Zooarchaeology and the Urbanization of Vancouver, WA ca.1876 to 1918

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INTRODUCTION

With increased industrialization increasing during the 19th century, there occurred in America a monumental shift from an economy based on rural subsistence to one dominated by urban wage labor and large-scale manufacturing.

With this shift, increasing numbers of people moved from rural areas to growing urban centers where they participated in a rapidly expanding capitalist market system.

This change happened rapidly in places with advances in the transportation infrastructure, but in the more remote areas such as the Pacific Northwest, the timing of this transition from rural to urban society is less well understood.

The late 1800s is a critical time in the development of places such as Vancouver, WA. The infrastructure and social atmosphere was dramatically changing the way people consumed and disposed of goods, and the lack of sanitation laws meant refuse was still deposited informally in backyards.

This accumulation of household waste provides zooarchaeologists a unique opportunity to explore how household diets reflect the social changes associated with increased urbanization.

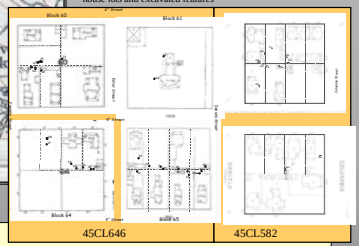
This poster presents the preliminary results of a study of the faunal material recovered during archaeological excavations of over 30 refuse features dating between ca. 1876 to 1918 within six city blocks located in western Vancouver, WA.

1900 photograph showing Main St., Vancouver, WA

METHODS

- Excavation was conducted by Applied Archaeological Research in 2004 and 2005
- Remains identified to the lowest taxonomic level possible
- Element and portion identified and assigned an economic value based local market price if possible
- Attributes recorded include butchery and processing marks such as saw, slice, chop, snap, and gnawing marks, as well as the degree of burning
- Complete elements such as cross and round cuts measured
- Stage of epiphyseal fusion recorded
- Historical literature referenced to provide clues as to the markets system in place
- Comparison with artifacts

1908 USGS map showing site locations



1890 Sanborn Fire Insurance maps showing house lots and excavated features

RESEARCH OBJECTIVES

With increasing urbanization, the consumer becomes increasingly removed from the systems of production and the more the procurement system controls households' choices (Zeder 1988).

When urban households depend on a market system for their food supplies, their choice is limited by the procurement system and this will be reflected in faunal representation (Henry 1986).

The goal of this study is to better understand local consumption of animals, and to determine how faunal remains can be indicators of socioeconomics, consumer choice, and how they can provide clues of increasing urbanization and formalization of the market system.

(1) What animals are represented and in what frequencies within and between features?

(2) What are the relative economic values of specific animals, cuts, and portions, and how do they relate to availability, socioeconomics, and consumer choice?

(3) Do patterns in butchery and age of slaughter indicate a formalized market system?

(4) At what frequency are non-domesticated animal present and do they indicate activities such as recreational hunting and fishing, or a food procurement strategy out of necessity?

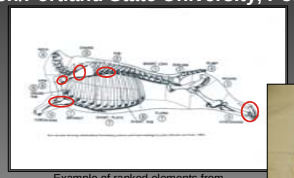
(5) Is there evidence for change over time in the above listed questions between households?

(6) Combined with artifact analysis, can a more complete view of the households be developed?

RESULTS

Taxa Identified
Cow (Bos) Sheep (Ovis) Rabbit (Lagomorph) Pig (Sus) Deer (Odocoileus) Rat (Rattus norvegicus) Cat (Felis) Dog (Canis) Squirrels (?)
Salmon (Salmonid) Halibut (Hippoglossus) Sturgeon (Acipenser) Catfish (Ictalurus) Stickelback (Gasterosteus aculeatus) Smelt (Osmeridae) Small (Likely Marine) Fish (currently unidentified) Dungeness Crab (Cancer magister)
Mussel (Mytilus) Oyster (Ostreidae) Little Neck Clam (Protothaca) Butter Clam (Saxidomus) Razor Clam (Siliqua patula)
Large array of large and small birds yet to be identified
Turtle

Consumer Choice and Socioeconomics



Example of ranked elements from Feature 12 at 45CL646

The faunal record contains evidence of consumer choice and socioeconomics. In an urban food procurement system consumers will have differential access to food resources according to their economic status and the relative price differences between the various species and cuts of meat (Shultz and Gust 1986).

Sus elements likely representing a complete individual

Non-Domesticated Animals

Catfish and bird remains identified from Feature 31, 45CL646. Note size differences of bird tarsometatarsus and small size of catfish crania (introduced 1888)

Rothschild (1989) proposed that the inclusion of non-domesticated animals in the diet will occur primarily in the upper and lower classes. In the upper classes this will be a result of recreational hunting and fishing, as a form of entertainment, as well as a means to display their wealth. In the lower classes the inclusion of wild animals will illustrate provisioning out of necessity. It is thought that the middle class tended to sacrifice free time for work and was more reliant on the formalized market system.

Rabbit identified from features 32 and 42 45CL646

MNI=5

Shellfish identified from Feature 64, 45CL646

Butchery

Bos radius showing "saw & snap"

Round cuts showing variation in thickness

Butchery cuts and marks provide direct evidence of technologies employed, and choices made, in the processing of animals. Butcher marks can indicate formal or informal processing, and provide clues to the standardization of market systems. Henry (1986), suggests an urban subsistence pattern will be characterized by a participation in the purchase of professionally butchered domestic meats, evident in the archaeological record by a high frequency of formalized meat cuts and a low frequency of non-meat bearing anatomical elements and informal butchery.

Bos humerus showing chopping and flaking of green bone

Sheep/goat radius showing chopping

Age of Slaughter

The degree of epiphyseal fusion indicates the age at which the animal died. In rural environments, animals were slaughtered only when necessary and might live well into adulthood before being consumed (Henry 1982). In urban markets, the standard formula employed in slaughter for market dictates that once an animal reaches a certain size, the cost of keeping it alive outweighs any increase in the amount of usable meat (Skaggs 1986). By recording the stages of epiphyseal fusion, a better understanding of slaughtering practices and the level of market formalization can be determined

Fused and unfused sheep/goat femur

CONCLUSIONS

Based on work competed to date, a number of trends are apparent:

- The frequency of domestic and wild taxa differs between features.
- Body part representation and associated economic values for bos differ between features but all contain a high percentage of low valued meat cuts.
- A large proportion of the assemblage exhibits informal butchery.
- Age range of slaughter varies.

Overall, the low degree of standardization in butchery marks, variation of age of slaughter, and body part representation suggesting whole or large portions of animals were being procured, suggests the households that occupied the historical neighborhoods were engaging in a market system more similar to those found in a rural environment. The inclusion of non-domesticated animals, represented by various wild birds, fish, rabbit, and turtle, suggests that at least some of the households were engaging in hunting and fishing. The reason for the use of non-domesticated animals is not clear at present.

DISCUSSION

Although work is incomplete, when comparing the faunal data with the artifacts it appears the people of Vancouver had access to, and were consuming, many of the contemporary styles of glass, ceramics, and clothing, as well as consuming packaged goods on par with contemporary national trends (Roulette et al. in press), yet their bone remains suggest they were processing and eating their meat in a more rural pattern.

Ultimately, the choice of what food is consumed is influenced not only by economics, but social and cultural preferences, market systems, and environment, and what archaeologists find is a function of waste management, site formation processes, and taphonomy.

Faunal remains have a unique place in historical archaeology. Unlike bottles, ceramic, and clothing, meat was purchased, consumed and disposed of on a daily basis as it was viewed an essential part of the American diet. With a daily consumption of meats and the subsequent disposal of meal residues, including bones, households created a record of not only what types of meats they chose to eat, but also left clues as to developing market systems with increasing urbanization, how households chose to spend their money, and how they managed their waste.

With further work, this project will have the potential to test many of the aforementioned issues as they relate to the urbanization of Vancouver, WA.