Shellfish Consumption in Early 20th Century Urban San Diego

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Abstract

Historical shellfish remains from two early 20th century sites were analyzed to examine patterns of shellfish consumption in urbanizing San Diego. Living at a seaport, San Diego residents had daily access to fresh fish and shellfish. Maritime resources formed a major dietary component for the prehistoric residents of coastal San Diego for thousands of years. The availability of local fisheries continued into the historic period, but exploitation varied due to the influx of immigrants and changes in cultural preferences. The sites studied were the County Hall of Justice Site and the Home Avenue Landfill.

Introduction

The County Hall of Justice site was originally one city block from the waterfront. Today, it is several blocks away; the size of the downtown area has increased because of filling activities over the past 100 years. Beginning in the late 19th century, this block consisted of residential lots, which were mostly boarding houses and rentals in the early 20th century. After approximately 1910, commercial uses dominated the area (Van Wormer 1995:42-43). After the structures were demolished, fill was placed on top of the site, and it was used as a parking lot. Therefore, the archaeological deposits were in excellent condition and included filled wells and residential trash deposits. Some prehistoric materials were found mixed into the areas which would have been the fronts of the lots. As expected, the prehistoric materials were highly disturbed.

The Home Avenue Landfill was used in the early 20th century by residential and commercial customers in urban San Diego. The dump was outside the limits of the City of San Diego at the time, but it is now disturbed by road construction and urban development. During its active use, the dump was formed by a succession of layered deposits, which were burned but not highly mixed. Materials from a restaurant were mixed with household material if both were collected during the same period of time, but each layer represents a contemporary deposit. The Home Avenue Landfill deposits have been used extensively by historic archaeologists as an index for city-wide refuse disposal patterns during the early 20th century (see Van Wormer 1996a).

History of the Shellfish Industry in San Diego

To provide context for the analysis of shell recovered from the two dump areas, research was conducted on San Diego's fishing industry. The commercial shellfish industry in San Diego followed dietary preferences and fads much like any other type of food. There was also the tendency to overexploit the limited resource, resulting in regulations on taking shellfish. These factors should be considered during analysis of historic shellfish materials.

Oysters (Ostrea lurida, Crassostrea virginica)

The local native oyster, *Ostrea lurida*, is found along the Pacific Coast and is a common constituent of prehistoric archaeological sites. Many San Diego County archaeological sites contain significant amounts of this species. During the middle part of the 19th century, with the swelling populations along the west coast brought by gold fever, attempts were made to commercially exploit the native oyster (McKee and Nelson n.d.:2). Washington oysters (also *O. lurida*), called "Olympias," were shipped to California; no commercial harvest of the native oyster occurred in California (McMillin and Bonnot 1931:246). However, overexploitation of the Washington oysterbeds caused a sharp decline in native oysters, and by the turn of the century, emphasis had shifted from *O. lurida* to *Crassostrea virginica*, the eastern oyster (Goode 1887:520; McKee and Nelson n.d.:2). Between 1895 and approximately 1920, the eastern oyster dominated the market; these oysters were seeded and grown along the coast of Washington until they were wiped out by disease within a short period of time (McKee and Nelson n.d.:2).

Although most of the eastern oyster fisheries were in Washington state, California bays were also home to the industry. The eastern oysters were seeded in San Francisco Bay beginning in 1870, and grew rapidly until ready for market. However, all attempts to propagate the oysters in the bay failed, and seed continued to be sent from the east coast (Goode 1887:539). An analysis was conducted to see if False Bay in San Diego could provide oyster growing grounds, but no planting was ever conducted (Gilbert 1891). A later reference states that shellfish from San Diego Bay was only sold locally, since the meat was contaminated by sewage from the city (Weymouth 1920:66).

The oyster shells from the Home Avenue Landfill are the eastern oyster, *Crassostrea virginica*. They are average-sized specimens, measuring approximately 3 inches in length. Locally referred to as *Ostrea virginica*, naturalized examples of this shell were found in San Francisco and Tomales Bay following the end of commerce in this species (Johnson and Snook 1927:422). At that time, these surviving populations were small and limited to northern California.

After the failure of the eastern oyster beds around 1920, little activity occurred in the oyster industry until approximately 1928, when experiments began with *Crassostrea gigas*, the Japanese oyster. Planted along the Washington coast, the so-called Pacific oyster is now the basis of the west coast oyster industry (McKee and Nelson n.d.:2).

Commercial canners and oyster factories developed new uses for the empty shells. The shells were used as fill and burned for lime to use in cement (Goode 1887:563). The relatively small quantities of shell that resulted from home or restaurant use in San Diego may not have been worth processing for other uses.

Littleneck or Venus Clams (Chione spp.)

Several species are represented in this group, since they were not distinguished by bag limits or harvesters. The littleneck clam is one of the most abundant shellfish along the western coast and is greatly prized as a food (Reilly 1992). It is found in mud or sand in bays and may burrow up to 12 inches below the surface.

Pismo Clams (Tivela stultorum)

The most abundant beds of pismo clams are found along the central California coast, although prehistoric shellfish remains have been identified from San Diego county sites. The commercial harvest of pismo clams dating from the early 1900s ended in 1947, when it was prohibited (Pattison 1992). During the earlier part of the 20th century, it was the most important commercial clam and ranked third behind the abalone

and oyster as the most important commercial mollusk (Weymouth 1923). Pismo clams were imported from Baja California between 1919 and 1962, mostly as canned meat. Although the clams have an excellent flavor, consumption during certain times of the year can cause fatal paralytic poisoning.

Abalone (Haliotis spp.)

The abalone fishery in California was pioneered by Asian fishermen, beginning in the 1850s when Chinese Americans exploited near shore green and black abalones (Croker 1931; Goode 1887; McEvoy 1977). The Chinese American fishermen pried the abalone from their shallow water habitat using long poles. The San Diego abalone industry was started by Chinese Americans in 1873 with the meat prepared for export to Asia and the shell shipped to England, Austria, the eastern U.S., and China for jewelry production (McEvoy 1977). In the early 20th century, consumption of abalone meat by Americans was very limited; Anglo-Americans and Spanish-Americans were not accustomed to the food, although abalone was enjoyed for thousands of years in southern California by the Native Americans (Croker 1931).

Many junks were built to harvest abalone along the southern California and Baja California coastlines (Goode 1887). In 1900, the shallow waters were closed to commercial harvest due to severe depredation (Croker 1931), although political pressure against Chinese Americans was a significant factor in the elimination of the abalone fishery. The passage of the Scott Act in 1888 made it illegal for any Chinese laborer to enter the country, and subsequent pressure to reclassify San Diego Chinese American fishermen as laborers rather than merchants finally ended the use of junks to harvest shellfish by 1893 (McEvoy 1977).

The Japanese American fishermen then began exploiting subtidal abalone beds as divers between 1913 and 1942 (Estes 1977; Karpov and Tegner 1992), with limited activity in San Diego dating to 1908 (Estes 1978). Pole and hook fishing from boats was also done in Baja California; abalone from Mexico was dried and shipped to San Diego, and from there to China and Japan (Estes 1977). The abalone exploited by the Japanese American fishermen was the red abalone (Karpov and Tegner 1992). The Japanese American abalone industry ended with the internment of these Californians during World War II.

Rock Scallop (Hinnites giganteus)

Commercial take of this species has been prohibited for decades (Leighton 1992). The scallop is found in depths up to 100 feet, living on reefs, jettys, and piers. It can grow to an extreme size, but most individuals are five to eight inches in diameter. This species is rarely, if ever, found in prehistoric sites due to the difficulty in fishing its habitat with primitive technology. Divers must pry the cemented adult shells from their deep perches.

Commercial exploitation of the rock scallop came late to southern California. In the late 19th century, the scallop was taken only by locals and was not introduced widely (Goode 1887). In San Diego, scallops were not widely sold because their habitat was contaminated by sewage from the city (Weymouth 1920). At best, exploitation and sale of rock scallop was confined to local markets.

Sea Urchin (Strongylocentrotus sp.)

Although prehistoric Native Americans consumed sea urchins, historic exploitation of the animal was limited. There was no historic commercial harvest of sea urchins along the Pacific Coast, although there was an industry in Europe and individuals who immigrated from that part of the world may have gathered animals for their own use (Johnson and Snook 1927:231). The west coast commercial fishery for sea urchins only dates to the 1970s (Parker and Kalvass 1992). The

modern commercial sea urchin product is exported to Japan.

Analysis of Shellfish

The shell from the two historical contexts varied from good to poor condition. The historic period shell material was well preserved, with some specimens retaining color. However, the shell found within the prehistoric site at the County Hall of Justice was highly weathered, and significant numbers were not identifiable due to poor condition. Some of the shell was burned, which was expected from these contexts. Although many species were identified that are consistent with prehistoric archaeological sites, the majority of the shell by weight was from historic features and represents historic period consumption of shellfish.

The shell was washed in the laboratory and sorted by provenience. The author then sorted the shell by species, and weighed each lot on a gram scale. Because of the overall adequate condition of the shell from the historic context, little was left unidentified. Field guides used for identifying the remains included McLean (1978), Morris (1966), Abbott (1968), and Johnson and Snook (1927).

County Hall of Justice Shell

Middletown Block 1 was excavated by archaeologists as part of a County of San Diego project to build a courthouse. The property had been covered by a parking lot, and after the paving and fill soil were removed mechanically, features were exposed during the excavation of backhoe trenches north to south across the block. The features included refuse pits, privies, a well, a cistern, and general cultural deposits (Van Wormer 1995). The table below provides a brief description of some of the features that contained shellfish remains. Features were identified on most of the lots within the block.

Feature	Description
1	Concentration of historic artifacts and bone
2	Shallow distribution of historic artifacts
3	Deposit of historic artifacts
4	Deposit of historic artifacts
5	Dense deposit of artifacts
7	Shallow deposit of artifacts
12	Large, thin deposit of artifacts
13	Refuse-filled privy
14	Refuse-filled cistern
15	Small artifact deposit
17	Refuse-filled pit
20	Shallow artifact deposit
29	Brick-lined well
T4	Small artifact deposit
T5	Small artifact deposit
T6	Rectangular pit/privy

Van Wormer (1995) analyzed the historic artifacts from the Hall of Justice and compared his results with other historic sites. He concluded that the inhabitants of Block 1 were working class people, with relatively few consumer items. Historically, the area was dominated by boarding houses and rentals during the late 1800s to the early 1900s; after 1910, the area became commercial (Van Wormer 1995:42-43). Van Wormer found low variability among the contents of the features with a domination of kitchen-related items. The quality of ceramics and other artifacts indicated that the residents of the block enjoyed relative economic success.

The results of the analysis are presented in Table 1. Shell was recovered from the 16 features described above and from other excavated areas within the block. In general, the shell distribution was consistent for the features that contained shellfish remains. Clam and abalone shells were found throughout the deposits. Other species were concentrated in specific features (for example, Feature 29, as discussed below).

Table 1. County Hall of Justice shell weights (grams).

Feature	1	2	3	4	5	7	12	13	14	15	16	17	19	20	21	22	23/25	24	25	29	29, L3	30	T4	T5	T6	T8	18-2, 0-10	18-5, 0-10	18-6, L1	18-6, L2	18-8, L1	Bill's	Total
Sea Urchin										6																							6
Hinnites giganteus Rock Scallop	221																			176													397
Pseudochama exogyra Reversed Chama																				89													89
Cypraea spadicea Chestnut Cowry																				89													89
Macoma nasuta Bent-nose Clam																					6												6
Trachycardium quadragenarium Spiny Cockle							12														9												21
Astraea undosa Wavy Turban																				18	24												42
Norrisia norrisi Norris' Top Shell					58		8													62	9				5								142
Ostrea lurida Common Oyster								4													36				12			6					58
Ocenebra sp. Rock Shell								49												21													70
Crepidula norrisiarum Slipper Shell							57																		14								71
Haliotis sp. Abalone			280	8	12		84	48	64			26		36							54				11								623
Haliotis corrugata Pink Abalone			69							601											8												678
Haliotis cracherodii Black Abalone																		323		299													622
Haliotis fulgens Green Abalone			98																														98
Platyodon cancellatus																				19													19
Tellina sp. Tellen																				8													8
Tivela stultorum Pismo Clam					23	70		5				5								89			164	10	167								533
Tegula funebralis Black Tegula						6	15													8	8												37
Chione sp. Venus Clam		4	5	6	14	11	87	22	20				4	14					4	1513	17			5	233		6		4				1969
Argopecten aequisulcatus Pecten							701	4		2										15	25	2					78						827
Mytilus sp. Mussel				9				5		10	2		3			2				6	12				2								51
Donax gouldii Bean Clam																				56	19				6								81
Cerithidea californica California Horn Shell		6										4								45	15				6								76
Olivella sp. Olive shell																																	0
Unidentified		5		68			162							3	19		41		3	122	26	50			86	21				3	11	35	655
Total	221	15	452	91	107	87	1126	137	84	619	2	35	7	53	19	2	41	323	7	2635	268	52	164	15	542	21	84	6	4	3	11	35	7268

Prehistoric Shell from the County Hall of Justice

The shell species and distribution within the prehistoric context are unremarkable. The relatively strong presence of gastropods such as rock shell, black tegula, and California horn shell may indicate that some concentrations of shell were from filling and dumping activities rather than a prehistoric deposit. This possibility is emphasized by a lack of shell variety from Feature 18, identified as a prehistoric component. An argument could be made that the shell associated with Feature 18 indicates filling and dumping activities and are possibly dredged material from the harbor rather than representing a prehistoric archaeological deposit. It is most likely, however, that all three activities—prehistoric archaeological deposit (highly disturbed), filling, and historic consumption—are represented at this site.

Historic Shell from the County Hall of Justice

The County Hall of Justice site contained many residential features including small dump deposits, wells, and privies. One feature was a cistern full of liquor bottles. Research by Van Wormer (1995) indicated that most, if not all, the features were from a large boarding house. Of interest is the fact that many of the features contained discrete deposits of shellfish remains.

Feature 1, a concentration of historic artifacts, contained rock scallop. This feature and Feature 29, a brick-lined well, were the only two that had this species. As discussed below, this shellfish was never a major fisheries species, but was available in local markets for immediate consumption. Since this was the only shell found in Feature 1, it probably represents a single event, the deposit from one meal.

Features 2, 3, 4, 5, 7, 12, 13, 14, 20, and T6 contained large amounts of venus clam. Small burrowing shellfish were collected and sold locally throughout the historic period. Most of the shells represented in the collection were from whole specimens in good condition, indicating recent burial and not a prehistoric deposit. Clam bisque and clam chowder, made at home, were popular and required processing fresh shellfish.

Feature 3 contained abalone; Features 4, 5, 12, 13, 14, 17, 20, and T6 contained small amounts of abalone. It is likely that these deposits represent consumption of abalone in the early part of the 20th century. Abalone was not favored by Anglo-Americans at this time; most of the local harvest was exported.

Features 5, 7, 29, T4, T5, and T6 contained pismo clam. This species was harvested locally during the early part of the century, and was a common constituent, along with venus clam, of chowders and bisques. After 1919, most pismo clam was imported in a processed state from Baja California (see discussion below).

Feature 15 contained a large specimen of pink abalone, which had been cut. This may have been a collectible or representative of shellfish processing. The pink abalone was not a major food species. However, a small sample of sea urchin was also found in this feature. Sea urchin was consumed by Japanese-Americans. The presence of abalone and sea urchin may indicate a connection with Asian consumers.

Feature 29 contained high shell variability and strong evidence for historic consumption of shellfish. Many species including rock scallop and abalone were represented in this feature. Most of the abalone was black abalone, which was taken from near shore rocks by Chinese-Americans in the early part of the century. By 1910, few black abalone were harvested commercially off San Diego.

Home Avenue Landfill Site Shell

The shellfish remains were collected from excavation units placed within the boundaries of the Home

Avenue Landfill site, SDI-10,258. This site is located in an area that is at present urban, but was outside the San Diego city limits at the time it was used as a dump. Previous investigations have resulted in the conclusion that this landfill was the San Diego city dump between 1908 and 1913. Archaeological investigations on the east side of Home Avenue and in the road itself resulted in the discovery of an extensive historical artifact deposit. The shells from one of these investigations were analyzed for comparison with the County Courthouse shellfish remains.

Previous Studies at the Home Avenue Landfill

The Home Avenue Landfill site has been investigated extensively. The first archaeological investigation was conducted by RECON (Wade, Van Wormer, and Hector 1986). The RECON project focused on the east side of Home Avenue at the Terrace View Villas project area. Historical research by Stephen Van Wormer indicated that this area was used by a City of San Diego contractor to dispose of trash and garbage between 1908 and 1913 (Wade, Van Wormer, and Hector 1986). A few years later, RECON returned to the Terrace View Villas project area to conduct data recovery excavations. Van Wormer (1991:5-7) traced the history of refuse disposal within the City of San Diego. He presented information showing that SDI-10,528H was used to dispose of city garbage. Van Wormer cited an ordinance passed in 1908 (Ordinance 3180) specifying that the city or its agents alone had the right to collect garbage, and that garbage could not be dumped within the corporate limits of the city. It was then left to the city's contractor to find a place to dump the garbage. The Terrace View Villas property was at the time just outside the city limits. To quote Van Wormer (1991:7) "It appears very likely, therefore, that the portion of the project property [Terrace View Villas] adjacent to and south of Home Avenue was used as a city dump beginning in 1908." He suggested that the use of this area as a dump ended in 1913 when the city changed its method of refuse disposal.

Following the investigations at Terrace View Villas, the portion of the site located in the roadway was tested and a data recovery program implemented for a sewer line. Initial test excavations were conducted by Brian F. Smith and Associates (Smith 1991); RECON did the subsequent data recovery excavations (Van Wormer 1996b). Before the construction of Home Avenue, there was a canyon through this area. Smith (1991:5) stated that "the site was chosen for the city dump due in part to the configuration of the land form as a canyon. The canyon provided a large, wide depression for holding trash." One trench profile (Figure 4, Smith 1991) shows a spread, level deposit, not consistent with random dumping. The shell data used in this article were obtained from excavation units located in Home Avenue.

In his 1991 report, Van Wormer compared the material excavated from Terrace View Villas with the material excavated from the sewer line and found them similar. Smith (1991:22) proposed that there were horizontal differences in the deposits. He also proposed that it would be possible to detect the origins of the garbage, assuming it was dumped in discrete deposits. Van Wormer (1996b:170) did not see any differences that would indicate discrete, neighborhood-specific collection areas. Van Wormer (1996b:44) concluded that the deposits at Terrace View Villas and the area under the roadway of Home Avenue represented refuse from "the entire population of urban San Diego," thus differentiating a city-wide dumping area from a neighborhood trash deposit.

The analysis of artifacts from the Home Avenue sewer project supported a deposition date of 1908-1913. Smith (1991:75) stated that the dates from the bottles collected at the site ranged from 1908 to 1913. He also observed that commercial refuse dominated the collection in that area. Van Wormer (1996b) found Parmelee Dohrmann and Grindley hotel ceramics and concluded that artifacts fit the 1908-1913 period, with some use afterwards. Van Wormer (1996b:20, Figures 7 and 8)

noted that the dump material had been leveled out and that burned layers were present.

Another area along Home Avenue was investigated by Brown (1997), and data recovery was undertaken by Mooney and Associates (Carrico 1997). This project was located along the south side of Highway 94 west of the Home Avenue exit. Carrico (1997) agreed that the dump material dated to the 1908-1913 period, and found similar types of materials, specifically Maddock and Grindley hotel ware. The landfill site was extensive, and all deposits appear to be from the urban San Diego population core.

The analysis of shell from the Home Avenue Landfill (Van Wormer 1996b) is presented in Table 2. Shellfish remains were analyzed from eight excavation units located within the street. The shell was in good condition with little evidence for weathering or excessive breakage. Some of the shell was burned, which was expected from this context; ash layers had been noted by previous investigators. Although many species were identified that are consistent with prehistoric archaeological sites, the majority of the shell was from *Crassostrea virginica*, a non-native oyster grown along the northwest coast for export to restaurants and fish markets during the early 20th century.

Analysis and Conclusions

County Hall of Justice

The condition of the shell recovered, its context, and the species represented indicated that although most of the shell represents early 20th century consumption of shellfish, some later filling and much earlier prehistoric activity was present. It is likely that mixture of a very disturbed prehistoric occupation with fill materials occurred when the fill material was imported to level the area. The discrete features represent these activities as well as individual food processing and consumption patterns. The presence of several abalone species is of interest, since this shellfish was not a preferred food among Anglo-Americans. In addi-

Table 2. Home Avenue landfill shell weights (grams)

Species	*Conus californicus* California Cone	*Tivela stultorum* Pismo Clam	*Tegula funebralis* Black Tegula	*Chione* sp. Venus Clam	*Argopecten aequisulcatus* Pecten	*Mytilus* sp. Mussel	*Donax gouldii* Bean Clam	*Cerithidea californica* California Horn Shell	*Olivella* sp. Olive shell	*Crassostrea virginica* Eastern Oyster	Unidentified	Total weight (grams)
Unit 5				71.2		26.5	11.5			201.5	5.2	315.9
Unit 6				28.7		5.4	2.5	1		37.5	15.8	90.9
Unit 7	1.8		2.1	183.4	1.5	22.2	2.6		2.6	2158.6	69.7	2444.5
Unit 8			2.3	53.2		19.7			2.6	861.5	26.4	965.7
Unit 10		12.8		119.3		88.1	1.8		2.5	638.2	7.5	870.2
Unit 11										14		14
Unit 12										32		32
Unit 13				29.9						100.5		130.4
Total	1.8	12.8	4.4	485.7	1.5	161.9	18.4	1	7.7	4043.8	124.6	4863.6

tion, Purple-hinge Rock Scallop harvested for local consumption indicates that the residents had a taste for and access to unusual shellfish.

The residents of the block probably included Asians and immigrants with non-Anglo taste preferences. This ethnically-mixed block took advantage of the availability of a variety of fresh shellfish. This conclusion is supported by Van Wormer's identification of the block as containing a large boarding house. Van Wormer's analysis (1995) indicated that the block's residents were working class people during the early 20th century with the ability to purchase some high-quality goods. He stated that the period of occupation at the site was between approximately 1906 and 1920 and suggested that it may have been the boarding house of Jane Forsyth at 1043 State Street (Van Wormer 1995:43). It is most likely that the boarding house occupants were transients or recent immigrants, working on the waterfront and attempting to establish themselves in the city.

Home Avenue Landfill

The oyster shells from the Home Avenue Landfill are the eastern oyster, *Crassostrea virginica*. They are average sized specimens measuring approximately 3 inches in length. Locally referred to as *Ostrea virginica*, naturalized examples of this shell were found in San Francisco and Tomales Bay following the end of commerce in this species (Johnson and Snook 1927:422). These surviving populations were small and limited to northern California.

The remaining shell species could have been introduced into the Home Avenue Landfill site in several ways. Fill used to cover garbage could have been from an archaeological site; the species represented (except the eastern oyster) are typical of a prehistoric midden. Some consumption of clam, mussel, and pecten have been noted during the early 20th century in San Diego (Weymouth 1920:66). The shellfish could have been consumed by historic residents, and the refuse discarded. The latter is a more likely explanation, since the majority of the non-oyster shell species were recovered from Unit 7, the kitchen refuse area. Of additional interest was the occurrence of olive shells; five whole shells were found in the dump. These and the other species could have been collected casually for interest or could have been consumed along with the more commonly eaten species by the residents. Non-commercial shellfish consumption was very localized and casual; collection by raking would have yielded several species to add to the stew pot.

The recovery of eastern oysters in the Home Avenue site supports the use of the site as a landfill in the early 1900s, since the eastern oyster fishery was exploited between 1870 and approximately 1920. After 1920-1928, the Pacific oyster dominated the commercial market. Dr. Lynne Christenson, analyzing the faunal assemblage from the previous excavation at Home Avenue, compared the archaeological material with menus from the period (Christenson 1988). The earlier menus reviewed, dating from 1876 to 1886, did not contain oyster items. Menus from the early 20th century to 1920 featured oysters prepared in several ways, from half shell oysters, oyster cocktail, to oysters mignonette. These oysters were eastern oysters most likely grown from eastern seed in San Francisco Bay and sent to San Diego for market or restaurant use. The examples from Home Avenue could have been from restaurant or home consumption.

Comparison of the Two Sites and Conclusions

Both the Home Avenue Landfill and the County Hall of Justice deposits represent residential food consumption from the early 20th century. However, the shellfish species recovered varied greatly and represent cultural preferences between two urban groups. The County Hall of Justice site was occupied by a large boarding house probably inhabited by immigrants. Given the species recovered from the dump deposits,

these immigrants were probably Asian with a greater interest in adding local shellfish species to their diets. The boarding house residents may have even worked on the bay or in neighborhood fish markets, with access to a variety of fresh shellfish.

In contrast, the residential deposits from the Home Avenue Landfill represent a preference for mainstream Anglo-American dietary fare, such as eastern oysters. These families had little interest in sampling the unusual local shellfish. Eventually, the Anglo-American dietary pattern in combination with economic and cultural trends overshadowed the immigrant pattern of variety in locally available shellfish.

Although the samples from these studies were small, they suggest trends in historical shellfish exploitation that should be applied and tested at other urban sites. It has been the observation of the author that historic period shells are poorly studied and analyzed. The results of the analyses described in this article support the use of shell studies to date sites and examine changing cultural patterns during the historic period.

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