, 29 of Louis's regiments had grenadier companies (Tincey 1994: 34).

Grenadiers were typically used as assault troops during this period and were considered the elite of the army. The use of grenadiers as grenade-throwing troops began to drop during the eighteenth century as a result of improved

effectiveness of infantry tactics and musket technology.

The word grenade is derived from the Spanish word for pomegranate, which early grenades were said to resemble due to their size and shape. The grenade from Fort Rosalie has a diameter of 2.5 in., weighs 791 g (1.7 lbs.), and has a single fuse hole. In use, this fuse hole would have been filled with a wooden plug and a timed fuse. The grenade would have been filled with explosive powder and shrapnel (either metal balls or fragments). Grenades were most effectively used in the assault of fortified locations. The appearance of a grenade at Fort Rosalie is not uncommon, as similar devices have been recovered at other frontier forts from the period, such as Fort Michilimackinac. Used primarily as a shock weapon (disorienting or frightening the enemy rather than killing them), the grenade may have been intended to be used by the French in offensive operations on the palisaded villages of the Natchez or defensively when dropped over their walls onto rushing attackers.

Firearm Components

Several parts of muskets or rifles were uncovered during the excavations. A lock, barrel, and butt plate were found in conjunction with each other while other pieces were spread across the excavation area.

Gun Lock

The gun lock is most likely British, its large size indicating that it was military issue and not a trade gun. The curvature of the bottom of the lock suggests an earlier date of the ca. 1740s. The small frizzen spring and larger hammer (compared to those seen on trade guns) suggests a 1742 Brown Bess model. The bridle is absent, but that may be a result of breakage (Figure 8-6).

Gun Barrel

An exploded musket barrel was uncovered in a feature along with the gun lock and butt plate. The end of the barrel has exploded outward, suggesting that the muzzle of the musket may have been blocked, causing the buildup of gases

within to rupture the barrel (Figure 8-7). The gun barrel is octagonal in shape, indicating that it is from a trade gun. The measured diameter of the barrel was approximately 0.60 in. This fits with the British and French trade guns of the early eighteenth century that were made for a smaller caliber than military issue guns. The barrel was found in an upright position, muzzle down. The condition of the barrel suggests that the muzzle of the musket may have been pushed into the ground, perhaps as someone fell; creating the blockage that caused the explosion.

Butt Plate

The butt plate was initially found concreted to an edged weapon fragment, and, until conservation was completed, it was thought to be an extension of that weapon. Post-conservation analysis revealed that this object was actually an intact butt plate. Its excavation in conjunction with the



Figure 8-6. Lock mechanism from a flintlock similar to a 1742 Brown Bess. NATC 30719. X-ray showing structure on top and preconservation image below.

Table 8-5. Comparison of large caliber lead shot from French and British colonial sites throughout North America that are roughly contemporaneous to Fort Rosalie. Adapted from Hamilton 1988.

Caliber (in)	Tunica	Haynes Bluff	Michilimackinac	23Sa3	Winnipeg River	French River	Basswood River	Granite River	Fort Frederica	Killdale	Fort Albany	Ft. Rosalie
0.45	2					31				1	10	2
0.46						65					0	
0.47						90	2				2	1
0.48			2			104					2	1
0.49						113					6	
0.50			3			121				3	9	
0.51	1		6			142				11	29	2
0.52	3		12	1	1	161	46			21	71	1
0.53	3		11	1	10	107	103		3	103	27	1
0.54	24	2	22		32	95	589		3	35	8	3
0.55	23	4	47	3	131	84		65	16		5	5
0.56	19	1	74	3	150	65		66	2		4	9
0.57	14	2	92	3	116	61	104				4	10
0.58	7	9	73		25	28		4			1	15
0.59	2	4	51		6	16	31		6		18	11
0.6	2		17			10			3		44	9
0.61	1	1	16	1		6			1		35	1
0.62			10			1	2				27	4
0.63	1		2								11	1
0.64	1		1	1								
0.65			2	1							1	2
0.66			2								3	
0.67			1								2	
0.68			14									
0.69	1		25						3		11	1
0.70									48		7	1
0.71											7	
0.72									104		1	
0.73												
0.74											1	
0.75									2			1

gun lock and barrel suggests that it is from the same firearm as those two artifacts (Figure 8-8), but because of its corroded nature it remains untyped.

Top Jaw of Lock

The top jaw of the cock/hammer is large and oval shaped, which suggests a later style hammer, possibly of English origin (Figure 8-9). This piece does not cross-mend with the cock/hammer described in the following subsection. This later style jaw is suggestive of the English and possibly American occupation of the site, though given its fragmentary nature it is difficult to make a concrete identification.

Cock/Hammer

The one cock/hammer we recovered is missing the top jaw of the lock. The jaw fragment recovered from a nearby EU does not fit the size or style of this hammer, as mentioned previously. The cock does not appear to conform to late military styles as it is missing the correct curvature (Figure 8-10). The object is large, suggesting that it belongs to an early musket or large trade gun, although a definitive identification could not be made.

Side Plate

One brass side plate, that was collected, is engraved with a leaf band motif (Figure 8-11). The small size of the plate means that it is most likely from a pocket pistol, though it could possibly be from a small rifle.

Trigger Guard

A trigger guard was recovered that is damaged with only the loop fragment surviving.; Its size suggests a non-military origin such as a trade gun or rifle.

Edged Weapon

A fragment from an edged weapon found during the project measures 0.25 cm thick, 20 cm long and 3 cm wide near the break, tapering to a point at the far end (Figure 8-12). The dimensions of the artifacts suggest that this is potentially a sword or halberd/spear fragment. The width is consistent with those from French officers' swords of the early eighteenth century (Peterson 2000).

Gunflint

Flint is a siliceous stone that occurs in chalk formations such as those found in England and France. Its physical properties include predictable conoidal fracturing when struck with a billet or hammer, which makes it preferable to other stones that are not as easily fashioned. The ability of flint to produce sparks when struck against steel also allows for the production of fire if fanned in tinder. Beginning around 1650, the classic flintlock (still in use today by some black powder enthusiasts) was being produced in England, France, and other Western European countries (Chapel 1962:40-45; Dolomieu 1960 [1796-97]). The first type of gun flints produced by the French were spall-type gunflints. A gunspall is “nothing more nor less than



Figure 8-7. Exploded musket barrel found muzzle down. NATC 33469.



Figure 8-8. Untyped butt plate found near the gun barrel and gun lock but concreted to the edged weapon fragment. NATC 33381.

individual spalls knocked off the surfaces of rounded boulders of chert” (Hamilton 1960:77) producing a “wedge shaped...nonlenticular” gunflint (Hamilton 1960:74). In short, a single flake is knocked off a core, with one surface being flat and the other having a bulb of percussion (Durst 2017). In order to shape the flake into a gunflint, the knapper will produce a lot of waste flakes. Dates for this type of particular sparking tool date from 1675-1750 (Hamilton 1960:74; Dolomieu 1960 [1796-97]). Hamilton noted that the typical French gunflint was brown, but could range from gray to gray-brown to black in color (Hamilton and Emery 1988). This style was followed by blade-type gunflint production, which did not begin in earnest until after 1700 but was being used in the 1680s (Durst 2009:29).

Early English gun flints were also of the wedge shape known as gun spalls, though were not widely produced due to the widespread availability of the higher quality flints produced in France. In fact, until the late eighteenth century, the British government purchased large quantities of French prismatic (blade) flints for use by their army. This can be seen at sites such as Fort Frederica, an English fort occupied from 1736-1749 during the pre-English prismatic gunflint stage. At Fort Frederica, a total of 113 French prismatic gunflints and 278 spall gunflints were recovered; these are most likely a mixture of English and French manufacture (Fairbanks 1953; Honerkamp 1975, 1980).

According to Hamilton, “English flints do not make their appearance until about 1750, and they are of the usual prism-like form. By 1775, all gunflints are prism shaped” (1960:74). Hamilton describes English spall-type flints as being black, with a matte, or non-glossy, finish (Hamilton and Emery 1988). It was not until the Napoleonic Wars of the 1790s that the British were forced to begin manufacturing their own gunflints to provision their troops with the necessary hardware. By the later part of the eighteenth century, the English were



Figure 8-9. Top jaw from a later style hammer. NATC 35249.

mass producing prismatic gunflints, produced from flint extracted from the mines of East Anglia. They are typically dark gray color in color, with a flat top and sloping sides, and are readily distinguishable from the honey-colored



Figure 8-10. Hammer from a possibly early style musket or trade gun. NATC 35748.

translucent French flints, which were finished in such a way as to create a blunted edge and back.

It has long been thought that the most diagnostic differences between the French and English gunflints are color and secondary retouching (Williams 2010:8-9). The more rounded, light colored (honey brown) French gunflints are distinguishable from the black 'squarer' English gunflints (Figures 8-13 and 8-14). Durst (2009, 2017) noted, however, that the gunflints recovered from the *La Belle* shipwreck demonstrated a wide color range, the majority of which were classified as gray to dark gray. Eighty-six of the spall-type gunflints ranged in color from dark gray to black. It was found, though, that many of the flints had actually changed in color because of their being submerged in the Gulf of Mexico. Samples had attributes that traditionally would be associated with both French and English categories of gun flints. Additionally, a sample of flints recovered from *La Belle* were tested using laser ablation inductively coupled plasma-mass spectrometry (LA-ICP-MS), as were samples taken from known sources of flint in both England and France. Three potential sources for these flints were identified: an unknown source, likely from North America, a source closely related to British source materials, and a source that was likely at or near Meusnes, France, a known historical source for flint. Both gray and honey/



Figure 8-11. Engraved brass side plate from a small caliber firearm. NATC 32265.



Figure 8-12. Fragment of an edged weapon, potentially a sword or spear fragment. NATC 33334.

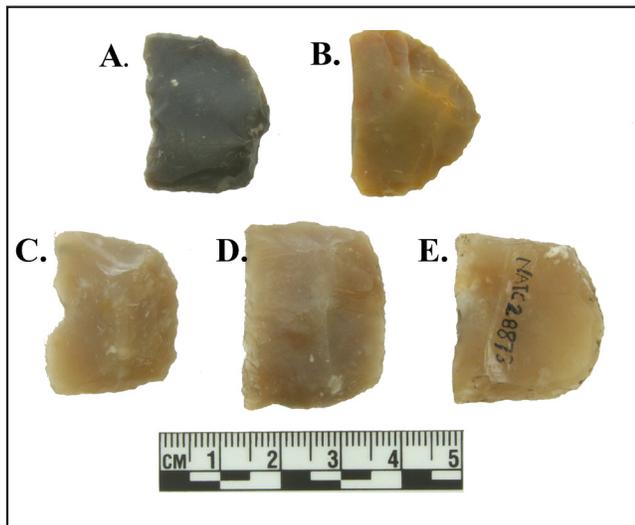


Figure 8-13. Collection of French honey/brown gunflints recovered from Fort Rosalie. A-NATC28736; B-NATC 28242; C-NATC 28007; D-NATC 28935; E-NATC 28873.

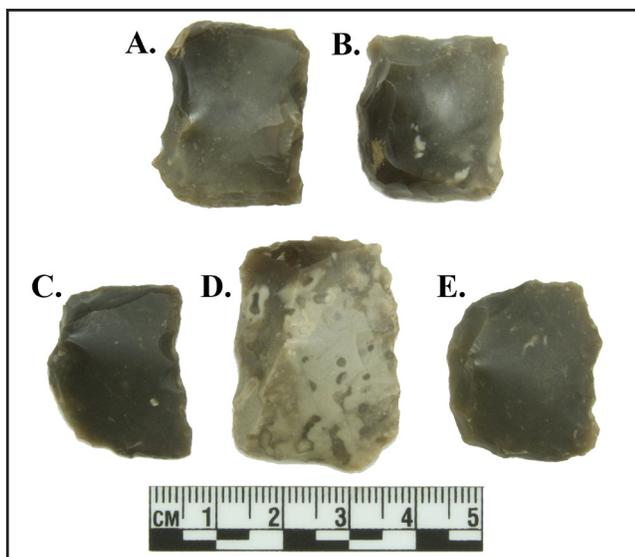


Figure 8-14. Collection of English grey/black gunflints recovered from Fort Rosalie. A-NATC 32592; B-NATC 27129; C-NATC 28736; D-NATC 26616; E-NATC 29479.

blonde-colored flints were sourced to this French point of origin, negating old assumptions that that the point of origin of gun flints can be identified by color alone.

During the current project, 147 gunflints were recovered: two of native non-local materials, one native local material, 21 gray (18 spall, 3 unassigned), 10 burned (nine spall, 1 prismatic), 105 honey/blonde (43 prismatic, 19 spall, 43 unassigned), and one honey/blonde pistol flint (prismatic) (Figure 8-15). Seventy-one percent of the gunflints from Fort Rosalie are of the honey/blonde variety. This fits with Noël Hume's hypothesis that the vast majority of gunflints on eighteenth century colonial sites are French in origin, as they were considered to be superior to the English flints of the time. This changed around the War of 1812 when British and American traders began almost solely dealing in British flints, as their technology had matched the French but with greater trade availability (Noël Hume 1969:220).

Archeological investigation in the 1970s at the Grand Village of the Natchez, which maintained contact with the French from 1670-1730, recovered 9 native specimens (8 spall and one possible strike-a-light), 29 spall, and 14 prismatic gunflints. Neitzel (1983) suggests that the framework for the gun tool trade at the Grand Village is bound to the period 1682-1730. The Grand Village of the Natchez was the most important Natchez village within the immediate vicinity of Fort Rosalie and was the impetus for the founding of Natchez and the fort. The styles of gunflints and the time frame show a strong French influence, largely the result of the French military presence based at Fort Rosalie. The

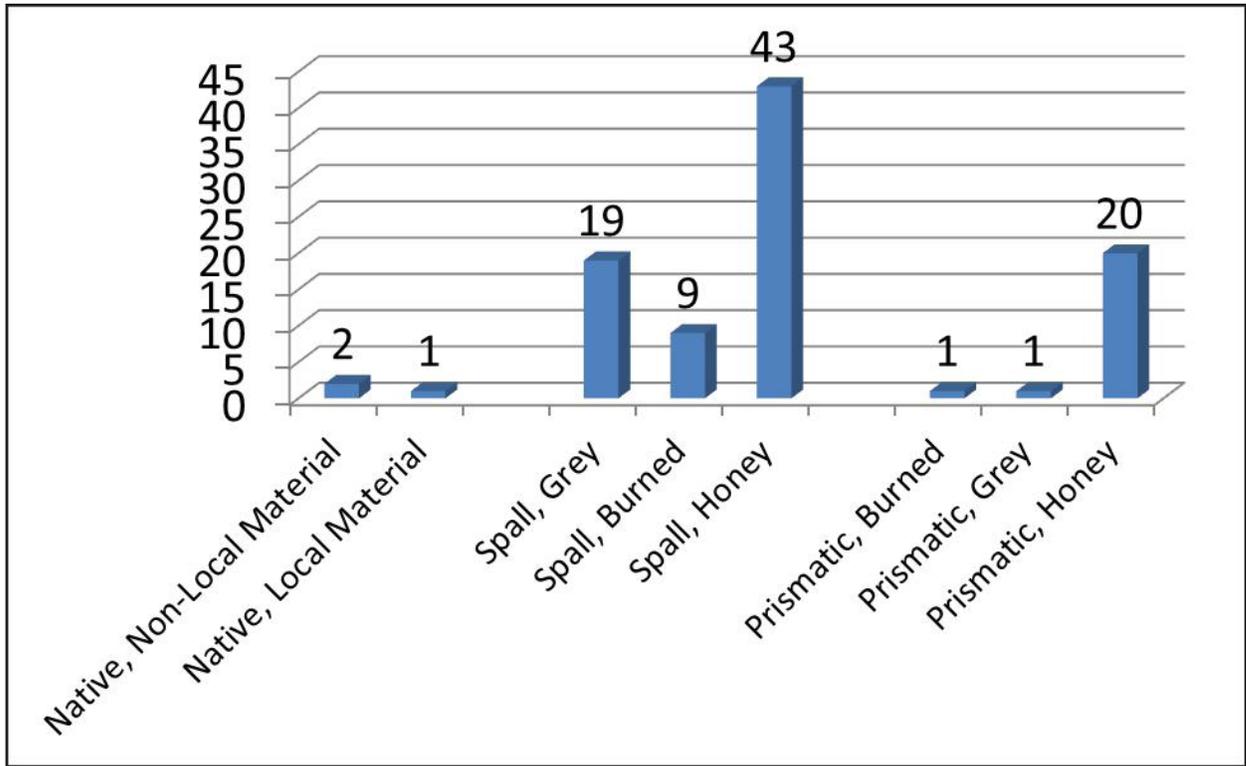


Figure 8-15. Fort Rosalie gunflints by Type.

assemblage at the Grand Village of the Natchez conforms closely with the excavations at Fort St. Pierre, a French fort dating to 1719-1729 and located along the Yazoo River near Vicksburg, Mississippi (Brown 1975b:199-204).

Additionally, excavations at the site of Tunica revealed one native gunflint, 19 untyped spalls (possibly native, non-local materials), and 24 honey/blonde (13 spalls and 11 prismatic). The collection was identified by Hamilton (1979) as decidedly French in origin. This logically makes sense as the Tunica had a very close relationship with the French, and this is illustrated in the types of gunflints that were available to the Tunica (Brain 1979:206-216) (Figure 8-16).

Types of Gunflints

Beyond the initial cultural identification of gunflints based on source material, measuring the size of gunflints may be able to shed light on the armaments of Fort Rosalie based on studies at other Colonial Era sites. Manufactured gunflints were crafted to certain

specifications, dictated by the different size firearms of the time. Table 8-6 records the optimal measurements for a military musket gunflint as set forth by three different sources: a 1740 French contract, a 1879 report on English gunflint manufacturing, and the 1850 U.S. Army Ordnance Manual (Emy 1978; Hamilton and Emy 1988; U.S. Ordnance Dept. 1850).

Fortunately, studies conducted at Fort Michilimackinac, Fort Joseph, and others have established a respected approach for the parameters of such a study (Hamilton and Emy 1988; Kenmotsu 1990; Carvalhaes 2011). All of these forts are roughly contemporaneous with

Table 8-6. Recorded specifications for military gunflints (muskets) according to a French contract from 1740 and a 1879 report on the English gunflint industry (Emy 1975; Skertchly 1879). Despite the 130 year span the overall dimensions of blade-style gunflints are relatively unchanged.

	French 1740	English 1879
Length	33.8-36 mm	33.2 mm
Width	31.6-33.8 mm	27.9 mm
Bevel	18-20.3 mm	—
Thickness	9.0-11.8 mm	10.2 mm

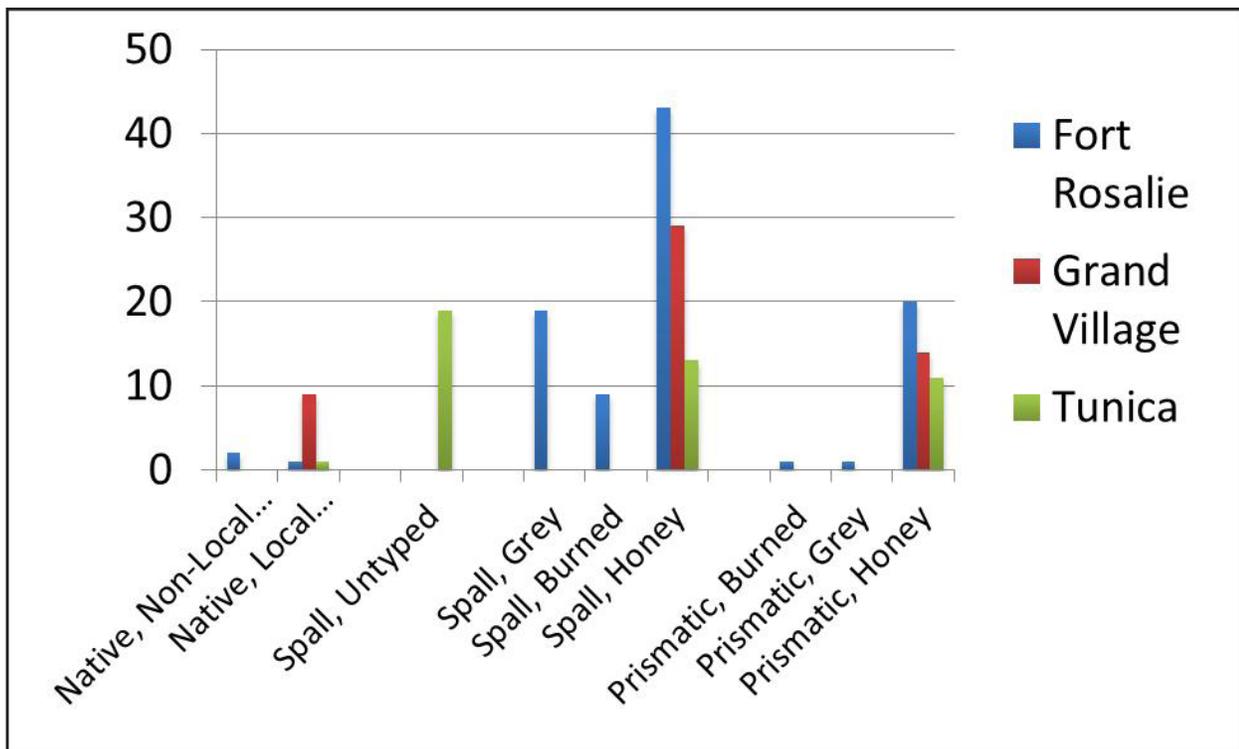


Figure 8-16. Fort Rosalie gunflints in comparison to two nearby archeological sites.

Fort Rosalie and share similar occupational patterns: early establishment by French forces, a late 18th eighteenth century British occupation, and eventual abandonment during the American period. According to the Fort Michilimackinac study, encompassing 2,536 gunflints, a gunflint's width directly corresponds to a firearm type: 34+mm are musket flints, 28-34 mm are fowler/carbine flints, and 20-28 mm are trade gun flints, with flints smaller than 20 mm being used for pistols and smaller trade guns (Hamilton and Emery 1988) (Table 8-6). A separate historical reference for gunflint size can be found in an 1879 report on English gunflint manufacture by Skertchly. In 2009, Daniel Elliott of the LAMAR Institute undertook a survey of gunflints from Georgia and surrounding parts, in which he analyzed over 600 gunflints from multiple contexts, using Hamilton as a guide (Elliott 2009). Elliott established that the main factor in determining gunflints' intended function is width. The lock mechanism in a flintlock is specifically designed to handle flints of a certain width, meaning that a pistol can only accept pistol flints and not musket flints.

While a musket can accept all flints, except wall mounted, smaller gunflints can lead to misfires and other unfortunate circumstances, and thereby were not ideal (Elliott 2009). There is an optimum sized gunflint for each firearm, and that size differs based on the firearm type and intended purpose. The exact types of firearms available at Fort Rosalie are uncertain, though archeological evidence suggests that the Charleville, Brown Bess, Fusil de Chasse, and untyped pistols were present.

Ninety-five of the 147 gunflints (those considered sufficiently whole) were measured following the guidelines established by Hamilton (Hamilton and Emery 1988) and were placed into categories mirroring those used in the Fort St. Joseph excavations for ease of comparison (Carvalhaes 2011). The assemblage follows, almost identically, the same curve as the assemblage from Fort St. Joseph (Carvalhaes 2011:29). At Fort St. Joseph, the most common width was 25-27.9 mm (n=30), most common length was 21-23.9 mm (n=37), and most common thickness was 6.1-8.0 mm (n=62). At Fort Rosalie, the most common width was

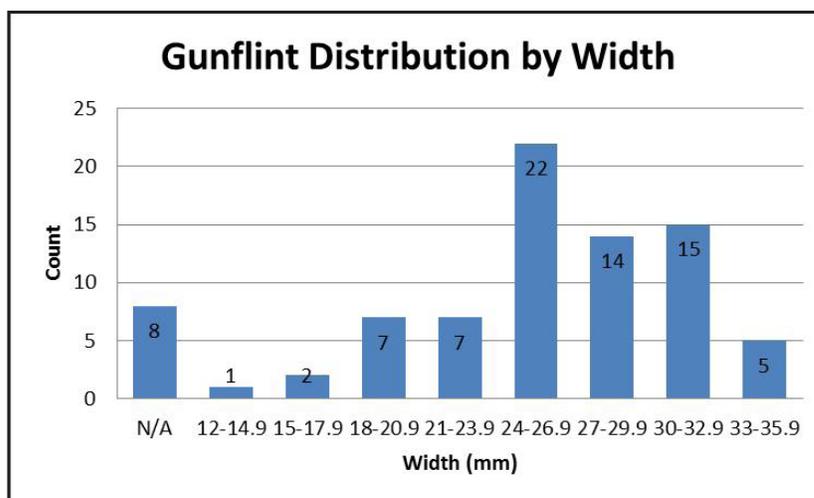


Figure 8-17. Fort Rosalie gunflint distribution by width (mm).

25-27.9 mm (n=21), the most common length was 21-23.9 mm (n=32), and most common thickness was 6.1-8 mm (n=50) (Figure 8-17). Based on measurements, the overall assemblage from Fort Rosalie and Fort St. Joseph are nearly identical.

The largest group of gunflints, 36 in all 23 honey/blonde and 13 gray), fall within the trade gun category, followed by carbines/fowlers (n=24 flints [13 honey/blonde, 7 gray, and 4 indeterminate]), pistols (n=8 flints [6 honey/blonde, 1 gray, 1 native chert]), and military musket (n=5 flints [2 honey/blonde and 3 gray]) (Figures 8-18 and 8-19). Trade gun flints would have fit military muskets and carbines; their usefulness along the frontier would have been invaluable due to their interchangeability. In Elliott's study, trade gun flints and carbine flints make up a resounding 76.1 percent of the composite assemblage. Sites such as Fort St. Andrews, Fort Morris, and Fort Frederica contain 40 percent carbine flints, while farther inland the trade gun flint increases at ranger forts such as Fort Argyle, Fort Hawkins, Fort Moore, and Fort Mt. Pleasant as well as at native villages such as Ossabaw, Savano Town, and Upatoi Town (Elliott 2009). These are British occupations and contact period sites but offer a unique comparison as to the difficulties of supply and potentially the usefulness of interchangeable parts. Those sites, farther inland or further removed from the main base of

operation, such as Fort Rosalie or Fort Argyle, may have found it difficult to supply their troops with the appropriate munitions and military grade arms. Relating to the fact that Fort Rosalie may have been a 'stressed' environment in terms of the availability of raw material from Europe, the necessity of a cottage industry geared to local needs and local conflict would be necessary. This stressed environment may have led to the usage and creation of flints outside of standardized manufacturing practices.

Of the 95 gunflints measured, 51 were spall types (23 honey/blonde, 15 gray, and 13 burned or indeterminate), 44 prismatic (37 honey/blonde, and 5 burned or indeterminate), and 2 indeterminate types of possible native origin. The spall flints are concentrated in size between 22-33.9 mm (Figure 8-20). The prismatic flints have a greater width range but cluster between 19-27.9 mm (Figure 8-21). Compared to the 1 spall: prismatic ratio of 109:11 found at Fort St. Joseph, the 48:5 spall to prismatic ratio found at Fort de Chartres, and the 2175:348 spall to prismatic ratio found at Fort Michilimackinac, the 40:39 split at Fort Rosalie is uncommon (Carvalhoes 2011; Keene 2002; Hamilton and Emery 1988). The assemblage at Fort St. Pierre, on the Yazoo River, though small at 17 total flints, is more akin to Fort Rosalie with a 8:8 spall to prismatic ratio (one flint identified as aboriginal did not fit either category) (Brown 1975a).

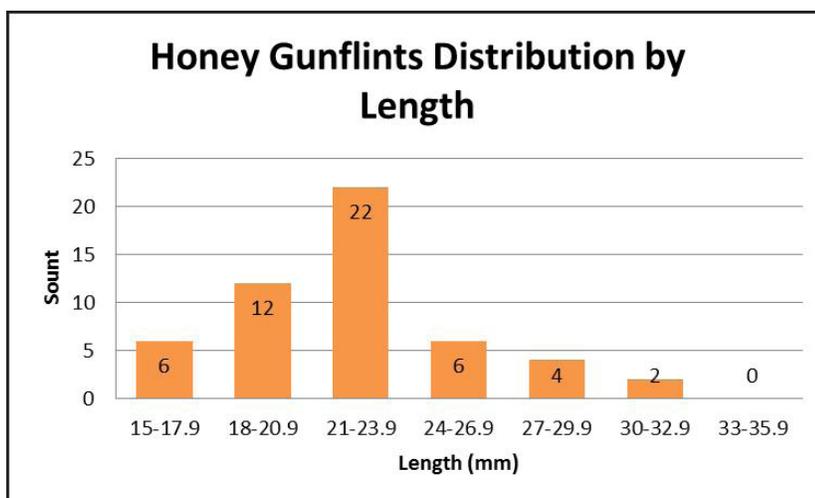


Figure 8-18. Fort Rosalie gunflints, blonde/honey by length (mm).

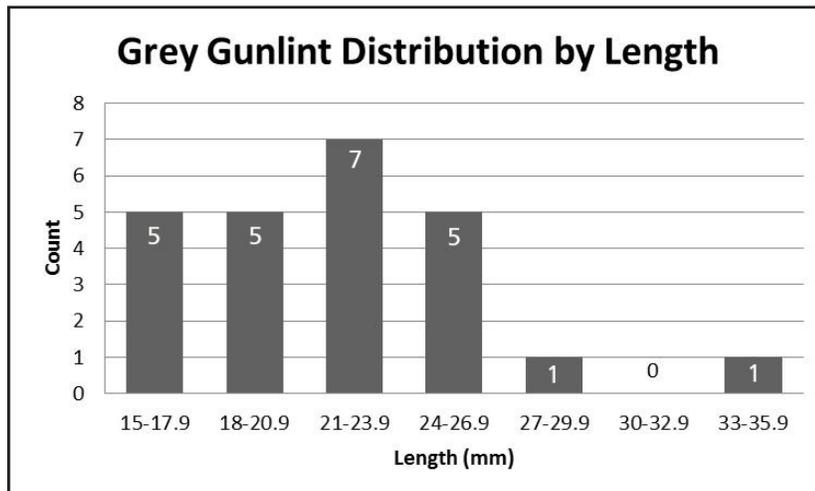


Figure 8-19. Fort Rosalie gunflints, grey by length (mm).

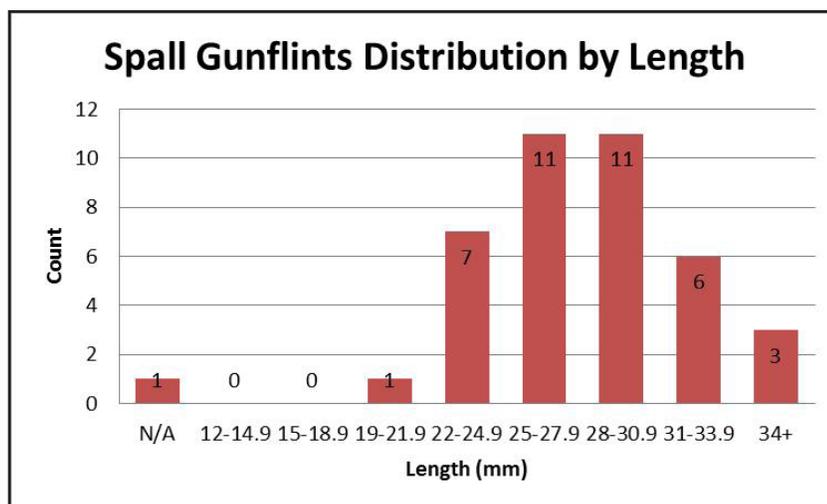


Figure 8-20. Fort Rosalie gunflints, spall, by length (mm).

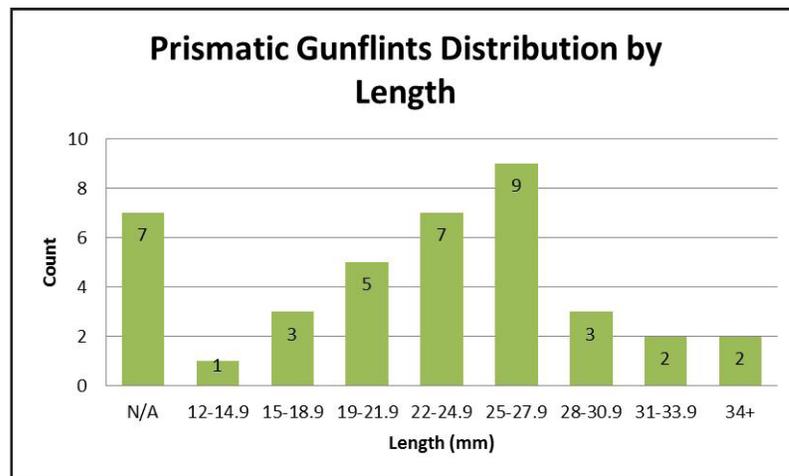


Figure 8-21. Fort Rosalie gunflints, prismatic, by length (mm).

Of the prismatic flints utilized in this study, 95 percent are identified as French in origin based on the raw material (honey/blonde/brown), compared to 37 percent of the spalls. This is without little doubt due to Fort Rosalie being an early colonial site, with its main occupation coming before the advent of English blade technology. Fifty-seven percent of the spall types consist of a gray flint, typically identified as English flint, but not uncommon at French colonial sites (Noël Hume 1969). The high percentage of gray compared to amber spalls is intriguing when compared to the other sites mentioned, which appear to have an overwhelming majority of amber spalls and relatively few gray spalls. This may be the result of the SEAC excavations taking place in the area generally along the fort's southernmost edge or just outside the fort proper, as we may be encountering living and working areas for soldiers, traders, and natives.

Discussion of Militaria

Based on the preliminary analysis of the military-related artifacts presented in this section, it appears that the site has a clear early eighteenth to early nineteenth century military occupation. This is evidenced by the early style gunflints and the relatively small caliber of the musket balls recovered. A preponderance of larger caliber musket balls used by the Brown Bess could suggest a British occupation, which is not the case based on the available

archeological evidence. The firearm parts concur with the gunflint and lead shot, suggestive of an early to middle eighteenth century occupation.

BUILDING COMPONENT

A total of 82 artifacts and 445 bags of unsorted materials (*bousillage*, brick fragments, mortar, tiles, and concrete fragments), weighing 73.42 kilograms (kg), were recovered over the 8 year course of the project (Table 8-7). The majority of these materials were modern or perhaps dated to the 1940s reconstruction of the fort. However, 187 bags of *bousillage*, weighing 61.53 kg, were recovered from contexts clearly associated with the eighteenth century fort, with the majority coming from EU's N500E501, N501E500, and N498E501.

ENERGY PRODUCTION

Objects related to energy production, such as metal slag, cinder, and coal, were not numerous. A total of 17 objects and 99 bags of unsorted materials were recovered, including 17 bags of cinder (51.62 g) and 132 bags of charcoal (329.90 g). This suggests that the area of investigation was not a locale for blacksmithing or trade good manufacture.

FOOD PRODUCTION, PROCESSING, SERVICE, AND CONSUMPTION

A total of 110,185 objects, weighing 137.1 kg, related to food production and processing, service, and consumption were recovered from the excavations (Table 8-8). These objects include a metal colander, iron and clay cooking pots, forks and spoons, a tureen, ceramic and glass vessels relating to both serving and preparation, burned corn (Figure 8-22), burned seeds, fruit pits (Figure 8-23), and even a piece of an egg shell.

Native American Pottery

Native American pottery types accounted for nearly 85 percent (n=25,220; 94.1 kg) of the ceramic assemblage and are a reflection of the long span of habitation of the region both prior to and during the period of French exploration and settlement (Table 8-9). Figure 8-24 illustrates the temporal distribution of the major pottery types found at the Fort Rosalie site. Diagnostic sherds (n=18,298; 85.52 kg) accounted for just under 73 percent of the ceramic assemblage. For more in-depth morphological descriptions of the various pottery types found at the site, see Brown (1985a), Brown and Brain (1983), Neitzel (1983), Steponaitis (1981), and Williams and Brain (1983).

Addis Plain

The vast majority of the identifiable Native American pottery types were varieties of Addis Plain (Table 8-10). This is a relatively non-descript type that is defined by the use of clay/grog, grit, and assorted organic materials (such as bone, plant, or shell) as tempering agents. The type can be further refined through the comparison of relative amounts of shell and/or size of the temper particles. For example, variety *Greenville*, which is roughly coterminous with variety *Addis*, can be distinguished by the addition of shell to the paste, whereas *var. Addis* is typically tempered with clay, grit, and organic materials other than shell. *Addis Plain, var. St. Catherine* is a later type that makes its appearance during the Foster phase; it includes

finely ground shell as a tempering agent. Some local variants of the classic shell tempered Bell Plain type have been subsumed under *Addis Plain, var. St. Catherine*. The earliest appearance of *Addis Plain* occurs around A.D. 1,000, during the Gordon phase, and it largely replaced the earlier grog tempered, Baytown Plain type (Brown 1985a:288; Neitzel 1983:81-84; Steponaitis 1981:8-9). Burnishing was identifiable on 6.4 percent (n=876, 4378.82 g) of the *Addis Plain* vessel fragments in the collection.

Identifiable vessel forms recovered during the excavations consisted primarily of simple bowls and short-necked bottles (Figures 8-25 and 8-26). Notching can frequently be found on *Addis Plain* vessels, often in conjunction with incising on the interior just below the rim. Quite often rim effigies are present on *Addis* vessels as well (Figure 8-27).

One artifact of notable interest is the *Addis*-ware vessel base illustrated in Figure 8-28, which exhibits an inscribed “+” crossed by an “X” within a rectangle scratched onto the interior portion of the base. The purpose behind this is unclear. It could have been etched by a European to represent the points on a compass, or picked up as a find or relic by a British soldier who scratched a Union Jack, or inscribed by an enslaved African slave to represent a Bakongo cosmogram or other African symbology, or scratched by the maker of the vessel to represent an unknown Natchez or other Native American symbology, or any one of a number of other reasons. It is quite possible, though, that the vessel was made by a Native American woman and could actually be representative of a colonoware vessel, made in a European style for European consumption, and even possibly used by an enslaved African. This discussion is elaborated later in this chapter.

Overall, *Addis Plain* types accounted for 72.3 percent (n=13,331, 51,991.79 g) of the diagnostic pottery from Fort Rosalie. At the nearby Fatherland Site, *Addis Plain* types averaged just over 81 percent of the diagnostics from Neitzel’s 1970s excavations, making it the

Table 8-7. Building and construction related materials recovered from Ft. Rosalie excavations.

Object	Material	Count	Quantity (Bags)	Weight (g)
Brick	Clay	0	141	7257.5
Clay, Fired	Clay	0	163	4335.64
Concrete Fragment	Concrete	0	18	612.22
Daub	Clay	0	187	61534.87
Fuse	Glass, Metal	1	0	1.32
Glass Fragment	Glass	1	0	0.3
Hinge	Brass	1	0	1.8
Hinge	Iron	5	0	1556.13
Lock, Door	Brass	1	0	5.04
Mortar	Mortar	0	116	2805.98
Nail	Iron	2840	0	17573.11
Nail	Iron, Lead	1	0	5.41
Nail	Steel	160	0	1017.71
Pintle	Iron	2	0	291.3
Pipe, Tubular	Brass	1	0	17.5
Pipe, Tubular	Copper	1	0	13.7
Plaster	Plaster	1	0	0.1
Shingle	Synthetic	5	0	2.63
Spike	Iron	241	0	12063.83
Spike	Steel	33	0	1206.92
Staple	Iron	1	0	44.52
Strap	Iron	7	0	504.89
Tile	Asbestos	16	0	49.9
Tile	Clay	4	0	15.0
Tile	Plastic	1	0	0.73
Tile	Rock	1	0	3.5
Tile, Roof	Slate	4	0	28.4
Tile, Floor	Linoleum	3	0	0.7
Vessel Fragment	Glass	31	0	67.65
Windowpane	Glass	37	0	126.48
Wood Fragment	Wood	81	0	1790.81
Total	—	3480	626	112935.59

dominant type there as well (Neitzel 1983:74-75).

Fatherland Incised

Fatherland Incised pottery developed out of the Addis types and as such is fully ensconced within the Plaquemine Tradition (Table 8-11). The type is easily recognizable by the presence of what is often described as an incised sun-spiral motif on the exterior of Addis ware vessels (Figure 8-29). The different varieties can be



Figure 8-22. Burned corn recovered from EU N500 E504, NATC 27556.

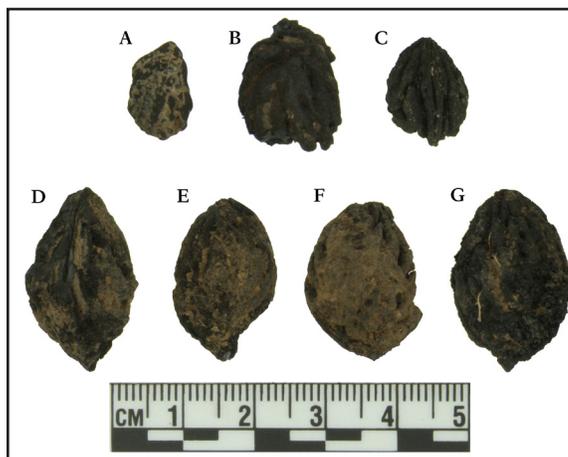


Figure 8-23. Burned peach pits, A-NATC 27560; B-NATC 28778; C-NATC 27994; D-NATC 27903; E-NATC 29313; F-NATC 27522; G-NATC 27507.

distinguished from each other by the number of parallel lines in the motif, as well as by the paste characteristics of the vessel. Variety *Fatherland*, which consists of two to three parallel lines in the typical sun-spiral on varieties *Addis* or *St. Catherine* vessels, is the most prominent of this type at Fort Rosalie. The quality of execution can vary significantly, with a more refined technique often appearing on the finer bodied vessels. The variety *Fatherland* is primarily identified in the Natchez and Emerald phases (Brain 1988:351-353; Brown 1985a:293-295; Neitzel 1983:89-91). It represents 4.38 percent (n=825, 6,602.81 g) of the diagnostic pottery

Table 8-8. Objects related to food production and processing.

Object	Material	Count	Weight (g)
Bottle	Clay	3	144.39
Bottle	Glass	142	1218.25
Bottle, Wine	Glass	1	7.94
Bowl	Clay	154	4712.81
Can	Tin	13	25.4
Cap, Bottle	Ferrous Metal	14	45.77
Colander	Iron	1	4.69
Crucible	Clay	1	46.5
Egg	Fauna Remains	4	36.59
Food, Bone	Bone	80347	33172.01
Food, Plant	Flora Remains	357	69.35
Food, Shell	Shell	102	92.56
Fork	Iron	1	71.36
Glass Fragment	Glass	1	0.3
Glass, Wine	Glass	1	15.23
Jar	Clay	81	2852.21
Knife	Iron	1	12.25
Lid	Clay	1	1.45
Nut	Flora Remains	1	0.17
Opener, Can	Ferrous Metal	1	3.06
Plant	Flora Remains	46	3.45
Plate	Clay	243	1883.15
Pot	Clay	17	1477.54
Pot	Iron	1	98.8
Pull Top	Aluminum	8	3.32
Stopper, Bottle	Glass	1	79.05
Vessel Fragment	Clay	28718	92912.77
Vessel Fragment	Glass	128	6068.69
Vessel Fragment	Kaolinite Clay	116	131.54
Vessel Fragment	Plastic	1	2.3
Total	—	110506	145192.9

from the site. Seventeen sherds of the distinctly historic *Bayou Goula* variety were identified. Although it represents less than 1 percent of the diagnostic pottery, the *Snyders Bluff* variety, is worth a brief mention, due to the distinctive addition of a red film principally on *Fatherland* variant vessels. Identifiable *Fatherland Incised* vessels in the collection consisted primarily of shallow bowls. Burnishing is evident on 238 vessel fragments, 12.5 percent of the *Fatherland* type sherds. Overall, the *Fatherland Incised* type represents 10.17 percent of the diagnostic pottery, but it is still the second largest category

Table 8-9. Native American wares recovered from the Fort Rosalie excavations

Type	Count	Weight (g)	Percent-age of Diagnostics
Addis Plain	13331	51991.79	53.30
Fatherland Incised	1816	8719.54	0.07
Mississippian Shell Tempered	1653	11462.55	7.00
Chicot Red Filmed	221	332.7	1.00
Major Plaquemine Pottery	466	1340.61	1.86
Additional Plaquemine Tradition	92	428.15	0.37
Coles Creek and Marksville Period	268	768.87	1.10
Other	7160	10363.9	35.30
Total	25007	85408.11	100.00

of pottery. At the Grand Village site, *Fatherland Incised* varieties represent about 6 percent of the diagnostics.

Mississippi Plain and Winterville Incised

Classic Mississippian, shell tempered pottery accounted for 8.76 percent of the diagnostic pottery from Fort Rosalie (Table 8-12). Shell is the dominant tempering agent of this type, but later varieties such as *Montfort*—an exclusively historic variety—included sand and clay particles as well (Neitzel 1983:95). Often the shell will have leached out, leaving the vessels with a somewhat friable quality (Figure 8-30). The examples of *Winterville Incised* that were recovered consisted primarily of multi-lined, curvilinear motifs produced with a broad instrument on Mississippi Plain pottery (Figure 8-31) (Williams and Brain 1983:205-208). Though most of the *Winterville Incised* sherds in the collection could not be identified to variety, they are most similar to the *Belzoni* variety. As an interesting side note, the Mississippian shell tempered varieties account for a much larger proportion of the overall assemblage than they do at the Grand Village. At Fort Rosalie, they account for approximately 9 percent of the diagnostics, whereas they account for only 1 percent of the Grand Village collection.

Table 8-10. Addis Plain pottery varieties recovered from the Fort Rosalie excavations.

Type	Count	Weight (g)	Percentage of Diagnostics
Addis Plain, var Addis	12640	48592.94	50.5
Addis Plain, var Greenville	307	1508.11	1.2
Addis Plain, var Holly Bluff	35	111.31	0.1
Addis Plain, var Junkin	2	32.63	0.0
Addis Plain, var Pilgrim Bayou	31	124.05	0.1
Addis Plain, var Ratcliffe	174	1020.84	0.7
Addis Plain, var Saint Catherine	117	245.37	0.5
Addis Plain, var Unspecified	25	356.54	0.1
Total	13331	51991.79	53.3

Chicot Red

Chicot Red Filmed sherds are some of the more distinctive of the types collected at Fort Rosalie. The red filming on Addis ware vessels makes them particularly identifiable. The *Fairchild* variety, which refers to the presence of red filming on *Addis* vessels, spans the entire Plaquemine Tradition (see Figure 8-24), whereas the *Grand Village* variant (which refers to red filming on variety *St. Catherine* vessels), is a later development and makes its appearance during the Emerald Phase (Neitzel 1983:85). Chicot Red Filmed sherds represent a minority (3.1 percent) of the diagnostic types from Fort Rosalie (Table 13), but these include the *Grand Village* variety plate pictured below (Figure 8-32). However, numerous examples of these wares exhibit forms that resemble European-style vessels, with flanges and footings, meaning they could be colonoware-type vessels. Similar wares have been encountered in New Orleans and elsewhere across the French colonial arena of the Lower Mississippi Valley (Gums et al. 2011).

Mazique Incised

The final two major Plaquemine types that will be discussed in detail are Mazique Incised and Plaquemine Brushed. Mazique vessels can be identified by the crudely executed, wet-

Table 8-11. Fatherland Incised pottery varieties recovered from the Fort Rosalie excavations.

Type	Count	Weight (g)	Percentage of Diagnostics
Fatherland Incised, var Bayou Goula	17	45.4	0.1
Fatherland Incised, var Fatherland	714	5189.39	2.9
Fatherland Incised, var Nancy	32	268.71	0.1
Fatherland Incised, var Perkins Creek	2	6.26	0.0
Fatherland Incised, var Pine Ridge	7	32.91	0.0
Fatherland Incised, var Snyders Bluff	183	446.97	0.7
Fatherland Incised, var Stanton	4	13.97	0.0
Fatherland Incised, var Unspecified	857	2715.93	3.4
Total	1816	8719.54	7.2

paste incising of multiple parallel lines that often form triangles or herringbone patterns. On *Manchac* vessels, the decoration is often confined to the area below the rim (Figure 8-33). This variant makes its first appearance during the Coles Creek Gordon Phase, disappears during the Anna Phase, and finally reappears during the Foster Phase. Mazique Incised, var. *North*, on the other hand, is strictly confined to the Natchez phase. It can be distinguished from other Mazique Incised varieties by the application of the decorative technique on poorly smoothed Addis Plain vessels (Neitzel 1983:93-95; Williams and Brain 1983:184-186). Varieties *Manchac* and *North* are both present in the collection. Overall, Mazique Incised vessels account for 1.28 percent (n=242, 1,866.74 g) of the Fort Rosalie collection (Table 8-14). Although still a small number, Mazique Incised vessels had a slightly larger representation in the Grand Village collection.

Plaquemine Brushed

Plaquemine Brushed types are recognized by the application of the technique to Addis ware vessels. The brushing is often applied in a herringbone pattern, and vessels frequently feature punctations (left, Figure 8-34) or

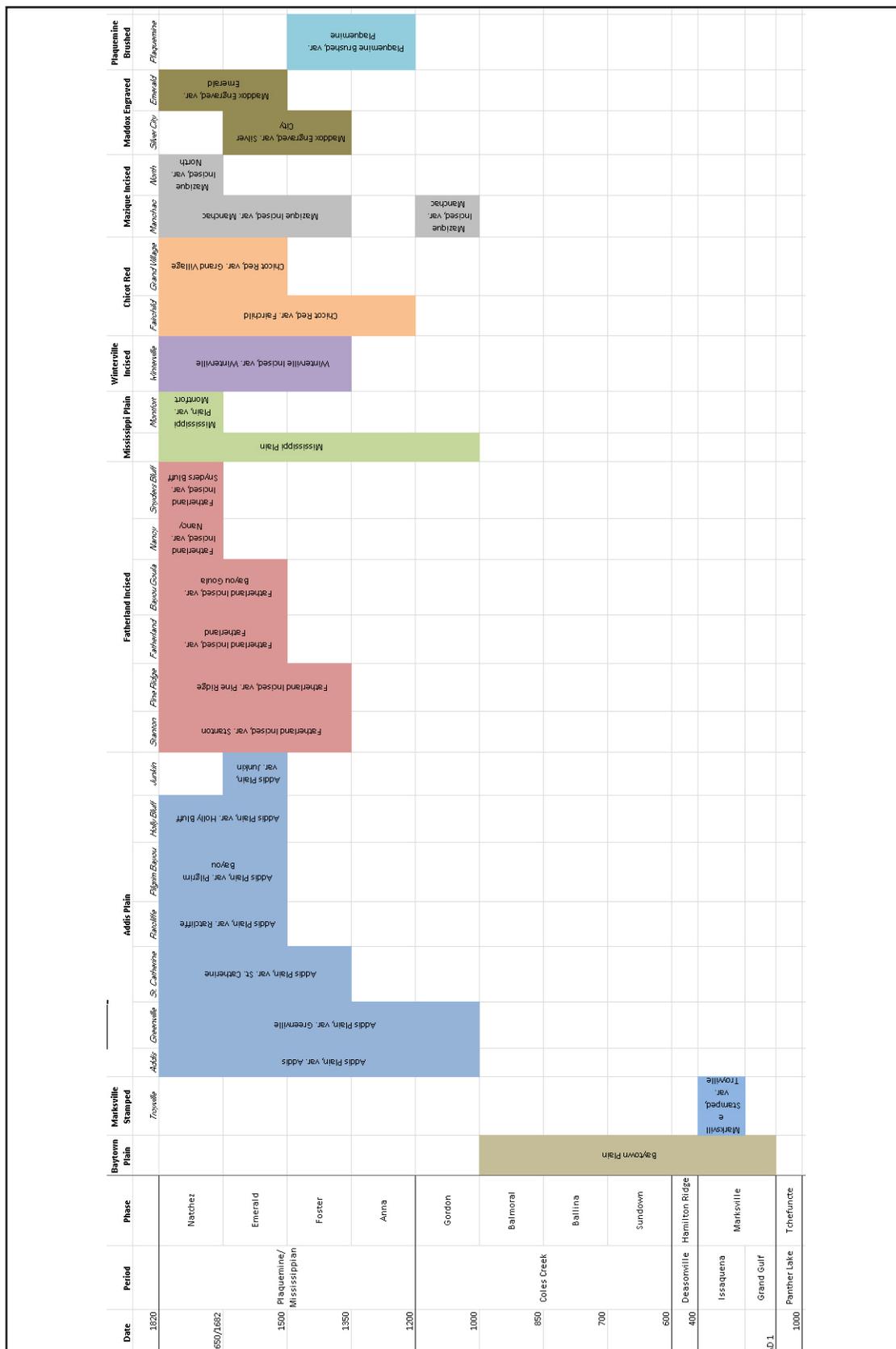


Figure 8-24. Temporal distribution of major pottery types found at the Fort Rosalie site (after Brown 1985:7-9; Neitzel 1983:119).



Figure 8-25. Addis Plain bottle recovered during the excavations. NATC 27554.

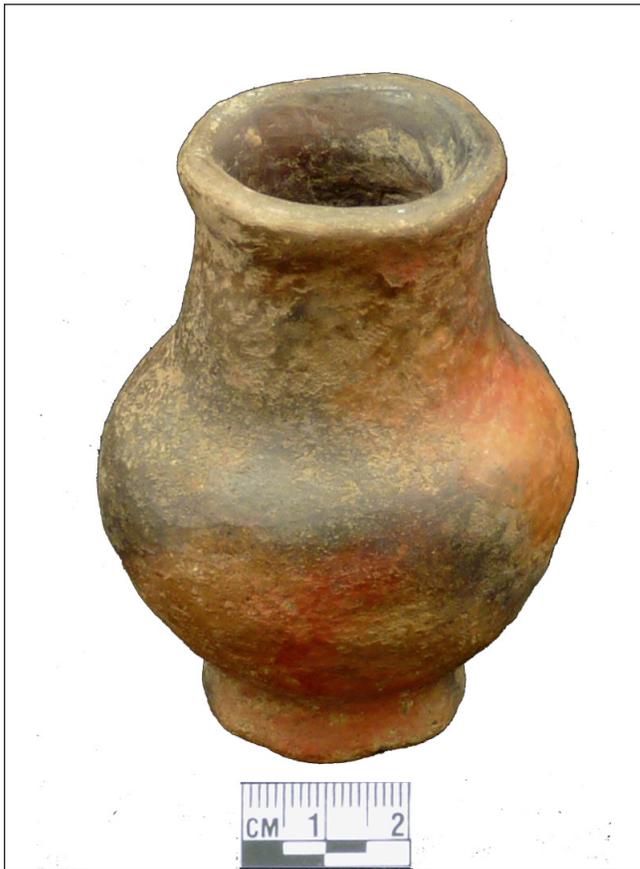


Figure 8-26. Small colonoware jar recovered during the excavations. NATC 2946.



Figure 8-27. Addis-ware rim effigies recovered during the excavations at Fort Rosalie (left, NATC 33085; right, NATC 30033).

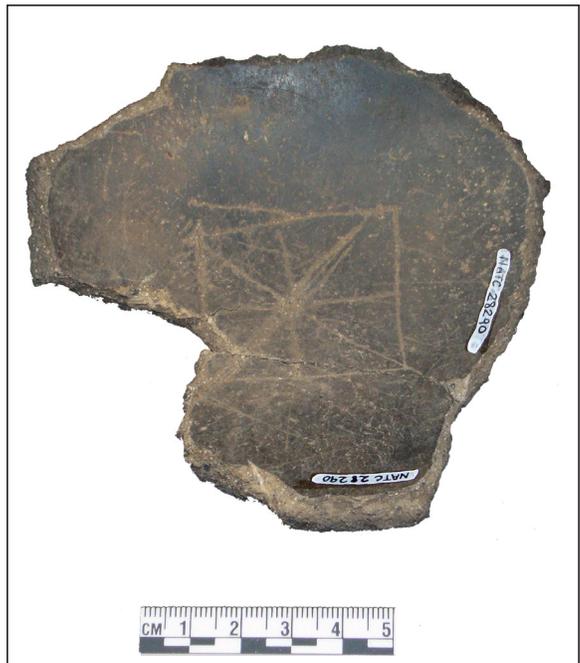


Figure 8-28. Addis-ware scratched vessel base. NATC 28290.

incising. The type can be found throughout the entirety of the Plaquemine period, but at the Grand Village site it is more common in the Foster phase levels. Plaquemine Brushed sherds accounted for 2.44 percent (n=466, 1,340.61 g) of the diagnostics recovered (see Table 8-13). Its presence at Fort Rosalie indicates that it (or some evolved version of it) potentially was produced much later than previously believed, but most likely area derived from an occupation of this bluff area that predated the arrival of the French.



Figure 8-29. Examples of Fatherland Incised bowl fragments. NATC 32886.

Other Plaquemine Types

In addition to those just discussed, a small number of ceramics that had their origins in the Emerald or Natchez phases are also represented in the collection (Figure 8-35; Table 8-15). These include a small assortment of Maddox Engraved types including varieties *Emerald* and *Silver City*, as well as Nodena Red and White, Owens Punctated, and certain varieties of Leland Incised. Other types, such as Barton Incised and Parkin Punctated, had their origins in earlier phases of the Plaquemine period but persisted, at least into the Emerald phase.

Table 8-12. Mississippian shell-tempered pottery types recovered from Fort Rosalie.

Type	Count	Weight (g)	Percentage of Diagnostics
Mississippi Plain, var Montfort	67	164.86	0.3
Mississippi Plain, var Unspecified	1340	8396.9	5.4
Winterville Incised, var Loubois	2	5.35	0.0
Winterville Incised, var Unspecified	197	1824.34	0.8
Winterville Incised, var Winterville	47	1071.1	0.2
	1653	11462.55	6.7

A small assortment of ceramic types that are diagnostic of the Anna or Foster periods are also present in the collection. For the most part, however, these are typically represented by only a couple of sherds and amount to less than 1 percent of the collection. Some examples of these include Anna Incised, Carter Engraved, Coleman Incised, Hollyknowe Ridge Pinched, and L'Eau Noire Incised (Figure 8-36).

Coles Creek and Earlier Traditions

The Coles Creek and Marksville periods are also represented by a small number of diagnostic types encompassing less than 1.5 percent of the entire collection (see Table 8-16). They deserve a brief mention, nonetheless. The grog tempered Baytown Plain was the most plentiful of the earlier pottery, accounting for 1.17 percent (n=220, 493.87 g) of the overall diagnostics. As previously mentioned, Baytown Plain originated in the Marksville period and continued through A.D. 1000 when it was supplanted by Addis Plain. Other diagnostic markers include Coles Creek and Barton Incised, as well as Avoylles and Evansville Punctated types (Figure 8-37). The oldest ceramics recovered at Fort Rosalie were the three Marksville period sherds:

Table 8-13. Chicot Red Filmed pottery types recovered from Fort Rosalie.

Type	Count	Weight (g)	Percentage of Diagnostics
Chicot Red, var Fairchild	121	221.27	0.5
Chicot Red, var Grace	1	0.26	0.0
Chicot Red, var Grand Village	6	8.14	0.0
Chicot Red, var Rosalie	44	78.15	0.2
Chicot Red, var Unspecified	49	24.88	0.2
	221	332.7	0.9

Table 8-14. Major Plaquemine pottery types recovered from the Fort Rosalie.

Type	Count	Weight (g)	Percentage of Diagnostics
Mazique Incised, var Manchac	148	994.4	0.60
Mazique Incised, var North	74	710.52	0.30
Mazique Incised, var Unspecified	15	74.36	0.10
Total	237	1779.28	0.90
Plaquemine Brushed, var Plaquemine	462	1333.51	1.85
Plaquemine Brushed, var Unspecified	4	7.1	0.02
Total	466	1340.61	3.77

Marksville Stamped, Churupa Punctated, and Alligator Incised (Figure 8-38).

Discussion of the Native American Ceramic Assemblage

The Native American ceramics recovered from the excavations account for 24.1 percent of the entire artifact assemblage, with 73.0 percent of that being identifiable as to type. The assemblage spans more than 1500 years, from the beginning of the Marksville period (ca. A.D. 1) through the end of the Plaquemine (ca. 1820). The limited presence of several types of older wares (Anna, Alligator, Coles Creek, Harrison Bayou, Marksville, and others) can be explained as isolated finds that were picked up as curiosities likely brought to the fort by soldiers. Alternatively, their presence may bespeak of an ephemeral occupation of the vicinity during earlier times. The presence of Baytown Plain (n=220) and Plaquemine Brushed (n=466) varieties, dating to the Late Woodland and Plaquemine periods, respectively, merits some discussion. Both of these wares were encountered in substantially larger numbers than those from other earlier traditions. It

is possible that both of these types could be considered a “catch all” for locally developed Natchezan pottery wares that to date had not been widely encountered. They could represent a conservative approach to pottery production that included the continued use of particular traits until the arrival of Europeans in the seventeenth and eighteenth centuries. Conversely, they could be indicative of the presence of a long-term occupation that predated the establishment of Fort Rosalie. However, no evidence supporting this second proposition has been encountered thus far.

This assemblage has a roughly similar distribution to other contemporaneous assemblages from local sites. More than 80 percent of the identifiable sherds from the fort are varieties of Addis Plain and Fatherland Incised (Figure 8-39a), both of which are classic Plaquemine types. A comparison of the Fort Rosalie assemblage with assemblages from two nearby sites, the Fatherland Site and the Greenfield site, Locale II, indicate a roughly similar distribution of ceramic types within their respective assemblages. The data used for this comparison are from Netizel’s 1972 excavations



Figure 8-30. Mississippi Plain shell tempered jar recovered during the Fort Rosalie. NATC 28228.



Figure 8-31. Winterville Incised, var. Winterville jar fragments recovered from the Fort Rosalie excavations. NATC 29214.



Figure 8-32. Chicot Red Filmed, var. Grand Village colonoware plate recovered from Fort Rosalie. NATC 30125.



Figure 8-33. Example of a Mazique Incised, var. Manchac jar recovered during the Fort Rosalie excavations. NATC 30315.



Figure 8-34. Plaquemine Brushed vessel fragments recovered from the Fort Rosalie excavations. NATC 33141.



Figure 8-35. Assorted Late Plaquemine pottery types recovered from the Fort Rosalie excavations. Top left: Owens Punctated; top right: Maddox Engraved (NATC 30567); bottom left: Nodena Red and White (NATC 33137); bottom center: Leland Incised; bottom right; Parkin Punctated, var. Hollandale (NATC 33401).

Table 8-15. Additional Plaquemine Tradition pottery types recovered during the Fort Rosalie Excavations.

Type	Count	Weight (g)	Percentage of Diagnostics
Anna Incised, var Anna	6	39.04	0.02
Barton Incised, var Estill	1	3.6	0.00
Barton Incised, var Unspecified	5	32.6	0.02
Carter Engraved, var Unspecified	1	2.1	0.00
Coleman Incised, var Bass	1	5.73	0.00
Coleman Incised, var Unspecified	1	2.69	0.00
French Fork Incised, var Unspecified	1	9.63	0.00
Hollyknowe Ridge Pinched	2	13.36	0.01
L'Eau Noire Incised, var L'Eau Noire	1	9.6	0.00
Leland Incised, var Bovina	2	3.5	0.01
Leland Incised, var Ferris	1	6.62	0.00
Leland Incised, var Unspecified	10	69.26	0.04
Maddox Engraved, var Baptiste	4	18.29	0.02
Maddox Engraved, var Crystal River	2	6.56	0.01
Maddox Engraved, var Emerald	10	42.63	0.04
Maddox Engraved, var Silver City	6	15.36	0.02
Maddox Engraved, var Unspecified	20	69.45	0.08
Mulberry Creek Cord Marked, var Centers Creek	1	8.35	0.00
Mulberry Creek Cord Marked, var Unspecified	1	3.3	0.00
Nodena Red And White, var Unspecified	1	2.1	0.00
Owens Punctated, var Beland City	1	15.6	0.00
Owens Punctated, var Unspecified	13	42.86	0.05
Parkin Punctated, var Hollandale	1	5.92	0.00
Total	92	428.15	0.37

at the Fatherland site (Neitzel 1983) and Stephen Williams' work at the Greenfield site (Brown 1985a:99-111). The Fatherland site, also known as the Grand Village of the Natchez, is located approximately 4.5 km to the southeast of the fort along St. Catherine's Creek on property currently owned by the state of Mississippi. The Greenfield site is located roughly nine km to the west of the fort on property currently owned by the National Park Service. Artifacts recovered from Locale II at Greenfield indicated a principally protohistoric occupation (Brown 1985a:99-111). At the Fatherland site, Addis Plain types averaged just over 81 percent of the diagnostic ceramics, making it the dominant type (Neitzel 1983:74-75), while, at Greenfield, Addis Plain accounted for only 65 percent of

the diagnostic ceramics (Brown 1985a:36). Mississippi Plain pottery comprised a much larger percentage of the assemblage at the fort than at either the Grand Village or Greenfield, as did Fatherland Incised and Chicot Red Filmed types (Figure 8-39b). The predominance of later phase ceramic types coincides with the later occupation of the fort. Nondescript, utilitarian Addis Plain wares dominate the ceramic assemblage, while an examination of the vessels indicates a preference for European type forms; see Appendix E for the complete report of Steponaitis' analysis of these colonoware forms. Overall, the assemblage is consistent with the late Plaquemine occupation of the site, and is similar to the contemporaneous Fatherland site.

Historic Ceramic and Clay Wares

Historic ceramic wares can be divided into three main classes: earthenware, stoneware, and porcelain. These categories are characterized by the raw materials and the firing temperatures used to produce the ceramic item. The length of time, temperature, and the environment in which the ceramic product is fired affects both its appearance and structural configuration. The most widely utilized class of historic ceramic ware in pre-20th century America was refined earthenware due to its ease of manufacture and inexpensive cost (Noël Hume 1969:102). A total of 3,710 historic ceramic vessel fragments, weighing 7,504.29 g, was recovered; of these 2,389 (5,997.17 g) were identified as coarse earthenwares, and 1,321 (1,507.12 g) as refined earthenwares (Table 17).

Coarse Earthenwares

Typically, non-service, utilitarian, or multi-purpose coarse earthenwares, like brown faience (*faïence brune*), Albisola slip wares, stonewares, and lead-glazed ceramics, were multi-functional and would have been found in kitchens and storage areas. These wares consist of a wide variety of ceramic bodies and pastes. They range in color, some with a variety of inclusions, and are covered in slips and glazes based in lead and many types of oxides. Glaze colors range from green to brown to yellow to simply clear, with some mottling being common (Barton 1981; Yakubik 1990; Yakubik et al. 1989).

From ca. 1650-1700, much of the trade between France and New World colonies was based in Europe's Atlantic coast ports, and the ceramics present on many colonial sites reflects these regional influences. In the eighteenth century, trade moved to the Mediterranean coast, with some wares being moved from the southeastern to the southwestern French coast, then across the Atlantic (Arcangeli 2009). Thus, more Mediterranean influenced

wares are present on French sites that date to the eighteenth century.

Many earthenwares recovered from French colonial contexts across North America were produced in southwestern France at La Chapelle-de-Pots, Saintes, and Charentes Maritime (Yakubik et al. 1989). The Saintonge potteries had been producing fine ceramics since the mid-thirteenth century. During the late seventeenth through eighteenth centuries, both the product and focus of the Saintonge market changed. Where the manufacturers and distributors had been previously sold to those wealthy enough to afford their wares, the potters began during this period to produce utilitarian wares specifically designed for the needs of the New World. The wares are typically buff to pink paste earthenwares with interiors covered in a bright, "apple green" glaze.

"Olive jar" refers to a typically unglazed, coarse earthenware vessel, with a restricted neck. A thin white slip was occasionally applied to the exterior, while the interior sometimes had a green, blue, yellow, or white glaze. They are strictly a utilitarian vessel, used for the transportation and/or storage of goods, primarily liquids. These large vessels were often produced in Spain between A.D. 1490 and 1900 (although the end date of production has not been

Table 8-16. Coles Creek and Marksville period vessel fragments recovered during the Fort Rosalie excavations.

Type	Count	Weight (g)	Percentage of Diagnostics
Churupa Punctated	1	5.9	0.00
Avoyelles Punctated, var George	1	10.04	0.00
Avoyelles Punctated, var Unspecified	2	4.53	0.01
Baytown Plain, var Unspecified	220	493.87	0.88
Coles Creek Incised, var Blakely	1	3.56	0.00
Coles Creek Incised, var Coles Creek	1	15.00	0.00
Coles Creek Incised, var Mott	2	15.13	0.01
Coles Creek Incised, var Unspecified	22	112.17	0.09
Evansville Punctated, var La Salle	3	24.45	0.01
Evansville Punctated, var Sharkey	1	2.42	0.00
Evansville Punctated, var Unspecified	8	38.75	0.03
Harrison Bayou Incised, var Harrison Bayou	3	21.18	0.01
Harrison Bayou Incised, var Unspecified	3	21.87	0.01
Total	268	768.87	1.10



Figure 8-36. Assorted Early Plaquemine pottery types recovered from the Fort Rosalie excavations. Left: Anna Incised, var. Anna (NATC 28304); center: L'Eau Noire Incised, var. L'Eau Noire (NATC 28310); right: Hollyknowe Ridge Pinched (NATC 28949).



Figure 8-37. Examples of Coles Creek period pottery recovered from the Fort Rosalie excavations. Top left: Coles Creek Incised; top right: Avoyelles Punctated, var. George rim sherd (NATC 27342); bottom left: Barton Incised; bottom right: Evansville Punctated, var. Sharkey (NATC 26964).

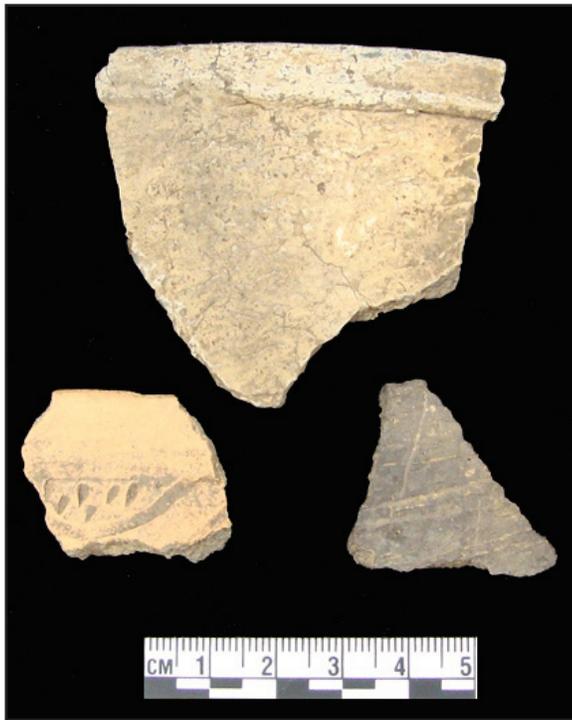


Figure 8-38. Examples of Marksville period pottery recovered from the Fort Rosalie excavations. Top: Marksville Stamped, var. Troyville jar fragment (NATC 28656); bottom left: Churupa Punctated (NATC 29744); bottom right: Alligator Incised, var. Oxbow (NATC 27084).

accurately determined), though, as discussed above, similar large storage vessels were also produced across the Mediterranean, so unless a distinctive, diagnostic trait, such as body shape and handles is present on an archeologically-recovered sherd, a point of origin is difficult to assign (Deagan 1987:28, 30-35; Goggin 1960).

Lead glazed utilitarian vessels were also made in many places across France using yellow and green glazes and a variety of decorative styles and elements (Arcangeli 2009). In Toulouse there were the well-known potteries of Giroussen, Lomagne, and Cox, each known for particular decorative trends and uses of color. Toulousain tablewares have been recovered from French fortification sites, such as Fort Michilimakinac (1715-1761, 1761-1781), Fort Chambly (1665-1711, 1711-ca. 1850s, located southeast of Montreal, Quebec), and Louisbourg (1713-1760, located at Cape Breton, Nova Scotia), and are assumed to have been used by officers or others of higher social rank. Coarse earthenwares made in Biot, France, such as

jars, oil jars, pots, pans, and bowls, were largely utilitarian in use. These vessels were made with clays heavy with kaolinite, and as such were a white to buff color, with interiors glazed often with yellow or green glazes.

Other coarse ceramic wares that were reportedly common in the early eighteenth century were produced in Albisola, Liguria, Italy, and copied across the Mediterranean, including several places in France (Arcangeli 2009). These wares were dark brown lead glazed with a black or dark brown slip trailed on the vessel interior, and have been called both Albisola Slipped and Northern Italian Brown and Black Wares by several researchers (Barton 1981; Yakubik et al. 1989). These wares were imported to the New World and have been recovered in archeological contexts across coastal Gulf of Mexico and up the Mississippi River, typically associated with mid-eighteenth century contexts (Barton 1981).

Slipware refers to ceramic wares that were decorated by a technique in which clay is suspended in water and diluted to a creamy consistency and either poured or dropped onto the body of the vessel before firing. Feldspars and oxides could be added for coloring, and other materials added to harden the paste and finish. A clear lead glaze, often with manganese oxide, was commonly added prior to firing (Hughes and Hughes 1968:137). The most common slip colors are brown, black, and creamy white, and were applied to a vessel via trailing, combing, or marbling, with trailing and combing becoming prevalent during the latter 1600s until ca. 1770 (Erickson and Hunter 2001). Decorative techniques found on slipwares include stenciled, painted, feathered, combed, and molded motifs. The distinctive yellow and dark brown or black slipwares typically known as Staffordshire-type was produced between ca. 1650 and the 1770s. Staffordshire-type incorporated light and dark colored slips that were trailed, marbled, or combed over buff or yellow paste bodies and covered in a clear lead glaze. Slipping was a fairly common practice and was employed in England and elsewhere beginning in the early seventeenth century and

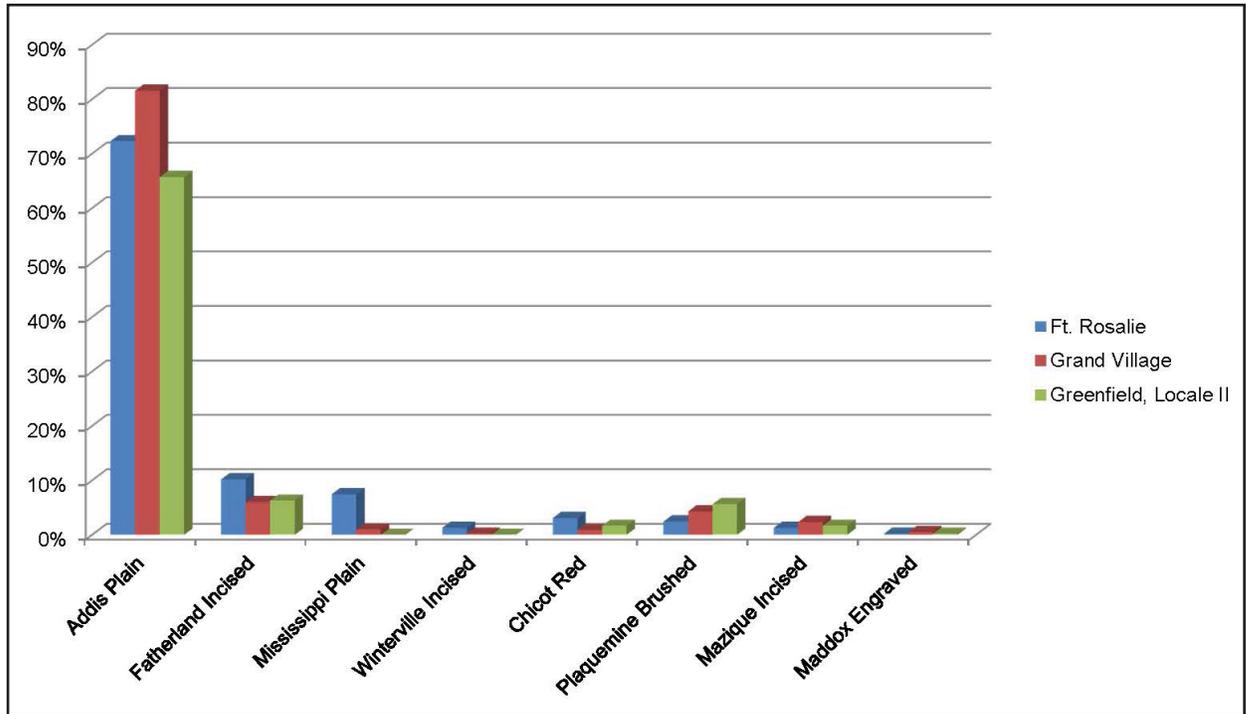


Figure 8-39a. Comparison of the Fort Rosalie Native American ceramic assemblage with the 1972 Grand Village (Neitzel 1983:74-75 Table 8-5) and Greenfield, Locale II (Brown 1985:232).

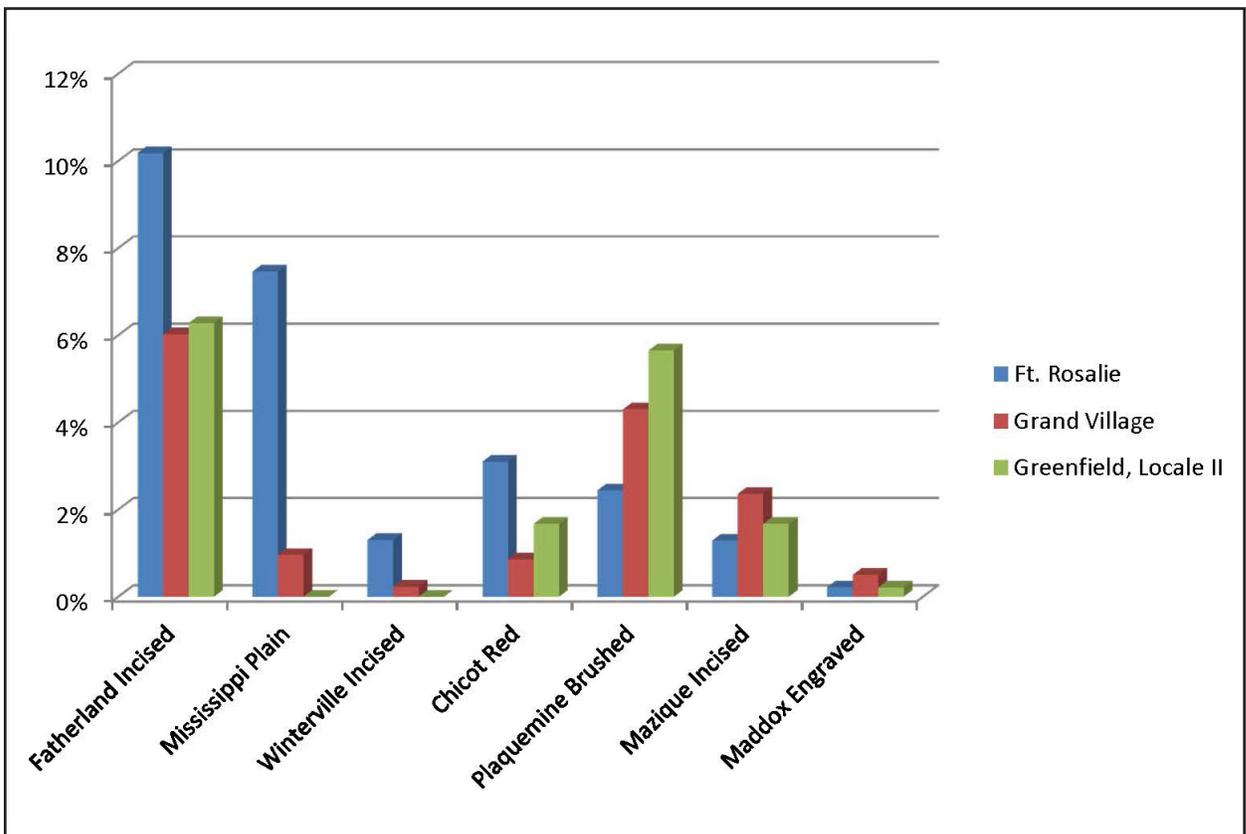


Figure 8-39b. Comparison of the Fort Rosalie Native American ceramic assemblage, excluding Addis Plain types, with the Grand Village and Greenfield assemblages.

Table 8-17. Historic ceramics recovered from the Fort Rosalie excavations.

Type	Count	Wgt. (g)
Earthenware, Coarse	578	2204.87
Earthenware, Coarse, Buff Slipware	1	0.70
Earthenware, Coarse, Colonoware	360	830.05
Earthenware, Coarse, Delft	38	61.64
Earthenware, Coarse, Faience	325	1205.06
Earthenware, Coarse, Majolica	7	5.94
Earthenware, Coarse, Red Bodied Slipware	6	14.22
Earthenware, Coarse, Redware	332	740.4
Earthenware, Coarse, Tin Enameled	714	770.31
Stoneware	1	0.37
Stoneware, Coarse	28	163.94
Stoneware, Refined	2	1.49
Stoneware, Refined, White Paste	11	5.84
Total	2403	6004.83
Earthenware, Refined	48	51.52
Creamware	813	941.87
Ironstone	9	42.15
Pearlware	290	226.94
Porcelain	116	131.54
Redware	49	54.81
Whiteware	80	162.91
Yellow Ware	1	5.3
Total	1604	1617.04
Grand Total	3809	7621.87

in North America during the latter part of the seventeenth century (Deetz 1993:178).

A total of 2,389 coarse earthenwares, weighing 5,997.17 g, were recovered from the SEAC excavations at Fort Rosalie (Table 8-18).

Saintonge Plain

For the purposes of this study, all sherds with pastes ranging in color from light pink to buff to salmon and covered with a green or yellow lead glaze with slip in a manner resembling wares produced in Saintonge have been grouped as Saintonge Plain; this grouping only reflects a series of ceramic traits and does not assume origin.

A total of 271 sherds, weighing 978.79 g, were recovered. Of this total 17 could be decisively identified as plates or deep plates, one as a pitcher, and one as an *ecuelle*, or a soup or drinking bowl with distinctive handles

(Figure 8-40). While many sherds appear to have possibly been deep bowls, their actual function, whether as milk pans, barber bowls, porringers, or others forms, could not be determined due to their fragmented nature. Additional examination is recommended, and reconstruction of vessels may prove worthwhile.

Albisola Slipped Wares

A total of 73 sherds (119.07 g) was recovered from Fort Rosalie, including 32 rim sherds and 41 body sherds, none of which mended. All of these vessels were plates or platters or large open bowls (Figure 8-41).

Coarse Redwares

The redware ceramic category includes both coarse and refined earthenwares having a red-orange to dark purplish-red paste (Figure 8-42). The color of the paste is a result of ferrous compounds found in the clay used for vessel production (McConnell 1988:28). Coarse bodied redwares are largely associated with utilitarian use, but were also employed in the production of teapots, toy figurines, and roofing tiles. The discovery of a kiln in Louisiana—along the Mississippi River—revealed that local clays were used in the local production of a variety of vessels covered in lead glazes that included manganese, which could vary the glaze color from brown to black (Lee 2007:374). A total of 176 sherds, weighing 424.09 g, was recovered, covered in a variety of glazes including clear, some with manganese mottling. Of this total, 15 were red bodied slipwares, two were yellow lead glazed slipwares, and two more were simply slipped. Three sherds were covered in a thick, dark manganese (nearly black) glaze resembling Jackfield.

A number of sherds (n=71, 198.1 g) resembled a type of ware typically referred to as “Charente Plain,” a ware with paste ranging from red to light pink to buff (depending on firing) and covered in a lead glaze varying from clear to a “mustard” to caramel-colored glaze, some with a slight green mottling (Figure 8-43). The majority of these vessels were flat or hollow dishes or plates (*plat creux* or *assiette*).

Stoneware

Stoneware is fired at higher temperatures than earthenware, creating a vitrified body impermeable to liquids. It is a hard, durable ceramic that requires no glaze, though glazes are often added for aesthetic purposes and to aid in their cleaning. Pastes can vary from cream to gray to brown, but uneven firing can cause significant variations in color within a single vessel. Stonewares are often associated with utilitarian uses, such as food processing, preparation, and storage, due to their strength and impermeability, though there are numerous examples of refined stonewares used for service (i.e., true Westerwald or Rhenish stonewares). There are many common decorative techniques and designs associated with stoneware vessels, some of which, such as transfer printed and painted motifs, are also common in refined earthenwares. Salt glazing is commonly used, accomplished by the introduction of common salt to the kiln during the firing process. Its orange peel texture is the most easily identifiable characteristic.

A surprisingly small amount of stoneware was recovered: only 42 fragments weighing 171.64 g. The vast majority of stonewares was untyped (n=21, 140.16 g), followed by salt glazed (n=10), white salt glazed (n=1), and a single piece of Nottingham.

Other Coarse Earthenwares

Based on the results of petrographic and chemical analysis of sherds conducted across the French colonial sphere some lead glazed coarse earthenwares originally believed to have been trade wares, such as North Devon Gravel Tempered (ca. 1680-1750), were actually locally produced. Nine sherds, weighing 31.27 grams, were identified as being potentially North Devon Gravel Tempered. This type has a New World origin.

A number of sherds could be identified generally as untyped slipwares, with three sherds exhibiting yellow lead glazing in styles typically associated with English production.

Tin-Enameled Wares-Faience

Before the advent of mass produced tablewares in the late eighteenth century, most ceramic wares were hand-thrown or poured into molds and sealed with a variety of glazes. One technology used by potters, borrowing techniques from the fourteenth century Moorish invaders of Spain, was to produce an opaque, white enamel glaze by mixing tin oxide, calcined lead, silica, and potash or soda, painted onto a soft, porous clay bodied vessel. This technique came to be known as tin enameling or tin glazing, and continued into the nineteenth century. Depending on its place of manufacture, this ware is called by a variety of names: in France it is called faience; in Holland, Delft; in England, delft; in Portugal and Italy, maiolica; and Spain and the New World colonies, majolica (Deetz 1996:178; Noël Hume 1969:105-106). It was produced in a variety of forms and decorative techniques, many of which can be confined to specific date ranges.

Throughout much of the seventeenth century the main regional centers for the production of ceramic tablewares in France were Nevers and Lyon. By the beginning of the eighteenth century these centers moved to Rouen and Lille in the north, Moustiers and Marseilles in the south, and Strasbourg in the east (Caiger-Smith 1973; Giacomotti 1963; Hardy 2011; Lane 1948; Waselkov and Walthall 2002).

Faience populaire, a white faience (*faience blanche*) that was plain or simply decorated, was readily available to members of the bourgeoisie and lower classes. Consisting of simple border patterns painted in bright hues of blue, orange, or yellow, these wares were produced for mass consumption (Lane 1948:12, 17). *Faience blanche* was the life blood of the faience industry, as most of the upper bourgeoisie and noble classes desired imported porcelains and more elaborately decorated wares, and these wares could be substituted for the desired ware.

More functional, multi-purpose *faience* was also produced throughout the eighteenth and into the nineteenth centuries, especially in Rouen. Brown faience, or *faience brune*,



Figure 8-40. Fragments of a Saintonge Plain-style deep plate or bowl. NATC 32407.



Figure 8-41. Albisola. NATC 32473.

consisted of vessels with a black/brown manganese-based lead glaze on their exterior and white tin-glazed enamel on their interior (Giacomotti 1963:36), and was intended to be heat resistant, its underside glazed so it could be used for preparing foods on hot surfaces. Many of these interiors were painted with the same simple designs found on *faience blanche*, making them suitable for both food preparation and service (Figure 8-44). It was the brown faience industry that kept Normandy alive as a ceramic production center during the second half

of the 1700s, though potters who made brown could not, by royal decree, make white faience (Barton 1981; Blanchette 1981:44). The first *faience brune* was produced in Rouen sometime around 1707, and larger scale production was in place by 1722 (Genêt 1996). Blanchette (1981:47) states that these wares are not found in archeological contexts in North America prior to 1720.

The technique used by factories producing tin-enameled earthenware throughout Europe was the *grand feu*, a single firing of a vessel that



Figure 8-42. Slipped Redware plate recovered during excavation. NATC 34786.

fused the glaze and painted decorations to the clay surface. Only a few oxide pigments painted onto the enamel could withstand the intense heat: cobalt (blue), copper (green), antimony (yellow), manganese (browns and purple), and iron (orange to brown) (Boone 1998; Giacomotti 1963:11; Hardy 2009; Lane 1948:1). In the 1740s, *faienciers* began to experiment with various firing techniques (*petit feu*) and glaze compositions in order to reproduce the pinks, purples, and greens found on Chinese porcelains (Giacomotti 1963:11).

In the second half of the seventeenth century, many of the decorative elements used on faience were influenced from the Italian baroque and the blue-and-white *chinoiserie* designs of the Kang Hsi period (1622-1722); but, by the 1720s, these designs had simplified (Hardy 2011).

By the beginning of the eighteenth century decorative designs were influenced by both the formal manner of the *style Academie* and the fluid feel of the Italian high baroque. Designs reflected a symmetrical balance while incorporating romantic curves, spirals, urns, and floral elements. The most recognizable

component of the developing *style Bérain* on ceramics was the *style rayonnant*, a rim pattern consisting of pendants, comprised of spirals, foliate, or floral designs in white on a blue ground (or vice versa), that radiated toward the centers of vessel, or downward on upright vessels (see Figure 8-52). In the 1720s to roughly 1750, the demand for blue-and-white wares began to yield to a preference for polychrome designs.

The *style rayonnant* was further stylized, combining ironwork (*ferronnerie*) with swags and garlands of fruit. The resulting style, popular from 1715-1723, incorporated light and delicate frameworks and curves with naturalistic, organic forms (Caiger-Smith 1973; Giacomotti 1963; Lane 1948). From ca. 1709 to 1740, the centers of many ceramic vessels were decorated with simple designs of flowers, fountains, coats of arms, or other motifs within a circle or medallion.

The “Rouen style” and others of Normandy reflected the symmetrical and balanced ornaments of the *style Bérain*, incorporating and developing the *style rayonnant* as a primary decorative element (Genêt 1996). During the



Figure 8-43. Charente-type. NATC 32413.

late seventeenth century, rich blue-and-white designs were coupled with a distinctive brick red used to outline designs, to vein leaves, or as hatching to fill spaces. The Saint-Cloud factory dominated the blue-and-white Rouen style until the beginning of the eighteenth century, and its wares are distinguished by a characteristic black or manganese outlining of designs.

To the south, the *faienceries* of Provence were very influential with distinctive light, airy, and naturalistic elements that utilized the *petit feu* technique. Moustiers became one of the prominent faience production centers, and other areas were influenced by majolica factories of neighboring Spain and Italy, especially in Alcora, Spain (Giacomotti 1963:132; Lane 1948:25-27).

Fort Rosalie Tin Enamelled Earthenwares

A total of 1,176 sherds of tin enameled earthenware, weighing 2,820.34 g, was recovered from the Fort Rosalie excavations, including 51 pieces of Delft (64.91 g), one sherd of Castillo Polychrome (1 g), and seven sherds of San Luis Polychrome majolica (5.67 g)

(Figure 8-45). A number of sherds (n=9, 37.52 g) were identified as Marine Wares, a type of majolica with greenish-blue tin enamel glaze over a reddish-brown, sand tempered paste (Figure 8-46). These wares were typically made in utilitarian forms, and were undecorated.

The remaining can be split into *faience blanche* or *brune*, or could not be identified to a particular type of tin enamel tradition. *Faience blanche* varieties include Seine Polychrome (Figure 8-47), Provence Blue on White (Figure 8-48), Brittany Blue on White (Figure 8-49), Saint Cloud Polychrome (Figure 8-50), Normandy Blue on White (Figure 8-51), possible Nevers Blue on White (Figure 8-52), and Moustiers (Table 8-19). Additionally, four sherds were sponge decorated (Figure 8-53). Of 90 sherds of *faience brune*, 22 were Rouen Polychrome decorated, and eight could be identified with rim style "G." It should be remembered that the decorative style attributed to a ware does not necessarily equate to its origin; styles that may have originated in a particular region in France were widely copied (Genêt 1996; Waselkov and Walthall 2002).

Rim styles, following the categorization scheme by Walthall (1991), were varied. A total of 101 specimens could be identified as to style, the majority of which (n=34) fell under the style “A” associated with Brittany Blue on White, followed by “H” (n=35) styles, associated with Normandy Blue on White decorated wares, and “J” (n=13) styles, associated with Provence Blue on White. A total of 13 rims had “G” style rims associated with Saint Cloud, Seine, or Rouen Polychrome decorated vessels, two each of style “C” and “I” rims (Normandy Blue on White vessels) (Figure 8-54), and one each of “B” and “K” rims, associated with Seine and Saint Cloud Polychrome decorated vessels. While many more rims were recovered that could, in general, be attributed to a type of decorative faience, there was not enough evidence on the vast majority of these wares to identify specific rim styles.

A minimum of 131 vessels were represented among the recovered assemblage, of which 104 were plates or platters (*assiette* or *plat creux*) or possibly large soup dishes (*assiette creuse*). Fifteen bowls were identified, as were six pitchers, five of which were decorated in Normandy Blue on White style and one in Rouen Polychrome (Figure 8-55). Finally, six jars were recovered, as was a single portion of an ointment or rouge pot.

Refined Earthenwares

Creamware

Creamwares were created sometime between 1740 and 1760, though some sources (Godden 1996: xv) place their origin as early as the 1720s. The methods of producing a nearly white ceramic body in imitation of Chinese porcelains were perfected in the early 1760s by Josiah Wedgwood. Creamwares quickly became one of the most popular ceramic types manufactured in England, and they are regularly found on American sites dating to the late eighteenth and early nineteenth centuries (Noël Hume 1969:125). Creamware vessels were manufactured from Devonshire clays that were tempered with flint fragments and can be identified by an off-white to cream colored porous paste that is sealed with a clear lead glaze (Turnbaugh 1985:14). In general, the earlier creamwares were a deeper yellow color than those of the early nineteenth century (Noël Hume 1969:126). Creamware was produced with a wide variety of decorative techniques, including hand painting, transfer printing, spattering, and molded and edge decorated forms (Miller 1992:3). By the early 1770s, Wedgwood was producing the painted, shell edged varieties. Creamware remained popular and continued to be produced until 1820, even



Figure 8-44. Faience Brune, Rouen Polychrome, the left showing rim style G. NATC 36195.

though the production had greatly slowed by ca. 1810. Pearlware had begun replacing creamware by 1780 (Noël Hume 1969:126).

A total of 979 fragments of creamware were recovered, weighing 1641.46 g (see Table 8-19 and Table 8-20). While the majority were plain, or undecorated (n=952, 1564.88 g), other decorative styles includes feather edged (n=11, 59.97 g), mocha finger painted (n=3, 3.94 g), polychrome hand painted (n=6, 1.9 g), and transfer printed (n=1) (Figure 8-56).

Pearlware

Originally known as “China Glaze,” pearlware was a British attempt to compete with and copy Chinese export porcelain. Pearlware evolved out of creamware through the addition and increase of flint, kaolin, calcined bone, and white clays to the paste and the addition of a small amount of cobalt to the glaze. Pearlware ceramics were first produced in the 1770s by Staffordshire potters (Miller 1987; Miller and Hunter 2001) although in 1779, Josiah Wedgwood called it “Pearl White” and claimed to have invented the ware. These refined earthenwares were not impermeable to liquids, so a glaze had to be added to prevent seepage; this clear lead glaze had cobalt added to it, producing a bluish-white tinge, most noticeable in crevices where it pooled on the ceramic piece prior to firing. Like creamware, a variety of decorative techniques was applied to pearlware, including painted, sponged, transfer printed, dipped, molded and edge decorated motifs (Noël Hume 1969:129-132). These wares were manufactured from ca. 1780 through the first half of the nineteenth century (South 1977; Miller 1980, 1991). The underglaze blue hand painted decorative technique was produced on pearlware vessels between 1780 and 1820, but creamwares and other ceramic wares had been painted in blue underglaze since the 1750s (Miller and Hunter 2001). Polychrome motifs that occurred on pearlware between 1795 and 1815 were typically produced with soft, pastel shades. Between 1815 and 1835, decorative elements were directly stenciled onto the vessel using brighter shades of

blue, orange, and green (Noël Hume 1969:129-132; South 1977:212).

A total of 273 pearlware fragments, weighing 215.21 g, was recovered. The majority of pearlware objects was undecorated (n=94, 78.84 g), followed by blue hand painted wares (n=72, 59.07 g), blue transfer printed (n=63, 38.07 g), and polychrome hand painted (n=25, 15.01 g) wares.

Whiteware

As a ceramic type, whiteware evolved from pearlware when the cobalt in the glaze was removed in order to reduce the bluish tint. With its introduction, whiteware became the ceramic product of choice; by 1830, whiteware had almost completely replaced pearlware in popularity (Noël Hume 1969:130). Whiteware vessels can be recognized by their white paste and clear hard glaze, with an absence of colored pooling of glaze in crevices. Mid-nineteenth century whiteware vessels exhibited a wide range of decorative motifs carried over from pearlware and creamware, including such styles as shell edged, transfer printed, annular, hand-painted, sponged, and spattered.

A total of 101 whiteware vessel fragments, weighing 187.41 g, was identified. Decorative styles included hand painted, transfer printed, and decal decorated. The majority of these wares (n=89) was undecorated.



Figure 8-45. San Luis Polychrome. A-NATC 26158; B-NATC 26523.



Figure 8-46. Marine Ware. NATC 34397.

Porcelain

Porcelain is a very hard, fine-grained white bodied ceramic that has been fired at temperatures in excess of 2500° F. The combination of high temperatures and special raw materials (fine grained white kaolin clay and finely ground petunste, a feldspathic mineral) create a highly vitrified, self-glazing ceramic. Porcelain produced by the Chinese has appeared in English colonial contexts as early as 1650 (Noël Hume 1969:257). Due to costly and arduous production methods, the market for porcelain was not widespread during the early and mid-nineteenth century, and did not become popular in the United States until shortly after 1890, when American companies began producing fairly inexpensive items (McCorvie 1992:142) However, porcelain is a common, yet minor element of most major colonial sites across the Southeast, as seen at Fort Toulouse, the Augustin Rochon Plantation, Dog River, and excavations at the Old Mobile site (Waselkov 1989; Gums 2000; University of South Alabama 2013). In 2002, George Shorter discussed the

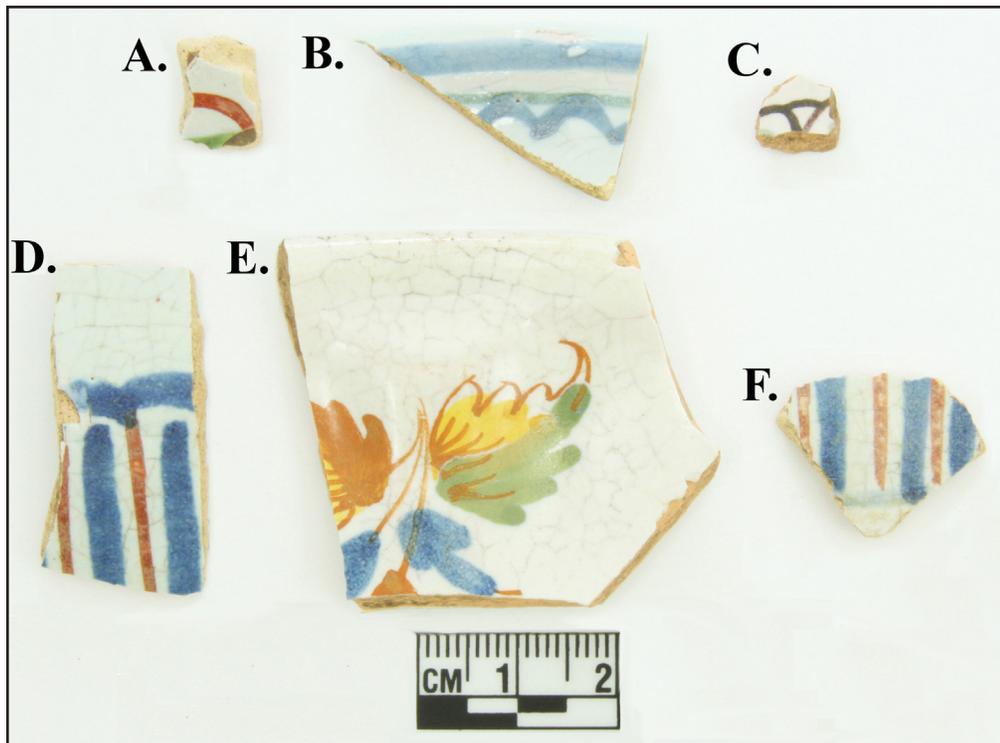


Figure 8-47. NATC Seine Polychrome. A-NATC 34903; B-NATC 32492; C-NATC 32968; D-NATC 34479; E-NATC 32622; F-NATC 34087.



Figure 8-48. Provençe Blue on White. NATC 32263.



Figure 8-49. Brittany Blue on White, deep plate or plat creux. NATC 32456.



Figure 8-50. NATC St. Cloud Polychrome. A-NATC 35092; B-NATC 34960; C-NATC 34902.



Figure 8-51. NATC Faience Normandy Blue on White, rim style H (variant). Four separate vessels. NATC 32460.

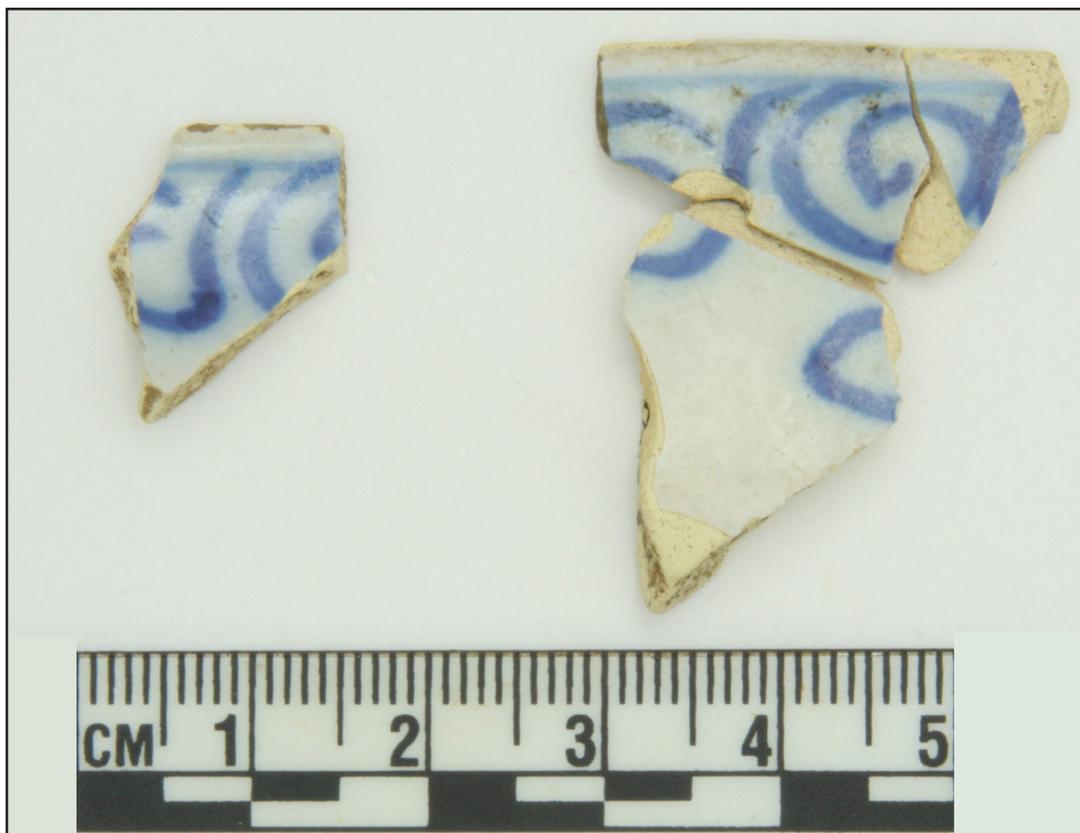


Figure 8-52. Nevers blue on white, A-NATC 32309, B-NATC 35936.

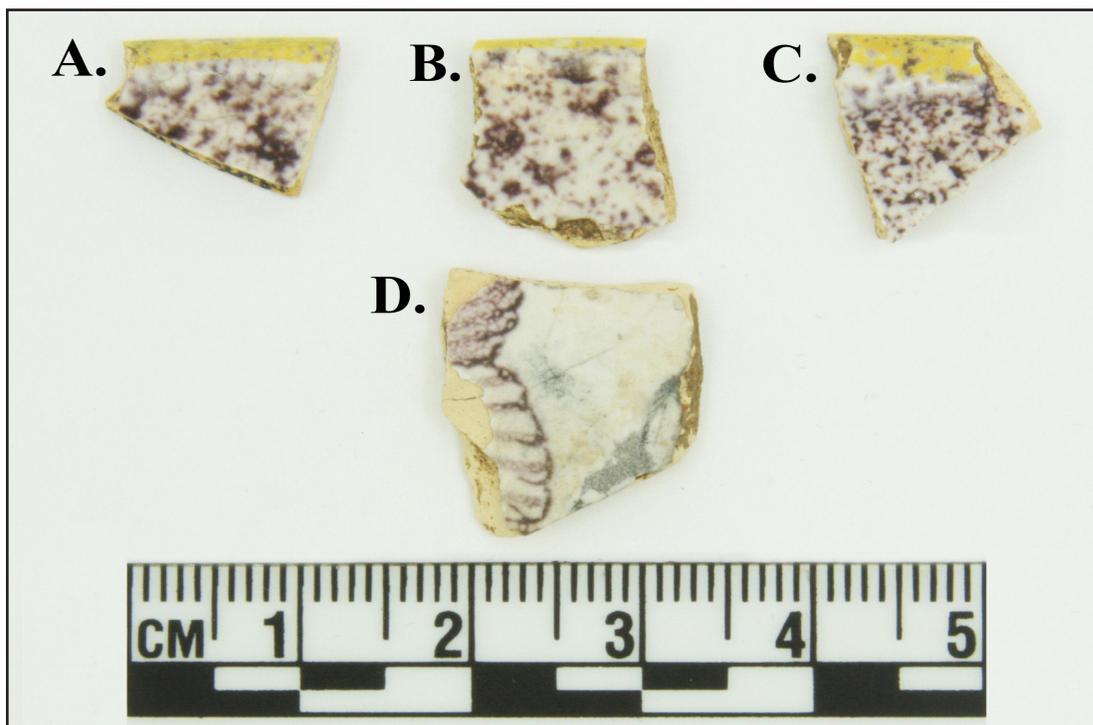


Figure 8-53. Sponge decorated faience. A-NATC 36984; B-NATC 36068; C and D-NATC 31857.

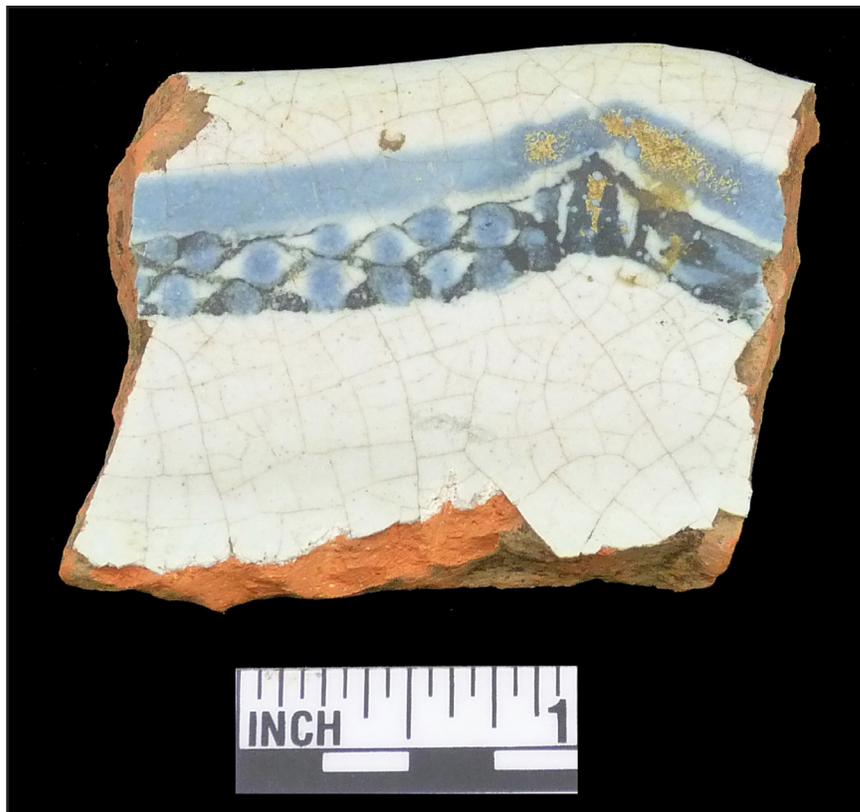


Figure 8-54. Faience Brune, St Cloud Polychrome, rim style G. NATC 33828.

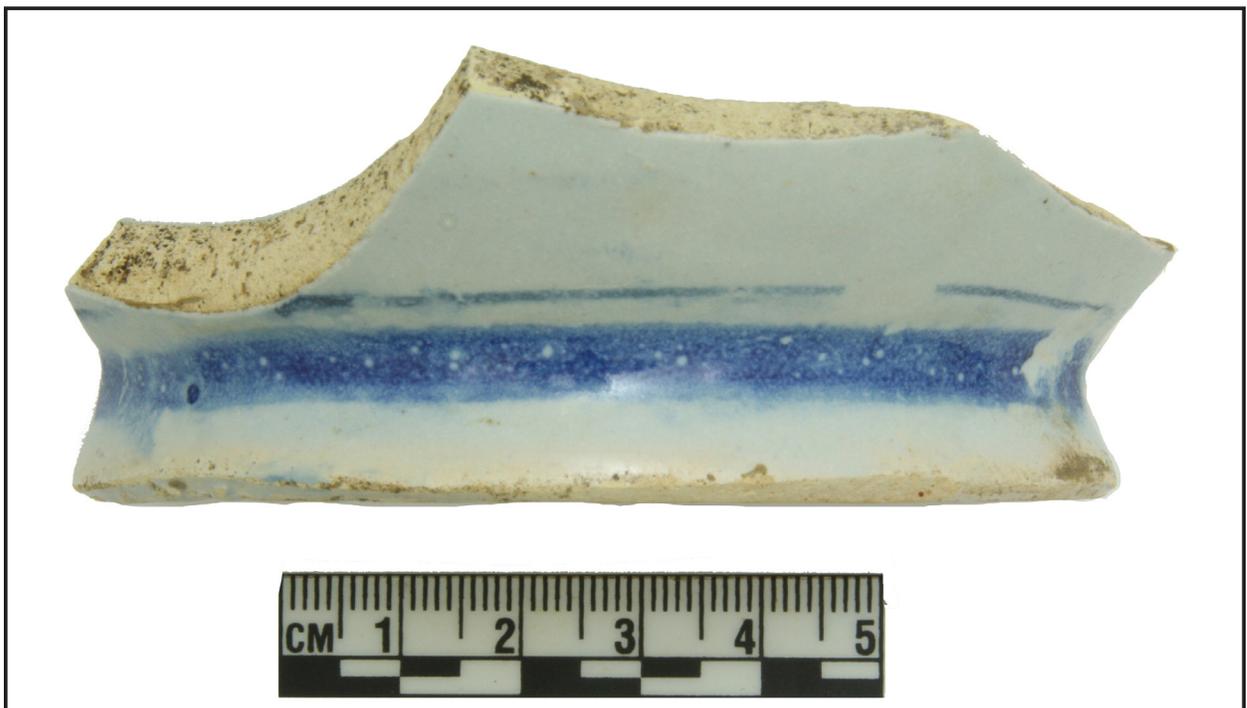


Figure 8-55. Faience Normandy Blue on White base of pitcher. NATC 32459.

Table 8-18. Coarse Earthenwares recovered from the Fort Rosalie excavations.

Type	Count	Weight (g)
Coarse		
Manganese Mottled	2	2.02
North Devon Gravel Tempered	9	31.24
Rockingham	2	8.15
Saintonge Plain	271	978.79
Untyped	294	1184.67
	578	2204.87
Buff Slipware		
Slipware	1	0.70
Colonware		
Chicot Red, var Rosalie	360	830.05
Delft		
Delft	19	48.09
Untyped	19	13.55
	38	61.64
Faience		
Faience	11	15.38
Faience Blanche	88	224.51
Faience Blanche. Brittany Blue On White	27	73.72
Faience Blanche. Moustiers	1	1.00
Faience Blanche. Nevers Blue On White	3	2.87
Faience Blanche. Normandy Blue On White	12	142.63
Faience Blanche. Normandy Plain	4	7.33
Faience Blanche. Provence Blue on White	27	104.83
Faience Blanche. Saint Cloud Polychrome	40	76.86
Faience Blanche. Seine Polychrome	29	32.85
	242	681.98
Faience Brune		
Faience Brune. Rouen Polychrome	18	237.38
Faience Brune. Rouen Plain	65	285.70
	83	523.08
Majolica		
Castillo Polychrome	1	0.97
San Luis Polychrome	6	4.97
	7	5.94

Type	Count	Weight (g)
Red Bodied Slipware		
Slipware	4	10.12
Yellow Lead Glazed Slipware	2	4.1
	6	14.22
Redware		
Albisola Black on Brown	73	119.07
Charente Plain	76	179.31
Coarse Redware	176	424.09
Jackfield	4	12.49
Rey Ware	1	4.27
	330	739.23
Tin Enameled		
Untyped	2	1.21
Abo Polychrome	1	0.83
Marine Ware	9	37.52
Untyped	704	731.96
	714	770.31
Grand Total		2359 5832.02

reason for this present, but minute, quantity of porcelain, specifically Chinese porcelain, within the Mobile area of colonial French America. The official closure of trade with English and Spanish colonial ports and supply ships in 1711, did not deter the actual exchange of goods between these entities. Instead a system of illegal trade was set into motion that allowed the acquisition of fine earthenware, but also subsistence supplies outside of approved channels. Shorter (2002) notes that supply ships from France would only arrive once every two years and often lacked in quintessential food stuffs, such as flour. Therefore, a need for continued trade with Spanish and English passing supply ships was need to sustain the French colony. The presence of porcelain is most likely a product of engagement in this illicit trade, most likely with port cities such as Veracruz, or with West Pensacola, and was most accessible for military officials and prominent soldiers (Shorter 2002).

A total of 116 porcelain sherds, weighing a total of 131.8 g, were recovered during the

project. These including 15 overglaze hand painted, 13 blue hand painted, seven polychrome hand painted, a single piece of Chinese export porcelain, and 70 plain or undecorated sherds.

Redware

Refined redwares ranging from red stonewares and jasper wares to Astbury and Rosso Antico, were produced in a variety of styles and forms—including tea and coffee sets, vases, and other ornamental forms. Unglazed redwares were produced from the late seventeenth century and throughout the eighteenth. Those with incised, combed, or engine-turned designs were produced after 1763; sprigged designs spanned the length of production and were used primarily for tea or coffeepots.

John and Thomas Astbury produced Astbury wares from 1686-1743. These wares consisted of a refined redware body with a variety of glazes. Typically, stamped decorations were attached to the body with a white pipe clay. Often times, however, the only decorative design was an incised combed, or engine-turned, pattern on the exterior, which was occasionally glazed with a manganese lead (Hughes and Hughes 1968:14).

Jackfield wares were produced beginning in the 1740s and continued into the nineteenth century, with their height of popularity in the 1750s-1760s. These wares were fine earthenware with a thin purplish to gray body covered in lustrous black glaze, often produced in coffee and tea services.

Redwares were often locally produced in America from the mid-seventeenth century on, and are very similar to each other through time and space. Local patterns often imitated English and European styles, making them difficult to date (Miller 1992). Both glazed and unglazed redware varieties are common on historic sites in the United States.

A total of 83 sherds of refined redware, weighing 102.07 g, were recovered from the excavations, including 14 sherds of Astbury vessels (some with white and brown sprig molding) (Figure 8-57), four sherds of Jackfield, and 64 sherds of plain wares. These wares date

to primarily the British period of occupation (1763-1779).

Colonowares

It is possible that many specimens that could be identified as either unidentified Native American wares or plain, undecorated, low-fired coarse earthenwares known as colonowares, a type of low-fired, hand-made earthenware that can be tempered with a wide variety of materials (Ferguson 1980, 1992; Hauser and Armstrong 1999; Heath 1999; Morgan 2010; Mouer et al. 1999; Posnansky 1999; Singleton 1985, 1999, 2010). Originally, archeologists believed these wares were made by Native American potters who, influenced by European ceramic styles, made wares for trade with early European settlers. While it is now widely believed that many of these utilitarian wares, especially those found on eighteenth century plantation sites of the South Carolina and Georgia Lowcountry (home of the Gullah-Geechee culture) and in Louisiana, were made by African and African American slaves, there is still evidence that many wares were produced by Native American women and used by slaves. These hand-built wares have been archeologically recovered from slave sites across the Lowcountry, the Chesapeake, Louisiana, the Caribbean, and Brazil. Given the location of Fort Rosalie on the frontier of French colonial America, the known production and use of similar wares by indigenous groups across the region, including western Louisiana (Morgan and MacDonald 2011, 2017), and the fact that African



Figure 8-56. NATC creamware plate rims. Royal: A-NATC 31986; Shell Edge: B-NATC27453.

Table 8-19. Refined Ceramics Recovered from Fort Rosalie.

Object	Count	Weight (g)
Creamware		
Creamware --Glazed	555	582.5
Creamware --Molded --Diamond --Banded	1	1.12
Creamware --Molded --Dot	1	0.8
Creamware --Molded --Feather Edge	9	24.03
Creamware --Molded --Painted --Annular	1	1.97
Creamware --Molded --Ribbed	18	15.39
Creamware --Molded --Royal Pattern	220	308.59
Creamware --Molded --Shell Edge	1	1.48
Creamware --OverHand Painted --Floral	1	0.9
Creamware --Painted --Annular	2	0.37
Creamware --Painted --Engine Turned --Banded	1	0.5
Creamware --Slipped --Annular --Marbled	1	3.1
Creamware --Transfer Printed --Banded	1	0.6
Creamware --Transfer Printed --Floral	1	0.3
Creamware --Hand Painted	1	0.4
Ironstone		
Ironstone --Glazed	8	29.25
Ironstone --Painted --Banded	1	12.9
Pearlware		
Annular Pearlware --Painted --	9	4.79
Annular Pearlware --Painted --Engine Turned --Checker Board	1	3
Annular Pearlware --Painted --Slipped --Combed --Marbled --Combed	1	3.35
Annular Pearlware --Painted --Slipped --Engine Turned --Marbled --Banded	2	3
Annular Pearlware --Painted --Slipped --Marbled	1	1.1
Blue Hand Painted Pearlware --Hand Painted --	46	31.67
Blue Hand Painted Pearlware --Hand Painted --Banded --Scallop	1	0.45
Blue Hand Painted Pearlware --Hand Painted --Banded --Scallop --Floral	7	4.84
Blue Hand Painted Pearlware --Hand Painted --Banded --Stars	1	0.62
Blue Hand Painted Pearlware --Hand Painted --Chinese Landscape	8	7.76
Blue Hand Painted Pearlware --Hand Painted --Floral	4	2.12
Blue Hand Painted Pearlware --Hand Painted --Geometric	2	0.7
Blue Hand Painted Pearlware --Hand Painted --Landscape	1	0.84
Blue Hand Painted Pearlware --Hand Painted --Linear	1	0.16
Blue Hand Painted Pearlware --Hand Painted --Molded	1	0.73
Blue Hand Painted Pearlware --Hand Painted --Other Decoration	1	0.91
Blue Hand Painted Pearlware --Hand Painted --Trellis	3	1.5
Blue Hand Painted Pearlware --Hand Painted --Trellis --Banded	2	0.36
Blue Shell Edged Pearlware --Molded --Shell Edge	1	0.42
Cobalt Blue Transfer Printed Pearlware	19	12.13
Cobalt Blue Transfer Printed Pearlware --Chinese Landscape --Floral	4	4.14
Cobalt Blue Transfer Printed Pearlware --Floral	7	2.28
Cobalt Blue Transfer Printed Pearlware --Landscape	1	1.28
Cobalt Blue Transfer Printed Pearlware --Trellis	18	8.05

Object	Count	Weight (g)
Cobalt Blue Transfer Printed Pearlware --Trellis --Banded	1	0.20
Green Shell Edged Pearlware --Molded --Shell Edge	5	7.70
Pearlware --Glazed	106	82.91
Pearlware --Hand Painted	2	1.00
Pearlware --Hand Painted --Banded	4	1.13
Pearlware --Hand Painted --Banded	1	0.60
Pearlware --Hand Painted --Dot	3	2.51
Pearlware --Hand Painted --Floral	1	0.14
Pearlware --Hand Painted --Linear	1	0.44
Pearlware --Molded --Banded	4	14.69
Pearlware --Molded --Floral	2	6.87
Polychrome Pearlware --Hand Painted	4	3.32
Polychrome Pearlware --Hand Painted --Curvilinear --Dot	1	1.00
Polychrome Pearlware --Hand Painted --Floral	11	6.73
Polychrome Pearlware --Hand Painted --Floral --Banded	1	0.90
Polychrome Pearlware --Hand Painted --Trellis	1	0.60
Porcelain		
Porcelain	1	1.00
Porcelain --Decal	8	5.60
Porcelain --Decal --Banded --Dot	2	1.01
Porcelain --Decal --Banded --Floral	2	0.94
Porcelain --Decal --Banded --Scallop --Dot	1	3.80
Porcelain --Decal --Floral	7	5.14
Porcelain --Glazed	53	33.91
Porcelain --Hand Painted	20	26.07
Porcelain --Hand Painted --Chinese Landscape	1	1.36
Porcelain --Hand Painted --Floral	1	0.87
Porcelain --Hand Painted --Geometric --Floral --Banded	1	0.50
Porcelain --Hand Painted --Trellis --Floral	2	2.60
Porcelain --Molded	1	0.80
Porcelain --Molded --Geometric	7	29.50
Porcelain --Molded --Hand Painted	1	1.48
Porcelain --OverHand Painted	1	0.18
Porcelain --OverHand Painted --Leaf	2	0.61
Porcelain --Transfer Printed	1	0.75
Porcelain --Transfer Printed --Scroll	3	3.90
Porcelain --Transfer Printed --Willow	1	11.52
Redware		
Astbury --Lead Glaze	9	4.33
Astbury --Slipped --Slip-trailed	7	13.52
Refined Redware		
Refined Redware --Alkaline Glaze	1	1.13
Refined Redware --Hand Painted	1	0.33
Refined Redware --Lead Glaze	43	48.86
Refined Redware --Painted	2	3.12

Object	Count	Weight (g)
Untyped --Lead Glaze	1	0.36
Refined Earthenware		
Glazed	28	30.61
Hand Painted --Floral	1	0.14
Indeterminate Decoration	3	1.11
Indeterminate Surface Treatment	3	1.4
Lead Glaze	1	1.91
Molded --Painted	1	5.7
Molded --Painted --Linear	1	2.53
Painted	9	8.11
Sponged	1	0.01
Whiteware		
Black Transfer Printed Whiteware	1	0.5
Cobalt Blue Transfer Printed Whiteware --Floral	2	4.52
Green Transfer Printed Whiteware --Floral	1	1.35
Purple Transfer Printed Whiteware --Floral	1	0.79
Whiteware --Decal	2	2.06
Whiteware --Decal --Floral	1	3
Whiteware --Gilded --Molded --Banded --Scallop	4	3.29
Whiteware --Glazed	53	129.09
Whiteware --Molded --Bead And Reel	1	0.6
Whiteware --Molded --Decal	3	1.17
Whiteware --Molded --Dot	4	6.1
Whiteware --Molded --Wave	7	10.44
Yellow Ware		
Yellow Ware --Glazed	1	1.2

Table 8-20. Vertical distribution of pottery types recovered from the Fort Rosalie excavations.

Level	Refined Earthenware Count	Refined Earthenware Weight (g)	Coarse Earthenware Count	Coarse Earthenware Weight (g)	Native American Count	Native American Weight (g)
1	245	347.09	141	424.25	769	1927.41
2	485	529.36	463	1393.68	2611	10119.0
3	336	848.24	588	1644.55	4558	25336.18
4	154	168.7	425	1503.7	4087	17315.16
5	58	61.59	280	434.45	4133	12396.9
6	29	20.04	308	1490.69	2748	8832.26
7	30	42.25	75	141.71	2594	7069.27
8	31	15.4	50	35.55	980	4324.59
9	2	2.1	10	7.19	284	1164.16
10	8	4.13	25	14.79	205	238.2
Shovel Tests	121	239.3	48	78.5	82	300.58
Surface	53	106.77	9	43.97	77	379.54
Other	128	1753.66	140	399.88	2093	4701.47
Total	1424	631.31	2562	7612.91	25221	94104.72



Figure 8-57. Glazed Astbury vessel fragment. NATC 34785.

slaves had not been imported to the region in any large quantity, it is safe to propose that any colonowares present at Fort Rosalie were produced by local Native Americans (Figure 8-58).

With regard to those wares that may have been constructed by African and African American enslaved individuals, similarly styled vessels have been recovered from South Carolina where the etched designs varied from simple crosses to crosses in circles or rectangles, in a number of variations (Ferguson 1980, 1992; Thompson 1983). All of these designs are found on either the interior or exterior bases, are often found in association with foot rings/ring bases, are not found on cooking vessels, and many fit a generalized West African model that could be aligned with Bakongo cosmology, though vessels produced in Ghana have been noted to include “X” marks on bases (Ferguson 1980). Additionally, it could represent an unknown Natchez or other Native American symbology. It is possible that the vessel described earlier in this chapter (catalog # 28290, Figure 8-28) with

such an inscribed “+” crossed by an “X” within a rectangle was made by a Natchez woman and perhaps even used by an enslaved African.

Analysis by archeologists at the University of North Carolina (see Appendix E) has indeed identified the presence of colonowares in the Fort Rosalie assemblage, likely representing previously unidentified pottery types for the region. These colonowares include sherds and a few nearly intact vessels that are distinct from the rest of the “Native American” assemblage. They have similar pastes, but different shapes than the traditional Native ceramics in the region. These atypical vessels date to the fort’s early French occupation and exhibit characteristics of both indigenous and European pottery traditions. The authors have categorized these vessels as Native-made colonowares. Colonowares emerged in situations of close cultural engagement among Europeans, Indians, and African slaves in the English and French colonies of the American South in the seventeenth, eighteenth, and nineteenth centuries (see Ferguson 1992; Galke 2009; Noël Hume 1969).

Although relatively common on French colonial sites in the American South (e.g., Cordell 2013; Morgan and MacDonald 2011; Waselkov and Gums 2000), Native-made colonowares in the Lower Mississippi Valley are poorly known. The primary goal here is to fill this gap in knowledge. The Natchez colonowares were described, compared with colonowares from nearby regions, and a new variety with criteria for sorting these wares was defined.

The bulk of the Indian pottery assemblage recovered at Fort Rosalie falls into the traditional styles associated with the Plaquemine cultural tradition, particularly the Emerald and Natchez phases that postdate A.D. 1500 (McNeil 2012). Typical vessel shapes include hemispherical bowls, bottles, and jars—the former two categories used as serving vessels and the last for cooking and storage (Steponaitis 1981: Figure 2). Most vessels were tempered with grog, some with shell, and some with a mixture of both. The most common decorated type found among bottles and bowls was

Fatherland Incised, marked by two- or three-line running scrolls executed with narrow incisions. Jars lacked handles and were mostly undecorated, although some were adorned with the rectilinear designs characteristic of Mazique Incised. Bowls and bottles were sometimes red slipped, a decorative treatment that peaked in popularity during the Natchez phase, after the French arrived in 1682 (Quimby 1942; Phillips 1970; Steponaitis 1974, 1981; Brain 1979, 1988; Brown 1985a; Neitzel 1965, 1983).

The sherds identified as colonowares differ from the rest of the traditional Natchezan pottery in the Fort Rosalie assemblage mainly in their shapes. For the purposes of this section, colonowares are defined as vessels that were produced by Indians in the style of European pottery, or unique vessel forms made by Native people specifically to meet the needs of European consumers, but executed in ways that were consistent with indigenous norms.

Colonowares are generally found in the Middle Atlantic and Southern United States on sites associated with colonialism or slavery. Noël Hume (1962) first observed the presence on Virginia colonial sites of vessels that were constructed using indigenous Indian paste recipes, but mimicked European vessel forms. Later, Ferguson (1992) posited that hybrid forms like these found at plantation sites in South Carolina and elsewhere shared similarities with West African ceramic traditions, and may have been produced by African slaves. Later still, Heite (2003) pointed out that some of these unglazed, hand-built wares could also have been made by the European colonists themselves. The debate continues over the ethnic origins of this ware dating to the period of European expansion into the Americas. Regardless of the outcome in any particular case, the ethnic origin of colonowares is likely governed enormously by context, and may even involve more than one group (see Cobb and DePratter 2012). Morgan and MacDonald (2011) have argued that indigenous potters produced much of the colonoware in French Louisiana. This had to do with the demographics of the colony in the first quarter of the eighteenth century when Native

peoples far outnumbered African slaves in the areas surrounding French plantations. Cobb and DePratter (2012) posit that colonoware emerged out of the expansion of Europeans across the American South when Native peoples were suddenly embroiled in the effects of colonialism at multiple scales. In this period Native producers of ceramic wares tailored their production to meet European tastes.

Cordell (2001:36) observed at Old Mobile that Apalachee potters who had immigrated to the area from Spanish Florida brought with them both their historical pottery traditions as well as their own colonoware manufacturing techniques, which they had developed while living among the Spanish (see also Vernon 1988). While at Old Mobile, Cordell observed that the Apalachee potters changed elements of the colonoware production, presumably to conform to the pottery tastes of their new French neighbors. Similarly, the Catawba, who spent some time in the early 1760s living closely alongside the British in South Carolina, began to make European-inspired colonoware forms in the style of earthenware pans, cups, bowls, plates, patty pans, jugs, and pitchers upon their return to their traditional territory in 1762 (Riggs 2010:36).

The analysis of the colonowares at Fort Rosalie focused mainly on rims and partly reconstructed vessels whose shapes could be readily ascertain. For present purposes, two broad categories are recognized: burnished red colonowares and unburnished coarse colonowares.



Figure 8-58. Possible colonoware base for pitcher or jar. NATC 36839.

Burnished Red Colonowares

As the name implies, these vessels are burnished and decorated with a red slip, which ranges from weak red (10R 4/4) to dark red (10R 3/6) in color. All are grog tempered and hand built, probably by coiling. In cross section, sherds usually exhibit dark gray or black cores and light brown to reddish brown surfaces, often with a sharp boundary between the two zones. This coloration is indicative of a firing in which an extended period of reduction is followed by oxidation and rapid cooling, as pots are removed from the heat and exposed to air (Rye 1981:114-118). All of these traits are common in the indigenous pottery of the region.

What sets these vessels apart as colonoware are their distinctive shapes: plates, bowls, bottles, and jars that are similar to European forms and starkly different from shapes found in pre-colonial Native assemblages. Six different shapes in this category were recognized, some more clearly defined than others, each of which is described more fully below.

All of these vessels fall within the type Chicot Red, which is defined as red-slipped pottery, otherwise undecorated, with a grog-tempered paste equivalent to Addis Plain (Steponaitis 1974; Brown 1998a). They were originally assigned to two previously defined varieties: most to *var. Fairchild*, which is tempered with medium-sized grog, and a few to *var. Grand Village*, which is finer-grained and can contain some shell, although none were observed in any of the sample (Cornelison and Hardy 2016). These assignments were reasonable given the existing typology. However, it is believed that this material warrants a new variety, which will be called Chicot Red, *var. Rosalie* (see Appendix E).

Le Page du Pratz, the Dutch chronicler of early eighteenth-century Natchez, observed that Indian women made “dishes and plates like the French.” He went on to say, “I have had some made out of curiosity on the model of my earthenware. They were of a quite beautiful red” (Le Page du Pratz 1758:II:179, translated by Swanton 1998[1911]:62). There can be little

doubt that many, if not all, of these burnished red colonowares were made locally.

Simple-Rim Plates. These plates have a simple unadorned lip and a marley (Aultman et al. 2013:14), which is separated by a corner point in the profile from the well in the vessel’s center (Figures 8-59 – 8-61; Table 8-21). Four of the rim sherds in our sample are large enough to exhibit the distinctive corner point; another ten are too small to show the corner point, but are assigned to this category based on the curvature, angle, and simplicity of the lip. Most of the simple-rim plates have a red slip on the interior surface only (n = 10). Only a few are slipped on both sides (n = 4). All are burnished on the interior, and all but one in our sample are burnished on the exterior also. The few rims that are large enough to measure suggest these plates range in diameter from 22 to 28 cm.

Beveled-Rim Plates. This class is marked by a thickened area on the rim, usually about 1 cm wide, that is set off by a corner point and tapers toward the lip (Figure 8-62; see Table 8-21). Of the 11 rims in our sample, only two are large enough to exhibit a marley if one were present, and neither does. Thus, it is most likely these vessels had a simple profile, in which the well of the vessel extended all the way to the corner point at the beveled rim. All vessels in our sample were burnished on both sides. Most were red slipped on the interior only; one had a red slip on both sides. The measurable rims yielded estimated diameters of 20-25 cm.

Beveled-Rim Bowls. These vessels are similar to the beveled-rim plates, but have a somewhat deeper profile (Figure 8-63; see Table 8-21). One sherd shows this deeper profile clearly and has an estimated rim diameter of 15 cm. The other sherd is too small to be sure, and is placed here purely because of the steep angle of the wall just below the beveled rim.

Small Jar. One small rim sherd in our sample is roughly vertical, slightly everted, and embellished with a thin strap on the exterior (Figure 8-63; see Table 8-21). It is presumed it comes from a small jar, but there is little more that can be said. It appears to be burnished and red slipped on both sides, although the presence

of slip on the exterior is not certain. The most likely European analogs, from the small sample size from Fort Rosalie, may be small “apothecary jars” like those found in the wreck of the *La Belle* (Reese 2007:Figures 20-23).

Small Bottle. This is the one complete vessel in our sample, burnished and red slipped on the exterior, with a globular body, a cylindrical neck, and a pedestaled base (Figure 8-64; Table 8-21). It is 9 cm tall and has a rim diameter of 4 cm. Although no exact match among European vessels is known, it has a generic similarity to various small bottles and pitchers found on French colonial sites in the South (e.g., Brain 1979:40, 82; Reese 2007:Figures 25, 30).

Unburnished Coarse Colonowares

Vessels in this general category have surfaces that are unslipped and smoothed, rather than burnished. They tend to be larger than the burnished red-slipped wares just described. Their ceramic pastes (either grog or shell tempered) and construction techniques (mainly coiling) are entirely consistent with the local indigenous tradition. Again, it is only their unusual form that distinguishes them as potential colonowares.

Large Bottles. These vessels are marked by a large, globular body topped with a roughly cylindrical, slightly everted neck (Figures 8-65 through 8-68; Table 8-22). Overall, their shape is similar to that of a typical Plaquemine wide-necked bottle (Steponaitis 1981: Figure 2), but the body is much bigger. One might think of them as Native-made equivalents of Spanish olive jars, even though it is recognized that the latter are generally not found on French colonial sites.

At least four, and possibly five vessels from Fort Rosalie fall into this class. Rim diameters range from 9 to 15 cm. The one vessel we reconstructed is 34 cm high and has an estimated volume of 17 liters (Figure 8-68). The other vessels, judging from the curvature of their walls, are probably of comparable size. Three of our examples have grog-tempered pastes and were appropriately classified as Addis

Plain, *var. Addis*. Two others are tempered with coarse shell. One of the latter is undecorated and classified as Mississippi Plain, while the other is decorated with broad, curvilinear incisions and classified as Winterville Incised, *var. Winterville* (see Brain 1988:383; Phillips 1970:173; Williams and Brain 1983:205-206). We agree with the decorated vessel’s type designation, but given its unusual shape and motif as well as the unusual breadth of the incised lines, it is more prudent to call it Winterville Incised, *var. unspecified*.

Native bottles of this size have not, to date, been identified in assemblages outside of Fort Rosalie, which makes us suspect that they were made specifically for the French garrison there. The possibility that the absence of this form at other sites may be more apparent than real, in that most of the whole vessels known from Natchez and nearby regions come from burials. Large vessels like these tend not to be used as funerary offerings, and their existence might be difficult to recognize in sherd assemblages, especially in surface collections where sherd sizes are small. That said, it is useful to recognize this form as colonoware, even if tentatively, so as to provide an incentive to look for these vessels elsewhere and to see if this designation is ultimately confirmed.

As to the function of these bottles, Le Page du Pratz may well have been speaking of them when he wrote:

These [Indian] women also make pots of an extraordinary size, jugs with a medium-sized opening, bowls, two-pint bottles with long necks, pots or jugs for bear’s oil, which hold as many as 40 pints...large and small plates in the French fashion. I had some made out of curiosity upon the model of my delf-ware, which were a pretty red [Le Page du Pratz 1758:II:178-179, translated by Swanton 1998 (1911):62].

In his original narrative, du Pratz uses the term *pinte* as his unit of measure (Le Page du Pratz 1758:II:179), which in the *Ancien Régime* was roughly equivalent to a modern liter (.952 l; *Wikipedia, The Free Encyclopedia*, s.v. “Anciennes unités de mesure françaises,” http://fr.wikipedia.org/wiki/Anciennes_unités_de_mesure_françaises#Unités_de_volume_et_de_capacité, accessed May 30, 2016). Thus, a pot with a capacity of 17 liters would have held approximately 18 French *pintes*.

Whether these bottles were used for bear oil, as du Pratz suggests, or water, which would have been a necessity at a fort perched atop the highest bluff in the region, cannot be stated with surity. But given their size and constricted orifice, storage of liquids would seem to be a safe bet in interpreting these vessels’ original use (Henrickson and McDonald 1983:633).

Handle. A single, shell-tempered handle was found at Fort Rosalie (Figure 8-69; Table 8-22). It exhibits a size and shape combination that is never found on traditional Indian vessels in the region, but is common on European vessels of the period, including pitchers, jugs, and other pots (e.g., Steponaitis 1979; Reese 2007). A shell-tempered colonoware pitcher from the Trudeau site has a similar handle (Brain 1979:233).

Colonowares in Nearby Regions

How do the Fort Rosalie colonowares compare to other Native-made colonowares in the Lower Mississippi Valley and Gulf Coast regions during the same period? Few colonoware vessels had been identified in the Lower Mississippi Valley prior this analysis, except for a few examples from Trudeau, part of the so-called “Tunica Treasure” (Brain 1979). This is largely due to the paucity of excavations at French colonial sites in this area. Thankfully, more work has been performed on similar sites on the Gulf Coast and along the Red River, and there is thus a larger sample of colonoware that can be used to compare with what was found in the Fort Rosalie excavations. A brief review of these assemblages follows, focusing mainly on eighteenth-century French colonial

sites in present-day Louisiana, Mississippi, and Alabama.

I.P. and Von Drehle

These early-eighteenth-century sites are located along St. Catherines Creek in Natchez, about 3.5 and 4.5 km south of Fort Rosalie, respectively. I.P. contains a portion of the Terre Blanche Concession, a large plantation operated by the French in the 1720s. Von Drehle, less than 2 km northwest of I.P., was a contemporary French or Indian cabin. Recent surface collections by Joseph V. Frank yielded a burnished red colonoware sherd from each location.

The example from I.P. is a beveled-rim plate, red-slipped on the interior bevel only. It is virtually indistinguishable in shape from its Fort Rosalie counterparts (Figure 8-70, top). The only unusual feature is that its red slip is confined to the rim.

The sherd from Von Drehle is a beveled-rim bowl, red-slipped on both sides, with two parallel, closely-spaced incisions on the exterior just below the lip (Figure 8-70, bottom). The shape and beveled rim are comparable to those found in the Fort Rosalie colonowares, and the incised design is perfectly consistent with those characteristic of Fatherland Incised, in this case *var. Natchez*. This is the only sherd found thus far in Natchez which combines a traditional incised design with a colonoware shape.

Trudeau

The Trudeau site in West Feliciana Parish, Louisiana is located on the Mississippi River about 70 km south of Natchez as the crow flies. It was a Tunica Indian town in the mid-1700s. Its assemblage of indigenous whole pots comes mainly from burials. Among these vessels were two in particular that can be classified as colonoware.

The first vessel is a Winterville Incised, *var. Tunica* jar produced in a style that is reminiscent, but not a perfect copy, of a French kettle (Brain 1979:234). This vessel exhibits all of the distinctive characteristics of a Tunica vessel in terms of incised surface design, paste composition, and to an extent vessel form. It

Table 8-21. Burnished Red Colonoware Rims from Fort Rosalie.

Vessel Shape:							
FS Number	NATC Catalog Number	Original Type, Variety	Rim Diameter (cm)	Rim Proportion (%)	Wall Thickness (mm)	Red Slip	
						Interior	Exterior
Simple-rim plate:							
13.14	26672	Chicot Red, Fairchild	—	< 3	6	yes	yes
102.28	29117	Chicot Red, Fairchild	—	< 3	6	yes	yes
103.52	29175	Chicot Red, Fairchild	—	< 3	6	yes	yes
106.10	29212	Chicot Red, Fairchild	—	< 3	5	yes	no
108.8	29251	Chicot Red, Fairchild	—	< 3	7	yes	yes
131.14	30026	Chicot Red, Fairchild	24	4	5	yes	no
133.34	30096	Chicot Red, Fairchild	—	< 3	5	yes	no
133.63[a]	30125	Chicot Red, Grand Village	23	13	5	yes	no
133.63[b]	30125	Chicot Red, Grand Village	—	< 3	5	yes	no
134.43[a]	30313	Chicot Red, Fairchild	28	12	7	yes	no
134.43[b]	30313	Chicot Red, Fairchild	24	6	5	yes	no
134.43[c]	30313	Chicot Red, Fairchild	—	< 3	5	yes	no
143.8[a]	30552	Chicot Red, Fairchild	22	14	5	yes	no
143.8[b]	30552	Chicot Red, Fairchild	23	5	5	yes	no
Beveled-rim plate:							
94.28	28755	Chicot Red, Fairchild	—	< 3	6	yes	no
95.16[a]	28777	Chicot Red, Fairchild	—	< 3	6	yes	no
110.51	29381	Chicot Red, Fairchild	22	4	7	yes	no
113.51[a]	29515	Chicot Red, Fairchild	25	3	6	yes	no
113.51[b]	29515	Chicot Red, Fairchild	20	3	6	yes	no
113.51[c]	29515	Chicot Red, Fairchild	—	< 3	7	yes	no
114.17	29580	Chicot Red, Grand Village	—	< 3	5	yes	yes
114.18[a]	29581	Chicot Red, Fairchild	—	< 3	6	yes	no
114.18[b]	29581	Chicot Red, Fairchild	—	< 3	6	yes	no
122.14	29809	Chicot Red, Fairchild	—	< 3	6	yes	no
124.2	29871	Chicot Red, Fairchild	—	< 3	7	yes	no
Beveled-rim bowl:							
42.15	27383	Chicot Red, Fairchild	—	< 3	6	yes	yes
47.13	27515	Chicot Red, Fairchild	15	< 5	7	yes	no
Small jar:							
95.16[b]	28777	Chicot Red, Fairchild	—	< 3	6	yes	yes?
Small bottle:							
112.57	29461	Chicot Red, Fairchild	4	100	6	yes	no

has a much more elongated neck however, and a pair of handles that are unlike the more traditional loop handles on Tunican pots. Most significantly, this vessel also has a piece of brass wire attached between the two handles that was likely meant to perform the same function as a wire bail handle would on a European-made

kettle. This vessel form is unique, and while it certainly incorporates elements of European vessel characteristics, it is distinctly not a one-to-one copy.

The second colonoware vessel is a shell-tempered pitcher (Brain 1979:233). The composition of this piece is comparable

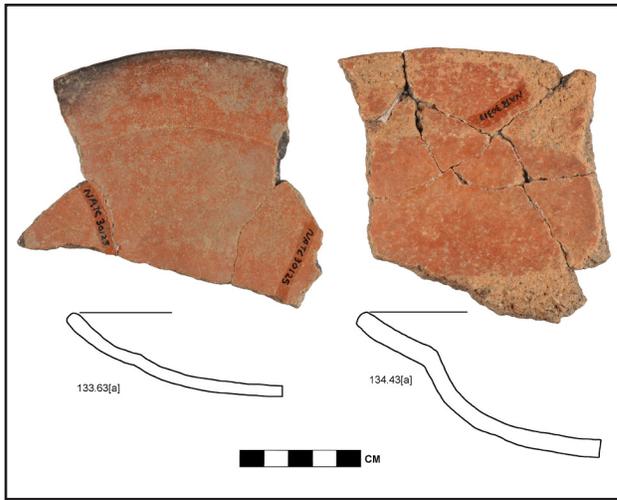


Figure 8-59. Simple-rim plates, photographs and profiles of large sherds. Note the distinct corner point separating each plate's marly from its well. (Field-specimen numbers correspond to those in Table 1.)

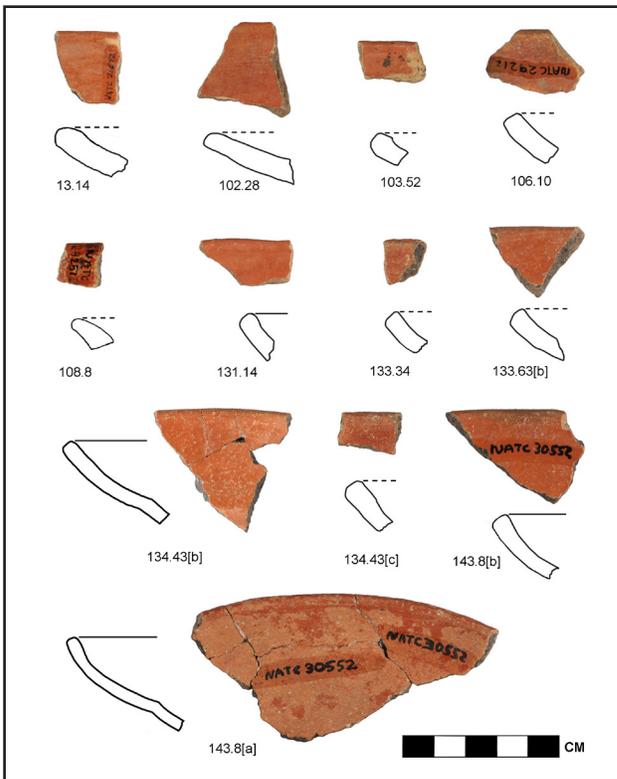


Figure 8-60. Simple-rim plates, photographs and profiles of smaller sherds. (Dotted line at lip means the orientation is approximate. Field-specimen numbers correspond to those in Table 1.)

to Mississippi Plain *var. Pocahontas*, but is in a form that more closely resembles other European-made pitchers from this period. It has a large loop handle on one side that is distinctive to such vessels. Neither of the forms mentioned

above in the Trudeau assemblage were present in the Fort Rosalie assemblage.

Cane River Plantations

A number of eighteenth-century French colonial sites have been investigated near Natchitoches, Louisiana, in the vicinity of Cane River, an old channel of the Red River (Morgan and MacDonald 2011; 2017). The colonowares from sites, particularly the earlier ones, have been described only in a general way, which makes them difficult to compare in detail. Comparison is also hindered because the term colonoware is applied to all low-fired, hand-built earthenwares found at these sites, regardless of whether they mimic European forms.

That said, several interesting points of comparison do stand out. First, the assemblages of low-fired pottery at these sites seem very diverse in terms of decoration and temper (Morgan and MacDonald 2011:135-142; 2017). Second, red slips are quite common in these assemblages (Morgan and MacDonald 2011:138). And third, it is clear that the potters who produced these assemblages, whether Indian or African, were largely different from those who made the colonowares at Fort Rosalie. Paste composition is the telling indicator: At Lambre Point, which dates to the early 1700s, less than 2 percent of the low-fired earthenwares were grog tempered, and almost 90 percent were tempered with shell (Morgan and MacDonald 2011:Table 8.1). Similarly, at the late eighteenth-century Coincoin Plantation, most of this pottery was tempered with various mixtures of bone, shell, and sand (Morgan and MacDonald 2011:Table 8.2). These numbers contrast markedly with those from Fort Rosalie, where the predominant temper was grog. All in all, much of this pottery probably came from nearby potters in the Caddo region (Morgan and MacDonald 2011:141-142), rather than the Lower Mississippi Valley.

Los Adaes

Another assemblage of interest for comparative purposes is that from Los Adaes, the site of an eighteenth-century Spanish settlement on

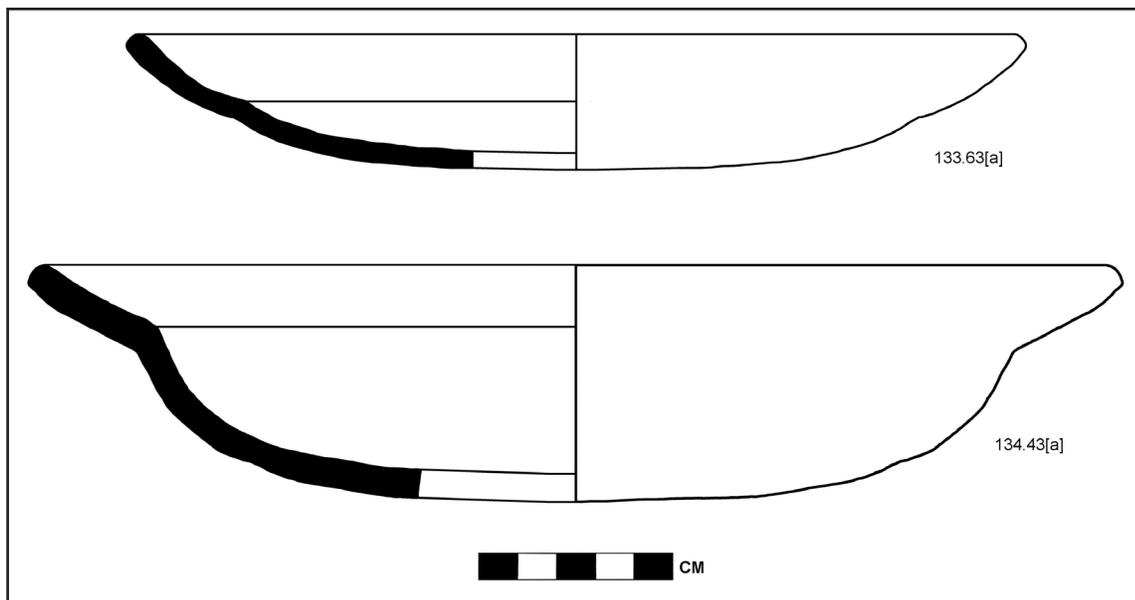


Figure 8-61. Simple-rim plates, vessel profile reconstructions. (Field-specimen numbers correspond to those in Table 1.)

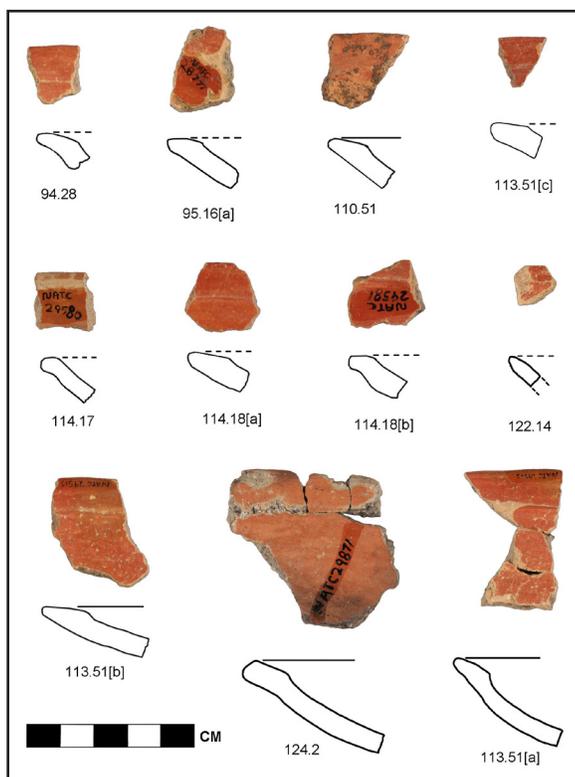


Figure 8-62. Beveled-rim plates, photographs and profiles. (Dotted line at lip means the orientation is approximate. Field-specimen numbers correspond to those in Table 1.)

the Red River near Natchitoches. Again, this assemblage has yet to be published in detail, but even the preliminary descriptions are intriguing.

With respect to the Native pottery found at this site, Avery writes:

European influences are also present in some of the plainware forms—brimmed plate or bowl fragments occur in moderate amounts, one basal sherd from a small bowl or cup has a foot ring, and handled pitchers are present, but in small numbers. [Avery 1995:172].

His illustrations show that the “brim” to which he refers is a marley, and that his “brimmed plate or bowl” is very similar in profile to our simple-rim plate (Avery 1995:Figure 6). He goes on to say that:

The brimmed bowls, found in significant amounts at both Los Adaes and the site of Fort St. Jean Baptiste in Natchitoches, are generally shell tempered and resemble French more than Spanish forms. Our working hypothesis is that the place of manufacture will be to the east or southeast of Los Adaes in

the area of French occupation.
 [Avery 1995:172].

Whatever that location may be, the fact that these vessels are shell tempered suggests that it was not as far east or southeast as Natchez.



Figure 8-63. Beveled-rim bowls (left and center) and small jar (right), photographs and profiles. (Dotted line at lip means the orientation is approximate. Field-specimen numbers correspond to those in Table 1. Key: E, exterior; I, interior.)

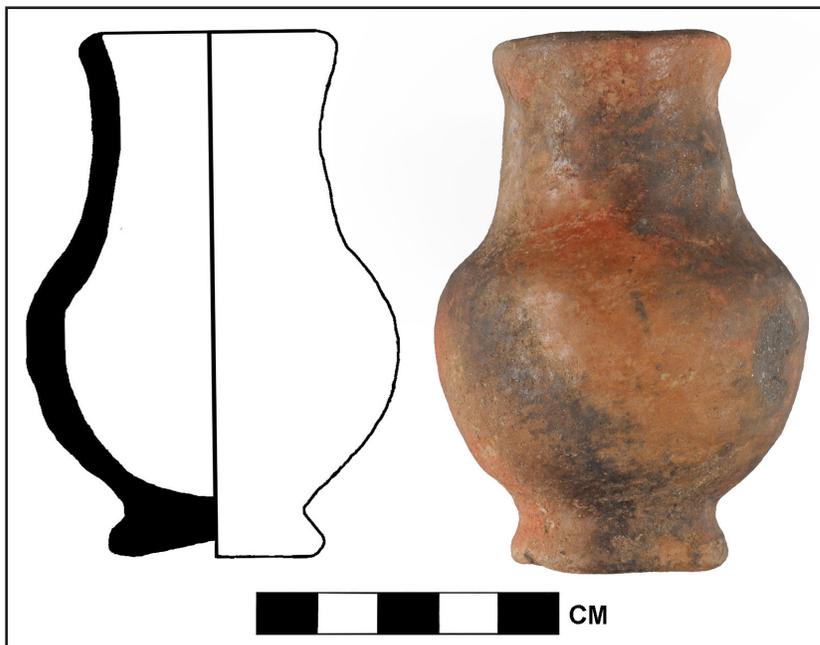


Figure 8-64. Small bottle, photograph and profile. (Field specimen number 112.57; see Table 2.)

Robleau

Beginning in the mid eighteenth century, a community of Indians and French grew up along Bayou Pierre, a tributary of the Red River upstream from the Cane River Plantations and Los Adaes (Girard et al. 2008). Excavations at one of the European settlements, the Robleau site, yielded a substantial collection of colonowares dating to the early nineteenth century. The vast majority of these vessels are unslipped and shell tempered. Forms include “brimmed bowls,” simple bowls, globular jars with vertical necks, and at least one pitcher (Girard et al. 2008:166). Interestingly, shell tempering in the Native wares is far more prevalent at Robleau than at a nearby contemporary Indian settlement, Timber Hill, where less than half of the seemingly local wares are made with shell, the rest being tempered with grog and bone (Girard et al. 2008:167). This suggests that Robleau’s inhabitants obtained their Indian pottery either from a different source, or from the subset of potters at Timber Hill who used shell temper. Either way, the Bayou Pierre colonowares differed markedly from our Natchez sample in their tempering, and differed from both Natchez and the Cane River

Plantations in the rarity of red slips.

New Orleans

A number of excavations in New Orleans have produced Indian pottery that was used by the city’s eighteenth-century inhabitants, presumably Europeans (Dawdy 2000; Dawdy and Matthews 2010; Matthews 2001). Although detailed descriptions of these assemblages are yet to be published, preliminary descriptions make certain patterns clear. First is the apparent absence of forms that specifically mimic European wares (Dawdy and Matthews

Table 8-22. Unburnished Coarse Colonoware Rims and Handle from Fort Rosalie.

Vessel Shape:		Original Type, Variety	Rim Diameter (cm)	Rim Proportion (%)	Wall Thickness (mm)	Red Slip	
FS Number	NATC Catalog Number					Interior	Exterior
Large bottle:							
44.34	27439	Addis Plain, Addis	10	100	8	no	no
80.1	28228	Mississippi Plain, unspecified	9	100	9	no	no
106.11	29213	Addis Plain, Addis	15	12	6	no	no
106.12	29214	Winterville Inc., Winterville	9	100	9	no	no
106.14	29216	Addis Plain, Addis	15	11	6	no	no
Handle:							
150.20	31093	Addis Plain, Holly Bluff	—	—	10	no	no



Figure 8-65. Large bottles, rim photographs. The upper two are shell tempered, and the bottom one is grog tempered. (Field-specimen numbers correspond to those in Table 2.)

2010:282-288). To the extent this pattern holds, it implies an absence of colonowares in the sense the term was used here. Second is the great diversity in temper and decoration among the Native pots, suggesting a multiplicity of sources (Matthews 2001:84). Third, these assemblages also include a number of plain, red-slipped sherds which bear a general resemblance

to those from Fort Rosalie; ongoing studies of these sherds may ultimately reveal whether any were derived from the Natchez area (Lauren Zych, personal communication).

La Pointe-Krebs House

The La Pointe-Krebs House is located in Pascagoula, Mississippi, on the site of an early French concession founded around 1718 and subsequently occupied throughout the eighteenth century (Gums et al. 2011). Not surprisingly, excavations there in 1995 and 2010 yielded a good sample of colonowares. The variety of forms included “brimmed” bowls (with marleys), large milk pans, simple bowls with flat bottoms, a pitcher, a plate, a strainer, and a copy of a French cooking vessel called a *marmite*. These pots were mostly tempered with shell or sand, and many were red slipped (Gums et al. 2011:83-110).

The earliest features (ca. 1718-1732), roughly contemporary with the Fort Rosalie colonowares, included a pitcher, a strainer, some milk pans and bowls, apparently none of which were red slipped. Later features from the middle of the eighteenth century (ca. 1732-1763) contained brimmed bowls and a red-slipped *marmite*, as well as sherds from burnished, red-slipped bowls. Even later features (ca. 1763-1780) included milk pans, plates, and burnished bowls with red slips. The temper and construction methods suggest that most these wares were made by local Indians, initially Pascagoulas and later Choctaws, although the possibility exists that some of the later red-



Figure 8-66. Large bottles, rim photographs. These two grog-tempered sherds may be from the same vessel. (Field-specimen numbers correspond to those in Table 2.)

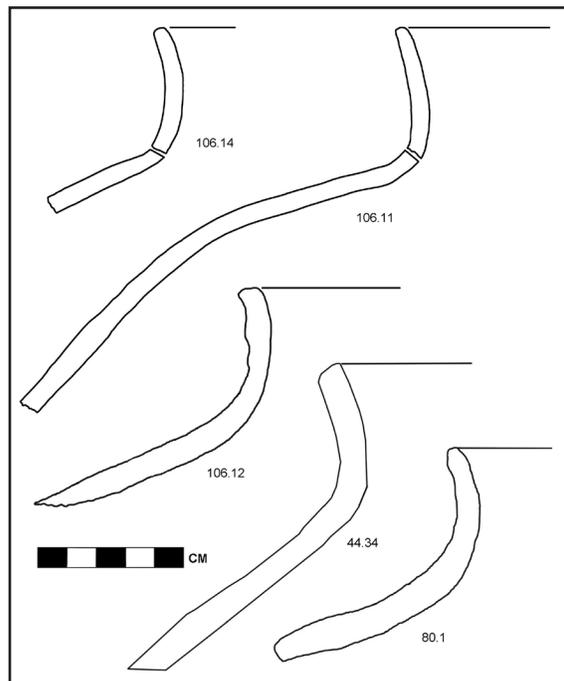


Figure 8-67. Large bottles, rim profiles. The upper two are shell tempered, and the bottom one is grog tempered. (Field-specimen numbers correspond to those in Table 2.)

slipped wares may also have been made by African slaves (Gums et al. 2011:275-277).

Old Mobile

Old Mobile is the site of *La Mobile*, near present day Le Moyne, Alabama on the Mobile River. It was the capital of the French Louisiana colony from 1702 to 1711 before it moved to the location of present-day Mobile. Excavations at the site yielded 129 colonoware vessels produced by Apalachee Indian potters who had immigrated to Old Mobile from the missions in Spanish Florida (Cordell 2001, 2013; Vernon 1988). Within this assemblage were 52 plain, 34

zoned red-painted, and 30 red-slipped vessels (Cordell 2001:30).

Vessel forms vary within this relatively large sample and include footed pitchers or jugs with strap or loop handles, and even a possible candle holder (Cordell 2001:31). Open bowls do not appear

to have been a part of the suite of colonoware forms made by Apalachee potters. Most importantly, the assemblage is dominated by what they call “brimmed” vessels (plates, dishes, and bowls with marleys) that account for 65 percent of the red filmed and 81 percent of the plain colonoware vessels (Cordell 2001:31). What is distinctive about this assemblage of plates and bowls though is the preponderance of “feet” or foot rings at the bases. Among the red filmed vessels at Old Mobile, 48 percent have foot rings, 42 percent have a flat/footed base, and only 9 percent have a strictly flat base (Cordell 2001:34, Figure 12a-b).

Like the Natchez potters, the Apalachee also used red mineral paints on their colonoware vessels. Sometimes they applied this paint in zones that run vertically or horizontally across vessel bodies. A few of the zoned examples also have punctated decoration, a distinctly aboriginal decoration in the Southeast. Some of these vessels also have “flutes” or grooves running vertically that were impressed into the wet clay before firing. In other cases the colonoware vessels are red slipped across their bodies. Cordell (2002:49) notes that the zoned red painting occurs on the interiors and exteriors of brimmed and non-brimmed vessels.

In comparing the Old Mobile assemblage to that from Fort Rosalie, one sees both similarities and differences. Both assemblages have plates and bowls with marleys. However, at Old Mobile these vessels have footings while the Fort Rosalie they do not. Both assemblages have red filming, but this decoration is applied in different ways: At Old Mobile, the red slip



Figure 8-68. Reconstructed large bottle, photograph and profile. NATC 27439



Figure 8-69. Shell-tempered handle, photographs. NATC 31093. Key: E, exterior; I, interior; S, side.)

is applied in zones on both the interior and the exterior, while at Fort Rosalie it is usually applied on the interiors only, and never in zones.

Dog River Plantation

Rivière aux Chiens, or Dog River, was the location of a French plantation during the 1720s in present-day Alabama (Waselkov and Gums 2000). Colonoware is present at the site, but it is rarer than at Old Mobile. Archeologists at the site uncovered 12 vessels categorized as colonoware. Identifiable vessel forms include two open bowls with flat bases, two jars with handles, two brimmed bowls (also with flat

bases), a handled cup, and a possible pitcher with a handle. Most are either sand or shell tempered; only one vessel, an open bowl, is grog tempered (Waselkov and Gums 2000:130). The researchers do not indicate which, if any of these vessels have red filming present or on what portion of the vessels such decoration may have been located. Ethnic affiliation has not been applied to the production of these colonowares, although traditional Native pottery of Creek, Mobilian, Apalachee, and Chato origin was found.

Discussion

What can clearly be inferred from the above descriptions of colonowares found elsewhere in eighteenth-century Louisiana is that there are certain compositional, morphological, and decorative styles that are distinctive to particular regions or sites. While there is overlap, particularly in terms of certain plate and bowl forms with marleys, there are other distinctive elements that may prove helpful for future archeologists in determining the ethnicity of colonoware potters, or at the very least the geographical origin of certain colonoware forms or styles.



Figure 8-70. Colonoware sherds from I.P. (top) and Von Drehle (bottom), Adams County, Mississippi. (Courtesy of Joseph V. Frank. Key: E, exterior; I, interior.)

Sorting Red-Slipped Colonowares from Traditional Pottery

As mentioned previously, the burnished red-slipped colonowares at Fort Rosalie were all initially classified as Chicot Red, a type defined as red-slipped pottery with a grog-tempered paste equivalent to Addis Plain. This type, of course, was set up to include not colonowares, but rather the red-slipped examples of traditional pottery in the region. Up to this point, colonoware has been recognized purely on the basis of shape—using rim and vessel form to differentiate colonowares from traditional Native pottery. Yet the question remains, can red-slipped colonowares be differentiated from traditional forms among body sherds in which diagnostic attributes of vessel shape, such as rims and corner points, are absent? The answer is yes, at least in part, but to understand how, first a review of the occurrence of Chicot Red in traditional Native assemblages must be undertaken.

Chicot Red first appears in Plaquemine assemblages after A.D. 1200, but remains generally quite rare until the historic Natchez phase (A.D. 1682-1730). In French colonial times, which correspond to this phase, red-slipped bowls and bottles become popular among Indian potters, and are usually decorated with the incised scrolls characteristic of

Fatherland Incised. Such red-slipped vessels, when broken, yield sherds that fall into two categories: fragments that retain portions of the incised design are classified as Fatherland Incised, var. *Snyders Bluff*, while those that lack incising fall into Chicot Red, either var. *Fairchild* or var. *Grand Village*, depending on the texture of the paste.

The key to distinguishing colonowares from traditional forms among

body sherds lies in noting where the red slip is applied. Based on the assemblage at Fort Rosalie, most red-slipped colonowares are plates, and most such plates are slipped on the interior only. On the other hand, most red-slipped traditional vessels are either bowls or bottles. Bowls are usually slipped on both sides, while bottles are slipped on the exterior only. Thus, sherds slipped on the interior only are almost certainly colonowares, while sherds slipped on the exterior only or both sides are more likely to be traditional forms.

One way to quantify these differences is to look at the placement of red slips on two samples of sherds whose status (colonoware versus traditional pottery) can be determined with independent criteria: (1) colonoware sherds that can be identified based on attributes of shape alone, and (2) traditional sherds that bear incised three-line scrolls, i.e., that fall

Table 8-23. Placement of Red Slip on Colonoware versus Traditional Forms.

Placement of Red Slip	Chicot Red with Colonoware Shapes		Fatherland Incised, var. <i>Snyders Bluff</i>	
	(n)	(%)	(n)	(%)
Interior only	45	80.4	0	0.0
Exterior only	1	1.8	7	4.7
Both sides	10	17.9	143	95.3
Total	56	100	150	100.0

into Fatherland Incised, *var. Snyders Bluff*. To obtain these data, every sherd cataloged as either Chicot Red or *Snyders Bluff* in the portion of the Fort Rosalie assemblage available was examined. Where the red slip was placed (interior or exterior) was recorded and also noted were the presence of shape attributes (such as corner points and rim forms) diagnostic of colonowares. Both rim and body sherds were included in this sample.

Table 8-23 shows the results of this analysis. More than 80 percent of the colonoware sherds were red slipped on the interior only, while none of the traditional vessels were slipped in this way. Thus, a Chicot Red sherd with a burnished, red-filmed interior and a plain exterior can be reliably sorted as colonoware, particularly if its curvature is consistent with that of a plate or bowl. Sherds filmed on the exterior only were almost always bottles, which are more than twice as common among traditional wares than colonowares (4.7 percent vs. 1.8 percent). And sherds slipped on both sides are five times more common among traditional wares than colonowares (95.3 percent vs. 17.9 percent).

Another way to describe these results is that over 80 percent of the burnished red colonowares can be reliably identified even among body sherds with no diagnostic attributes of shape, just by looking at the placement of the slip. This strikes us as a good reason to define a new ceramic variety to encompass these burnished redwares, which shall be called Chicot Red, *var. Rosalie*. A formal definition is presented in Appendix E.

In sum, the colonowares at Fort Rosalie comprise an assemblage of hand-built, unglazed vessels that differ in shape from traditional Native pots and appear to have been made specifically for the French colonists. They fall into two general categories: burnished red-slipped wares and unburnished coarse wares. The former category includes red-slipped plates, bowls, and small bottles that generally emulate European dinner wares and apothecary jars. The latter consists of large bottles, some decorated with incising that may have been used

for storing water or bear oil. Our examination of these vessels has led us to three general conclusions.

The first deals with the question of the potters' ethnicity. Although similar wares in other regions may have been made by African or even European potters, there can be little doubt that the potters here were American Indians. The modes of construction, decoration, and firing fit squarely within the local Native tradition. And the paste recipes used—with either grog or shell used as temper—are identical to those typically found at contemporary Indian sites nearby. One could reasonably debate whether the coarse shell-tempered bottles were produced by the Natchez, most of whose pottery was grog tempered, or by closely allied Mississippian groups such as the Tioux. Either way, the producers were local and Indian.

Second, the burnished red wares from Fort Rosalie exhibit a striking uniformity in shape, thickness, paste composition, and firing. The most common vessel is a shallow plate with either a marley or beveled rim, a red-slipped interior, a diameter of 20-25 cm, and a wall thickness of about 6 mm. In cross section, the sherds usually exhibit a reduced core that contrasts sharply with an oxidized surface, all suggestive of a distinctive mode of firing in which the vessels are exposed to air and cool quickly at the end. This relative uniformity, even if not perfect, suggests that the colonowares in our sample were made by relatively few potters.

Third, the Fort Rosalie colonowares are not identical to those found elsewhere in French Louisiana. Although there are broad similarities in the use of red slips for decoration and in the presence of "brimmed" vessels that mimic European plates, there are also significant differences in the range of vessels forms, in secondary shape features (such as rim modes and foot rings), and especially in paste recipes. For example, the dominance of grog-tempered pastes comparable to Addis Plain is found neither on Red River to the west or on the Gulf Coast to the east. In each case, the paste recipes used in the colonowares match those found in the local Native assemblages, which suggests

that the French colonists in each area relied mainly on the local indigenous potters and did not import these wares from a distance.

Archeologists once favored the term “acculturation” to describe the process by which colonowares arose in areas where Europeans came in contact with indigenous people (e.g., Rice 1987:457). This term implies the abandoning of indigenous cultural expressions in favor of others. This is however unsatisfactory for explaining the complex interaction and strategies indigenous persons followed as they navigated colonial institutions (Silliman 2009). Instead, it is more appropriate to think about objects like hybrid ceramic forms, such as the colonowares from the Fort Rosalie excavations, as expressing both continuity with indigenous traditions and history while making accommodations to appeal to newly introduced ideas or market demands (see Morgan and MacDonald 2011). Through this light, Native producers are not seen as “abandoning” their cultural expressions in favor of those, presumably, “superior” European expressions or materials. Instead, hybridization allows space for Native agency, and their ability to make choices and follow strategies that mitigate the consequences of European expansion. As Cobb and DePratter write (2012:455), “At a local scale, colonoware is a profound testament to the creative agency of peoples striving to maintain a sense of self and community. . . . At a broader scope, the widespread occurrence of similar—if not identical—colonoware traditions is the result of the disruptive effects of colonialism.” Colonoware vessels exhibit the materialized evidence of negotiations by Native and Europeans made as they dealt with the forces of colonialism at multiple scales.

The results of our analysis indicate that the French used colonoware vessels on a daily basis at Fort Rosalie along with other Native-made vessels in more traditional forms. Given the frequencies in which these aboriginal-made vessels occur in the area around the barracks or storage room, the soldiers and other *habitants* were likely very comfortable eating from the vessels, as they were just as

comfortable incorporating wild foods into their diet (see Dawdy 2010; Hardy 2012). In essence, colonoware embodies these negotiations, as well. On the frontier of the colony, French soldiers ate European meals made with local wild foods off copies of French plates made by their Indian neighbors. Neither the meal nor the plate made them more or less French, but rather embodied their participation in an increasing globalized world. While the evidence suggests that these wares present within the Fort Rosalie assemblage may have been produced by a particular community, but, as stated above, it is recognized that the cultural origin of these wares cannot be conclusively defined. These colonowares encompassed a wide range of coarse earthenwares that may have been produced by Native Americans, African and African American enslaved people, or Europeans to be used within or outside of these respective groups.

Discussion: Ceramic Vessel Analysis

The majority of all European-made or styled vessels recovered during the Fort Rosalie excavations were of utilitarian or multi-purpose form and function. While many sherds were too fractured or fragmented to confidently determine or propose specific forms, a total of 981 sherds could be identified as to some type of vessel shape (Table 8-24), the majority of which were either deep plates or bowls (*assiette*

Table 8-24. Identifiable vessel forms from the Fort Rosalie excavations.

Form	Count	Weight (g)
Bottle	3	144.39
Bowl	154	4712.81
Cup	6	8.45
Effigy	2	34.52
Jar	79	2838.81
Jar, Cosmetic	1	16.8
Lid	1	1.45
Pitcher	4	66.05
Plate	243	1383.152
Pot	17	1477.54
Pot, Chamber	81	559.67
Total	591	11243.642

creuse), or plates or deep plates (*assiette* or *plat creux*). The majority of plates or deep plates were creamware (n=97), followed by Albisola (n=70), Brittany Blue on White faience (n=51), “Charente” plain (n=48), and Provence Blue on White faience (n=28). Two creamware chamber pots were identified from 87 sherds. Eleven pieces of pitchers were identified, including five Normandy Blue on White faience, one Rouen Polychrome faience, one “Charente” Plain, two Delft, one San Luis Polychrome majolica, and one unidentified coarse earthenware. A total of 98 sherds were identified as jars, weighing 225.52 g; many of these were potentially “olive jars,” but due to a lack of diagnostic attributes could not be confidently identified as Spanish, *per se*. However, as discussed above, many more thick sherds were recovered that consisted of a white to light yellow to buff colored paste with interiors glazed in either yellow or green lead glazes, also making them potentially either olive/oil storage jars or large utilitarian vessels. Eight of these glazed jars or very large bowl sherds were recovered, resembling styles that typically originate from Biot, a type discussed previously in the Coarse Earthenware section.

The vertical distribution of the pottery is telling (Table 8-20). Across the site there appears to be a transitional “line in the loess” between Levels 3 and 4; even though not all levels are exactly uniform in depth across the site, they are within a few centimeters of each other. These levels were defined based on the combined use of arbitrary 10 cm levels and the change in soil composition, as discussed in Chapter 7. This “line in the loess” is also marked by the presence of burned materials in most of the EUs, whether wooden floors or collapsed and burned *bousillage*, which very likely correspond to the 1729 attack. There is likewise a marked drop in the number of refined earthenwares dating to the second half of the eighteenth century between Levels 3 and 5; for example, 665 sherds of creamware and 216 sherds of pearlware were recovered from Levels 1-3, while only 211 creamware sherds and 42 pearlware sherds were recovered from Levels 4-10. Overall, Levels 1-4 contain 75.83 percent

of the total refined earthenware from the Fort Rosalie Complex with a 62.80 percent decrease of refined earthenware from Level 4 to Level 5. There is also a much smaller corresponding drop in the number of European styled coarse earthenwares in Levels 4-10, primarily in stonewares, slipwares, plain *faience blanche*, and unidentified types. Other types, such as Albisola Slip wares, *faience brune*, glazed redwares, and Saintonge-like wares demonstrate little differentiation between upper and lower levels. A few types of *faience blanche*, however, were present in slightly greater numbers in these lower levels. For example, Brittany Blue on White, Provence Blue on White, and Saint Cloud Polychrome sherds are all found in greater quantity at and below the burned “line in the loess,” as were all sherds of Nevers Blue on White. Nevers styles have typically been encountered in early sites across the Gulf Coast dating from 1702-1711 (Waselkov and Gums 2000), while Brittany, Saint Cloud, and Provence Blue on White are typically encountered archeologically in mid-eighteenth century contexts. On the other hand there was a substantial increase in the number of particular Native American wares from Levels 4 through 10, including Addis, Chicot Red, Fatherland, Mississippi Plain, and Winterville, in addition to unidentifiable wares. It also appears that during the early days of Fort Rosalie, pottery wares were provided by the local Natchez and their allies, with limited use of French faience and other coarse earthenwares. Analysis of the Spanish fortification site of Presidio Los Adaes mentions the unrestricted nature of early colonial-era French and Native American trade, resulting in a high number of ceramic artifacts from both cultural groups (Gregory et al. 2004). After the 1729 uprising, the reestablishment of the fort, and the subsequent removal of the Natchez from the area, the number of glazed European wares increased as needs were no longer being met via local production.

While a comparative analysis of these wares to those recovered from contemporary sites across the Lower Mississippi Valley and the Gulf Coast is ongoing and will be

presented in future publications, some general characteristics can be noted. A number of varieties of French or Continental European wares found in contemporary sites, even those on the frontier, such as those comprising the “Tunica Treasure” and Fort Michilimackinac, have not been identified at Fort Rosalie (Miller and Stone 1970). The absence of slipwares with motifs such as circle-and-dot, “splotchy” glazing over transparent lead glazes, Westerwald, and white salt glazed stoneware could be explained by the large quantity of Native American and colonoware vessels present at the site. Given its location on the western frontier of the French colonial realm, and its distance from the ports of New Orleans and Mobile, and the inability or unwillingness of the crown to provide regular supplies to the colony, the need for daily-use utilitarian vessels could have been easily met through localized trade and bartering for locally-produced wares. Indeed, this is a pattern seen at Fort de Chartres, and reflects Keene’s (2002) proposed *entrepot* model. As discussed in earlier chapters, in the early days of the fort’s existence the arrivals of provisions and goods was not dependable, with months between shipments. Soldiers bartered with the Natchez for food, and likely other utilitarian goods. It is known that many of the soldiers petitioned for and received civil marriage contracts with Natchez women, potentially meaning that the need for vessels and the production of foods could have been met via marriage or co-habitation.

Glass Artifacts

By the end of the seventeenth century, the three main components of glass were silica, flux, and a stabilizer. Flux consists of either soda or potash, which serves to lower the melting temperature of the silica. The stabilizer consists of either lime or lead, which serves to replace the natural impurities in the flux. Once purer raw materials began to be utilized, the impurities in the flux were eliminated, resulting in a less colored clearer glass. Unfortunately, visual examination of glass alone to determine the composition is unreliable, necessitating chemical analyses.

Soda-lime glass is one of the oldest and most common of the glass types. Early soda glass typically had a bluish or green tint due to the presence of impurities, but by the thirteenth century Venetian glass makers had discovered the secret to colorless glass. It became so popular during the fifteenth and sixteenth centuries that Venetian glass makers were being enticed to establish shops in other European countries (Jones and Sullivan 1985:10-11).

Potash-lime glass first came into production when glass makers in western and central Europe began to utilize woodland plant ashes in place of soda, which was not readily available during the tenth century. By 1680, Bohemian artisans had developed a colorless potash-lime glass which could be blown thick enough to support the engraving and cutting that had become popular in Europe. This type of glass declined in popularity during the nineteenth century with the improvements in glass making, although its production for luxury tableware continued in Bohemia. First developed in 1676 by George Ravenscroft, potash-lead glass is colorless, heavy and sets more slowly than soda-lime glass. By 1750, it was being produced in large quantities in England and Ireland, and by 1780, its production had become commonplace within Europe. Lead glass is still being produced in large quantities for use in fine tableware (Jones and Sullivan 1985:10-12).

Although the manufacture of colorless glass was first achieved during the thirteenth century, it did not come into wide usage in North America until 1864, when William Leighton developed a new formula that added lime and removed the impurities previously common to the process. This new formula produced a significantly cheaper, easier to produce, and better quality tableware. The improved glass was better able to accommodate the speed of automatic glass-bottle-blowing-machines. By the end of the nineteenth century soda-lime glass had become the dominant glass type for inexpensive table glass in North America (Jones and Sullivan 1985). This same formula for colorless glass is still in use today (Jones and Sullivan 1985:11-13).

Table 8-25. Glass artifacts recovered from Fort Rosalie.

Object	Count	Weight (g)
Bead	735	195.43
Bottle	142	1218.25
Bottle, Wine	1	7.94
Button	3	2.28
Fuse	1	1.32
Gemstone	1	0.18
Glass Fragment	623	392.86
Glass, Lamp	21	2.57
Glass, Wine	1	15.23
Jar	2	13.4
Lantern	8	1.55
Liner, Lid	1	1.49
Marble	6	23.85
Mirror	15	13.3
Ornament	1	0.62
Scraper	1	18.11
Stopper, Bottle	1	79.05
Tube	1	0.43
Vessel Fragment	4159	6136.34
Windowpane	37	126.48
Total	5760	8250.68

Glass vessel fragments were sorted by color, as few of them were large enough to be assigned to categories based upon manufacture, form, or function. Due to the highly variable nature of glass color, however, it is not a particularly useful characteristic and in this study was used primarily as a descriptive category rather than a temporal marker. Glass color is most often related to the presence of metal oxides – usually iron – in the sand used to produce the glass or even the artisan’s tools. Because glassmakers went to great lengths to reduce the unwanted iron, sand with low levels of iron was a highly sought commodity. Before the last quarter of the nineteenth century, there were few means for a glassmaker to control the impurities in a batch, and hence the metals present in the sand often dictated the color of the glass produced (Jones and Sullivan 1985:12-13).

A total of 5,748 glass artifacts, weighing 8236.8 g, were recovered from the Fort Rosalie excavations. The range of glass vessel forms include apothecary and wine bottles, pieces of

lamp and lantern glass, marbles, and decorative pieces that were likely components of cufflinks (Table 8-25).

Faunal Material

The Fort Rosalie excavations provided a diverse assemblage of animal remains. The faunal assemblage recovered is believed to come from the interior of the fort, but it is yet unknown if this assemblage is associated with a specific class or ethnic group within the fort or is indicative of the food eaten by all members of the garrison. As such, it is provisionally assumed that the sample is representative of the eating habits of all the persons living at the fort. The purpose of this zooarcheological analysis is to determine the taxa present in the faunal assemblage, as well as which taxa were utilized at the fort both for food and which represent byproducts of the fur trade. Another focus of the analysis was to determine how the proportions of the consumed species found here compare with other sites, and how does this relate to the ways colonialists adapted to the environment and interacted with local native populations?

Faunal Sample and Methods

The present analysis was conducted on the remains recovered from 32 EUs, one exploratory trench at EUs 2 and 3, 20 STs, 51 features, 8 PHTs, and general surface collecting (GSC). All soils were screened through 1/4-inch mesh, as were 29 of the excavated features. The remaining 21 features (2, 4, 5, 5a, 7, 9, 16, 18, 19, 20, 23, 26, 27, 1-6, 2-6, 3-6, 4-6, 5-6, 6-6, 7-6, 8-6, 9-6, and 10-6) were all floated and water-screened through 1/16-inch mesh in the laboratory, as were an additional 12 floatation samples collected from multiple proveniences.

The use of fine mesh screens (1/16-inch) helped assure the optimal recovery of faunal remains. The exclusive use of 1/4-inch mesh has been shown to favor larger species such as deer while minimizing smaller species such as invertebrates and schooling fishes (Reitz and Wing 2008; Russo et al. 2006:57; Schaffer 1992). Small-mesh recovery better reflects the true faunal composition of the midden and

feature deposits as it includes all possible taxa and size classes of species that were consumed (Reitz and Wing 2008; Wing and Quitmyer 1985).

Analysis of the faunal remains followed standard zooarcheological methods (Reitz and Wing 2008). Recovered fauna was rough sorted into broad taxonomic categories, usually to class. The fauna were further sorted and identified to the lowest possible taxon using comparative collections of modern animal skeletons from the region housed at the NPS' Southeast Archeological Center and the Department of Anthropology at Florida State University. Portions of the faunal material were also sent to Bruce Manzano at the University of Kentucky for identification. Additionally, several widely recognized skeletal reference publications were used (Gilbert et al. 1996; Gilbert 1990; Olsen 1979).

Quantification included calculating the number of individual specimens (NISP), minimum number of individuals (MNI), and bone weight (grams). Bone count or NISP is the count of the total number of fragments present in the sample. NISP is a common form of quantification; however, the number of bones present at a site can be affected by recovery techniques, taphonomic processes, and cultural practices that include distribution, butchering techniques, transportation, and cooking processes (Grayson 1984; Reitz and Wing 2008). Taphonomic processes such as animal scavenging and differential bone preservation may also affect bone counts. Bone weight can also be affected by similar cultural and taphonomic processes as bone count. As such, both NISP and bone weight are useful, but limited, in determining the relative abundance of fauna from an archeological site.

Estimation of MNI were calculated using paired elements, coupled with differences in element size, epiphyseal fusion, tooth wear and eruption. In most cases MNI was calculated for just those elements identified to at least genus level. However, in cases in which only higher taxonomic levels (e.g., Order, Family) were present, MNI was provided; this exception

was isolated to some bird, fish, and reptile bones. Discussions of relative abundances of taxa from the samples are primarily based on MNI determinations. Biomass estimates, or the quantity of meat weight from a given amount of bone, was calculated using skeletal mass allometric formulae (Reitz et al. 1987; Reitz and Wing 2008). Bone weights of identified specimens were converted into estimates of usable meat (biomass) for each taxon. Biomass refers to the quantity of meat represented by a given amount of bone. This method tends to be a conservative estimate of consumption amounts as it assumes only meat adhering to bone was consumed. The allometric equation to describe the relationship between bone weight and meat weight is:

$$Y = aX^b \text{ or } \log Y = \log a + b (\log X)$$

where: X = bone weight, Y = quantity of biomass (g), b = constant of allometry (slope), a = Y - intercept. The constants for a and b are provided in Table 8-26.

Analysis Results

A total of 102,015 bone and shell fragments with a combined weight of 42,833.26 g were analyzed (Table 8-27). Unfortunately, most of the recovered fauna ($n=76,394$ or 74.76 percent) was too fragmentary to identify to even the class level. The remaining portion of the sample comprised a total of seven classes and one subphylum, represented by 68 taxa (Table 8-28). The total MNI for the Fort Rosalie material is 307 individuals.

Vertebrate remains comprised the bulk of the fauna recovered from Fort Rosalie. A total of 101,024 bones were analyzed, and account for about 99 percent of the total faunal assemblage. Additionally, vertebrates account for similarly high percentages of the total collection weight (42,641.49 g or 99.55 percent), estimated biomass (316,463.92 g or 99.98 percent), and MNI (298 or 97 percent) (Figure 8-71). Although about 74 percent ($n=75,403$) of the bones remained too fragmentary to identify even

to the class level, a diverse array of vertebrate taxa was identified from the remaining bones.

Mammals are the most abundant class represented based on NISP, with a total of 9,069 fragments, accounting for 8.89 percent of the NISP and over 50 percent of the total sample weight. Over 87 percent (n=7,921) of the mammal bones could not be identified beyond the class level due to fragmentation and lack of diagnostic elements. From the remaining bones, 16 mammal taxa were represented comprising 57 individuals. Overall, mammals comprise nearly 84 percent (265. kg) of the sample biomass, with over 50 percent derived from unidentified mammal (16.60 percent) and large mammal (34 percent).

Among the most commonly occurring taxa were members of the order Artiodactyla (white-tailed deer, pigs, cows, sheep, and goats) with 685 fragments. Combined, members of this group account for 28 percent (88,622.83 g) of the total biomass and 33 percent of the biomass contributed by mammals. Nearly nine percent of the MNI for this sample derives from artiodactyls. Due to the similarity in size and morphology of many of the species (domestic and wild) in this order, many fragments could only be identified as belonging to either of two, or as many as four, similarly sized and shaped members of this order (e.g., *Odocoileus/Capra/Ovis* sp.; *Odocoileus/Capra/Sus/Ovis* sp.; *Bos taurus/Bison bison*). Only three species were definitely identified, including white-tailed deer (*Odocoileus virginianus*), domestic pig (*Sus scrofa*), and domestic cow (*Bos taurus*).

White-tailed deer is the most ubiquitous species of the Mammalia taxa. Deer account for nearly five percent of the total faunal assemblage MNI with 15 individuals. Deer are also the single greatest contributor to the total biomass of any one species, constituting over 13 percent (41,592.10 g) of biomass. Domestic pigs were also common among the Mammalia taxa, representing about two percent of the total faunal assemblage MNI and biomass. Domestic cow was represented by only three individuals but contributed nearly four percent of the calculated biomass. Additionally, remains

representing either a sheep or goat (*Capra hircus/Ovis aries*) were also present, with an MNI of 2; the sheep/goat contributed little to the overall biomass.

Other common species found include black bear (*Ursus americanus*) with five individuals, opossum (*Didelphis virginianus*) with five individuals, cottontail (*Sylvilagus* sp.) with four individuals, gray squirrel (*Sciurus carolinensis*) with four individuals, and raccoon (*Procyon lotor*) with four individuals. Other mammals were found in far less abundance with only one or two individuals represented. Among the infrequently occurring taxa are bobcat (*Lynx rufus*), domestic dog (*Canis familiaris*), an unidentified canid (*Canis* spp.), gray fox (*Urocyon cinereargenteus*), an unidentified mustelid (Mustelidae), and a domestic horse (*Equus caballus*). Based on biomass, only the black bear contributed significantly, accounting for four percent of the sample biomass, whereas the others accounted for less than one percent of the biomass.

Typically commensal species identified include black rat (*Rattus rattus*) and a possible harvest mouse (cf. *Reithrodontomys* spp.) An additional 243 fragments of unidentified rodents (Rodentia) representing four individuals were also recovered. It is unclear if these unidentified rodents were native or introduced, but are likely commensal.

Birds are very abundant in the Fort Rosalie faunal assemblage, second only to mammals in total count with 8,315 fragments and a total weight of 3,374.76 g. Unfortunately, over 91 percent (n=7,600) of the bird bones could not be identified beyond the class level. Regardless, a diverse assortment of birds was identified from the sample, with four orders, three genera, and 17 species present. Birds are also a dominant class based on MNI, accounting for over 37 percent of the total MNI with 116 individuals. This class also contributes significantly to the overall biomass, accounting for nearly 12 percent (37,717.76 g), second only to the biomass contributed by mammals.

Waterfowl (ducks, geese, and swans) are by far the most abundant group of birds present

in the sample with over 384 fragments weighing nearly 479 g. Combined, a total of 54 individuals were estimated for waterfowl. Nearly 50 percent (n=190) of the waterfowl remains could only be identified to family level (Anatidae) with an estimated MNI of 19 individuals. Overall, waterfowl contribute almost two percent (6308.26 g) of the total biomass and 17 percent of the biomass contributed to birds.

Wild ducks were the most common waterfowl identified, and included bufflehead (*Bucephala albeola*) with two individuals, wood ducks (*Aix sponsa*) with five individuals, ringneck ducks (*Aythya collaris* and cf. *Aythya collaris*) with four individuals, and mallards (*Anas platyrhincus*) with six individuals. Other ducks could only be identified to the genus level *Anas*; although they were not diagnostic to species, the size of the elements suggests many may be mallards. Overall, a total of 10 individuals were estimated for *Anas* sp. ducks. Geese were also identified, including Canada geese with three individuals and an *Anser* sp. goose with a single individual. A single swan (*Cygnus* sp.) was identified from a sternum fragment. A single domestic duck (*A. platyrhincus domesticus*) was also identified from a vertebra; this duck was larger than the wild mallards, suggesting that it is a domestic variety.

The domestic chicken was the most abundant single species present in the sample with a total MNI of 25. Chickens alone account for over 21 percent of the MNI contributed by birds and over eight percent of the assemblage MNI. Based on biomass, chickens contribute nearly four percent of the biomass derived from birds. Other commonly seen birds from Fort Rosalie include the turkey (*Meleagris gallopavo*) with nine individuals, and American white ibis (*Eudocimus albus*) with 10 individuals. Both species added significantly to the bird biomass, contributing nearly four percent and over two percent respectively. Other birds were less frequently present in the sample, represented by just one or two individuals. Among these birds are bobwhite (cf. *Colinus virginianus*), long-billed curlew (cf. *Numenius americanus*),

anhinga (*Anhinga anhinga*), double-crested cormorant (*Phalacrocorax auritus*), kestrel/Falcon (Falconiformes), red-tailed hawk (*Buteo jamaicensis*), owl (Strigiformes), white pelican (*Pelecanus erythrorhynchos*), storks (Ciconiiformes), grebe (*Colymbus/Podilymbus* spp.), great blue heron (*Ardea herodias*), black-crowned night heron (*Nycticorax nycticorax*), and sandhill crane (*Grus canadensis*). These birds also contributed little biomass to the sample.

Fishes were the third most abundant class based on NISP (n=8,148; 7.99 percent). Fishes were also the third largest providers of biomass in the assemblage, accounting for around four percent (12,953.41 g) of the assemblage biomass. Although over 5,000 (61 percent) of the fish remains were unidentified, a total of six genera and nine species were identified in the sample with a total of 116 individuals. Gar (*Lepisosteus* spp.) was the single most abundant fish identified in the sample, with a total of 27 individuals. Gar is the second greatest contributor to the sample biomass of any single fish taxa, accounting for about 1,200 g. Catfishes as a whole were also abundant in the assemblage with a total of 28 individuals. Among the catfishes identified are channel catfish (*Ictalurus punctatus*) with 12 individuals, channel/blue catfish (*Ictalurus punctatus/furcatus*) with seven individuals, probable black bullhead (cf. *Ictalurus melas*) with one individual, and flathead catfish (*Pylodictis olivaris*) with two individuals. An additional six individuals were estimated from catfish remains identified only to genus *Ictalurus*. Based on biomass, catfishes contribute approximately 2,900 g of edible meat, over 22 percent of the total biomass from fish.

Other abundant fish taxa include bowfin (*Amia calva*) with 15 individuals, shad/herring (Clupeidae, *Brevoortia*, and *Alosa*) with 17 individuals, and largemouth bass (*Micropterus salmoides*), with 14 individuals. Other common fish include freshwater drum (*Aplodinotus grunniens*), black crappie (*Pomoxis nigromaculatus*), and bigmouth buffalo (*Ictiobus cyprinellus*); these fish had three to five individuals, respectively. The remaining fish

Table 8-26. Allometric constants used to calculate biomass from bone weight (from Mikell 2012; Reitz et al. 1987; Reitz and Wing 2008).

Taxon	Slope (b)	Y-intercept (a)	r2
Mammalia	0.90	1.12	0.94
Aves	0.91	1.04	0.97
Testudines	0.67	0.51	0.55
Serpentes	0.95	1.15	0.87
Osteichthyes	0.81	0.90	0.80
Perciformes	0.83	0.93	0.76
Non-Perciformes	0.79	0.85	0.88
Sciaenidae	0.74	0.81	0.73
Siluriformes	0.95	1.15	0.87
<i>Melongena corona</i>	0.88	-43	0.79
<i>Pleuroploca gigantea</i>	1.15	-.71	0.99
Bivalvia	0.68	0.018	0.83
<i>Crassostrea virginica</i>	0.97	-.77	0.97

were represented by just one to two individuals, respectively. Based on biomass, most of these fish contribute only a minor amount of edible meat, with the exception of drums (Sciaenidae, cf. *Aplodinotus grunniens*) which accounted for nearly 1,200 g of meat.

Reptiles are among the least represented class of vertebrates from this site. Only 74 bones with a total weight of 44 g were identified to this class. Overall, reptiles make up less than one percent (0.21 percent) of the sample biomass. Five taxa, including four varieties of turtle and one snake were identified. Turtles were by far the most common reptile recovered. A total of 68 turtles were identified, accounting for 92 percent of the total reptiles in the assemblage. Most of the turtle bones (n=45) could only be identified to order level (Testudines). Sliders (*Trachemys* sp.) and softshell turtles (*Apalone* sp.) are the most abundant species represented by two individuals, respectively. Box turtles (*Terrapene carolina*) and unidentified mud or musk turtle (Kinosternidae) were both represented by single individuals. Other turtle remains (n=4) could only be identified as members of the family Emydidae. Based on biomass, the softshell turtle contributed the largest amount of meat (196.84 g) of any reptile species, second only to unidentified turtles (209.81 g). Other turtles

contributed between 10.76 g to 71.37 g of usable meat.

The single snake (Serpentes) was represented by a single vertebra fragment, contributing less than one gram (0.13 g) of biomass. All other reptile bones (n=5) remained unidentified.

Amphibians were represented by a total of 15 fragments with a weight of 0.32 g. An MNI of two was estimated for this class of vertebrates. Three fragments could only be identified to class level, the other 12 fragments consisted of unidentified frog or toad remains (Anura). Given the small size of these amphibian bones, all are classified in this sample as commensal and are not considered food refuse.

Invertebrates represented a very minor component to the food refuse at Fort Rosalie. A total of 991 invertebrate fragments were recovered, accounting for less than one percent (0.97 percent) of the total assemblage. Additionally, invertebrates were only a minor contributor to the overall biomass with about 78 g (0.02 percent).

Gastropods were the most common based on MNI with six individuals (1.98 percent). Four taxa of gastropods were identified, but only the crown conch (*Melongena corona*) and horse conch (*Pleuroploca gigantea*) are considered potential food remains; the others snails, including the globe snail (*Mesodon* sp.) and the flame tigersnail (*Anguispira alternata*), are both common terrestrial species often found associated with archeological deposits and are deemed commensal. Both the crown conch and horse conch are represented by single individuals and are only minor contributors to the overall biomass (21.01 g or 0.01 percent).

Bivalves were represented by freshwater mussel (Unionidae) and eastern oyster (*Crassostrea virginica*), which originates from the Gulf of Mexico. Bivalves account for less than one percent of the NISP, weight, biomass, and MNI. Given the low representation of the edible gastropods and bivalves it is unclear if these species were actually part of the subsistence at this site, or if they are commensal.

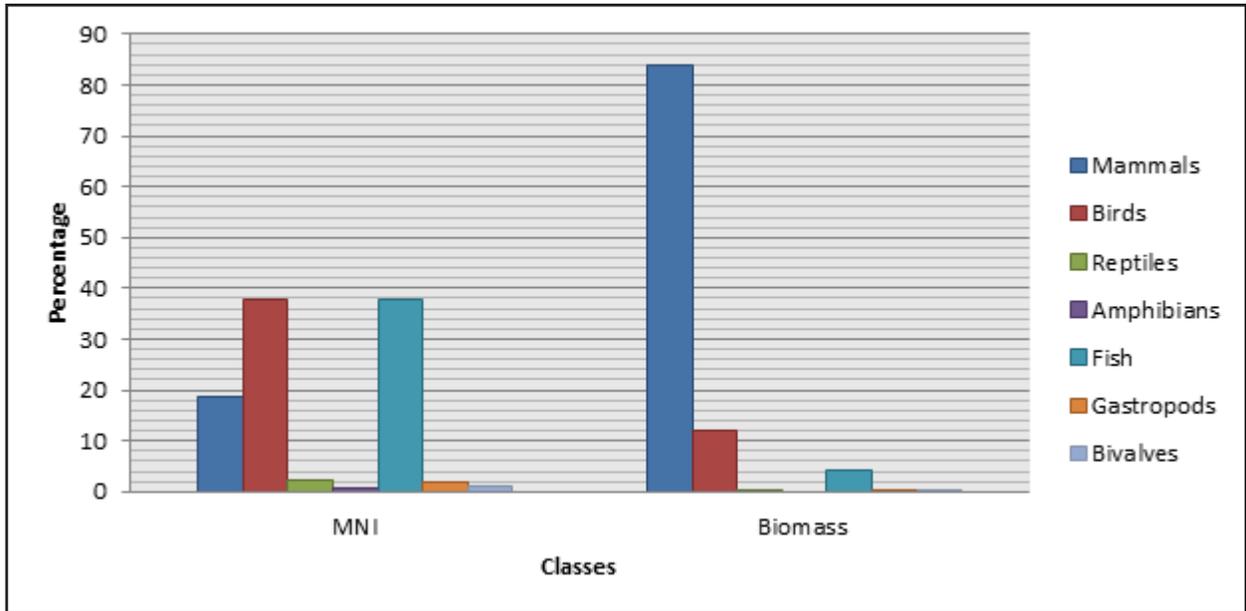


Figure 8-71. Contribution of the Fauna at Fort Rosalie to the MNI and Biomass.

Table 8-27. Summary of faunal data for Fort Rosalie.

Class	NISP	%	MNI	%	Weight (grams)	%	Biomass (grams)	%
Mammalia	9069	8.89	57	18.57	22975.16	53.64	265116.71	83.75
Aves	8315	8.15	116	37.79	3374.76	7.88	37717.76	11.92
Reptilia	74	0.07	7	2.28	44.08	0.10	675.62	0.21
Amphibia	15	0.01	2	0.65	0.32	0.00	0.00	0.00
Osteichthyes	8148	7.99	116	37.79	1220.58	2.85	12953.41	4.09
Gastropoda	27	0.03	6	1.95	59.11	0.14	21.01	0.01
Bivalvia	58	0.06	3	0.98	59.42	0.14	56.76	0.02
Crustacea	36	0.04	0	0.00	13.35	0.03	0.00	0.00
Vertebrata – Unidentified Bone	75403	73.91	0	0.00	15026.59	35.08	0.00	0.00
Mollusca – Unidentified Shell	870	0.85	0	0.00	59.89	0.14	0.00	0.00
Total	102015	100	307	100	42833.26	100	316541.27	100

Crustaceans were also represented, including unidentified crabs (Decapoda) in the sample. Given the small size and infrequent presence, all crustaceans were deemed commensal in this assemblage.

Domestic vs. Wild Species

The contributions of domesticates and wild species to the overall diet are presented in Table 8-29. Domestic animals here include cow, pig, sheep/goat, chickens, and a single domestic

mallard and goose (*Anser* sp.). Although other domesticated species were identified at Fort Rosalie, including horse and domestic dog, these were excluded since it is unclear if these were eaten or commensal. If the horse and dog were part of the diet, then they would not significantly alter these findings. Additionally, many of the bones that could be at least partly from domesticates, particularly cow and pig, had to be excluded because they could not be identified to either a domestic species or for that

Table 8-28. Taxa identified from Fort Rosalie.

Scientific Name	Common Name	Scientific Name	Common Name
Mammalia	Unidentified Mammals	<i>Bovinae/Cervus canadensis</i>	Domestic cow/Bison or Elk
Mammalia, Large	Large Mammal	<i>Capra/Ovis</i> sp.	Goat/Sheep
Mammalia, Medium	Medium Mammal	Aves	Unidentified Birds
Mammalia, Medium to Large	Medium to Large Mammal	Aves, Small	Unidentified Birds, Small
Mammalia, Small	Small Mammal	Aves, Small to Medium	Unidentified Birds, Small or Medium
<i>Didelphis virginiana</i>	Opossum	Aves, Medium	Unidentified Birds, Medium
cf. <i>Didelphis virginiana</i>	Probably Opossum	Aves, Large	Unidentified Birds, Large
Rodentia	Unidentified Rodent	Passeriformes	Perching Birds
<i>Sciurus carolinensis</i>	Grey squirrel	Phasianidae	Domestic chickens, Turkey, Grouse, Quail
<i>Sciurus</i> spp.	Unidentified Squirrel	<i>Gallus gallus</i>	Domestic chicken
cf. <i>Sciurus</i> spp.	Probably Squirrel	cf. <i>Gallus gallus</i>	Probably Domestic chicken
<i>Rattus rattus</i>	Black rat	<i>Gallus/Meleagris</i> spp.	Either Domestic chicken or Turkey
cf. <i>Rattus</i> sp.	Probably rat	<i>Meleagris gallopavo</i>	Turkey
cf. <i>Reithrodontomys</i> spp.	Possible Harvest mouse	cf. <i>Meleagris gallopavo</i>	Probably Turkey
<i>Sylvilagus</i> sp.	Cottontail rabbit	cf. <i>Colinus virginianus</i>	Probably Bobwhite
cf. <i>Sylvilagus</i> sp.	Probably Cottontail rabbit	Charadriidae	Plover/Turnstone
<i>Ursus americanus</i>	Black bear	cf. <i>Numenius americanus</i>	Probably Long-billed Curlew
cf. <i>Ursus americanus</i>	Probably Black bear	Anatidae	Ducks/Geese
<i>Lynx rufus</i>	Bobcat	Anserinae	Unidentified Ducks
<i>Procyon lotor</i>	Raccoon	<i>Bucephala albeola</i>	Bufflehead
<i>Canis familiaris</i>	Domestic dog	<i>Aix sponsa</i>	Wood duck
cf. <i>Canis familiaris</i>	Probably Domestic dog	<i>Aythya collaris</i>	Ringneck duck
<i>Canis</i> spp.	Unidentified canid	cf. <i>Aythya collaris</i>	Probably Ringneck duck
<i>Urocyon cinereargenteus</i>	Grey fox	<i>Anas platyrhincus</i>	Mallard
Mustelidae	Mustelid	<i>Anas platyrhincus</i> (Domestic)	Domestic mallard
<i>Equus caballus</i>	Horse	<i>Anas</i> sp.	Duck
cf. <i>Equus caballus</i>	Probably Horse	cf. <i>Anas</i> sp.	Probably duck
Artiodactyla	Even-toed ungulates	<i>Branta canadensis</i>	Canada goose
cf. Artiodactyla	Probably Even-toed ungulate	Anser sp.	Goose
<i>Odocoileus virginianus</i>	White-tailed deer	cf. Anser sp.	Probably Goose
cf. <i>Odocoileus virginianus</i>	Probably White-tailed deer	Cygnus sp.	Swan
<i>Odocoileus/Capra/Ovis</i> sp.	Either White-tailed deer or Domestic goat/sheep	Suliformes	Anhinga/Cormorant
<i>Odocoileus/Capra/Sus/Ovis</i> sp.	Either White-tailed deer, Domestic goat/sheep, or Domestic pig	<i>Anhinga anhinga</i>	Anhinga
<i>Odocoileus/Ovis</i> sp.	Either White-tailed deer or Domestic sheep	<i>Phalacrocorax auritus</i>	Double crested cormorant
<i>Sus scrofa</i>	Domestic pig	<i>Phalacrocorax</i> sp.	Cormorant
cf. <i>Sus scrofa</i>	Probably Domestic pig	Falconiformes	Kestrel/Falcon
cf. <i>Sus scrofa/Odocoileus virginianus</i>	Probably Domestic pig or White-tailed deer	Accipitridae	Hawks
<i>Bos taurus</i>	Domestic cow	<i>Buteo jamaicensis</i>	Red-tailed hawk
cf. <i>Bos taurus</i>	Probably Domestic cow	cf. <i>Buteo jamaicensis</i>	Probably Red-tailed hawk
<i>Bos taurus/Cervus canadensis</i>	Domestic cow/Elk	Strigiformes	Owls
		<i>Pelecanus erythrorhynchos</i>	White pelican

Scientific Name	Common Name
Ciconiiformes	Storks
cf. Ciconiiformes	Probably Storks
<i>Colymbus/Podilymbus</i> spp.	Grebe
<i>Eudocimus albus</i>	American white ibis
cf. <i>Eudocimus albus</i>	Probably American white ibis
Ardeidae/Threskiornithidae	Hérons or Ibis
Ardeidae	Unidentified heron
<i>Ardea herodias</i>	Great blue heron
cf. <i>Ardea herodias</i>	Probably Great blue heron
<i>Nycticorax nycticorax</i>	Black-crowned night heron
Gruidae/Ardeidae	Crane/Heron
Gruidae	UID Large Crane
<i>Grus canadensis</i>	Sandhill crane
Reptilia	Unidentified Reptiles
Serpentes	Snakes
Testudines	Turtles
Emydidae	Pond turtles
<i>Trachemys</i> sp.	Slider
<i>Terrapene carolina</i>	Box turtle
Kinosternidae	Mud/Musk turtles
<i>Apalone</i> sp.	Softshell
Amphibian	Unidentified Amphibian (Commensal)
Anura	Unidentified Frog (Commensal)
Actinopterygii	Unidentified Bony fishes
<i>Lepisosteus</i> sp.	Gar
<i>Amia calva</i>	Bowfin
<i>Amia calva/Lepisosteus</i> sp.	Bowfin/Gar
Sciaenidae	Drums
<i>Aplodinotus grunniens</i>	Freshwater drum
cf. <i>Aplodinotus grunniens</i>	Probably Freshwater drum
Clupeidae	Shad/Herring
<i>Brevoortia</i> spp.	Menhaden
<i>Alosa</i> sp.	Shad
cf. <i>Esox</i> spp.	Probably Pickerel
Centrarchidae	Bass/Sunfish
<i>Micropterus salmoides</i>	Largemouth bass
<i>Pomoxis nigromaculatus</i>	Black crappie
cf. Centrarchidae	Probably Bass/Sunfish
Centrarchidae/Cypriniformes	Bass, Sunfish/Suckers, Carps
Cypriniformes	Carps
<i>Ictiobus cyprinellus</i>	Bigmouth buffalo
<i>Moxostoma</i> sp.	Redhorse

Scientific Name	Common Name
Siluriformes	Catfishes
Ictaluridae	Freshwater catfishes
<i>Ictalurus</i> sp.	Channel catfishes
cf. <i>Ictalurus</i> sp.	Probably Channel catfishes
<i>Ictalurus punctatus</i>	Channel catfish
cf. <i>Ictalurus punctatus</i>	Probably Channel catfish
<i>Ictalurus punctatus/furcatus</i>	Channel catfish/Blue catfish
cf. <i>Ictalurus melas</i>	Probably Black bullhead
<i>Pylodictis olivaris</i>	Flathead catfish
cf. <i>Polydictus olivaris</i>	Probably Flathead catfish
Gastropoda	Unidentified snail (Commensal)
<i>Pleuroploca gigantea</i>	Horse conch
<i>Melongena corona</i>	Crown conch
<i>Mesodon</i> sp.	Globe snail (Commensal)
<i>Anguispira alternata</i>	Flame tigersnail (Commensal)
Bivalvia	Unidentified Bivalve (Commensal)
Unionidae	Freshwater mussels
<i>Crassostrea virginica</i>	Eastern oyster
Crustacean	Unidentified Crustaceans (Commensal)
Decapoda	Unidentified Crabs (Commensal)

matter, a wild species. Only taxa identified to at least the genus level were excluded, except for certain bird taxa, all reptiles, and all fish. All commensal taxa were excluded. All invertebrates were also excluded since there were so few of them and most were commensal. In total, 17,022 fragments with a weight of 11,188.09 g were examined. The MNI and biomass total for this examination is also reduced, with a MNI of 292 and a biomass total of 134,178.72 g.

A comparison between the MNI and biomass contributed by domesticates and wild taxa indicate a clear domination of wild taxa over domesticated species (Figures 8-72, 8-73). Domesticated species account for only 13 percent of the MNI from this sample; most of the MNI comes from fish (39.86 percent), wild birds (30.48 percent), and wild mammals (14.43 percent). Reptiles were not abundant. Most of the MNI from domesticates comes from chickens (67.57 percent, 25 MNI), with pigs

Table 8-29. Domestic species compared to wild species.

	NISP	%	MNI	%	Weight (g)	%	Biomass (g)	%
Domestics	315	1.85	38	13.01	1759.22	15.72	24483.95	18.25
Wild Mammals	300	1.76	42	14.43	4910.45	43.89	60023.20	44.73
Wild Birds	8185	48.08	89	30.48	3254.44	29.09	36042.12	26.86
Reptiles*	74	0.43	7	2.41	44.08	0.39	676.04	0.50
Fish*	8148	47.87	116	39.86	1220.58	10.91	12953.41	9.65
Totals	17022	100	292	100	11188.77	100	134178.72	100

* The total samples from reptiles and fish are included since no concern of unidentified domestics being present. All other samples are represented by specimens identified to at least genus level, with the exception of some birds.

(16.22 percent; MNI=6) being the next most abundant domesticate. Cows, domestic duck, and goose account for little of the domesticate MNI.

In regard to wild mammals, deer are clearly an important species with 15 individuals represented (36 percent). Other important species included bear (12 percent), opossum (12 percent), squirrel (10 percent), rabbit (10 percent), and raccoon (10 percent). Waterfowl are clearly the overwhelmingly important taxa at this site; waterfowl make up over 57 percent of the wild bird MNI, with ducks alone accounting for 30 percent (MNI=27) of the wild birds. The American white ibis (11 percent) is the only other commonly exploited wild bird, used for possibly both consumption and acquisition of their decorative plumage. In regards to fish, gars were the greatest contributor to the MNI with 27 individuals (23 percent), along with catfishes (combined) with 28 individuals (24 percent), bowfin (13 percent), largemouth bass (12 percent), and shad/herring (nine percent).

Looking at biomass, domesticates are the third greatest contributor to the edible meat calculations, accounting for just over 18 percent (24,483.95 g) (Figure 8-73). Over 60 percent of the biomass of domestic species comes from cow (14,778.46 g), followed by pigs (31 percent). Most of the biomass from this site derives from wild mammals (45 percent), particularly deer (70 percent, or 41,592.10 g) and bear (21 percent). Wild birds contribute the next greatest amount of biomass, accounting for nearly 27 percent, with much coming from waterfowl (over 17 percent), turkey (five percent), and ibis (two percent). Fish and reptiles

constitute only a small amount of the biomass, accounting for 9.65 percent and 0.50 percent, respectively. It is possible that domestics, especially cow, could account for much more of the sample biomass, perhaps even the majority, if most of the fragments described under “large mammal” could have been identified further. However, wild mammals, particularly deer, would most certainly increase if more of the unidentified large mammal bones could have been identified further and could just as likely remain the dominant biomass contributor. It is clear that the inhabitants at Fort Rosalie heavily relied on wild game to supplement the meat supplied through domestic resources.

Bone Modification

Modifications present on bones and shells from Fort Rosalie correlate with some aspect of the foodways observed by the inhabitants. Thermal alteration may occur due to accidental burning from charring caused by the burning of a structure or garbage deposits, but such alterations are more typical evidence for preparing food, especially meat. Cut marks are typically associated with the processing of animals through skinning, disarticulation of an animal at points of articulation, and removal of meat from bone with a knife. Modifications classified as chops are deeper knife or possible hatchet cuts leaving ragged marks. Chops are indicative of dismembering during butchering activities. Sawing is classified as cuts utilizing a saw or other serrated tool to cut through bone, often leaving rough edges. The presence and abundance of rodent or dog gnawing suggest how long bones were exposed before burial.

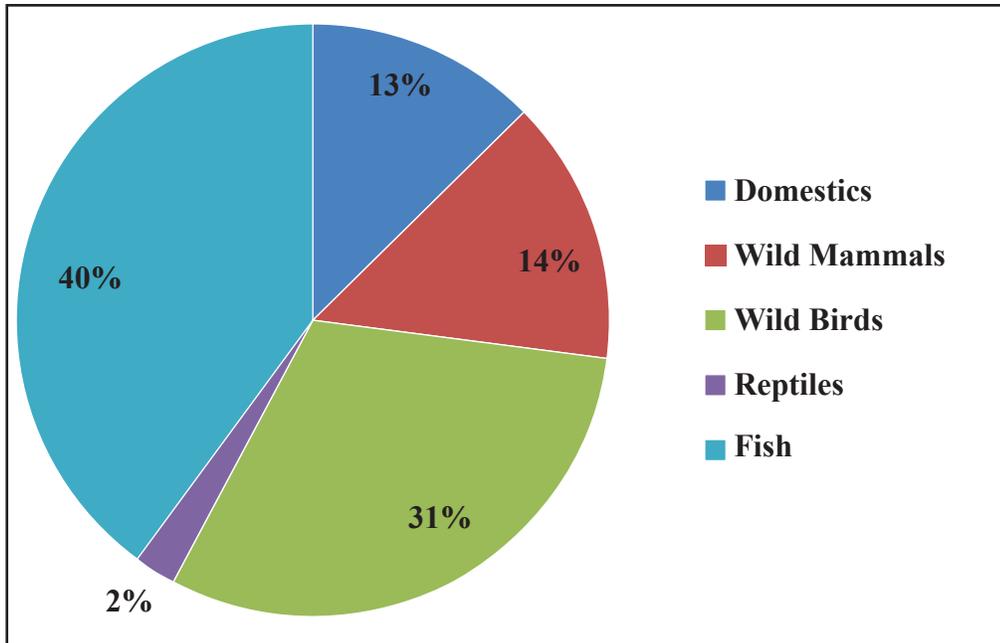


Figure 8-72. Domestic species compared to wild species based on percentage of MNI.

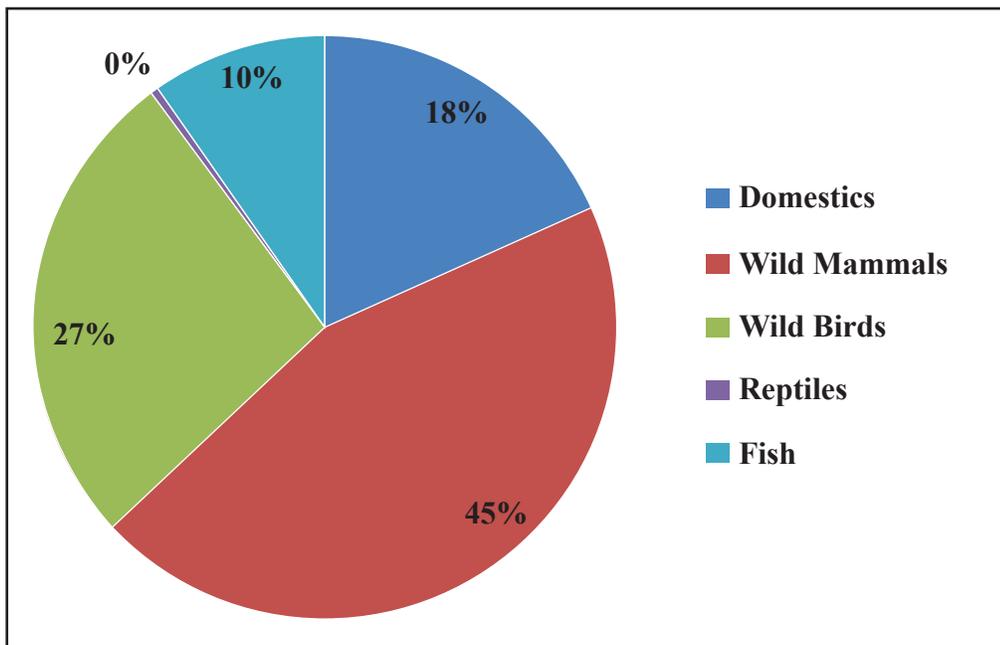


Figure 8-73. Domestic species compared to wild species based on percentage of biomass.

Table 8-30. Summary of burned bone.

Class	NISP	Total Burned	Percent of Class Burned	Percent of Total Burned
Mammals	9069	516	5.69	35.98
Birds	8315	112	1.35	7.81
Reptiles	74	23	31.08	1.60
Amphibians	15	0	0.00	0.00
Fishes	8148	100	1.23	6.97
Gastropods	27	0	0.00	0.00
Bivalves	58	9	15.52	0.63
Crustaceans	36	0	0.00	0.00
Unidentified Bone	75403	670	0.89	46.72
Unidentified Shell	870	4	0.47	0.28
Totals	102015	1434	1.41	100.00

Burned faunal material was not very common at Fort Rosalie. Only 1.41 percent (n=1,434) of the entire faunal assemblage showed any evidence of burning (Table 8-30). Most of the burned fauna comes from bones (99.09 percent), with the remaining 0.91 percent from shells. The majority of the burned bones in this assemblage are unidentified (46.72 percent). The remaining burned bones are, in order of abundance, mammals (35.98 percent), birds (7.81 percent), fishes (6.97 percent), and reptiles (1.60 percent). No burned amphibian bones were present.

In mammals, most of the burned bones come from unidentified mammals and unidentified large mammal (16.60 percent and 34.04 percent, respectively). Very few burned bones were seen in mammals identified to species, with deer (n=6) and bear (n=9) having the most burned fragments of any mammals present. In fact, only about 6 percent of all the mammals showed any evidence of thermal alteration. Similar findings are seen in birds and fishes where most of the burned bones are seen in unidentified members of these classes and few identified taxa show burned elements. Overall, burned bones were seen in just over one percent of the birds and fish bones, respectively. Only in reptiles, which are predominantly turtles, do we see a relatively greater frequency of burned bones (31 percent) within a class.

These findings may suggest that roasting meat, at least on the bone, may not have been a common practice at Fort Rosalie. However, the lower occurrence of burned bone in mammals, birds, and fish may be due to anatomy. Given that the bones of these animals are surrounded by meat and skin, it is possible that much of the bones did not come under direct contact with a flame during roasting, or other cooking method. However, with the cooking of turtles, the whole turtle could be cooked in the shell and the shell (both carapace and plastron) would be in direct contact with the flame and show greater presence of burning.

Evidence of butchering was also not abundant in this sample. Only about one percent (n=1,029) of the assemblage showed evidence of some form of butchering modification. Knife cuts were present on approximately 910 bone fragments, most from unidentified large mammal fragments, but were also present on a variety of taxa. Evidence of chopping was seen in 103 bone fragments, predominantly on bones identified only as large mammal; other taxa with evidence of chop marks included deer, cow, cow/bison, and other artiodactyla remains. Sawed bones were infrequent at Fort Rosalie. Only 16 bones exhibited such butchering methods. One sawed bone was from a cow ilium, sawed just superior to the acetabulum. The remaining bones could only be identified as long bones from unidentifiable large mammals.

According to Martin (1991, 2008), sawing is typically rare at French sites, with hatchets being the preferred method of disarticulation.

In looking at evidence of butchery by class, it is clear mammals have the greatest occurrence of cut bones in the sample with 575 (55.88 percent). Fish (7.97 percent) and birds (3.60 percent) were the only other classes with significant amount of butchery evidence (Table 8-31). Reptiles have few cut bones present. Unidentified bones are second only to mammals with a total of 332 (32.26 percent) cut bones.

In looking at the mammal class, only a small percentage (6.34 percent) of the mammal bones showed evidence of butchering. Most of the cut bones are found in the unidentified mammals and unidentified large mammals, accounting for about 28 percent and 14 percent respectively. As a whole, taxa belonging to the artiodactyls show a significant amount of cut bones, with a total 126 (12.24 percent). White-tailed deer show the greatest frequency of butchered bones with 50, accounting for nearly five percent of all cut bone in this sample and nearly 9 percent of the cut mammal bones. Other mammals with high occurrences of cut marks include pigs (n=26), cows (n=12), and black bear (n=8). Reptiles also showed a high percentage of cut bones (4 percent), but this is likely due to the small sample size of reptiles. Both birds (0.41 percent) and fish (1.01 percent) have few cut bones when looking at them by class.

The occurrence of gnawing by rodents or canines was noted on only 33 bones. Eight bones showed gnaw marks indicative of canines, most of which were found on larger bones from a variety of artiodactyl taxa including deer, pig, and bison/cow/elk, as well as a pelican. Rodent gnawing was evident on just four bones, including a chicken coracoid and a bison/cow patella. Their minimal presence attests to the quick burial of bones after discard.

Additional bone modification came in the form of worked bone. Two button blanks were made from some unidentified large mammal. One of the blanks was recovered from Level 3 of EU N496 E497 and the other from Feature

37 in EU N498 E501. Two bone fragments showing apparent evidence of being ground were identified from Level 2 of EU N496 E494. Overall, the small percentage of worked bone is limited in providing a conclusive statement concerning its usage. However the button blanks, themselves, suggest that at least some bone button manufacturing occurred on site.

Habitat and Species Exploitation

The faunal assemblage recovered from Fort Rosalie indicates that the inhabitants of this outpost depended heavily on native resources to supplement the domestic species. As shown, wild species, particularly deer, were a dominate resource at this fort. Either directly on their own or through trade with the nearby Natchez Indians, wild game was secured for the fort as food, in addition to hides. Domestic animals, including chickens, cattle, pigs, and horses were also traded to the Natchez by the French (Penman 1983). Arms and other European goods were also acquired by the Natchez through trade with the French (Neitzel 1983). If the Natchez

Table 8-31. Summary of cut bones.

Class	NISP	Total Cut	Percent of Class Cut	Percent of Total Cut
Mammals	9069	575	6.34	55.88
Birds	8315	37	0.41	3.60
Reptiles	74	3	4.05	0.29
Amphibians	15	0	0.00	0.00
Fishes	8148	82	1.01	7.97
Gastropods	27	0	0.00	0.00
Bivalves	58	0	0.00	0.00
Crustaceans	36	0	0.00	0.00
Unidentified Bone	75403	332	0.44	32.26
Unidentified Shell	870	0	0.00	0.00
Totals	102015	1029	1.01	100.00

Table 8-32. Exploited habitats as represented by the Fort Rosalie assemblage.

	NISP	%	MNI	%	Biomass	%
Domestic	315	3.27	38	12.84	24483.95	22.45
Terrestrial	579	6.00	65	21.96	63307.20	58.06
Aquatic	8750	90.73	193	65.20	21254.74	19.49
Totals	9644	100	296	100	109045.89	100.00

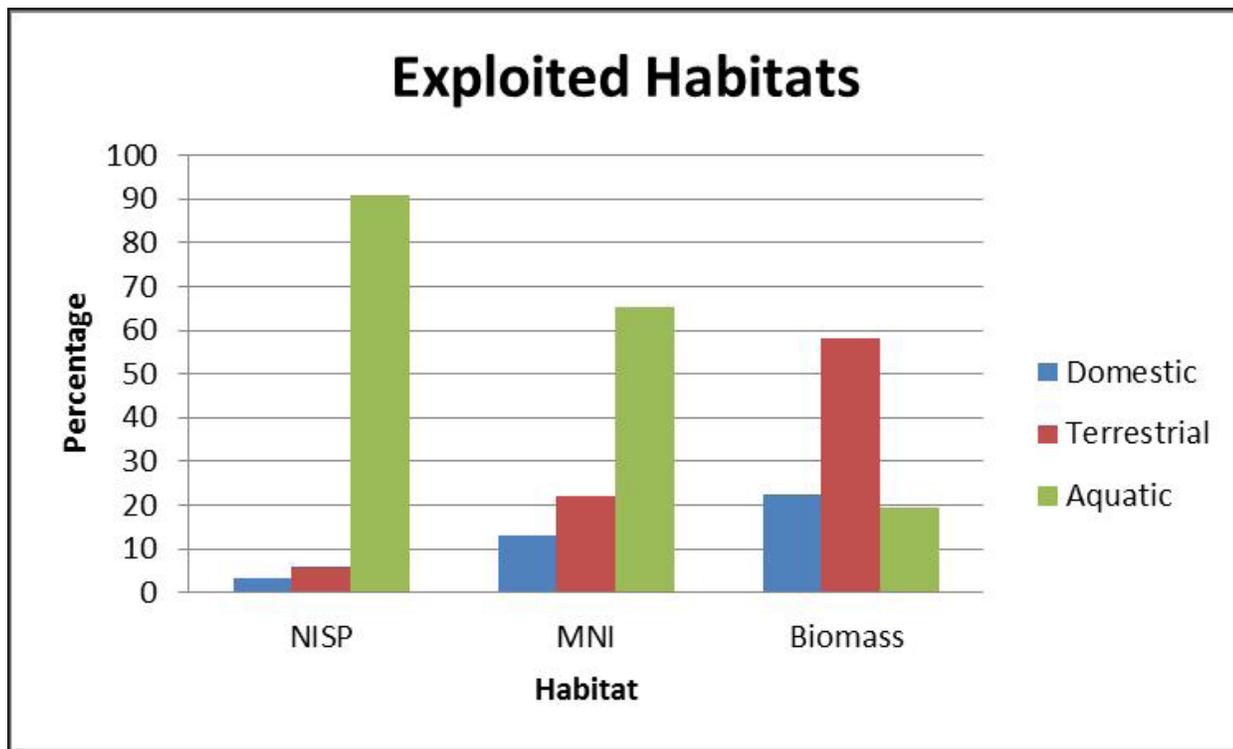


Figure 8-74. Exploited habitats as represented by the Fort Rosalie faunal assemblage.

were the main source of game for the fort, they likely used both traditional and European means to secure many of the animals. From the sample it is clear that predominantly terrestrial and aquatic species were acquired.

Analysis was conducted to determine the relative amounts of consumed animals that were likely recovered from aquatic versus terrestrial environments. Table 8-32 and Figure 8-74 provide the breakdown of taxa based on the general habitat they occupy. In order to make an accurate comparison, all commensal species were excluded since they are not considered part of the diet and were not purposefully exploited. Among the excluded commensals are black rat, the possible harvest mouse, domestic dog, horse, frogs, and unidentified amphibians, globe snail, and flame tigersnail.

Many members of the same order and family may inhabit very different habitats, including some preferring aquatic habitats over terrestrial or vice versa. In order to provide greater accuracy in determining the habitats exploited, only taxa identified to genus or species were used whenever possible.

Additionally, domesticates are grouped separately since these animals are non-native and would have likely been maintained in manmade settings, including pens, barns and corrals and would likely not be hunted as wild game would. The only exception to this may be feral pigs, which in themselves are still considered domestic. This discussion focuses on the wild taxa exploited for food and other resources.

A total of 38 taxa were identified as chiefly occurring in terrestrial habitats. Terrestrial taxa account for nearly 22 percent of the MNI and 58 percent of the biomass from the site. The native mammalian species found in this assemblage are common species to the area. Many of these species are generally present year round.

Deer was the most heavily exploited species, and are most often found in forest-edge areas with good foliage (Brown 1997). Both adult and subadult deer were recovered at Fort Rosalie, suggesting that age was not a determining factor in hunting of this species. Age estimates based on dental studies and epiphyseal fusion on long bones and vertebra

show deer as young as 5 to 8 months old and individuals as old as five years were harvested. Based on portions of the deer skeletons collected, particularly cranial, metapodials and phalanges, evidence suggests that at least some of the deer were butchered at the kill site or at least not at the fort (Table 8-33). Deer were as important to the local native population as they were to the French, perhaps more so. At both the Fatherland site and at Fort Rosalie, deer was the dominant food item (Penman 1983). Deer were either hunted in parties or individually (du Pratz 1947[1758]). Individual hunters may use stealth and disguise; in the case of the latter, at times the hunter would dress himself with a deer head with a portion of neck skin kept in place with split cane. The hunter would also use calls to attract the deer until it was in range to be shot (du Pratz 1947[1758]:242-243). In a group, hunters would surround the deer forming a crescent and close the distance until the deer is dispatched (du Pratz 1947[1758]:244). The deer skins were likely brought to the fort along with

the meat. du Pratz (1947[1758]:248) suggests deer were also used to construct makeshift bags to hold bear grease. He states that after the killing of a bear, Natchez hunters would kill a deer and cut off the head then take off the entire skin starting at the neck, rolling the skin as they cut “like a stocking” (du Pratz (1947[1758]:249). They would remove the legs at the “knee-joints” and after cleaning, washing, and patching the skin they would create a “cask.” They would fill it with the bear oil which they traded to the French (du Pratz 1947[1758]:249).

Black bear, which are currently almost absent from most of their natural range, used to be found in an assortment of habitats, including upland forest and swampy regions (Brown 1997). Bear were among the most heavily exploited species at the fort. Bears were highly prized for their meat, skins, and oil by both Natives and the French. Bear were commonly hunted from December through the beginning of April for their fat (Swanton 1998; du Pratz 1947[1758]). The bear fat would be rendered

Table 8-33. Elements represented from deer, cow, pig, and bear.

Elements	Deer	%	Cow	%	Pig	%	Bear	%
Crania	3	1.18	0	0.00	3	2.86	0	0.00
Dentary	9	3.54	4	7.55	6	5.71	4	3.39
Teeth (loose)	20	7.87	10	18.87	46	43.81	13	11.02
Vertebrae	10	3.94	3	5.66	4	3.81	0	0.00
Humerus	10	3.94	0	0.00	4	3.81	0	0.00
Scapula	5	1.97	0	0.00	2	1.90	1	0.85
Radius	20	7.87	1	1.89	0	0.00	0	0.00
Ulna	15	5.91	2	3.77	1	0.95	1	0.85
Femur	14	5.51	3	5.66	2	1.90	2	1.69
Tibia	24	9.45	6	11.32	2	1.90	2	1.69
Fibula	0	0.00	0	0.00	1	0.95	1	0.85
Innominate	7	2.76	2	3.77	0	0.00	1	0.85
Metacarpals	0	0.00	0	0.00	0	0.00	4	3.39
Metatarsals	5	1.97	0	0.00	1	0.95	4	3.39
Metapodial	5	1.97	0	0.00	3	2.86	14	11.86
Phalanges	4	1.57	0	0.00	7	6.67	47	39.83
Antler	1	0.39	-	-	-	-	-	-
Carpal/Tarsal	27	10.63	3	5.66	3	2.86	2	1.69
Patella	2	0.79	0	0.00	0	0.00	1	0.85
Ribs	6	2.36	5	9.43	2	1.90	4	3.39
Misc (UID)	67	26.38	14	26.42	18	17.14	17	14.41
Totals	254	100.00	53	100.00	105	100.00	118	100.00

into oil through boiling, with a single bear producing upwards of 20 gallons of oil. The natives used bear oil for cooking, as a base for body paint, as a skin ointment, insect repellent, and as a curative and hair treatments (Usner 1992). French colonials adapted bear oil for cooking to act as a substitute for butter, olive oil, and other cooking oils since supplies of these products were rarely consistent. In the 1720s, native traders could receive a rifle or a yard of cloth for a container of this oil (Usner 1992). Bear skins, like deer skins, were also an important commodity used in trading. Bear meat was also prized by the Natchez, but only if it was lean; if too much fat was present, only the feet were deemed edible (du Pratz 1947[1758]; Swanton 1998). It is uncertain if the French shared a similar bias for only lean bear meat, or if they, too, consumed bear feet. At Fort Rosalie, nearly 60 percent of the bones from bears come from metapodials (20 percent) and phalanges, especially the first phalange (40 percent). Similar high numbers of bear feet compared to other bear elements were recorded from the Fatherland site, a Natchez village near Fort Rosalie, and at the Laurens site, a French fort in Illinois, and were interpreted as food refuse and bear skinning byproducts (Penman 1983; Martin 1991, 2008). Such high numbers of feet bones typically found affixed in skins suggest that bear skins were being processed at the fort, whereas the other foot bones, including metapodials, calcaneus, and talus bones, suggest the possible consumption of bear feet at Fort Rosalie.

In the winter, the Natchez would find the hollow tree den of a bear and fire an ignited arrow into the den to flush the bear out, and would shoot it as it descended the tree (Swanton 1998; du Pratz 1947[1758]). Another method described to catch bears includes using dogs to tree the bear where it could then be shot (Swanton 1946). Stalking and shooting (with a rifle) an unaware bear was likely also done.

Bobcats and cottontails inhabit a wide variety of habitats, from dense forest to open grassy areas from the coastal plain to the mountains (Brown 1997). Raccoons, opossums, gray squirrel, and gray fox are also common

to various environments. All six species are common to forested, upland areas as well as in the coastal floodplain. These six species have also adapted well in areas of modern human development and are often seen in modern suburban areas. It is likely these species were just as adapted to taking advantage of the environments around early colonial habitation areas. All of these species could have been acquired using traps or snares, or were killed with firearms or bow and arrow. All of these were collected not only for meat but also their skins.

Most of the birds, including the turkey, bobwhite, owls, kestrel, and red-tailed hawk are permanent residents in the area and could be harvested year-round. The sandhill crane is typically not documented as inhabiting western Mississippi, whereas others consider it a rare occurrence (Rappole 2006:96; Sibley 2000:157). The presence of this bird in the area may be evidence of a larger migratory range or trade. The sandhill crane is commonly found in open grass areas such as prairies and grasslands; they can also often be found in croplands and along lakes, ponds, and swamps. Birds were likely killed for not just meat, but also feathers. Turkey tail feathers were fashioned into fans by the Natchez and were popular with French woman (Swanson 1911). Raptor (hawks, eagles, and owls) claws and feathers were also used in decorative items by the Natchez (du Pratz 1947[1758]; Swanson 1911). Except for the turkeys, which are reported to have been hunted with dogs, the hunting methods for these other birds are not described, but likely included shooting the birds when opportunity arose (Swanton 1998). The box turtle is also a common inhabitant of the area, and could have been harvested year round. The small number of individuals in the sample suggests it may have been collected during other foraging activities.

Aquatic and semiaquatic species were an important aspect of the diet at Fort Rosalie with approximately 39 taxa present in the sample. Aquatic resources account for about 65 percent of the MNI and almost 20 percent of the biomass. The abundant fish present at the

site attests to the importance of the Mississippi River, along with the adjacent creeks, lakes, and sloughs. Catfishes, freshwater drum, shad, redhorse, and big buffalo are common to the main channels of the Mississippi and its tributaries. The bowfin, gar, crappie, and bass tend to be found in backwaters and lakes. All of these fish are predatory and could easily be caught with a baited hook.

Birds in the sample include both migratory and permanent residents. Four of the ducks (Mallard, Bufflehead, Ring-necked duck, Blue-wing teal) and the Canada goose are all wintering residents to the area between October and November. All are common at lakes and ponds (Rappole 2006). The wood duck is a permanent inhabitant of the area. The wood duck tends to prefer river and swamps. A single swan was identified from this site. Although swans are not a common or even a regular migratory bird found in Mississippi, the trumpeter swan (*Cygnus buccinator*) and the tundra swan (*C. columbianus*) are rare occurrences (Sibley 2000:72-73). Waterfowl feathers were popular with native populations and were fashioned into mantles worn by the Women of the Honored Class (Swanton 1998).

White ibis occur in the area only during the summer between April and September, and are typically congregated near rivers (Rappole 2006). The anhinga is a summer resident to Mississippi, whereas the cormorant is a permanent inhabitant. Both species can be found in lakes, but the anhinga can also be found within rivers. Either the pie-billed grebe (*Podilymbus podiceps*) or the eared grebe (*Podiceps nigricollis*) is the likely species associated with the grebe remains identified; both species are common in lakes and ponds, with the pied-billed also present in marshes. The pied-billed grebe is typically found year round, while the eared grebe is a rare winter (September to April) resident (Rappole 2006:46-47).

The great blue heron is generally a permanent resident in the area and found commonly along lakes, rivers, and marshes. The black-crowned night heron is a predominantly nocturnal species found uncommonly in the

region in the summer (April to October). There are several species of plover that migrate through the area, while others are permanent residents. These species occur in a variety of habitats, including along shorelines and marshland. Of particular interest is the presence of the white pelican, long-billed curlew, and storks. None of these species are typically present in the area, however there are rare occurrences of them (Sibley 2000). The feathers of wading birds were likely used for decorative use as well, in addition to being eaten. Feathers from all of the birds could have also been fashioned into blankets for the winter (du Pratz 1947[1748]:41). Overall, ducks, grebes, and other wading birds were likely caught while nesting, perhaps with the use of snares or nets. Some could have also been shot.

Aquatic turtles, including sliders, softshells, and mud/musk turtles are generally found year round, but may be less frequently seen in colder periods. The presence of marine gastropods (Crown conch and Horse conch) and eastern oyster are rather unusual given the site is nearly 200 miles away from the estuarine habitats these species require. It is possible these species were acquired through commerce with New Orleans, but given that so few are present, they were probably not food items. Additionally, the minute amount of freshwater mussel at the site suggests these were not widely eaten, however, given these shells' fragile nature it is possible poor preservation may be the reason there are so few present.

Comparison with Presidio Santa Maria de Galva

The fauna from the Fort Rosalie site are compared here to the fauna recovered at the Spanish site of Presidio Santa Maria de Galve in modern day Pensacola, Florida (Table 8-34). The comparison of these sites was made in order to examine how the inhabitants from these two colonial sites adapted to their new home through changes in their diet. For ease of comparison, the fauna from both sites are examined based on the contribution of domestic fauna to native faunal classes (i.e., Wild Mammals, Wild Birds,

Reptiles, and Fish). The site of Presidio Santa Maria de Galve was chosen because this fort was roughly contemporaneous with the Fort Rosalie site.

The faunal assemblage from the Santa Maria de Galve site consists of samples taken from various areas of the site and are believed to represent food deposits of higher ranking officers and lower status soldiers and workers at the fort, along with food remains from an associated village. As stated in the methods, this assemblage was recovered from the interior of the fort, but it is yet unknown if this assemblage is associated with a specific class or ethnic group within the fort. As such, it is assumed that the sample is representative of the eating habits of all those living at the fort.

The faunal sample from the Presidio Santa Maria de Galva shows a much greater use of domestic species. Overall, 58 percent of the MNI and 84 percent biomass are contributed by domestic species. Most of the meat provided by domestic species, and to the overall diet was derived from domestic cow. The remaining domestics included domestic pig and chickens. Wild mammals, of which deer was nearly the sole species represented, made up the bulk of the meat provided by native vertebrates. Wild mammals contributed about 22 percent of the MNI and 15 percent of the biomass. Fish contributed almost 19 percent of the MNI but less than one percent to biomass. Native birds also contributed similarly little to the diet of the inhabitants of this Spanish population, with turkey (*Meleagris gallapavo*) the only one identified. The Spanish at the Presidio Santa Maria de Galva appeared to hold on to the traditional Iberian foodways of Old World domestics (Parker 2003). Although, Parker’s analysis showed uneven distribution of choice cuts of meat based on apparent rank and status, the reliance on domestic species over native species was maintained. The traditional meat of their diet—cow, pig, and chickens—was preferred, and was found in much larger amounts than native species. These domestics were provided through supply lines with other Spanish colonies and through trade with the

Table 8-34. Comparison of faunal remains from the Fort Rosalie and Presidio Santa Maria de Galva sites.

Fort Rosalie Fauna						
	MNI	%	Weight (g)	%	Biomass (kg)	%
Domestics	38	13.01	1759.22	15.72	24.48	18.25
Wild Mammals	42	14.43	4910.45	43.89	60.02	44.73
Wild Birds	89	30.48	3254.44	29.09	36.04	26.86
Reptiles	7	2.41	44.08	0.39	0.68	0.50
Fish	116	39.86	1220.58	10.91	12.95	9.65
Totals	292	100	11188.77	100	134.18	100

Presidio Santa Maria de Galva Fauna						
	MNI	%	Weight (g)	%	Biomass (kg)	%
Domestics	84	57.5	5654.9	85.2	35	84.2
Wild Mammals	32	21.9	937.7	14.1	6.2	15
Wild Birds	3	2.1	29.3	0.4	0.25	0.6
Reptiles	0	0	0	0	0	0
Fish	27	18.5	17.9	0.3	0.1	0.2
Totals	146	100	6639.8	100	41.55	100

French at Mobile. No local cattle and pigs were available, and reliable sources of livestock ceased with the end of the mission system in 1704 (Parker 2003). Based on the meager amounts of wild game present at this site, the utilization of this food source may not have been heavily relied on or proved difficult to acquire. Wild game is generally not reliable in supply and many are seasonal. Most acquisitions of wild game were apparently supplied through trade with Native populations in the region. However, these trade agreements were often difficult to maintain; some native populations preferred not to trade with the Spanish and instead they traded with the French (Parker 2003). Attempts by the Spanish garrison to make hunting trips were also made, but eventual hostilities with the British and their native allies apparently made this difficult (Parker 2003).

The fauna recovered from the Fort Rosalie site show that domestic species contributed far less to the diet. Only about 13 percent of the MNI and 18 percent of the biomass is provided by domestic animals. Meat from domestics consisted of mostly pig and cow. The greatest

contribution of the meat from Fort Rosalie was provided by wild mammals (45 percent), predominantly deer and bear (see Table 8-27). Birds and fish were also far more common in this sample. Wild birds were far more important to the subsistence at Fort Rosalie than at the Presidio, accounting for nearly 27 percent of the biomass at Fort Rosalie and less than one percent (0.6 percent) at the Presidio. Fish were also present in greater numbers at Fort Rosalie. Fish made up about 40 percent of the MNI and nearly 10 percent of the biomass. The fauna identified from the Fort Rosalie site showed a more diverse diet than what is present at the Presidio Santa Maria de Galve.

In addition to the commonly present domestic species, the French at Fort Rosalie also supplemented their diet with an assortment of wild game. In fact, wild species appeared to make up the bulk of the diet for this fort. The heavy use of wild fauna may have been supplied through trade with local native groups, especially the Natchez. The French had a long association of trade with the Natchez. The Natchez were also supplied with domestic species including horses, cattle, pigs, and chickens (Penman 1983). It is likely that through these trades the Natchez supplied the French garrison with wild species. Swanton (1998:67) at least indicates the supply of oil derived from bear fat was traded to the French. It is likely that meat from various species, as well as deer and bear skins, and bird feathers were supplied to the French, as well. In addition, members of the garrison likely supplemented their diet through hunting and fishing.

Comparison with the Laurens Site

The faunal assemblage from Fort Rosalie was also compared to the assemblage from the Laurens site, a French colonial site on the Mississippi River floodplain in Illinois (Table 8-35). Laurens lies approximately 400 miles north of Fort Rosalie, and is believed to be the original Fort de Chartres I (Jelks et al. 1989). Fort de Chartres and Fort Rosalie are contemporaneous, with Fort Rosalie started in

1716 and Fort de Chartres in 1720. Similar to the comparison with the Presidio Santa Maria de Galva, the fauna are compared based on the contribution of domestic and native fauna. The faunal material from the Laurens site was collected from several areas of the site with eighteen-century contexts.

The Laurens site's faunal assemblage shows distinct similarities with the assemblage from Fort Rosalie. In fact, many of the same species were exploited at these sites, including deer, bear, rabbit, squirrel, waterfowl, sandhill crane, swan, and a variety of fish and reptiles. The few differences in the species present are due to the natural range of animals living in the local vicinity of the respective forts. The same domestics were maintained at both forts, mostly cows, pigs, and chickens, and other domestics (domestic dog, domestic cat, and horse) at both sites were not present in significant numbers. At both forts, wild taxa contributed significantly to the diet compared to domestic species. Previous studies (Martin 1991) have argued that domestic species dominated the biomass at Laurens site. The reason for this is Jelks and his colleagues (1989) included the biomass attributed to "Cattle/Bison, Bos/Bison" in the biomass totals of domestics given the likelihood these bones are from cattle and not wild bison. In this study, MNI or biomass from taxa not identified to a specific taxa was excluded in our analysis, thus the difference in our conclusions.

Wild mammals were especially important at both sites, accounting for nearly the same proportions of the MNI (over 14 percent), and 45 percent (Fort Rosalie) and 54 percent (Laurens site) of the biomass. Deer and bear were particularly abundant at both sites given their importance for not only meat, but for skins and bear oil as well. Birds were widely exploited at both sites, with 64 percent of the MNI at the Laurens site coming from this class; however, birds only compose 11 percent of the biomass at Laurens compared to over 26 percent at Fort Rosalie. This difference in MNI and biomass among the sites is most likely a result of a higher dependence on domestics and wild mammals at the Laurens site. Both sites showed a diverse

Table 8-35. Comparison of Fort Rosalie and Laurens site fauna.

Fort Rosalie Fauna						
	MNI	%	Weight (g)	%	Biomass (kg)	%
Domestics	38	13.01	1759.22	15.72	24.48	18.25
Wild Mammals	42	14.43	4910.45	43.89	60.02	44.73
Wild Birds	89	30.48	3254.44	29.09	36.04	26.86
Reptiles	7	2.41	44.08	0.39	0.68	0.50
Fish	116	39.86	1220.58	10.91	12.95	9.65
Totals	292	100	11188.77	100	134.18	100

Laurens Fauna						
	MNI	%	Weight (g)	%	Biomass (kg)	%
Domestics	20	9.80	3482.5	30.86	50.61	32.02
Wild Mammals	30	14.71	6380.10	56.55	85.75	54.25
Wild Birds	131	64.22	1167.20	10.34	17.33	10.96
Reptiles	4	1.96	26.20	0.23	0.506	0.32
Fish	19	9.31	227.2	2.01	3.868	2.45
Totals	204	100	11283.20	100	158.07	100

assortment of birds, especially waterfowl and wading birds. Ducks in particular are well represented at both sites. Fish appeared to be of minor importance at the Laurens site making up just 9.31 percent of the MNI and 2.45 percent of the biomass, whereas at Fort Rosalie fish made up nearly 40 percent of the MNI and nearly 10 percent of the biomass. Both sites showed an intensive focus on the main channel of the Mississippi River for fish, especially catfish. Reptiles, which consisted mostly of turtles, were underrepresented at both sites suggesting these were only passively exploited.

The comparisons that have been drawn here between Fort Rosalie, Fort de Chartres I and Laurens shows that the diets at all three sites were quite similar. Based on the historical accounts, it can be presumed that the French occupants at each of these sites depended heavily on native wildlife supplied principally through interactions with local native groups. In the case of Fort Rosalie, this assumption is supported by the faunal assemblage that was recovered during excavations conducted at the Fatherland site, where bear a great deal of similarity to those recovered from the fort.

The faunal sample from the Fatherland site used for comparison with the Fort Rosalie fauna comes from John T. Penman's (1983) analysis

of the village area. The Fatherland site, also known as the Grand Village of the Natchez, was a center of trade and activities between 1682 and 1729 during the French presence in the area (Neitzel 1965). Only MNI can be compared for these sites since no weight data was provided for the Fatherland site fauna (Table 8-36). Comparison between the Fatherland site and Fort Rosalie faunal samples indicates a nearly the same taxa exploited. Among the taxa present in both samples are deer, bear, rabbit, raccoon, opossum, cormorants, anhinga, crane, various ducks and geese, turkey, hawks, freshwater catfish, freshwater drum, buffalo fish, gar, bowfin, various freshwater turtles, and snakes. Overall, approximately 56 percent of the taxa present at the Fatherland site were also present at Fort Rosalie. Certainly, some species are present at one site and absent from the other, but some of these differences in the two samples is undoubtedly due to fragmentation of bones in the samples, limiting identifications. Domestic taxa were also present at the Fatherland site, including cow, horse, and chicken; domestic dog and pig were not identified from Penman's (1983) analysis, but were identified by Cleland, Jr. (1965) from his analysis of fauna recovered from Mounds A, B, and C, at the Fatherland site. Less than four percent of the fauna from

Table 8-36. Comparison of Fort Rosalie and Fatherland site fauna based on MNI.

Fort Rosalie		
	MNI	%
Domestics	38	13.01
Wild Mammals	42	14.43
Wild Birds	89	30.48
Reptiles	7	2.41
Fish	116	39.86
Totals	292	100
Fatherland Site Fauna		
	MNI	%
Domestics	6	3.80
Wild Mammals	39	24.68
Wild Birds	35	22.15
Reptiles	14	8.86
Fish	64	40.51
Totals	158	100

the Fatherland site comes from domestics, predominately cow, as well as chicken and horse, suggesting that these were not widely consumed compared to wild taxa. Similarly, domestics were not as widely present compared to wild taxa at the Fort Rosalie site.

Wild taxa at both Fort Rosalie and Fatherland were a far more abundant based on MNI compared to domestic taxa, accounting for 87 percent and 96 percent, respectively. Wild mammals at the Fatherland site contributed about 10 percent more to the sample compared to Fort Rosalie; differences in the abundance of domestic taxa at Fort Rosalie compared to the Fatherland site accounts for at least some of the 10 percent difference in wild mammals. Gray squirrel (MNI=9) was the most dominant mammal species at the Fatherland site, deer (MNI=7) were by far the most important mammal. Bear was also important, with five individuals present at both sites; bear was identified mostly from various foot bones at the Fatherland site as they were at Fort Rosalie (Penman 1983:156).

Only about 28 percent of the taxa from these sites were common to each other, nevertheless, birds were important at both sites, accounting for 22 percent at Fatherland and 31 percent at Fort Rosalie. With the exception of mallard/black duck (MNI=3) no one species

was present in great abundance over others at Fatherland, with the remaining 27 taxa represented by just one or two individuals, while at Fort Rosalie, ducks (*Anas* spp.) (MNI=10) and white ibis (MNI=10) were particularly common. As a whole, waterfowl were abundant at both sites, accounting for about 28 percent of the birds from Fatherland, and 45 percent at Fort Rosalie. Reptiles accounted for the smallest part of the diet at both sites, although accounting for more of the MNI at the Fatherland site; turtles are the most common component of this class at both sites. Fish account for nearly the same percentage of the samples at both sites, 41 percent at the Fatherland site and 40 percent at Fort Rosalie, and consist of most of the same taxa; catfish (61 %), dominate the sample at the Fatherland site, whereas gar, bowfin, shad, largemouth bass, and channel catfish were all abundant. As seen from these data, wild species were an intricate part of the subsistence at Fort Rosalie, creating a diet similar to that of the local Natchez at the Fatherland site. Although domestic species were important to the diet, wild species, particularly deer, were heavily hunted to supplement the meat provided from domestics. Both the surrounding forest and waters near the fort were exploited to supplement rations. Birds were also hunted in great numbers, especially ducks, which may have not only provided



Figure 8-75. Iron fork. NATC 33133.



Figure 8-76. Metal colander. NATC 32948.

needed meat but perhaps feathers for trade. In addition, potential evidence for the bear trade was also evident from the disproportionate amount of bear feet present in the assemblage. The hunting of bear, not only for meat, but for skins and oil, was very important for trade at the time. Overall, it is likely the garrison was highly reliant on fresh meat provided through trade with the local Natchez. This reliance on wild food is somewhat typical of many colonial outposts where regular supply of rations and other goods were difficult to secure. The garrison thus not only received animal skins from the Natchez to trade, but also may have become dependent on the Natchez to supply food for the garrison's very survival.

Metal Objects

Few metal artifacts pertaining to cooking and kitchen-related activities were recovered during the SEAC excavations. The collected items

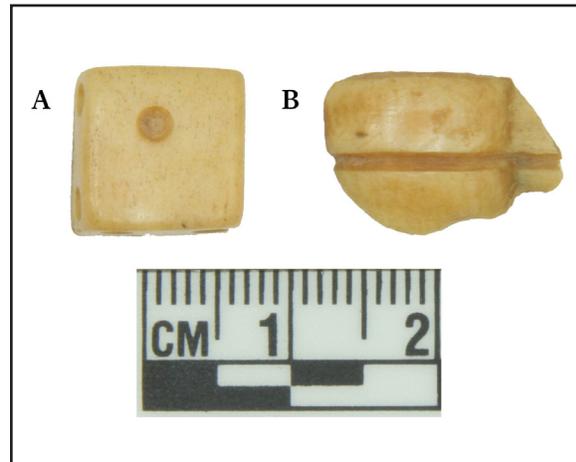


Figure 8-77. Die and game piece, both recovered from EU N498 E503. A-NATC 30156; B-NATC 30157.

included a fork, seven knife blades, a piece of an iron cooking pot, and a piece of an iron colander (Figures 8-75, 8-76).

PERSONAL OBJECTS

A variety of personal artifacts (n=1,704, 2,223.94 g) were recovered during the excavations. These included items designed for personal adornment, such as jewelry pendants and beads; clothing items such as buttons and buckles; and personal gear, such as tobacco pipes and gaming pieces (Figure 8-77; Table 8-37). By far, the largest category of personal items recovered was beads (n=749), followed by tobacco pipe fragments (n=670), buttons (n=92), and straight pins (n=43).

Fort Rosalie Bead Assemblage

The following sections will describe the variety of bead types found during the excavations at Fort Rosalie and compare the assemblage with the collections from the other sites, where

Table 8-37. Personal objects recovered from Fort Rosalie.

Object	Material	Count	Weight (g)
Bead	Bone	1	0.3
Bead	Glass	740	202.87
Bead	Plastic	1	0.22
Bead	Shell	4	0.72
Bell	Brass	1	0.9
Blade	Iron	6	136.19
Bone, Worked	Bone	5	5.33
Bottle, Apothecary	Glass	10	24.04
Bottle, Toilet	Glass	2	3.6
Buckle	Brass	4	21.78
Buckle	Iron	2	16.5
Buckle, Belt	Iron	3	16.1
Button	Bone	6	1.5
Button	Brass	58	127.55
Button	Brass, Bone	2	1
Button	Copper	5	13.79
Button	Copper Alloy	2	5.19
Button	Copper, Glass	2	1.7
Button	Glass	2	1.48
Button	Metal	3	3.92
Button	Pewter	3	4.8
Button	Plastic	4	1.1
Button	Wood	1	0.2
Button, Military	Pewter	1	4.7
Clasp	Brass	1	1.3
Cone, Tinkler	Copper	3	14.49
Grommet	Aluminum	1	0.12
Jar, Cosmetic	Clay	1	16.8
Key	Brass	1	17.27
Key	Iron	1	29.1
Link, Cuff	Brass	1	0.7
Link, Cuff	Copper	1	2.31
Ornament	Brass	1	2.74
Ornament	Copper	1	0.22
Ornament	Glass	2	0.8
Ornament, Shoe	Brass	1	12.72
Pencil	Brass	1	0.48
Pencil	Unknown	1	1.4
Pendant	Lead	1	3.38
Pin, Eye	Copper	1	0.2
Pin, Safety	Copper	1	0.3
Pin, Straight	Brass	24	0.71

Object	Material	Count	Weight (g)
Pin, Straight	Copper	19	0.83
Pipe, Tobacco	Catlinite	4	31.77
Pipe, Tobacco	Clay	15	37.08
Pipe, Tobacco	White Pipe Clay	629	812
Pot, Chamber	Clay	87	571.4
Shell	Shell, Fauna Remains	29	0.05
Shoe	Plastic	1	38.5
Snap, Fastener	Aluminum	1	0.76
Snap, Fastener	Brass	1	0.2
Strike-a-light	Flint	4	21.78
Strike-a-light	Metal --Flint	1	5.2
Zipper	Metal	1	3.85
Total		1704	2223.94

applicable. Figure 8-78 depicts a variety of bead types present in the Fort Rosalie collection. The five most commonly occurring diagnostic bead types on eighteenth century French colonial sites are discussed first, as they were important in assisting the cultural and temporal identification of the site.

Beads manufactured from four different materials were excavated at Fort Rosalie: bone, shell, glass (which were the most numerous), and plastic (which were discarded). There was a carved bone bead and a number of shell beads, which were drilled (n=1) or ground (n=3). The remainder of the beads (n=744) were made of glass. Most of the glass beads were complete and were analyzed, but some fragments (n=5) were too small to determine type or size.

Glass beads have been present in New World contexts since the arrival of Columbus at the end of the fifteenth century (Kidd 1979). They were brought to port cities for trade with Native American groups in exchange for furs, hides, and food. Smith (1983:151) states that Dutch, French, and especially English traders supplied beads to the Native Americans of the Northeast United States and Canada, and that, because of the ensuing international competition, the value of goods like furs and hides rose.

The Role of Trade Beads on the Frontier

Beads were an important commodity for the Europeans on the frontier. For families who

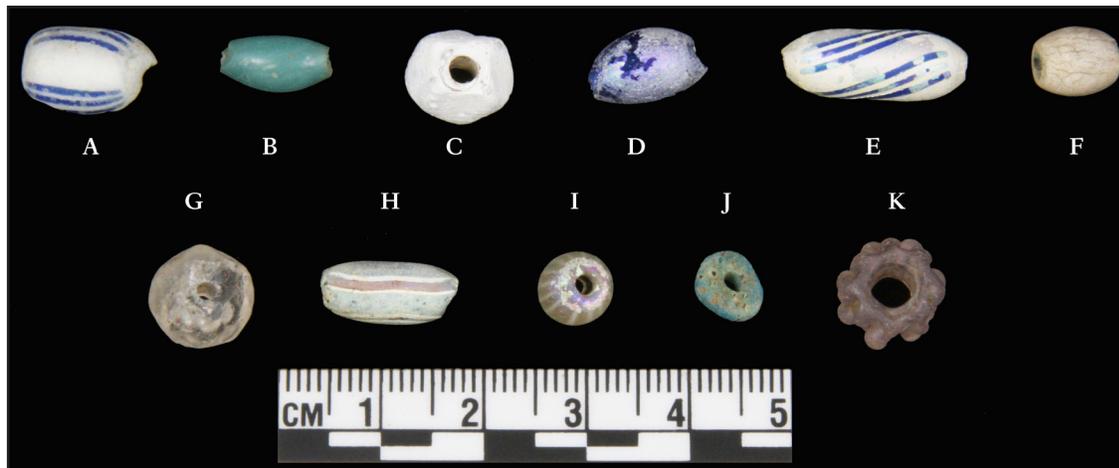


Figure 8-78. Various beads from the Fort Rosalie bead assemblage. A-NATC 28943; B-NATC 34129; C-NATC 28270; D-NATC 32792; E-NATC 29978; F-NATC 30721; G-NATC 32843; H-NATC 29586; I-NATC 28780; J-NATC 32950; K-NATC 29262.

worked in the fur trade, beads were used as currency or exchanged for needed supplies (Malischke 2009:8). Often French suppliers would trade beads for beaver or other animal furs (Malischke 2009:21). Because they were desired by Native Americans, the trading of glass beads was also seen by the Europeans as an inexpensive means of strengthening relationships with Native groups (Blair 1996:77; Malischke 2009:9).

Prior to European contact, Native American adornments often consisted of beads made of shell, bone, copper and stone, along with other items made of feathers, stone, mineral pigments, ceramics, copper, shells, bone, teeth, antler, porcupine quills, rock crystals, berries, nuts, fruits, and flowers (Quimby 1966; Turgeon 2001a); but from an archeological perspective, beads are represented in protohistoric and prehistoric Mississippian contexts most frequently in the form of shell beads where they not only functioned as adornment but “were used to pay social obligations such as bridewealth, blood debt, and tribute,” and, “because of their ubiquitous acceptance as “valuable” commodities, were used as primitive monies” (Prentice 1987:210). When glass beads became available with the arrival of Europeans, they often were readily used by Native Americans in the place of their traditional adornments (Armour 1977:10; Malischke 2009:24).

Looking beyond their economic uses and at their more symbolic meanings, Hamell (1983), Turgeon (2001b) and Malischke (2009) have to various degrees expressed the opinion that in the process of acquiring and using glass beads, the traditional meanings previously held for indigenous adornments were transferred to the glass beads. They have also explored how the process of cross-cultural exchange and use of glass beads led to changes in the aesthetic and cultural values of the Native Americans who appropriated the new medium into their social norms and belief systems, and in the process led to the development of new uses and new ideologies by the receiving cultures. White (2012) also notes that objects were often used by Native Americans for purposes other than those originally intended by their manufacturers. Intimately interconnected with this process were religious concepts and symbolic associations related to color, hardness, and form. By way of their physical properties and where they were worn, beads were thought to bring their owners sexual attractiveness, strength of body, improved senses, success in battle, and the ability to mediate with spiritual forces (Turgeon 2001b).

Centers of Bead Manufacture

In Old World France, beadmakers’ inventories contained glass, enamel, jet, shell, amber, coral, cornelian, chalcedony, rock crystal, wood, horn, bone, copper, and ivory beads (Malischke

2009:30). These Old World collections can be compared to assemblages in New World French contexts (Malischke 2009:30). Beadmakers would use the beads for rosaries, rings, bracelets, necklaces, belts, dresses, hats, glass earrings, and buttons (Malischke 2009:30). Turgeon (2001a) explained that the upper-class French would use precious stones and crystalline glass beads as adornments, while the lower class used glass bead imitations as well as shell, amber, bone, and rock crystal beads. Turgeon (2001a) indicated that glass beads would have also adorned cushions, bed canopies, and funerary wreaths in Parisian homes.

When not adorning personal items, beads were also used in rosaries or used in church decoration (Malischke 2009:32). Rosaries were often used for their magic and religious protection: with written prayers as amulets, with certain words as magic, and with crucifixes for protection (Malischke 2009:36; Moogk 2000:235-237, 247-248). Deagan (2002:72) working on Spanish sites, indicated that amber or tawny colored glass beads, which were uncommon on colonial sites, may have been associated with rosaries. Turgeon (2001a:63) also believed that amber colored beads and red bone beads excavated from Parisian contexts were likely from rosaries or necklaces.

Rosaries mentioned in the literary record for the U.S. Northeast mainly come from seventeenth-century Jesuits in *Jesuit Relations*, describing how Native converts prayed the rosary or in specific instances: in 1633, a priest gave three rosaries of glass beads to chiefs of three different tribes (vol. 5:277-278); in 1647, gifts of an alabaster rosary (vol. 30:154), a musk-scented rosary (vol. 30:155), and a handsome rosary with a medal and reliquary were shipped (vol. 30:155); in 1652, gifts of an amber rosary and a carnelian rosary were shipped (vol. 42:281); and on New Year's Day in 1652, priests gifted each soldier at a fort with a rosary, a port of brandy, and a *livre* of tobacco (vol. 45:13) (Malischke 2009:36-37; Thwaites 1901).

At Fort Michilimackinac, the distribution center for sites such as Fort St. Joseph, rosaries

were common as early as 1680 (Malischke 2009:37; Stone 1974:117). Stone (1974) interpreted that all ivory beads recovered at Michilimackinac were rosary beads, which was reiterated by Heldman (1977), Evans (2001), and (Malischke 2009:38). Stone (1974) also indicated that rosaries were made from bone, glass, stone, and metal beads, but did not record these varieties at Fort Michilimackinac (Malischke 2009:38). At Fort Michilimackinac, the rosary beads were recovered from mainly French contexts, leading Stone to conclude that rosaries were used by the French for religious reasons and for trading purposes (Malischke 2009:38-39; Stone 1974). Heldman (1977) continued work at Fort Michilimackinac and indicated white beads with attached metal links distinguished these beads as rosary beads. Deagan (2002) seconded Heldman's interpretation.

While glass bead making was an ancient skill, it disappeared during the fall of the Roman Empire (Kidd 1979:8). Interest was not renewed until the fourteenth century, when Murano glassmakers rediscovered the craft (Francis 1979:7; Kidd 1979:28). Beads were mainly manufactured in Italy, Amsterdam, and France (Malischke 2009:18). Beads were packed into casks in Europe, and used as ballast on trade ships bound for the New World (Malischke 2009:18). After arrival, beads were removed from ships at the large port cities, subdivided into smaller parcels, and carried further into the frontier (Malischke 2009:18). Quebec was a prominent port in the Northeast, while Port Dauphin and Mobile were important for the Southeast.

Centers of Bead Manufacture

Kidd (1979:15) states that during the sixteenth, seventeenth, and eighteenth centuries tube beads were manufactured in Murano, while wire-wound beads were made in Venice. Glass beads were also made in Bohemia (Czechoslovakia), especially beads for rosaries. Glass making technologies "leaked" out of Venice around 1526, when a Venetian glass maker established a factory in Paris. By the middle of the eighteenth

century, Bohemian glass exporters had agents in 54 European cities and at six sites overseas.

Glass making was not a skill reserved for European artisans. Glass houses had been established in the American colonies since 1607 in Jamestown, Virginia (Kidd 1979). While the possibility that glass beads were produced in North America exists, irrefutable evidence has not yet been revealed. Therefore, while it is possible that European merchants were not the sole source of North American trade beads, it remains likely that the majority of the beads recovered archeologically from North American and Caribbean sites were manufactured in Europe, especially in Venice, Murano, and Bohemia. Kidd (1983) notes that without better documentation, chemical analysis for glass composition, and even perusal of period artworks for the presence of styles, the identification of places of manufacture of specific beads is difficult, at best.

By the eighteenth century, glass houses across Europe had acquired technologies for making colored beads. In 1626, a Venetian glassmaker developed a technique for making colored, transparent glass (Kidd 1979). By 1700, glassmakers in Nevers, France, were producing glass in ambers, emerald greens, blues, and purples. By 1745, colored glass had become very popular in England. Despite the variety of colors available for beads, makers produced more varieties of blues, blue-greens, and greens than any other color (Karklins 1985:12, 43). Beads made prior to mid-nineteenth century technological advances resulted in color consistencies that varied greatly in hue. No batch was completely pure, or consisted of the exact same chemical composition, so variations in color were inevitable.

The volume of glass beads being produced throughout Europe during the eighteenth and nineteenth centuries is astounding. For instance, 22 glass houses in Murano alone were turning out 44,000 pounds of glass beads a week, which gives but a hint as to the extent of eighteenth-century European glass bead production (Kidd 1979:68).

Table 8-38. Total number of beads recovered from Fort Rosalie.

Material	Count	Weight
Bone	1	0.3
Glass	735	195.4
Plastic	1	0.22
Shell	5	0.73
Total	742	196.68

Fort Rosalie Bead Assemblage

A total of 750 beads, weighing 206.09 grams, was recovered, the majority of which was glass (n=744) (Table 8-38). The vast majority of the glass beads were type IIa from the Kidd and Kidd (1983) typology (Table 8-39). Other types of beads that were found include white “donut” and barrel shapes, Cornaline d’Aleppo, gooseberry, raspberry, faceted, and wire wound, among others. Beads were recovered from nearly every EU and level.

For this analysis, the glass beads are designated as drawn (D) or wire wound (W), referring to the manufacturing technique, plus the type. The designation of drawn and wire, in addition to types, derives from Brain’s 1979 *Tunica Treasures*, which outlines varieties of beads recovered from other contemporary contexts. Originally used in Brown’s analysis of the material culture associated with early French and Native American trade in the Yazoo Bluff’s Region (1979:303-309), Brain beads, as they have come to be known, have become a prominent standard in defining manufacture and types. Bead types with an asterisk (*) indicate that the bead was similar to one of Brain’s classification types. In addition to analyzing the Fort Rosalie bead assemblage, the collection will also be compared to several other sites from the period: the Grand Village (22AD501; near Natchez, MS), Trudeau (16WF25; West Feliciana Parish, LA), Los Adaes (16NA16; St. Robeline, LA), Dog River (1MB161; Mobile, AL), Rochon Plantation (1BA337; Mobile, AL), Port Dauphin Village (1MB221; Mobile, AL), and Fort St. Joseph (20BE23; Niles, MI).

The Tunica collection, of which the Trudeau site is a part, accounted for 96 different bead varieties (Brain 1981). Of the eight sites

Table 8-39. Glass bead types from Fort Rosalie.

Manufacturing Techniques	Color	Brain	Kidd	Count	Weight (g)	Manufacturing Techniques	Color	Brain	Kidd	Count	Weight (g)
Carved				1	0.3	Drawn	White --Blue	IIB2	Iib26	4	1.49
Drawn	Amber	IIA2	Iia19	1	0.01	Drawn	White --Blue	IIB10	Iib28	13	7.09
Drawn	Amber, Dark --White		Iib'9	1	1.26	Drawn	White --Blue	IIB13	Iib'7	4	3.31
Drawn	Black		If1	1	0.7	Drawn	White --Blue --Red	IIB5	Iibb13	2	1.04
Drawn	Black	IIA5	Iia7	23	0.83	Drawn	Yellow, Light	IIA2	Iia19	1	0.02
Drawn	Blue	IIA7	Iia41	2	0	Drilled				2	0.02
Drawn	Blue	IIA7	Iia42	2	0.8	Ground				3	0.71
Drawn	Blue	IIA6	Iia56	56	1.19	Indeterminate	Blue			2	0.1
Drawn	Blue	IIA6	Iia57	16	11.11	Molded	Green			1	0.22
Drawn	Blue --White --Red	IIB7	Iibb25	2	1.78	Wire Wound	Amber	WIA3	Wib7	1	0.49
Drawn	Blue, Light	IA2	Ia16	1	0.56	Wire Wound	Blue	WIA2	Wib16	1	0
Drawn	Blue, Light	IIA9	Iia34	15	0.23	Wire Wound	Blue	WIC2	Wic11	3	2.52
Drawn	Blue, Light	IIA10	Iia38	1	0.42	Wire Wound	Colorless	WIA	Wib1	1	0.4
Drawn	Blue, Light	IIA6	Iia56	1	0.01	Wire Wound	Colorless	WIA1	WIB4	1	0.34
Drawn	Blue- green	IIA13	Iia32	1	1.1	Wire Wound	Colorless	WIIA2	WIic	1	0.96
Drawn	Blue- green, Light	IIA15	Iia27	3	0.11	Wire Wound	Colorless	WIIB2	WIId1	1	0.8
Drawn	Blue- green, Light	IIA9	Iia34	1	0.01	Wire Wound	White	WIIA1	WIIC2	1	1
Drawn	Blue- green, Light	IIA7	Iia41	2	0.17	Total				742	196.68
Drawn	Colorless		Iia10	1	0.9						
Drawn	Colorless	IIA9	Iia34	1	0.4						
Drawn	Colorless	IIA3	Iia9	1	0.01						
Drawn	Colorless --White	IVB1	Iib18	135	21.32						
Drawn	Red		Iia59	1	0						
Drawn	Red --Green	IVA2	Iva6	4	0.37						
Drawn	White			6	0.73						
Drawn	White	IIA1	Iia13	2	0.67						
Drawn	White	IIA1	Iia14	208	7.5						
Drawn	White	IIA1	Iia15	208	122.91						
Drawn	White	IVA1	Iva13	1	0.07						
Drawn	White --Blue	IIB2	Iib25	2	0.7						

compared below, the Port Dauphin and Trudeau excavations yielded the largest number of beads. Trudeau (n=3,713), Dog River (n=927), Rochon (n=686), Port Dauphin (n=13,832), and Fort St. Joseph (n=2,069) were all typed using Kidd and Kidd (1970). Fort St. Joseph excavations yielded the third largest amount of beads (n=2,069) with 42 known types of beads and three unidentified types (Malischke 2009:60-61). The Grand Village beads (n=413) and Los Adaes beads (n=65) were typed using Gregory and Webb (1965:15-45). For the bead comparison in this section, Brain (1979, 1981) and Kidd and Kidd (1970) were the preferred methods for bead typing. Since the Gregory and Webb (1965) method was used for the Grand Village and Los Adaes typing, the approximate Brain and/or Kidd and Kidd classification was applied when possible.

The Grand Village or Fatherland site is a Natchez Indian village near the modern-day city of Natchez, Mississippi, which was the home

of the Natchez chiefs, Great Sun and Tattooed Serpent (Brown and Steponaitis 2017). The bead assemblage analyzed was from the 1972 excavations.

Trudeau was the location of a major village for the Tunica Indians. The date of occupation for Trudeau was around 1731-1764, when it appears to have been completely abandoned (Brain 1973:6). The Trudeau bead assemblage was from excavations in 1972, 1980, and 1981.

Los Adaes included a mission, known as San Miguel de Linares de los Adaes, and a presidio, Nuestra Señora del Pilar de Zaragoza de los Adaes and was occupied from 1721-1773 (Texas State Historical Association [TSHA] 2010). It was once the capital of Texas and a main component of New Spain in Louisiana (TSHA 2010). The comparable beads were analyzed by Gregory and Webb in 1965.

Dog River and Rochon Plantation were both plantations owned by the Rochon family near Mobile, Alabama (Gums 2007:1; Gums 2000:2). Dog River was the family home in the mid-1720s and remained in the family for almost a century (Gums 2000:2), while the Rochon Plantation at Mobile Bay was occupied by the mid-eighteenth century (Gums 2000:2). Excavations at Dog River occurred from 1994-1996, while excavations at Rochon were completed from 1996-1998.

Port Dauphin was a French village on Dauphin Island, which was a major port for the city of Mobile and was occupied from 1702 until about 1725 (University of South Alabama <http://www.southalabama.edu/archeology/port-dauphin.html>). In 1997, the University of South Alabama conducted excavations at this site.

Fort St. Joseph was occupied from 1691-1781, and was a French then an English fort on the St. Joseph River. The site also included St. Joseph Mission, which was located either within or near the fort (Malischke 2009:44). While it maintained a military presence, its primary purpose was for the fur trade. The beads

analyzed were recovered during the 2002, 2004, and 2006 excavations (Malischke 2009:2).

Brain DIVA2 (Kidd and Kidd IVa6) and Brain DIIIa1 (Kidd and Kidd IIIa3)

There are two primary varieties of Cornaline d'Aleppo beads: the round, donut, or barrel-shaped Brain DIVA2 (Kidd and Kidd IVa6) beads—which are small to medium-sized beads—and a tubular bead, Brain IIIa1 (Kidd and Kidd IIIa3) (Brain 1979). The Cornaline d'Aleppo beads contain three layers: the inner layer is comprised of translucent light green or white glass; the second layer is opaque, brick-red glass, and the outer layer is a veneer of transparent, clear glass (Brain 1981). The lengths of the rounded beads were 2-3 mm with diameters ranging from 3-6 mm and perforations ranging from 0.5-2 mm (Brain 1981). The tubular beads range in length from 9-15 mm, diameters from 3-4 mm, and perforations of 1 mm. The rounded beads date from 1600-1725 (Brain 1981), while the tubular beads date from 1600-1775 (Gregory and Webb 1965:41). Cornaline d'Aleppo beads were excavated from Fort Rosalie, the Grand Village, Trudeau, Los Adaes, Dog River, Rochon Plantation, Port Dauphin, and Fort St. Joseph.

Brain DIVB1 (Kidd and Kidd IIb18)

Gooseberry beads, Brain DIVB1 (Kidd and Kidd IIb18), were a common bead type during the Middle Historic period (1670-1760) (Quimby 1966:87). The beads appear as a large, transparent bead with longitudinal white stripes between two layers of clear glass (Brain 1981). The smaller beads contain 14-18 stripes, while the larger beads have 7 (Brain 1981). Gooseberry beads are barrel-shaped and range in length from 8-9 mm with diameters ranging from 8-10 mm and a perforation size of 1-3 mm (Brain 1981). Their overall date range was 1699-1836, with a mean date of 1741 (Brain

1981). Gooseberry beads were excavated at Fort Rosalie, Trudeau, Dog River, and Port Dauphin.

Brain WIIB1 and WIIB2 (Kidd and Kidd WIId) and Brain WIIB3 (Kidd and Kidd WIIE)

Raspberry beads, Brain WIIB (Kidd and Kidd WIId), and melon beads, Brain WIIB3 (Kidd and Kidd WIIE), were also a common bead type during the Middle Historic period (Quimby 1966:86). These and the gooseberry beads were probably made to resemble food (Orchard 1929:87). The WIIB1 variety dates from 1699-1833, with a mean date of 1738; WIIB2 dates from 1550-1836, with a mean date of 1730; and the WIIB3 variety ranges in date from 1699-1833, with a mean date of 1730 (Brain 1981). Raspberry and melon beads were found at Fort Rosalie, Grand Village, Trudeau, Dog River, and Port Dauphin.

Brain DIVB4

Another common bead type found on eighteenth-century French sites is a large bead with a dull, opaque layer of glass, overlaying a core of blue-gray glass: Brain IVB4 (Brain 1981). The surface design contains three longitudinal blue spiral stripes and the bead is oval-shaped. The length of the bead ranges from 6-25 mm with diameters ranging from 6-8 mm

and a perforation size of 2 mm (Brain 1981). The chronological date range for the bead type is 1680-1835, with a mean date of 1737 (Brain 1981). These beads have been excavated at Grand Village, Trudeau, and Los Adaes.

Brain WIIA (Kidd and Kidd WIIE)

Faceted beads, Brain WIIA (Kidd and Kidd WIIE), were also commonly encountered during the Middle Historic period (Quimby 1966:86). Faceted beads are divided into three categories (1) molded with irregular facets, dating to the sixteenth, seventeenth, and early eighteenth centuries; (2) irregular cut facets, which date to the late eighteenth to mid-nineteenth century; and (3) regular pressed facets, which appear from the late nineteenth century to the present. The WIIA1 date range was 1700-1825 (mean date 1777), WIIA2 1699-1833 (mean date 1749), WIIA3 (WIIc12) 1650-1833 (mean date 1739), WIIA4 (WIIc5) 1680-1833 (mean date 1752), WIIA5 (WIIc11) 1680-1832 (mean date 1743), WIIA7 (WIIc1) 1700-1890 (mean date 1890), WIIA8 1673-1799 (mean date 1736), and WIIA10 1700-1836 (mean date 1786) (Brain 1981). Faceted beads were found at Fort Rosalie, Grand Village, Trudeau, Dog River, Rochon Plantation, Port Dauphin Village, Los Adaes, and Fort St. Joseph.

Brain DIIA1 (Kidd and Kidd IIa13, IIa14, IIa15) and Brain DIVA1 (Kidd and Kidd IVa13)

White beads in Brains DIIA1 and DIVA1 categories (Figure 8-79) comprised 33.6 percent of the total bead assemblage for all sites (Table 8-40). This type of bead was recovered from all of the sites. At half of the eight sites, the category comprised 50 percent or more of the total bead assemblage. The DIIA1 beads date from 1600-1836, with a mean date of 1739, while the DIVA1 beads date from 1600-1890, with a mean date of 1754 (Brain 1981).

The most common beads at Fort Rosalie were white, drawn beads; donut shaped Brain IIA1 (IIa14) beads made up 29.3 percent (n=218) of the collection, while the barrel-shape Brain IIA1 (IIa15) beads made up 28.5 percent (n=212). The IIa13 variety was found in smaller



Figure 8-79. White oval beads recovered during excavation. A- NATC 33437; B- NATC 29429; C-E NATC 29503.

Table 8-40. Percentages of Brain DIIA1 beads from sites discussed in text.

Site	Percentages within site	Count
Fort Rosalie	56.3	418
Grand Village	63.4	262
Trudeau	61.0	2,264
Los Adaes	4.6	3
Dog River	27.0	250
Rochon	25.2	173
Port Dauphin	18.2	2,396
Fort St. Joseph	69.1	1,429
Total		7,195

amounts at Fort Rosalie, accounting for only 0.3 percent (n=2) of the bead assemblage. The DIVA1 type accounted for only 0.3 percent (n=1) of the Fort Rosalie collection. In total, the white beads comprised 58.2 percent (n=433) of the Fort Rosalie collection. Brain DIIA1 and DIVA1 beads have also been found at the Grand Village, Trudeau, Los Adaes, Dog River, Rochon, Port Dauphin, and Fort St. Joseph. These beads were also the most common bead types excavated at the Grand Village and Fort St. Joseph sites.

Since the Grand Village site was analyzed using Gregory and Webb (1965), the approximate Brain and Kidd and Kidd classification was used for comparative purposes. It appears that the most common bead type at the Grand Village site were the white opaque beads, which may correspond with Brain DIIA1 and Kidd and Kidd IIA14 and IIA15. The white beads, excluding the smaller seed beads (n=69), accounted for 46.7 percent (n=193) of the collection. The bead types were (1) large elongated ovoid, 10-15 mm, some waisted (n=61); (2) medium elongated ovoid, football-shaped, 8-11 mm (n=88); (3) medium spheroid, 3-8 mm (n=34); and (4) small elongated, football-shaped oval beads (n=10) (Neitzel 1983:110). With all white beads combined, they comprised 63.4 percent (n=262) of the collection.

At Trudeau and Dog River, the most common bead was a white, opaque donut-shaped bead Brain DIVA1 (Kidd and Kidd IVA13). Brain (1988) admitted that many of the beads

may have been type DIIA1 in the Trudeau collection. The DIVA1 bead comprised 49.9 percent (n=1,854) of the Trudeau collection. Brain's DIIA1 bead type represented 11 percent (n=410) of the Trudeau collection. If combined, the white beads represented 61 percent (n=2,264) of the total collection.

At Dog River, the DIIA1 beads (Kidd and Kidd IIA13 and IIA15) comprised 0.6 percent (n=6) and 0.9 percent (n=8) of the assemblage, respectively. The DIVA1 beads represented 25.3 percent (n=236) of the Dog River collection. Combined, the white beads comprised 27 percent (n=250) of the collection.

The DIVA1 bead type accounted for 25.2 percent (n=173) of the Rochon collection. The DIIA1 variety was not recovered.

At Port Dauphin, the IIA13 variety accounted for 0.5 percent (n=66), 8.4 percent (n=1,105) of IIA14, and 2.6 percent (n=338) of the IIA15 variety. The IVA13 variety represented 6.6 percent (n=867) of the assemblage. Combined, the white beads represented 18.1 percent (n=2,376).

At Los Adaes, the white beads DIIA1 represented 1.5 percent (n=1) of the collection. The DIVA1 variety accounted for 3.1 percent (n=2). In total, the white beads comprised 4.6 percent (n=3) of the Los Adaes assemblage.

At Fort St. Joseph, the beads were combined and designated as three different categories: Ia5 (white tube bead), IIA13, and IIA14; IIA13, IIA14, and IIA15*; and IIA13 and IIA15 (Malischke 2009:60-61). The first type comprised 56.3 percent (n=1,351), the second accounted for 2 percent (n=41), and third represented 0.7 percent (n=14). The combined beads accounted for 69.1 percent (n=1,429) of the bead assemblage.

DIA2 (Kidd and Kidd IA16)

The DIA2 bead type is a medium, opaque blue-gray bead (Brain 1981) (Table 8-41). This bead was also excavated at Trudeau, Dog River, Port Dauphin, and Fort St. Joseph. At Fort Rosalie, the DIA2 bead type represented 0.1 percent (n=1) of the collection. At Trudeau, it accounted for 0.03 percent (n=1) of the bead assemblage,

0.1 percent (n=1) at Dog River, 0.02 percent (n=3) at Port Dauphin, and 0.9 percent (n=18) at Fort St. Joseph.

DIIA2 (Kidd and Kidd IIa18, IIa19)

This bead type is a very small to large, translucent yellow bead (Brain 1981) (Table 8-42). Only the Kidd and Kidd IIa19 variety was found at Fort Rosalie. Brain's DIIA2 bead type was also recovered at Trudeau, Dog River (Kidd and Kidd IIa19*), and Port Dauphin (Kidd and Kidd IIa19*). At Fort Rosalie, Brain's DIIA2 bead accounted for 0.2 percent (n=2) of the bead assemblage. At Trudeau, it comprised 0.03 percent (n=1) of the assemblage, 0.2 percent (n=2) at Dog River, and 0.02 percent (n=3) at Port Dauphin.

DIIA3 (Kidd and Kidd IIa9)

The DIIA3 bead type is a small to large clear bead (Brain 1979:101) (Table 8-43). This bead was also recovered at Dog River, Rochon, Port Dauphin, and Fort St. Joseph. At Fort Rosalie, they represented 0.1 percent (n=1) of the bead assemblage. At Dog River, it accounted for 5.3 percent (n=49) of the bead assemblage. At Rochon and Port Dauphin, this bead type and a similar type (IIa9*) were recovered, representing 0.3 percent (n=2) (IIa9) and 0.9 percent (n=6) (IIa9*) at Rochon and 0.1 percent (n=8) (IIa9) and 0.2 percent (n=24) (IIa9*) at Port Dauphin. At Fort St. Joseph, 0.3 percent (n=7) of the bead assemblage was a similar type (IIa9*).

DIIA5 (Kidd and Kidd IIa7)

These beads were classified by Brain (1979) as DIIA5 and Kidd and Kidd (1970) as IIa7 (Table 8-44). They were described as an opaque, donut-shaped bead, which appears black in color (Brain 1979). It was also recovered from the Grand Village, Trudeau, Los Adaes, Dog River (plus IIa7*), Rochon (where it was the most common bead type), Port Dauphin, and Fort St. Joseph. At Fort Rosalie, this bead represented 2.7 percent (n=20) of the bead assemblage. At the Grand Village site, the beads represented only 1 percent (n=4) of the bead assemblage; 10.1 percent (n=374) at Trudeau; at Los Adaes,

Table 8-41. Percentages of Brain DIIA2 from sites discussed in text.

Sites	Percentages	Count
Fort Rosalie	0.1%	1
Trudeau	0.03%	1
Dog River	0.1%	1
Port Dauphin	0.02%	3
Fort St. Joseph	0.9%	18
Total		24

Table 8-42. Percentages of Brain DIIA2 beads from sites discussed in text.

Sites	Percentages	Count
Fort Rosalie	0.3%	2
Trudeau	0.03%	1
Dog River	0.2%	2
Port Dauphin	0.02%	3
Total		8

Table 8-43. Percentages of Brain DIIA3 beads from sites discussed in text.

Sites	Percentages	Count
Fort Rosalie	0.1%	1
Dog River	5.3%	49
Rochon	1.2%	8
Port Dauphin	0.3%	32
Fort St. Joseph	0.3%	7
Total		97

Table 8-44. Percentages of Brain DIIA5 beads from sites discussed in text.

Sites	Percentages	Count
Fort Rosalie	3.1%	23
Grand Village	1.0%	4
Trudeau	10.1%	374
Los Adaes	10.8%	6
Dog River	13.2%	122
Rochon	35.3%	218
Port Dauphin	7.6%	997
Fort St. Joseph	8.8%	181
Total		1,925

Table 8-45. Percentages of Brain DIIA6 beads from sites discussed in text.

Site	Percentage	Count
Fort Rosalie	9.8%	73
Grand Village	8.3%	34
Trudeau	1.8%	67
Los Adaes	1.5%	1
Dog River	1.0%	8
Rochon	0.3%	2
Port Dauphin	0.3%	41
Fort St. Joseph	3.0%	62
Total		289

Table 8-46. Percentages of Brain DIIA7 beads from sites discussed in text.

Site	Percentages	Count
Fort Rosalie	0.8%	6
Trudeau	20.0%	744
Los Adaes	10.8%	7
Dog River	0.2%	2
Rochon	0.4%	3
Port Dauphin	8.0%	1,050
Total		1,812

the bead represented 10.8 percent of the collection (n=6); at Dog River, 13.2 percent (n=122) of the assemblage; 35.3 percent (n=218) of the Rochon collection; 7.6 percent (n=997) at Port Dauphin; and 8.8 percent (n=181) at Fort St. Joseph.

DIIA6 (Kidd and Kidd IIA55, IIA56, IIA57)

These beads are translucent dark blue (Brain 1979:102) and also were recovered from the Grand Village site, Trudeau, Los Adaes, Dog River, Rochon, Port Dauphin, and Fort St. Joseph (Table 8-45). The beads accounted for 9.8 percent (n=73) of the Fort Rosalie assemblage: IIA56 (n=57) and IIA57 (n=16). This bead type represented 8.3 percent (n=34) of the collection at the Grand Village site: IIA56 (n=3) and IIA55 (n=31), 1.8 percent (n=67) at Trudeau, 1.5 percent (n=1) at Los Adaes, 1 percent (n=9) at Dog River: IIA56 (n=2) and IIA57 (n=7), 0.3 percent (n=2) at Rochon (IIA56), and 0.3 percent (n=41) at Port Dauphin: IIA55 (n=1), IIA56 (n=1), and IIA57 (n=49). A similar bead (IIA57*)

comprised 3 percent (n=62) of the Fort St. Joseph collection.

DIIA7 (Kidd and Kidd IIA40, IIA41, IIA42)

Brain's DIIA7 is an opaque, turquoise bead (Brain 1979:102-103) (Table 8-46). It was found in small amounts at Fort Rosalie. In addition, it was found at Trudeau, Los Adaes, Dog River, Rochon, and Port Dauphin (where all varieties were represented). At Fort Rosalie the IIA41 beads represented 0.5 percent (n=4) and IIA42 accounted for 0.3 percent (n=2) of the bead assemblage. At Trudeau DIIA7 represented 21.4 percent (n=744) of the bead assemblage, 10.8 percent (n=7) at Los Adaes, 0.2 percent (n=2) at Dog River (IIA41 variety), and at Rochon, IIA41 accounted for 0.3 percent (n=2) and IIA41* represented 0.4 percent (n=3). At Port Dauphin, 7 percent (n=928) of the beads were of the IIA41 variety and 0.7 percent (n=98) of the IIA41* variety, 0.1 percent (n=14) was the IIA40 variety, and 0.1 percent (n=10) was the IIA42 variety. Combined, all DIIA7 beads comprised 8 percent (n=1,050) of the Port Dauphin collection.

DIIA9 (Kidd and Kidd IIA34)

These translucent aqua beads (Brain 1979:103) were also recovered at Dog River and Rochon (Table 8-47). This bead type accounted for 2.4 percent (n=18) of the Fort Rosalie collection, 2.5 percent (n=23) at Dog River, and 0.4 percent (n=3) at Rochon.

Table 8-47. Percentages of Brain DIIA9 beads from sites discussed in text.

Sites	Percentages	Count
Fort Rosalie	2.3%	17
Dog River	2.5%	23
Rochon	0.4%	3
Total		43

DIIA13 (Kidd and Kidd IIA32)

Brain IIA13 is a large, translucent medium blue oval bead (Brain 1981) (Table 8-48). Port Dauphin is the only other site where these beads were recovered. At Fort Rosalie, they represented 0.1 percent (n=1) of the collection.

Table 8-48. Percentages of Brain DIIA13 beads from sites discussed in text.

Sites	Percentages	Count
Fort Rosalie	0.1%	1
Port Dauphin	0.1%	8
Total		9

Table 8-49. Percentages of Brain DIIA15 beads from sites discussed in text.

Sites	Percentages	Count
Rosalie	0.4%	3
Grand Village	6.1%	25
Trudeau	0.03%	1
Los Adaes	3.1%	2
Dog River	0.1%	1
Rochon	0.6%	4
Port Dauphin	0.02%	2
Fort St. Joseph	0.1%	1
Total		39

At Port Dauphin, they represented 0.1 percent (n=8) of the bead assemblage.

DIIA15 (Kidd and Kidd IIa26, IIa27, IIa28, IIa29)

This bead is a translucent dark green bead (Brain 1979:103) (Table 8-49). It was recovered at the Grand Village, Trudeau, Los Adaes, Dog River, Rochon (IIa27 variety only), Port Dauphin (IIa27 and IIa29), and Fort St. Joseph. At Fort Rosalie, it accounted for 0.4 percent (n=3) of the collection. At the Grand Village, it represented 6.1 percent (n=25) of the bead assemblage (possibly IIa26 and IIa29 varieties); at Trudeau, 0.03 percent (n=1) of the bead assemblage; 3.1 percent (n=2) at Los Adaes; 0.1 percent (n=1) at Dog River (IIa28*); 0.6 percent (n=4) at Rochon (IIa27); 0.01 percent (n=1) for each type (IIa27 and IIa29) at Port Dauphin, and 0.1 percent (n=1) of the assemblage at Fort Joseph. At Port Dauphin, the combined beads represented 0.02 percent of the assemblage.

DIIB2 (Kidd and Kidd IIB25, IIB26)

This bead type is an opaque white bead with four dark blue stripes (Brain 1979:104) (Table 8-50). This bead was also recovered at Trudeau, Dog River, and Port Dauphin (IIB26). At Fort Rosalie, IIB25 represented 0.3 percent (n=2) and the IIB26 variety accounted for 0.5 percent

(n=4), totaling 0.8 percent (n=6). It represented 0.1 percent at each of the other sites: Trudeau (n=5) and at Dog River (n=1). At Port Dauphin, IIB26 accounted for 0.1 percent (n=14), while the IIB26* variety represented 0.02 percent (n=3) of the assemblage, totaling 0.1 percent (n=17).

Table 8-50. Percentages of Brain DIIB2 beads from sites discussed in text.

Sites	Percentages	Count
Fort Rosalie	0.8%	6
Trudeau	0.1%	5
Dog River	0.1%	1
Port Dauphin	0.1%	17*
Total		29

DIIB5 (Kidd and Kidd IIBb13)

Brain's DIIB5 type bead is a large, opaque white bead with three inlays of green, red, black, blue, black, and green compound stripes: for example, a blue stripe between two red stripes (Brain 1979:104) (Table 8-51). The only other site where this bead type was found was Port Dauphin. At Fort Rosalie, the bead represented 0.3 percent (n=2) of the assemblage. At Port Dauphin, it represented 0.02 percent (n=3) of the assemblage.

Table 8-51. Percentages of Brain DIIB5 beads from sites discussed in text.

Sites	Percentages	Count
Fort Rosalie	0.3%	2
Port Dauphin	0.03%	3
Total		5

DIIB7 (Kidd and Kidd IIBb25)

This bead type is an opaque, turquoise bead with three sets of compound red and white stripes: a red stripe between two white stripes (Brain 1979:104). It was not recovered at the other sites. At Fort Rosalie, it represented 0.3 percent (n=2) of the bead assemblage.

DIIB10 (Kidd and Kidd IIBb28)

This is an opaque, blue-gray bead with three sets of thin blue stripes (Brain 1979:104-105). The bead was also recovered from Trudeau and Port Dauphin (Table 8-52). At Fort Rosalie, they

Table 8-52. Percentages of Brain DIIB10 beads from sites discussed in text.

Sites	Percentages	Count
Fort Rosalie	1.8%	13
Trudeau	0.1%	4
Port Dauphin	0.02%	2
Total		19

comprised 1.7 percent (n=13) of the assemblage, 0.1 percent (n=4) of the Trudeau collection, and comprised 0.02 percent (n=2) at Port Dauphin.

WIA1 (Kidd and Kidd W1b3, W1b4, W1b5)

This is a translucent, very pale blue bead (Brain 1979:107) (Table 8-53). Only the W1b4 variety was recovered from Fort Rosalie and Fort St. Joseph. WIA1 beads were also recovered at Trudeau. At Fort Rosalie, the bead represented 0.1 percent (n=1) of the bead assemblage. At Trudeau, it accounted for 0.4 percent (n=14) of the beads and 0.2 percent (n=4) at Fort St. Joseph.

WIA2 (Kidd and Kidd W1b16)

The WIA2 is a large, opaque dark blue bead (Brain 1979:107) (Table 8-54). The Trudeau assemblage is the only other collection with this bead type. At Fort Rosalie, it accounted for 0.1 percent (n=1) of the bead assemblage. At Trudeau, it represented 0.1 percent (n=2) of the collection.

WIA3 (Kidd and Kidd W1b7)

This bead type was a large to very large translucent amber bead (Brain 1981). The only example was from Fort Rosalie. It comprised 0.1 percent (n=1) of the collection.

WIC2 (Kidd and Kidd W1c11)

This bead is a very large, opaque, dark blue bead (Brain 1979:108). The bead was not recovered on any of the other sites compared in this section. The bead type represented 0.4 percent (n=3) of the Fort Rosalie bead assemblage.

Kidd and Kidd If1

Kidd and Kidd's If1 bead type has no comparable Brain type. It is an opaque, multi-faceted bead (Kidd and Kidd 1970). This

Table 8-53. Percentages of Brain WIA1 beads from sites discussed in text.

Sites	Percentages	Count
Fort Rosalie	0.1%	1
Trudeau	0.4%	14
Fort St. Joseph	0.2%	4
Total		19

Table 8-54. Percentages of Brain WIA2 beads from sites discussed in text.

Sites	Percentages	Count
Fort Rosalie	0.1%	1
Trudeau	0.1%	2
Total		3

bead type was only found at Fort Rosalie. It represented 0.1 percent (n=1) of the bead assemblage.

Kidd and Kidd IIA10

This bead type does not have a Brain counterpart. It is a football-shaped white bead (Kidd and Kidd 1970) (Table 8-55). Port Dauphin was the only other site where this bead was excavated. At Fort Rosalie, the bead represented 0.1 percent (n=1) of the collection. At Port Dauphin, this bead accounted for 0.01 percent (n=1) of the bead assemblage.

Table 8-55. Percentages of Kidd and Kidd IIA10 beads from sites discussed in text.

Sites	Percentages	Count
Fort Rosalie	0.1%	1
Port Dauphin	0.01%	1
Total		2

Kidd and Kidd IIA59

Kidd and Kidd's IIA59 bead does not have a comparable Brain type. It is a red, donut-shaped bead (Kidd and Kidd 1970) (Table 8-56). This bead was also recovered at Dog River and Port Dauphin. At Fort Rosalie, these beads account for 0.1 percent (n=1) of the bead assemblage. At Dog River, the IIA59 bead accounted for 0.5 percent (n=5), while IIA59* accounted for 0.1 percent (n=1), totaling 0.6 percent (n=6). At Port

Table 8-56. Percentages of Kidd and Kidd Ila59 beads from sites discussed in text.

Sites	Percentages	Count
Fort Rosalie	0.1%	1
Dog River	0.5%	5
Port Dauphin	0.02%	2
Total		8

Table 8-57. Percentages of Kidd and Kidd Iib7 beads from sites discussed in text.

Sites	Percentages	Count
Fort Rosalie	0.5%	4
Trudeau	0.1%	2
Total		6

Dauphin, Ila59 and Ila59* accounted for 0.02 percent (n=2) each, totaling 0.03 percent (n=4).

Kidd and Kidd Iib’7

This bead appears to be somewhat similar to Brain DIIB13, a large opaque, white oval or peanut-shaped bead with three blue stripes, which spiral around the bead (Brain 1981; Kidd and Kidd 1970) (Table 8-57). While the Iib’7 was not found on any other sites, the Brain DIIB13 was found in small quantities at Trudeau. At Fort Rosalie, the Iib’7 bead represented 0.5 percent (n=4) of the collection, while at Trudeau, the Brain DIIB13 type represented 0.1 percent (n=2).

Kidd and Kidd Iib’9

This bead is a large opaque, mustard yellow bead with white stripes (Kidd and Kidd 1970). There is no comparable Brain bead. This bead

type was only recovered at Fort Rosalie, where it comprised 0.1 percent (n=1) of the collection.

Kidd and Kidd Wib1

This is a round, white bead (Kidd and Kidd 1970), which does not have a Brain counterpart. This bead was only recovered at Fort Rosalie. It represented 0.1 percent (n=1) of the bead assemblage.

Discussion of Bead Assemblage

The five most common diagnostic beads associated with French colonial sites constituted 22.1 percent of the total bead assemblage for all sites used in this comparison. At Fort Rosalie these diagnostic beads comprised the majority of the percentage of the assemblage: 19. However, these diagnostic types only represent small percentages for the other French colonial sites: 6.2 percent at Grand Village, 3.9 percent at Trudeau, 19.9 percent at Los Adaes, 1.6 percent at Dog River, 0.9 percent at Rochon, and 1 percent at Fort St. Joseph. Port Dauphin had more diagnostic beads than the other sites, accounting for 35.2 percent of the assemblage (Table 8-58) (Figure 8-80).

Gooseberry beads (n=138) were the third most common beads at Fort Rosalie, which accounted for 18.1 percent of the collection. Gooseberry beads were also recovered from Trudeau, Dog River, and Port Dauphin. At Trudeau, gooseberries accounted for 0.02 percent (n=2) of the collection, 0.2 percent (n=2) at Dog River, and 0.04 percent (n=6) at Port Dauphin.

Table 8-58. Beads recovered from all Fort Rosalie excavations.

Sites	Cornaline d’Aleppo Spherical Bead	Cornaline d’Aleppo Tube Bead	Gooseberry	Raspberry	Melon	White blue, triple-spiral striped	Faceted	Total
Fort Rosalie	0.5%	—	18.1%	0.1%	—	—	0.3%	19.0%
Grand Village	0.2%	—	—	1.2%	—	3.6%	1.2%	6.2%
Trudeau	1.5%	0.2%	0.02%	0.8%	—	0.4%	1.0%	3.9%
Los Adaes	15.4%	1.5%	—	—	—	1.5%	1.5%	19.9%
Dog River	0.9%	0.1%	0.2%	—	0.1%	—	0.3%	1.6%
Rochon	0.1%	0.1%	—	—	—	—	0.7%	0.9%
Port Dauphin	34.8%	0.01%	0.04%	0.03%	0.03%	—	0.3%	35.2%
Fort St. Joseph	0.8%	0.1%	—	—	—	—	0.1%	1.0%

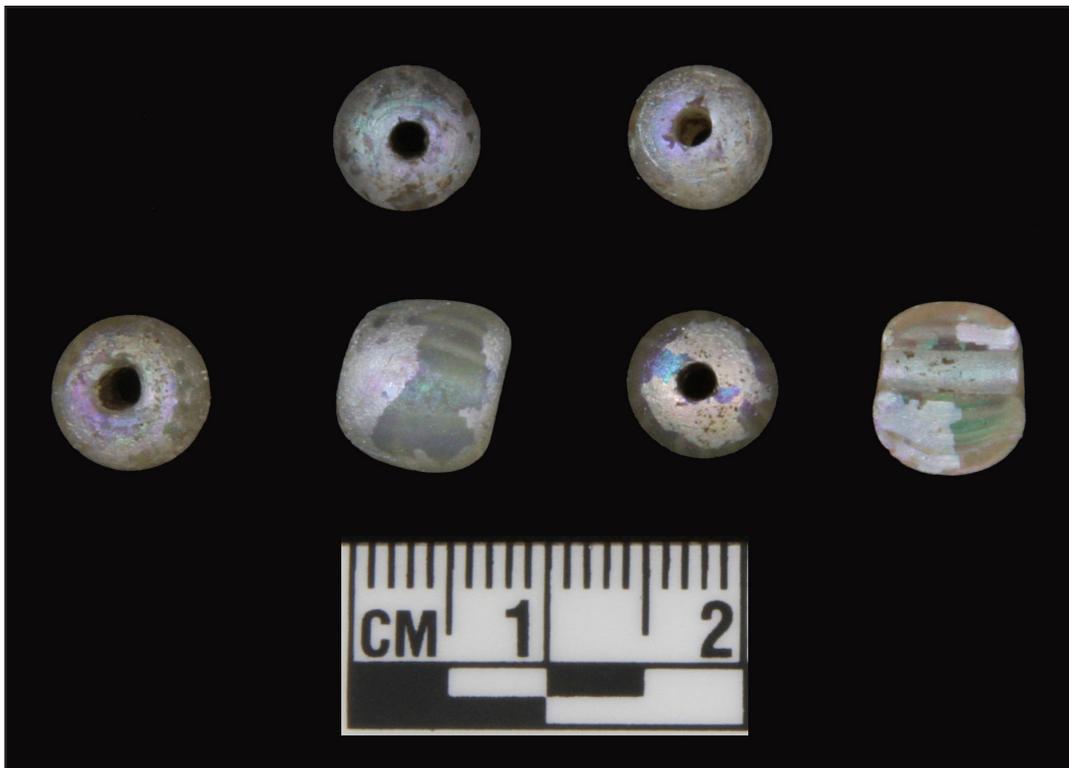


Figure 8-80. Gooseberry beads. NATC 27859.

Cornaline d'Aleppo spherical beads were the most common type of beads recovered at Port Dauphin and Los Adaes. They comprised 34.8 percent (n=4,584) of the Port Dauphin collection and 15.4 percent (n=10) of the Los Adaes assemblage. There was only one Cornaline d'Aleppo tube bead at each of these sites. The Cornaline d'Aleppo spherical bead accounted for 0.5 percent (n=4) of the Fort Rosalie collection. The spherical bead represented 0.2 percent (n=1) of the Grand Village collection. The spherical beads comprised only 1.5 percent (n=57) and the tubular beads 0.2 percent (n=6) of the collection at Trudeau, 0.9 (n=8) and 0.3 percent (n=1) at Dog River, 0.1 percent (n=1) of each type at Rochon, and 0.1 (n=2) and 0.8 percent (n=16) of the Fort St. Joseph collection.

Raspberry beads accounted for 0.1 percent (n=1) of the Fort Rosalie bead assemblage, 1.2 percent (n=5) at the Grand Village site, 0.8 percent (n=28) at Trudeau, 0.1 percent (n=1) at Dog River, and only 0.03 percent (n=4) at Port Dauphin. Melon beads were only found on two

sites, comprising 0.02 percent (n=1) of the Trudeau collection and comprising 0.03 percent (n=4) of the Port Dauphin assemblage.

The white beads with three blue spiral-stripes recovered during the Fort Rosalie excavations represent 0.5 percent (n=4) of the collection. At Grand Village, it accounted for 1.5 percent (n=15) of the collection; at Trudeau, it comprised 0.4 percent (n=13) of the collection; and at Los Adaes it comprised 1.5 percent (n=1) of the collection. The bead does not appear to have a comparable Kidd and Kidd designation, so it is unknown if this bead type was found on the other sites, which were recorded using the Kidd and Kidd classification.

Faceted beads comprised 0.3 percent (n=2) of the Fort Rosalie collection, 1.2 percent (n=5) of the Grand Village assemblage, 1 percent (n=37) of the Trudeau collection (n=37), 1.5 percent (n=1) of the Los Adaes collection, 0.7 percent (n=5) of the Rochon bead assemblage, and 0.1 percent (n=1) of the Fort St. Joseph collection. At Dog River (n=3) and Port Dauphin

Table 8-59. Index of Agreement Matrix for Cornaline d’Aleppo Spherical Beads.

	Fort Rosalie	Grand Village	Tradeau	Los Adaes	Dog River	Rochon	Port Dauphin	Fort St. Joseph
Fort Rosalie	—	0.30	1.00	14.90	0.40	0.40	34.30	0.30
Grand Village	0.30	—	1.30	15.20	0.70	0.10	34.60	0.60
Tradeau	1.00	1.30	—	13.90	0.60	1.40	33.30	0.70
Los Adaes	14.90	15.20	13.90	—	14.50	15.30	19.40	14.60
Dog River	0.40	0.70	0.60	14.50	—	0.80	33.90	0.10
Rochon	0.40	0.10	1.40	15.30	0.80	—	34.70	0.70
Port Dauphin	34.30	34.60	33.30	19.40	33.90	34.70	—	34.00
Fort St. Joseph	0.30	0.60	0.70	14.60	0.10	0.70	34.00	—

Table 8-60. Index of Agreement Matrix for Cornaline d’Aleppo Beads.

	Fort Rosalie	Grand Village	Tradeau	Los Adaes	Dog River	Rochon	Port Dauphin	Fort St. Joseph
Fort Rosalie	—	0.00	0.20	1.50	0.10	0.10	0.01	0.10
Grand Village	0.00	—	0.20	1.50	0.10	0.10	0.01	0.10
Tradeau	0.20	0.20	—	1.30	0.10	0.10	0.19	0.10
Los Adaes	1.50	1.50	1.30	—	1.40	1.40	1.49	1.40
Dog River	0.10	0.10	0.10	1.40	—	0.00	0.09	0.00
Rochon	0.10	0.10	0.10	1.40	0.00	—	0.09	0.00
Port Dauphin	0.01	0.01	0.19	1.49	0.09	0.09	—	0.09
Fort St. Joseph	0.10	0.10	0.10	1.40	0.00	0.00	0.09	—

Table 8-61. Index of Agreement Matrix for Faceted Beads.

	Fort Rosalie	Grand Village	Tradeau	Los Adaes	Dog River	Rochon	Port Dauphin	Fort St. Joseph
Fort Rosalie	—	0.90	0.70	1.20	0.00	0.40	0.00	0.20
Grand Village	0.90	—	0.20	0.30	0.90	0.50	0.90	1.10
Tradeau	0.70	0.20	—	0.50	0.70	0.30	0.70	0.90
Los Adaes	1.20	0.30	0.50	—	1.20	0.80	1.20	1.40
Dog River	0.00	0.90	0.70	1.20	—	0.40	0.00	0.20
Rochon	0.40	0.50	0.30	0.80	0.40	—	0.40	0.60
Port Dauphin	0.00	0.90	0.70	1.20	0.00	0.40	—	0.20
Fort St. Joseph	0.20	1.10	0.90	1.40	0.20	0.60	0.20	—

(n=37), the faceted beads accounted for 0.3 percent of the collections.

Overall, the most common beads on all sites were the white beads in Brain’s DIIA1 and DIVA1 categories. Brain’s DIIA5, DIIA6, and DIIA15 types were found on all sites. The Cornaline d’Aleppo and faceted beads were the only diagnostic beads found on all sites. Several bead types were only recovered from Fort Rosalie: DIIB7, WIA3, WIC2, Kidd and Kidd If1, Kidd and Kidd Iib’9, and Kidd and Kidd W1b1.

Robinson’s IA formula was used to generate comparison values between all of the bead percentages among the various sites.

The resulting values were then grouped and displayed in a matrix (Tables 8-59, 8-60, 8-61). Cornaline d’Aleppo beads, Spherical and Tube, and Faceted beads were the only diagnostic types identified at all the sites and thus were selected for the study. The IA comparison values presented in the matrix were generated by comparing the percentages of those diagnostic beads within a site’s bead assemblage against the percentages of the same bead within the Fort Rosalie assemblage. This comparison sought to define the similarities of the Fort Rosalie site with other sites of the same general area and time period, based on the presence of particular diagnostic bead types. The range of

similarity, or degree of correlation, is set on a scale, with 0.00 being the most agreeable. As the number increases, the degree of correlation decreases and thus the bead percentages are less agreeable. The resulting data revealed that the Cornaline d’Aleppo tube bead is most present in all the sites’ bead assemblages. Also, the values indicate that the percentage of Cornaline d’Aleppo Tube beads within each site is very similar among all the sites; Grand Village, followed by Port Dauphine, were the most “in agreement” with Fort Rosalie with 0.00 and 0.01 degrees of correlation, respectively. The Cornaline d’Aleppo Spherical bead values displayed the greatest variation and therefore showed the lowest degree of correlation among the sites. Of all the sites compared, Port Dauphin and Dog River, both French colonial-era sites within the region, consistently displayed values that were among the most agreeable with the bead assemblage of Fort Rosalie.

Port Dauphin and Trudeau had the most common bead types in comparison with Fort Rosalie, but they also provided the largest bead assemblages. The overall occupation at Fort Rosalie overlapped the occupation at all the other sites. The Rochon and Los Adaes assemblages differ the most from Fort Rosalie. They also have smaller assemblages than the other sites and, in the case of Rochon, were occupied for a shorter period of time. Port Dauphin was also occupied for only a short amount of time, but as a major French village and port city and would have been the beginning of many ventures into the interior, carrying the popular glass trade beads.

Buttons

Excavations at Fort Rosalie yielded a total of 97 complete buttons or button fragments in varying states of preservation. Of those buttons, five were modern synthetic buttons and were discarded. The remaining buttons were made of wood, bone, metal, or a variety of composite materials (Table 8-62).

Prior to the nineteenth century, buttons would have been manufactured in Europe and imported into America (Noël Hume 1969:89;

Table 8-62. Buttons recovered from the Fort Rosalie excavations.

Material	Count	Weight (g)
Metal	72	159.13
Bone	7	1.69
Composite	6	5.6
Plastic (discarded)	5	1.57
Glass	3	2.28
Wood	1	0.2
Total	97	170.47

White 2005:51). In addition to securing clothing, buttons were the primary method for adorning men’s clothing, even if they were not functional; buttons only became popular on women’s clothing in the nineteenth century (Hinks 1995:5; White 2005:57-58). Brown (1974:171) notes that at the Fort St. Pierre site in the Lower Yazoo Basin, buttons were never found in trash pits, leading him to suggest that they were rarely thrown away and were likely simply lost. This is in spite of the fact that documentary evidence suggests that buttons could be purchased in large quantities at relatively low prices, depending on the style and material (White 2005:52). Hinks further postulates that buttons would have been removed from old garments that were being discarded and that damaged buttons would likely have been recycled (1995:32). By comparing eighteenth century military sites to civilian sites, Hinks also suggests that soldiers’ buttons were more regularly lost or discarded than civilians’ (1995:36).

Military buttons and other decorated examples can often be dated with some precision, but plain buttons are often given broad temporal ranges. Button shanks do change and evolve over time (Olsen 1963:552), but very often these shanks are not well preserved in archeological contexts. For brass buttons in the first half of the eighteenth century, the button shank was often wedge-shaped and cast with the main body of the button, with the button hole being drilled after casting. Later, wire shanks—which were often manufactured by a different craftsman—were attached to button backs, usually by brazing (White 2005:51). Button styles and sizes changed along with

fashion trends, possibly providing another way to assign general date ranges to the buttons (White 2005:57-73). Buttons made of copper alloys were frequently gilded or plated, even if they were otherwise undecorated. Hollow buttons were more popular in the first half of the eighteenth century, but they were gradually replaced by flat or slightly convex discs in the second half of the century (Noël Hume 1969:88-90). Button styles also tended to increase in size as the eighteenth century progressed but went out of style at the beginning of the nineteenth (Hughes and Lester 1992:178).

There are several sources that offer typologies for buttons, though these tend to focus on buttons of British manufacture and are very often restricted to decorated varieties, since these are the most readily datable. Perhaps the most well-known button typology is South's 1964 analysis of the buttons excavated from Brunswick Town and Fort Fisher in North Carolina, which yielded a total of 507 buttons and 60 sleeve links. Brunswick Town's destruction in 1776 provides a relatively secure context for many of the structures in the town, dating them from approximately 1726-1776 (South 1963:113-114). Though South provides a detailed description for 35 distinct types of buttons and sleeve links based on their designs and methods of manufacture, the typology is not without its problems. Noël Hume points out that 78 percent of these buttons were found in a structure identified as a tailor's shop, possibly indicating that they were unsold merchandise and therefore do not reflect popular tastes of the time (Noël Hume 1969:90). White (2005:50) further finds the date ranges given by South for the types to be limiting; the buttons were in fact produced and utilized over a much broader range of time than the town's context implies. Olsen (1963) gives a broader typology for plain buttons of the eighteenth and nineteenth centuries based on their method of manufacture and the style of the shank, though dates before 1750 still require further research and refinement. Brain gives a basic classification for the six buttons that are part of the Tunica collection based on whether they were solid or hollow cast and the method

used to attach the shank (1979:189-190). Types from the Tunica collection closely correspond to buttons excavated from Fort Rosalie.

Wood and Bone

The single example of a wooden button (Cat. # NATC 31782) has two holes and a convex face. It might have originally served as the core for a fabric covered button, though in the eighteenth century simple wooden buttons such as this were also sewn onto garments (White 2005:69). Convex buttons of wood or bone that had a rabbeted edge typically served as backs for metal buttons, with the edge providing a surface where the metal could be crimped (Hinks 1995:72). Buttons with two holes such as this were often hand drilled, leading to uneven spacing of the holes (Hinks 1995:68). Wooden buttons almost never survive in archeological contexts, making this example rare (Hinks 1995:44).

All of the bone buttons (n=7) have a single central hole, which was produced during the process of cutting the button with a lathe (Hinks 1988:67); these types of buttons likely served as blanks or molds for metal or cloth covered buttons (Figure 8-81). French textile-covered buttons found a popular market in



Figure 8-81. Wood and bone buttons, which were most likely originally covered in fabric. A- NATC 31963; B- NATC 31782; C- NATC 35117; D- NATC 32287.

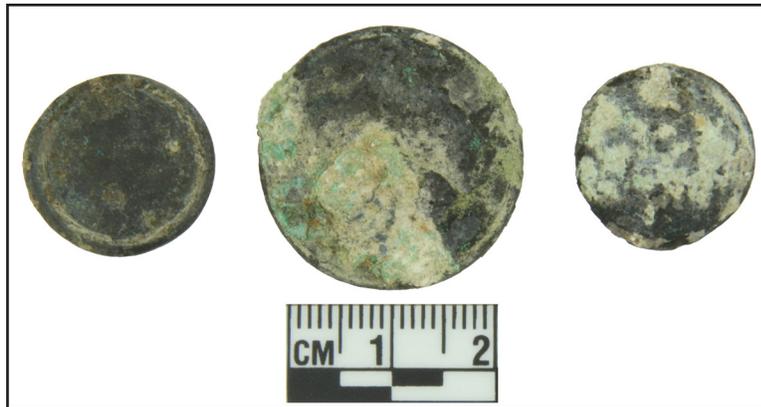


Figure 8-82. The so-called “French Marine” button, the most common type of button recovered during the Fort Rosalie excavations. NATC 33362.

the seventeenth and eighteenth centuries, and the English government took parliamentary actions to prevent the importation of these buttons and curb competition with domestically manufactured metal and textile-covered buttons (White 2005:50).

Metal

The most numerous button type in the Fort Rosalie collection (n=40) is the convex brass button with a stamped flat rim and a solid shank with a drilled eye (Figure 8-82), comprising roughly 42 percent of the total number of buttons. This type corresponds to Brain’s type B-111a, which is well-represented in French sites across the region (Brain 1979:1989). The basic shape of the button face was the standard coat button for the French army from around 1730-1760, though it appeared as early as 1716 (Brown 1975a:172 and 1979:299), and is sometimes referred to as the “French Marine” button (Kerr 2012:22-23; Stone 1974:47-49). All of the buttons were likely manufactured in France, and likely distributed by the Company of the Indies (Brown 1979:299). The drilled shank, however, seems to be limited to the French territories around the Gulf Coast; while there have been French Marine buttons recovered in the French territories in Michigan, the eyes are typically made of wire rather than the drilled wedge-shaped shank (Kerr 2012:23). This trend may indicate a different supplier for the Louisiana Independent Companies garrisoned in the Gulf Coast colonies between 1716 and

1763 (Brain 1979:189). “French Marine” may be a misleading term, as the type seems to have been mass produced and may have been used on civilian garments, as well (Kerr 2012:22; Mazrim 2011:72-73). The type is practically unknown at British sites. South (1964:118) lists only one example with a U-shaped wire eye from Brunswick Town, which is roughly contemporary with Fort St. Pierre and Fort Rosalie (Brown 1975a:172).

There are 11 undecorated flat brass buttons from the Fort Rosalie excavation, ranging in size from 1.2 to 2.2 cm in diameter. Of these, two are missing their shanks, and four have a wire eye soldered onto the button in the omega style, a style typical in the second half of the eighteenth century (White 2005:51). The remaining five have thick shanks with drilled eyes. This drilled shank was common in the first half of the eighteenth century but was gradually replaced with wire eyes beginning around 1760 (White 2005:51). Flat copper alloy discs themselves grew in popularity in the latter half of the eighteenth century, and larger buttons became more popular as time went on (Noël Hume 1969:90). The flat buttons with the drilled shanks may be related to the French Marine buttons discussed above. Brown notes that at Fort St. Pierre only “some of the specimens” had the stamped ring around the edge, without specifying how many precisely (1974:169-70). In the Fort Rosalie collection, however, the stamped rim seems to be more the rule rather than the exception.



Figure 8-83. Cufflinks in a variety of patterns and materials. A-NATC 34728; B-NATC 33897; C-NATC 32145; D-NATC 32186; E-NATC 28874; F-NATC 31171; G-NATC 31171.

Two buttons (Cat. # NATC 27012 and NATC 36771) correspond with Brain's type B112 from the Tunica collection (Brain 1979:190). They are hollow brass buttons with either a flat or slightly convex base joined with a slightly convex back; a brass wire loop acts as the eye. Hollow buttons tend to be more common in the first half of the eighteenth century (Noël Hume 1969:89), and the style of the button from the Tunica collection has been identified as "distinctively French" (Brain 1979:190). Other comparable buttons, however, remain relatively rare. According to Brain, this type has not been identified in other French colonial sites in the region, and there is only one of these buttons among the six in the Tunica collection (1979:189).

Five of the brass buttons appear to be sleeve buttons from sets of cufflinks (Figure 8-83). Two (Cat. # NATC 33897 and NATC 34728) are slightly convex discs with an indeterminate floral design. Another flat disc (Cat. # NATC 30590) does not have any discernible decoration but still retains a part of the brass wire link that would have connected it to its match. There are also two oval-shaped brass buttons. One (Cat. # NATC 32145) has a plain convex brass face, but the other (Cat. # NATC 33997) has a separate face made of a light blue paste. White (2005:61)

suggests that oval cufflinks became popular as octagonal links began to go out of style ca. 1760, and Noël Hume (1969:89) states that they are most common in the 1770s.

Some plain flat copper or white metal buttons have diagnostic concentric rings, a result of the manufacturing process whereby the button was spun and cut back to the desired thickness (South 1964:117). There are a total of three examples of this type of button from Fort Rosalie (Cat. # NATC 30534, n=2, and Cat. # NATC 31883), all made of a copper alloy (Figure 8-84). Olsen (1963:552) dates these to 1760-1785 and states that they may have been covered with fabric and used as fasteners for knee-length breeches. The eyes and shanks of these buttons more closely resemble South's Type 7 buttons, which date more broadly to the Brunswick Town context of 1726-1776 (South 1964:117). Hinks (1995:53-54) notes that high numbers of pewter buttons of this construction were found at Fort Michilimackinac, suggesting a connection with military uniforms.

There are five brass buttons that appear to have been hollow cast around an iron core. The shanks also may have been made of iron, but they are not preserved. These buttons bear some resemblance to South's Type 12 in shape, though the sole badly preserved example from



Figure 8-84. Brass button with concentric rings on the back, suggesting that it was spun and trimmed. This button was likely covered with fabric and may have been used for breeches or as part of a military uniform. NATC 31883.

Brunswick Town had a whitmetal core and an oxidized iron face (South 1964:118-19). Hinks (1988:56) states that buttons with iron shanks were most common in the first half of the eighteenth century and may have a connection with the British military.

There are two brass hollow buttons that do not appear to fit with any currently recognized types. One (Cat. # NATC 30363) has an unidentifiable stamped pattern on the face (Figure 8-85), and the other (Cat. # NATC 36908) appears to have become filled with sand and burned at some point, leaving a vitreous substance in the core. The former has a thick wire brass shank, while the latter's shank is not preserved. Hinks notes that brass domed button faces were occasionally stamped over a wood or bone back throughout the eighteenth century; the faces were often filled with clay or a variety of resin to give added strength. Buttons of this type are relatively rare because of the labor-intensive manufacture process (Hinks 1995:63-64). It is possible that the vitreous substance in NATC 36908 is a resin for hollow buttons of this type. Hollow coat buttons typically date to the first half of the eighteenth century (Noël Hume 1969:89).

There are, from two FSSs, a total of four button fragments made of pewter (Cat. # NATC 33420, n=3, and Cat. # NATC 33718). Both examples are badly corroded, making it impossible to determine the shank construction or whether the buttons were decorated. Pewter and other alloys with high concentrations of

tin were commonly used materials in button manufacturing. However, as copper and brass buttons increased in quality in the latter half of the eighteenth century, pewter buttons became associated with lower social status (White 2005:57).

Despite the deteriorated nature of the formerly discussed pewter buttons, the most securely datable button from the excavations is a decorated military button (Cat. # NATC 31953) (Figure 8-86) of stamped pewter. The decoration consists of an eagle facing its right with a shield-shaped body and upraised wings in front of a field of stars. The button closely resembles Albert's American Post-Revolutionary War type GI25A, which he dates from 1792-1798 (1977:17). Higher quality pewter buttons from this period had a greater percentage of tin—making it more durable—and they were sometimes marketed as hard-white metal buttons to avoid the negative stigma associated with pewter (White 2005:65). Albert's example clearly shows the eagle grasping the traditional olive branch and arrows in front of a background with 13 stars (1977:17). The design seems



Figure 8-85. Untyped hollow brass button. NATC 30363.



Figure 8-86. A post-Revolution American military pewter button, closely associated with Albert's type G125A (Albert 1977:17). NATC 31953.

closely related to variations of the Washington Inaugural button, worn to commemorate the first president's swearing in on April 30, 1789. Several examples of these bronze buttons featured shielded eagles, though the inaugural buttons had a single sun instead of a field of stars (Albert 1977:383-387). The date of this button is consistent with the period of American occupation of Fort Rosalie. Even following the Revolution, the production of many American military buttons still originated in Europe. The American button making industry lacked the equipment and expertise to produce high quality gilt brass buttons for officers' uniforms until 1814; therefore, manufacturers would reuse English buttons, which had a much stronger shank (McGuinn and Bazelon 1996:v).

Composite

Two buttons (Cat. # NATC 31984) were made of a combination of brass and bone (Figure 8-87). This type of button—listed as Type 3 according to South's classification system—consists of a four-holed bone core with a thin brass face embossed over the bone. The holes would be



Figure 8-87. Buttons made of a combination of brass and bone, which would be threaded with catgut to create a shank. NATC 31984.

threaded with catgut to create a shank (White 2005:68). The metal face was secured with a cement-like resin, which also strengthened the catgut shank. Following 1750, the catgut was replaced with a brass wire threaded in the same manner (Hinks 1995:64). In South's excavations at Brunswick Town, this type of button was most numerous, comprising 42 percent of the total buttons recovered. South's buttons were also frequently gilded or embossed with a wide variety of patterns (South 1964:115-116). Stamped designs very frequently imitated the woven patterns of cloth-covered passementerie buttons (White 2005:68). The two unadorned examples from Fort Rosalie may once have been gilded, but their lack of decoration would seem to make them unique among other examples of the type.

There were two different types of buttons made of a combination of glass and metal. The first consists of a dark purple, machine-made glass face with a copper alloy backing and wire eye. There is one example of a complete button of this type (Cat. # NATC 31171), and three other fragments of convex glass faces were also recovered (Cat. #s NATC 30407, NATC 31575). This type bears some resemblance to South's Type 13, which he dates to the mid-eighteenth century (South 1964:119). At around 1.5 cm in diameter, the complete button is relatively small,



Figure 8-88. Nearly complete pipe recovered during the excavations at Fort Rosalie. NATC 33397.

but the other fragments were likely over 2 cm in diameter.

The other glass and brass buttons were two examples of brass buttons set with light purple rhinestones. One (Cat. # NATC 28874) has an octagonal stone in a round setting, while the other (Cat. # NATC 32186) has a square stone and setting (see Figure 8-83 E and F above). Because these two buttons are relatively small and rather ornate, they were likely sleeve buttons or cufflinks, though the shanks do not survive for either. These are similar to South's Type 35, which was made by crimping the metal back around the edge of the glass inset. In the Brunswick Town context, they date from 1726-1776 (South 1964:125). White (2005:61) states that octagonal sleeve buttons were in style through the first half of the eighteenth century, but they were largely abandoned by 1760.

Tobacco Pipes

During the last half of the sixteenth century, smoking of tobacco in white clay pipes became a popular activity in Europe (Figure 8-88). Because they were inexpensive and sold in large quantities to people at all economic levels, the pipes became commonplace and remained so until the beginning of the twentieth century. The earliest pipes were produced with short stems approximately three and a half inches in length. As time progressed, longer stems gained

in popularity. Theoretically, as the length of the stem increased, the bore diameter was reduced because the bore was created by pushing a wire through the pipe's stem while the clay was still soft. The longer the stem, the more likely it became that the wire would pierce through before reaching the end, so thinner wire was used to reduce mistakes. In 1954, after studying thousands of pipe stems from well-documented and dated sites, J.C. Harrington of the National Park Service produced a chart illustrating the variations of stem bore diameters as a function of time, essentially providing date ranges for varying diameters (Harrington 1954; Noël Hume 1969:296-298). Fortunately, this chart, as well as the formulas for calculating assemblage ages based upon it (Binford 1962), are valuable mainly for dating collections earlier than 1800, or even prior to 1760. In addition, large numbers of pipe stems are required for accurate dating of a statistically meaningful sample. Subsequent attempts to correct for these problems, as demonstrated by South (1962), Hanson (1969), Heighton and Deagan (1971) and Mallios (2005), have not been applicable to post-1760 contexts and require the determination of pipe bowl shapes and morphological types in addition to pipe stem bore diameters.

The shape of a kaolin clay pipe bowl also provides some indication of the time period during which it was produced. In 1951, Adrian

Table 8-63. Tobacco pipes recovered from the Fort Rosalie excavations

Material	Part	Count	Weight (g)
Catlinite	Bowl	3	21.38
Clay	Bowl	12	24.89
Clay	Heel	2	8.62
Clay	Stem	2	2.02
Kaolinite Clay	Bowl	330	241.06
Kaolinite Clay	Bowl -- Heel	2	3.46
Kaolinite Clay	Heel	1	0.49
Kaolinite Clay	Stem	353	588.87
Kaolinite Clay	Stem, Heel	12	17.98
Steatite (soapstone)	Bowl	1	10.39
Total		718	919.16

Table 8-64. Bore diameters for historic kaolinite pipe stems.

Bore Diameter	Count
4/64	37
5/64	221
6/64	60
7/64	3
Indeterminate	28
Total	349

Oswald published a series of pipe bowl shapes from 1580 to 1900, which provide a graphical interpretation of changes in bowl morphology over time (Noël Hume 1969:302-303; Oswald 1975). However, Oswald’s work was only a typology of English pipe bowls, which are different from Dutch styles. Mallios (2005) has afforded archeologists a method for generating mean dates for white ball-clay pipe bowls

using the shape of the bowls and the counting of morphological traits. This method is more consistent and reliable than stem bore diameter mean dating. However, this method is primarily applicable for seventeenth century contexts.

A total of 718 tobacco pipe fragments were recovered from the excavations, including 16 non-kaolinite clay fragments and four carved red pipestone argillite (possibly catlinite) fragments (Table 8-63). The kaolinite pipe stem fragments were identified based on bore diameter (Table 8-64). Of the 698 kaolinite tobacco pipe fragments recovered from Fort Rosalie, 72 percent (n=505) are undecorated. Decorations were noted on 78 of the kaolinite pipe fragments, four of the earthenware fragments, and three of the red pipestone bowls. From among the kaolinite pipe fragments (including stems, bowls, heels, and one nearly complete pipe), 345 were used for relative dating analysis. Stems were dated using Harrington’s (1954) bore diameter method while bowls and heels were dated using Mallios’ (2005) bowl typology method. It should be noted that while all of the identifiable kaolin pipes from Fort Rosalie appear to be of Dutch origin, both Harrington and Mallios used English manufactured pipes in their analyses. Excluding all non-kaolinite fragments, the pipe stem bore diameters correspond to an average date of 1716 (Figure 8-89).

Maker’s marks were noted on the heel or bowl of 22 of the pipe fragments (Oswald

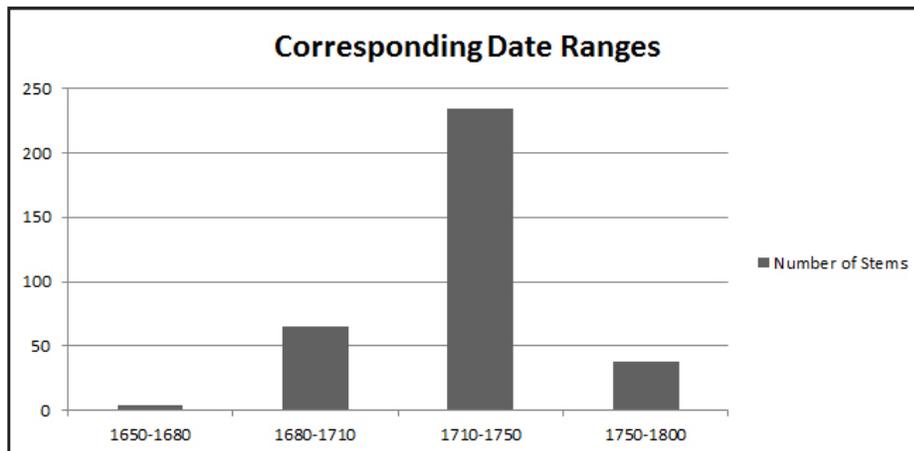


Figure 8-89. Date ranges for pipe stem bore diameters.



Figure 8-90. Maker's marks on the heels of pipe bowls. A-NATC 28427; B- NATC 29563.

1975:62). Although maker's marks can be used for dating pipes, they will not produce a particularly accurate date of manufacture as they were often used over several decades (Dougherty 2007:6). Four different maker's marks utilizing crown motifs were identified in the collection, including four fragments with crowned "16," a crowned musket, a crowned "R," and a crowned fish (Figure 8-90). According to Van der Meulen (2003) and Duco (1988), these devices are commercial and can be

attributed to eighteenth century pipe makers in Gouda, Holland. The crowned "16" mark has been encountered on tobacco pipe fragments recovered from Fort Michilimackinac (Stone 1974) and Fort Moultrie (South 1974), and has been attributed to a Dutch origin (Van der Meulen 2003). One heel was marked with a crown over "R," three bowls with "___B," and one with "DIB." One pipe heel was marked with "TD," a mark that has been found in numerous North American eighteenth and nineteenth century contexts as early as 1755, representing numerous types that were in production at the same time by many different manufacturers (Walker 1966). While originally affiliated with the manufacturer Thomas Dorner (1750s-1780), by the middle of the eighteenth century the mark "TD" was used to designate a particular pipe style and was not necessarily representative of a particular manufacturer. This marking has been in use for over 200 years.

Other Dutch-manufactured pipes recovered from Fort Michilimackinac (Stone 1974) had "sawtooth," "circle," and "dot" rouletting that are remarkably similar to those identified on many of the Fort Rosalie pipes (Figures 8-91, 8-92). A total of 56 bowls and stems from the Fort Rosalie collection have rouletted decorations around either the stem or the rim of the bowl. The collection's only nearly-complete kaolin pipe, likely manufactured in Gouda, Holland, employs all three identified rouletting motifs. One kaolin stem fragment has

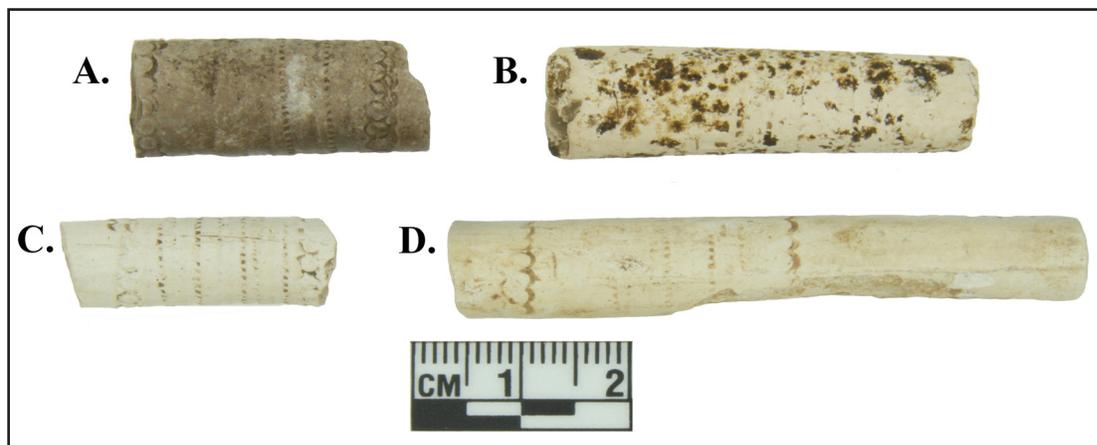


Figure 8-91. Pipe stems with a variety of rouletting decorations found during the excavations. A-NATC 29412; B-NATC 29340; C-NATC 28702; D-NATC 29141.



Figure 8-92. Pipe bowls decorated with rouletting. A-NATC 27784; B-NATC 28427.

been modified at the tip by carving, presumably tapered so that the previously broken stem could rest more comfortably in the user's mouth.

Two earthenware bowls were marked with a molded *fleur de lis* (Figure 8-93). These earthenware pipe fragments, and three additional fragments (two stems and one heel), appear to be made of the same material, a fine, sand-tempered earthenware, and may represent locally manufactured tobacco pipes. The stem fragments are heavy, and the only one with an intact bore measured 11/16-inches in diameter. The wide diameter of the stem and its relatively heavy construction are consistent with known examples of eighteenth and nineteenth century "reed stem" clay tobacco pipes (Noël Hume 1969; Murphy 1974, 1976, 2009). Two more bowl fragments of red earthenware likely represent other locally manufactured reed stem tobacco pipes.

The remaining fragments (four red pipestone and three clay) may represent aboriginal smoking pipes (Figure 8-94). Red elbow-shaped stone pipe bowls carved from red pipestone argillites have been recovered archeologically from sites across the southeastern United States, and have been associated with the calumet ceremony, which first arrived to the Southeast in the second half of the seventeenth century (Brown 1989, 2006; Gunderson et al. 2002). However, hundreds of fragments of red pipestone have been archeologically recovered from the sites of Old Mobile and a nearby Native American

house, indicating possible local manufacture of this symbolically important object, possibly by French colonists (Gunderson et al. 2002). Two of the red pipestone fragments are from relatively thin, elongated bowls, somewhat flared at the rim. One is undecorated, and the other has been incised with concentric ridges and grooves. A third red pipestone artifact is a nearly complete bowl broken at the heel with no stem remaining. This bowl, besides its material, is identical in form to imported kaolin pipes manufactured in Europe between 1600 and 1635 (Atkinson and Oswald 1972). It is therefore plausible that these red pipestone bowls were made by French settlers, soldiers, or tradesmen. A final red pipestone artifact, presumably a tobacco pipe bowl fragment, bears careful incising consisting of repeating X-shapes

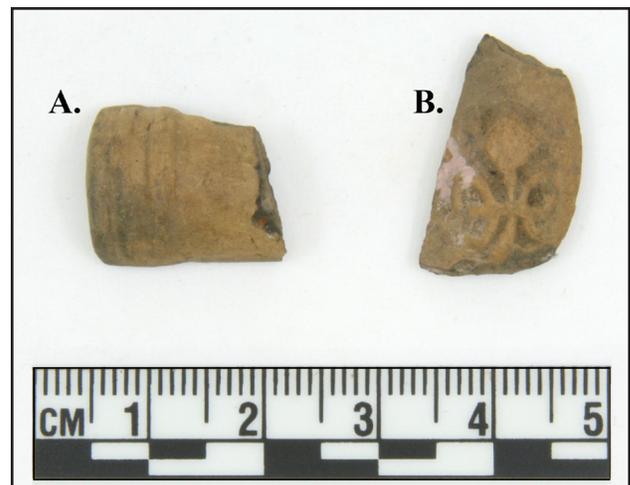


Figure 8-93. Earthenware pipe fragments, including a bowl stamped with a *fleur de lis*. A-NATC 27639; B-NATC 27638.



Figure 8-94. Carved red pipestone argillite pipe bowls. A-NATC 29622; B-NATC 30150; C-NATC 29339.

overlaid with ground, checker-patterned dots. Considering the relatively heavy weight of this artifact and the absence of a stem, heel or any sign of burning, its classification as a tobacco pipe fragment must be considered tentative. One of the aboriginal clay pipe bowls, consisting of a dark sand-tempered earthenware, is too fragmentary to determine an overall shape beyond its generally rounded appearance (NATC 37053). The exterior appears burnished while the interior shows signs of repeated burning consistent with use as a tobacco smoking implement.

Personal Metal Artifacts

Personal objects made of metal include a brass grommet, a lead gaming piece, nine buckles (four brass, five iron), a lead pendant, safety pins and lapel pins, and 43 brass straight pins (Figure 8-95).

METAL ARTIFACTS

Large numbers of metal artifacts (n=4,472; 75,111.16 g) were recovered from the Fort Rosalie excavations representing a wide variety of functional categories including woodworking and metalworking tools; a variety of hardware; trade objects such as tinkling cones; buttons, buckles, and other personal objects; sewing equipment; forks and knives; and objects related to militaria (as discussed above) (Table 8-65). Those metal artifacts associated with food

preparation and personal objects are previously noted within the chapter.

Nails

The nails were divided into four groups: indeterminate, hand wrought, cut, and modern wire nails. A total of 2,978 nail fragments, weighing 23,693.11 g, were recovered, including 1636 wrought nails (10,930.18 g), 824 (7,265 g) of indeterminate manufacture, 363 (4,495.71 g) cut nails, and 155 (1,005.01 g) wire/drawn nails; “indeterminate” was used during identification if the nail fragment was too corroded or small to identify a method of manufacture (Nelson 1968). Throughout the eighteenth century all nails were hand wrought. An American innovation that came into use during the last decade of the eighteenth century, machine cut nails were produced by mechanically cutting the nails off of sheet metal. Cut nails quickly became a cheaper substitute for the hand wrought variety and were widely utilized until the 1860s and 1870s, when machinery for the production of construction grade wire nails was perfected (Noël Hume 1969:252-254; Wells 1998:83-86). Although cut nails are still being produced in small quantities, they are no longer manufactured from iron; by the beginning of the twentieth century, all cut nails were manufactured from steel (Wells 1998:87).

From the EUs, a total of 289 nails were recovered, including 117 wrought nails, 95 of indeterminate manufacture, 43 cut nails, and

Table 8-65. Metal objects recovered from Fort Rosalie.

Object	Count	Quantity (bags)	Weight (g)
Aglet	1		1.34
Ax	1		1517.30
Band	2		11.01
Bar	2		361.70
Bell	1		0.89
Bolt	8		791.30
Brad	2		0.93
Bridle	1		24.90
Buckle	9		54.35
Bullet	3		26.31
Bullet, Minie	2		50.90
Button	72		159.13
Button, Military	1		4.70
Can	13		25.40
Cannonball	1		207.15
Cap, Bottle	14		45.77
Case, Cartridge	29		58.18
Chain	17		2.50
Clamp, Hosecock	1		16.91
Clasp	1		1.30
Coin	5		11.45
Colander	1		4.69
Comb, Curry	8		5.90
Concretion		17	193.81
Cone, Tinkler	2		13.14
Disc	3		35.00
Escutcheon	1		2.60
Fastener	2		0.90
File	3		89.06
Finial		1	9.50
Fitting, Pipe	1		114.90
Flintlock	1		216.37
Foil		4	0.80
Fork	1		71.36
Game Piece	1		27.12
Grenade, Antiper-sonnel	1		824.80
Grommet	2		1.59
Guard, Trigger	1		13.89
Gudgeon	1		229.20
Hairpin	1		0.20
Handle	1		18.33
Hardware	81		9434.93
Hinge	6	1	1557.31

Object	Count	Quantity (bags)	Weight (g)
Hook	1		28.00
Hoop, Barrel	3		1187.10
Horn, Powder	1		57.17
Horseshoe	1		157.76
Key	3		51.77
Knife	7		148.44
Link, Cuff	2		3.01
Lock, Door	1		5.04
Metal Fragment	2	406	16942.21
Nail	3001		18596.23
Nut	1		18.00
Opener, Bottle	1		10.10
Opener, Can	1		3.06
Ornament	2		2.96
Ornament, Shoe	1		12.72
Pencil	1		0.48
Pendant	1		3.38
Pin, Cotter	1		2.30
Pin, Eye	1		0.20
Pin, Lapel	2		1.22
Pin, Safety	1		0.30
Pin, Straight	43		1.53
Pintle	2		291.30
Pipe, Tubular	2		31.20
Pot	1		98.80
Pull Top	8		3.32
Rifle/musket	9		691.30
Ring	4		24.16
Rivet	5		3.08
Rod	1		74.78
Rosette	1		13.1
Scissors	1		9.47
Screw	1		6.22
Seal	1		11.86
Shell, Shotgun	2		3.95
Shot	578		1797.86
Slag		30	72.40
Snap, Fastener	1		0.76
Sparkplug	2		53.70
Spike	274		13270.75
Spring	5		21.83
Sprue	24		29.31
Staple	1		44.52
Staple, Fence	7		26.19

Table 8-65. Metal objects recovered from Fort Rosalie (continued).

Object	Count	Quantity (bags)	Weight (g)
Strap	7		504.89
Sword	1		55.36
Tack	68		217.97
Token, Tax	1		0.48
Toy	1		2.71
Trap, Rat	1		26.29
Tube	1		19.17
Valve	1		19.8
Washer	2		7.8
Wire	66		74.47
Wire, Barbed	4		29.25
Zipper	1		3.85

34 wire nails (Table 8-66). Stratigraphically, throughout the site, wire nails are most prominent in the first level, as to be expected from the 1940s reconstructions, but as the levels progress in depth, wire nail counts diminish and the number of cut nails increases briefly before decreasing at the “line in the loess” (approximately Level 4). Finally the item counts of wrought nails recovered throughout the site peaks at Level 3 and continues to maintain the majority of the total nail counts until Level 6, when the majority shifts to nails of indeterminate manufacture (Figure 8-96). While wrought nails are significantly present throughout the levels, the occurrence of a cut nail in Level 10 and the

continuation of wire nails, well into Level 6, suggests that Dickson’s reconstructions were intrusive, but not severely so.

Miscellanea

Other varieties of metal hardware include an ax head, three keys, a brass cotter pin, brass door locks, an escutcheon, files, metal springs, iron fence staples, iron straps, iron barrel hoops, hinges, rings in a variety of sizes made from iron, brass, and copper, rivets, wrought iron pintles, and barbed wire (n=4) (Figure 8-97). A total of 68 tacks were found, including 47 iron and two brass. Additionally, 288 spikes were recovered, the majority of which (n=239) were wrought iron.

Metal objects associated with animal husbandry were also recovered, including eight fragments of curry combs, a rosette and other pieces of bridle tack, and a horseshoe.

A total of five coins was also recovered, including a Spanish Half Real dating to 1774 (Figure 8-98), a French Liard (Figure 8-99), and an unidentified Spanish silver coin. Interestingly, three tinkler cones (Figure 8-100) were also recovered, further indicators of the use of the fort as a place of trade and interaction between the French and native Natchez residents. Other metal objects of note include a piece of a cast brass bell, a tax token stamped with “10”, iron scissors, spigot, seal, and pencil lead.

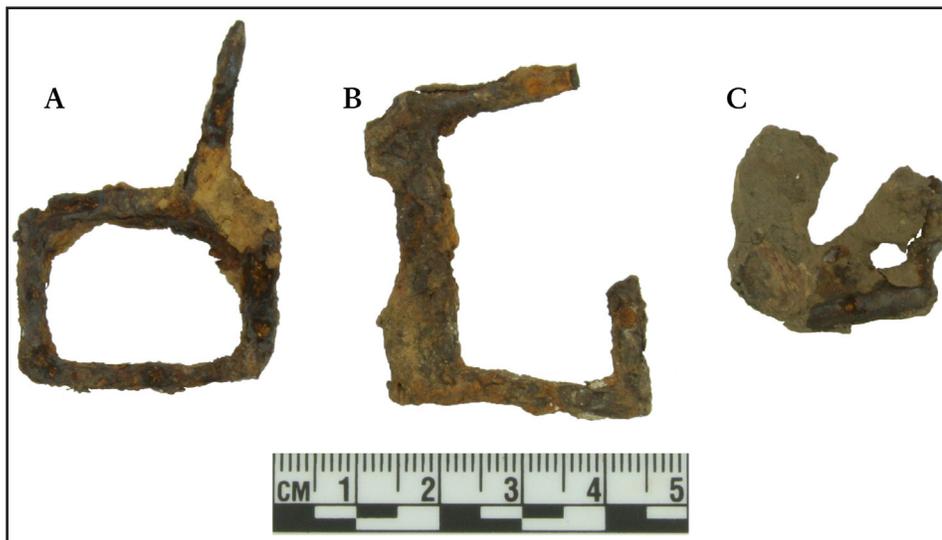


Figure 8-95. Buckles. A and B-NATC 31701B, C-NATC 29336.

Table 8-66. Comparison of nail counts, based on manufacturing technique, within the Fort Rosalie artifact assemblage, across the site's stratigraphic levels

	Level										
	Total ¹	1	2	3	4	5	6	7	8	9	10
Cut	355	60	60	11	20	28	22	15			7
Indeterminate	826	21	146	224	123	108	84	44	6		13
Wire	161	106	16	2	2	1	2				
Wrought	1659	69	320	487	232	112	111	62	30	10	7

¹ Total includes nails from shovel tests, flot samples, and other provenience types

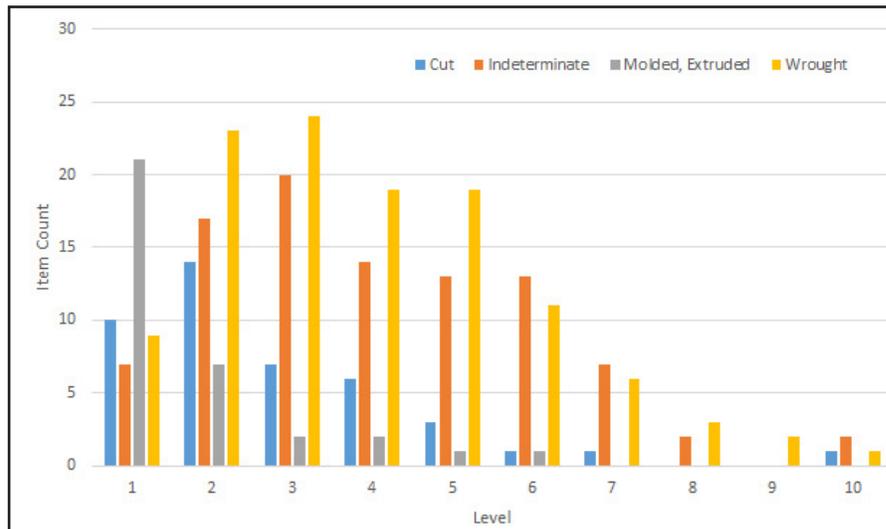


Figure 8-96. Distribution of nails, based on manufacture technique, across the Fort Rosalie site, Levels 1-10..



Figure 8-97. Brass key, likely a skeleton key. NATC 34075.



Figure 8-98. Spanish Half-Real with “Carlos III Dei Gratia 1774.” NATC 31844.

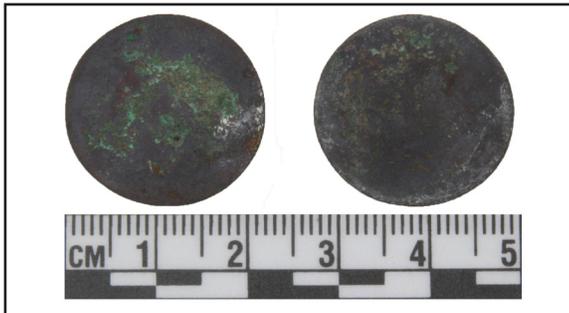


Figure 8-99. French Laird coin. NATC 35293.

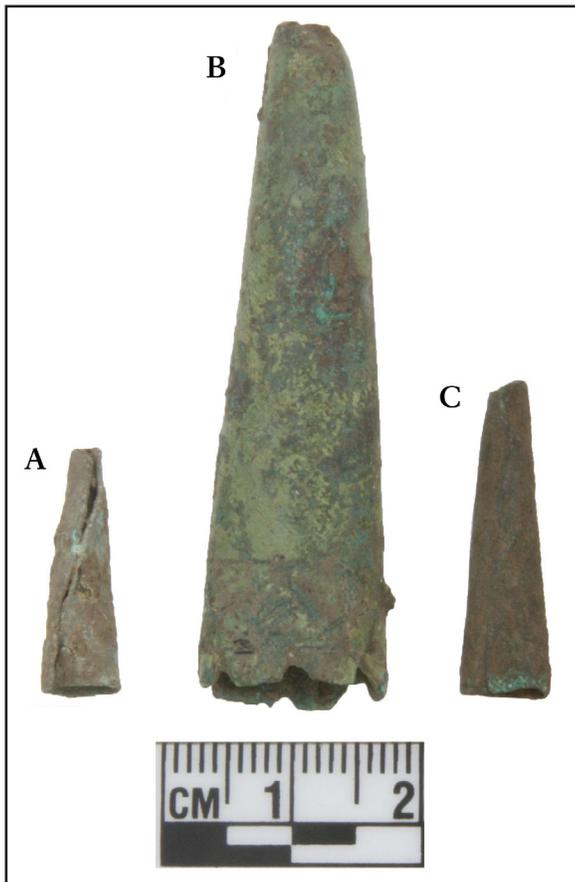


Figure 8-100. Rolled copper tinkler cones. A-NATC 27842; B-NATC 28997; C-NATC 33301.



Figure 8-101. Alba cluster projectile points. NATC 29625.

NON-MILITARY STONE ARTIFACTS

A variety of stone artifacts was also recovered, totaling 13,095 objects weighing 36,268.91 grams. As with the metal category, the stone artifacts recovered reflect a variety of different functional categories including building components, personal gear, and utilitarian items such as strike-a-lights and drills (Figure 8-101). In addition to the historic stone artifacts, a small number of Native American lithic artifacts were also recovered, including three projectile points, two of the Alba cluster (ca. A.D. 900-1200) and one Nodena cluster (ca. A.D. 1400-1700). Table 8-67 presents an inventory of all stone artifacts recovered from the excavations.

DISCUSSION AND CONCLUSIONS

Prior to the 1729 uprising, most of the French garrison were living outside the confines of Fort Rosalie, so it is possible that the building encountered during the 2005-2012 SEAC excavations was one of the three small structures illustrated on Broutin’s 1723 map, and it could have been a storehouse. The 1730 Broutin map states that the structures were military-associated buildings, and Dumont’s maps based on his memories from his visits in the 1720s illustrate a long, multi-room building situated along the southern wall of the palisade as the military

Table 8-68. Comparison of width measurements from Hamilton and Emery's Fort Michilimackinac study and the 1879 report on English gunflint manufacturing by Skertchly.

Type	Hamilton	Skertchly
Wall Piece	NA	38.1 mm
Musket	34+ mm	27.9 mm
Carbine	28-34 mm	25.4 mm
Tradegun	20-28 mm	NA
Horse Pistol	<20 mm	22.9 mm
Pocket Pistol	<20 mm	16.5 mm

barracks. However, this building is illustrated with four chimneys, and at least one hearth was encountered during the excavations, so the possibility exists that the building was divided into several rooms that could have included a storeroom and even a kitchen. Additional excavations will be needed to address these questions regarding the identification of the structure.

Analysis of the material culture from Fort Rosalie, particularly diagnostic artifacts such as beads, buttons, tobacco pipes, and militaria all suggest strong similarities between Fort Rosalie and other western French frontier settlements of the same era that were focused on economies of production, namely agricultural goods. The mere presence of militaria at this site, and the relative small amount of personal objects, save for beads and fragments of tobacco pipes, supports Keene's model for Fort Rosalie having been an *entrepot* focused on economies of production, where the fort was the center of the settlement's administrative, economic, and social activities. The majority of settlers at the Natchez concessions were farmers producing tobacco for export to France, and lived outside the confines of the fort. The majority of objects recovered from these investigations exemplify the redistribution of European-produced goods in a frontier setting; and, as expected at a frontier military post, the objects associated with social, military, and economic activities recovered during these excavation far outnumber those more closely associated with private residential occupations. Fort Rosalie served as a focal point for trade with the indigenous communities; and,

accordingly, the strong presence of colonoware and Native American pottery recovered during the excavations certainly suggest strong relationships with the Natchez people and, presumably, the ceremonial center of the Natchez, Grand Village, until its abandonment in 1730.

Based on the analysis of the military artifacts recovered, it is clear that the site represents an eighteenth through early nineteenth century military occupation. This is evidenced by the early style gunflints and the relatively small caliber of the musket balls recovered. A preponderance of larger caliber musket balls used by the Brown Bess would advocate for their presence being a consequence of a British occupation, which is not the case based on archeological evidence. Instead, the firearm components are consistent with trade gun varieties that would have been used by soldiers, settlers, and indigenous people alike.

The predominant size of the musket ball shipped to the colonial possessions from France appears to have measured between .54-.58 cal., with an average of 0.56 cal. based on archeological research at sites such as Fort Michilimackinac, Fatherland, and Fort St. Pierre. In fact, the majority of musket balls analyzed from 10 of the 12 sites show that the majority of musket balls fall between 0.53-0.58 cal. (Table 8-68) (Hamilton 1979). Fort Rosalie's musket balls average 0.57 cal., with the majority falling between 0.55-0.60 cal. This falls very close to the historical counts provided by Hamilton of 28-32 mm (0.58-0.61 caliber) balls provided to Fort Louis. The overall makeup of lead shot from Fort Rosalie falls in line with other early French outpost settlements of the Mississippi river valley.

Objects related to large scale food production (food acquisition, preparation, production, and service), such as ceramics used for cooking, preparation, and eating, glass wares, cooking and eating utensils, and food remains, comprise roughly 78 percent of the total artifact assemblage. The great variety of pottery types, decorative styles, and forms are indicative of,



Figure 8-102. Coarse earthenware globular cup or pitcher with slip and green lead glazes. NATC 29624.

perhaps, what was a small storehouse for the garrison, and even potentially a kitchen.

While the Fort Rosalie and Grand Village ceramic collections share many similarities, especially regarding the majority of Plaquemine phase pottery types that comprise the assemblages at both sites, at Grand Village Addis Plain represents nearly 10 percent more of the ceramic assemblage than at Fort Rosalie. There are also some subtle differences amongst the individual varieties. For example at Fort Rosalie, Greenville and Late Plaquemine Ratcliffe varieties combined represent just under 3 percent of the diagnostics at Fort Rosalie, while at the Grand Village both varieties are virtually non-existent.

When Addis Plain wares are not included in the analysis, Fatherland Incised represents a much larger percentage of the overall collection at Fort Rosalie than it does at the Grand Village. The same is equally true for Mississippi Plain, Winterville Incised, and Chicot Red Filmed, all of which appear in greater frequency at Fort Rosalie. On the other hand, at the Grand Village, the Plaquemine Brushed, Mazique Incised, and Maddox Engraved appear in greater proportional numbers. At this juncture, it is not clear what may be causing these differences, but it may prove interesting to pursue this line of inquiry to further our understanding of the lifestyles of the Ft. Rosalie inhabitants. The presence of a large amount of colonoware vessels that represent European forms made by the Natchez



Figure 8-103. Ecuelle lead glazed. NATC 26800.

and other groups using native pottery-making methods has to be factored into this calculation. Their presence at Fort Rosalie argues for the local production of such wares for use by the French colonists, possibly by women living with and even married to soldiers, who would have used them to cook a combination of local and imported foods.

Regarding the European ceramics recovered from the site, the majority reflect utilitarian or multiple-uses for food preparation and service. Unfortunately, few vessel forms could be distinguished with confidence, save for a few pitchers, an *ecuelle*, deep plates and large bowls (Figure 8-102, 8-103). The majority of tin enameled wares were in the style of Provence Blue on White, Brittany Blue on White, and St. Cloud Polychrome, while the majority of rim styles were classified as type “H” (Normandy Blue on White), followed by “A” (Brittany Blue on White) and “J” (Provence Blue on White). A total of 90 pieces of *faience brune* were recovered, 22 of which were decorated,

with rim styles “G” and floral baskets in central medallions on large plates or platters. These wares reflect stylistic influences from both northern and southern France, but, as stated earlier in this chapter, these styles were widely copied.

The faunal assemblage recovered from the Fort Rosalie site is representative of many colonial sites in the southeast. This assemblage includes both European domesticates and native species. European colonists often were unable to maintain diets relying wholly on domesticates and were either forced or accepted the need to diversify their diets with the inclusion of native species. Previous studies of early historic subsistence indicate that as much as 80 percent (by MNI) of the food that early settlers ate were native species (Reitz 1985). The assemblage from Fort Rosalie shows that the inhabitants of this garrison similarly relied heavily on native species. In fact, 84 percent (by MNI) of the faunal assemblage was from wild animal species. The French alliance and trade

with nearby Natchez villages likely provided for the majority of the native species present at the fort. Besides the deer skins and bear hides commonly traded to the French, soldiers commonly bartered goods to the Natchez for fresh meat since supplies from Mobile were often not regularly available (Barnett 2007:75). The native species identified here show that the French occupants resorted to eating many species common to the Natchez diet as described by fauna identified by Penman (1983) from the nearby Fatherland site. The two most commonly

occurring species — deer and bear — are both very prominent in the Natchez diet, and based on the number of specimens identified in this sample, were commonly being eaten by the soldiers. Wild birds, especially ducks, were also fairly regular additions to the garrison diet, probably more so in the winter when many of these birds are common in the area. The garrison thus not only received animal skins from the Natchez to trade, but also may have become dependent on the Natchez to supply food for the garrison's very survival.

