

EXCAVATIONS AT EAST MARIN ISLAND (MRN-611), 1992

Edward M. Luby
Hearst Museum
University of California
Berkeley, CA 94720

ABSTRACT

In spring 1992, a small portion of a pre-contact shell midden on East Marin Island in Marin County was investigated by a field school from San Francisco State University. The goal of the project was to contribute to an understanding of the nature and duration of occupation at smaller sites along the bayshore in Marin County. Three 1 by 2 meter units were placed in the site, and fire-cracked rock concentrations, shell, animal bone, and obsidian tools were found. Faunal analyses suggested that many birds were present at the site, including several varieties of sea ducks. Juvenile seals, deer, fish, and small mammals were also found. Two samples of charcoal were dated by the radiocarbon method to approximately A.D. 210 and 720. These dates, together with an analysis of the artifactual and ecofactual material, indicated that the site was visited over a long period of time by mainland dwellers, but probably on a seasonal basis.

INTRODUCTION

East Marin Island is one of two small islands located in the San Francisco Bay near San Rafael in Marin County (Figure 1). Collectively known as the "Marin Islands", they figure prominently in local history. Historical accounts suggest that the islands were named after "Chief Marin", a Coast Miwok leader who sought refuge on one of the islands after escaping from the Mexicans in 1824. After a lengthy chase, Chief Marin was eventually captured. His dramatic life story is believed by many local inhabitants to be the source of the county's name.

That Marin County was named for Chief Marin may be more legend than truth. However, this widely-believed version of the county's naming demonstrates that the identity of Marin County is closely linked to its Native American heritage. Unfortunately, many inhabitants of Marin County know little about Native Americans, and what they do know is often based on

incomplete descriptions from historical periods.

In 1991, I was contacted by a local conservation group interested in studying and purchasing the privately-owned Marin Islands. Aware of the Chief Marin historical account, the group wanted to investigate the possibility that Native Americans had occupied the islands in pre- and post-contact periods. I decided to conduct a preliminary survey, and found a small, well-preserved shell midden on East Marin Island (MRN-611), the larger of the islands. This midden appeared undisturbed, which was remarkable given the rapid development of the bayshore area of Marin County in the past two decades.

In the spring of 1992, I began excavating the site with students from San Francisco State University (SFSU). Financial support was provided by a conservation group called "Friends of the Marin Islands" and by the Treganza Anthropology Museum at SFSU. In this paper, I will describe why I chose to investigate this site, and

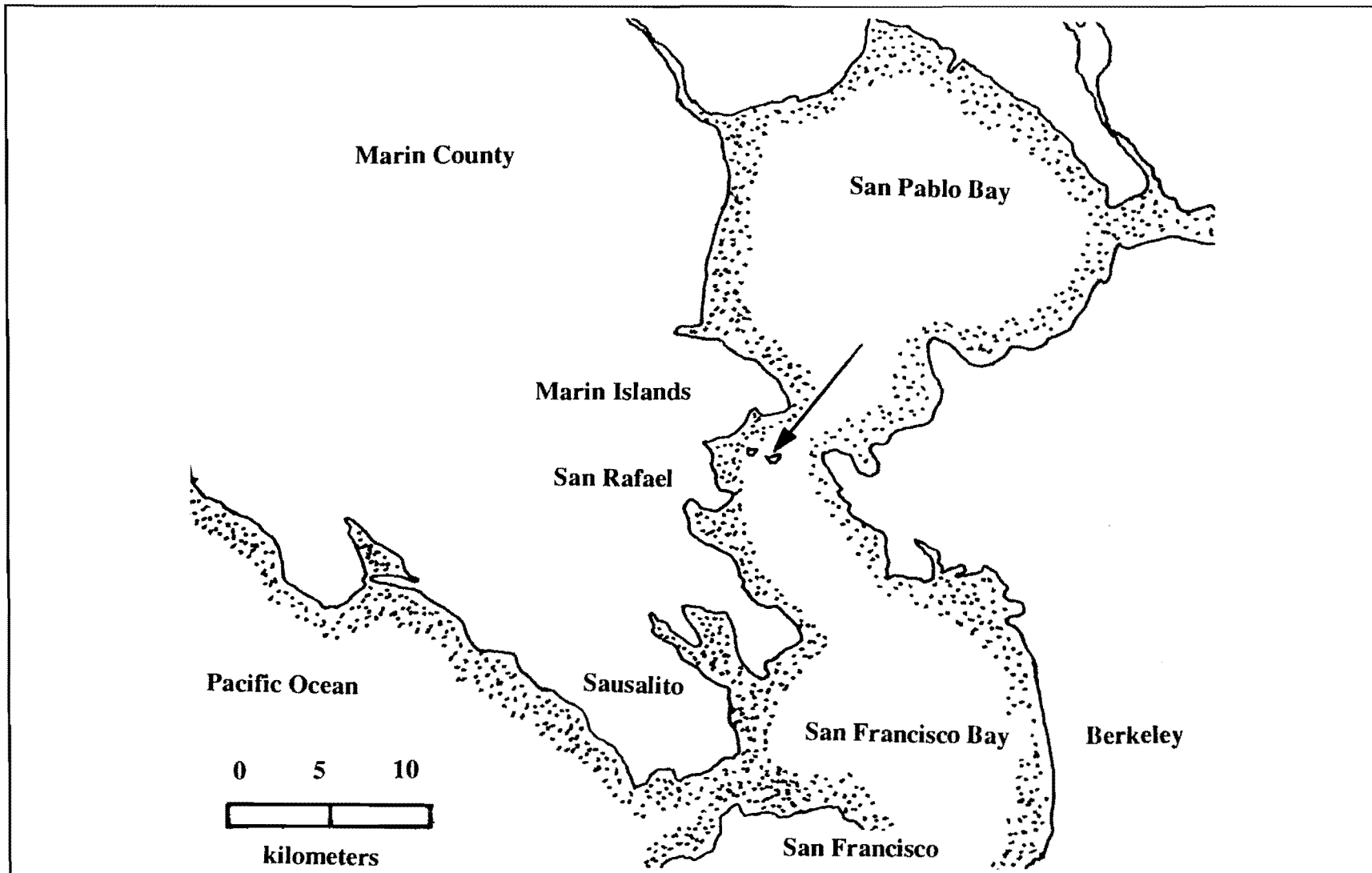


Figure 1. Study area and location of MRN-611.

outline the results of the excavations. Finally, I will discuss some of the implications of the work conducted at the site.

PROJECT BACKGROUND

In the Fall of 1991, I was contacted by "Friends of the Marin Islands", a group directing the effort to purchase the islands from a private family for a price between two and three million dollars. After raising enough money to buy the islands, the group planned to transfer ownership to the United States Fish and Wildlife Service to create a wildlife refuge. In the Summer of 1992, the islands were purchased and turned over to the federal government.

While raising the money to purchase the islands, the Friends of the Marin Islands funded several research projects. These projects included investigations of the geology, history, and archaeology of the islands, as well as their flora and fauna. In addition to contributing to academic research, the Friends of the Marin Islands hoped to educate the public about the unique ecosystem of the islands and the surrounding area.

I became involved in the Marin Islands project for three reasons: the opportunity to educate the public about local archaeology; the chance to train students; and the opportunity to investigate several research questions I had about occupation at smaller shell midden sites.

In terms of educating the public about California archaeology, the location and history of the Marin Islands provided an excellent starting point. While the Marin Islands are visible from many of the houses located on the hilly bayshore of Marin County, the owners of the islands have always restricted public access. The visibility of the islands, combined with their inaccessibility, has heightened public curiosity.

Opportunities to train motivated students in an academic setting on pre-contact sites are increasingly uncommon in the Bay Area because of

university budget problems, departmental priorities, and the need for site preservation. Nevertheless, all archaeological investigations require qualified and experienced personnel. The need to train students in sites typical of coastal and bay environments is pressing, whether students continue their academic training or pursue archaeological careers in the federal, state, or private sectors. Development continues to have an impact on midden sites. As Director of the SFSU field school at the time, I thought that archaeological work at East Marin Island would provide appropriately-paced training for students without compromising academic inquiry or the need to preserve sites.

The questions to be investigated at East Marin Island were basic but very important: when was the site inhabited, and what was the nature of the occupation? Why was this seemingly isolated place inhabited at all, and how did the site relate to others in the area?

The central question to be examined at MRN-611 involved a general and widely-believed model of the nature and duration of occupation at smaller bayshore sites. Many archaeologists would agree that bayshore shell midden sites appear to fall into one of two broad categories: smaller-sized special purpose camps or larger-sized habitation bases. Specialized camps are thought to be places visited for short periods of time to carry out specific tasks like fishing, shellfish collecting, or sea mammal hunting. Habitation bases are places where people lived most of the year, although some were occupied for shorter periods of time.

Although this "common-sense" model seems plausible, it is probably not wholly accurate or complete. The model appears to mask variability in the duration of occupation for both large and small sites. The somewhat isolated site at East Marin Island -- seemingly a classic example of a small specialized camp where the predominant activity was shellfish gathering -- offered an opportunity to examine the issue of variability in the duration of shell midden occupation.

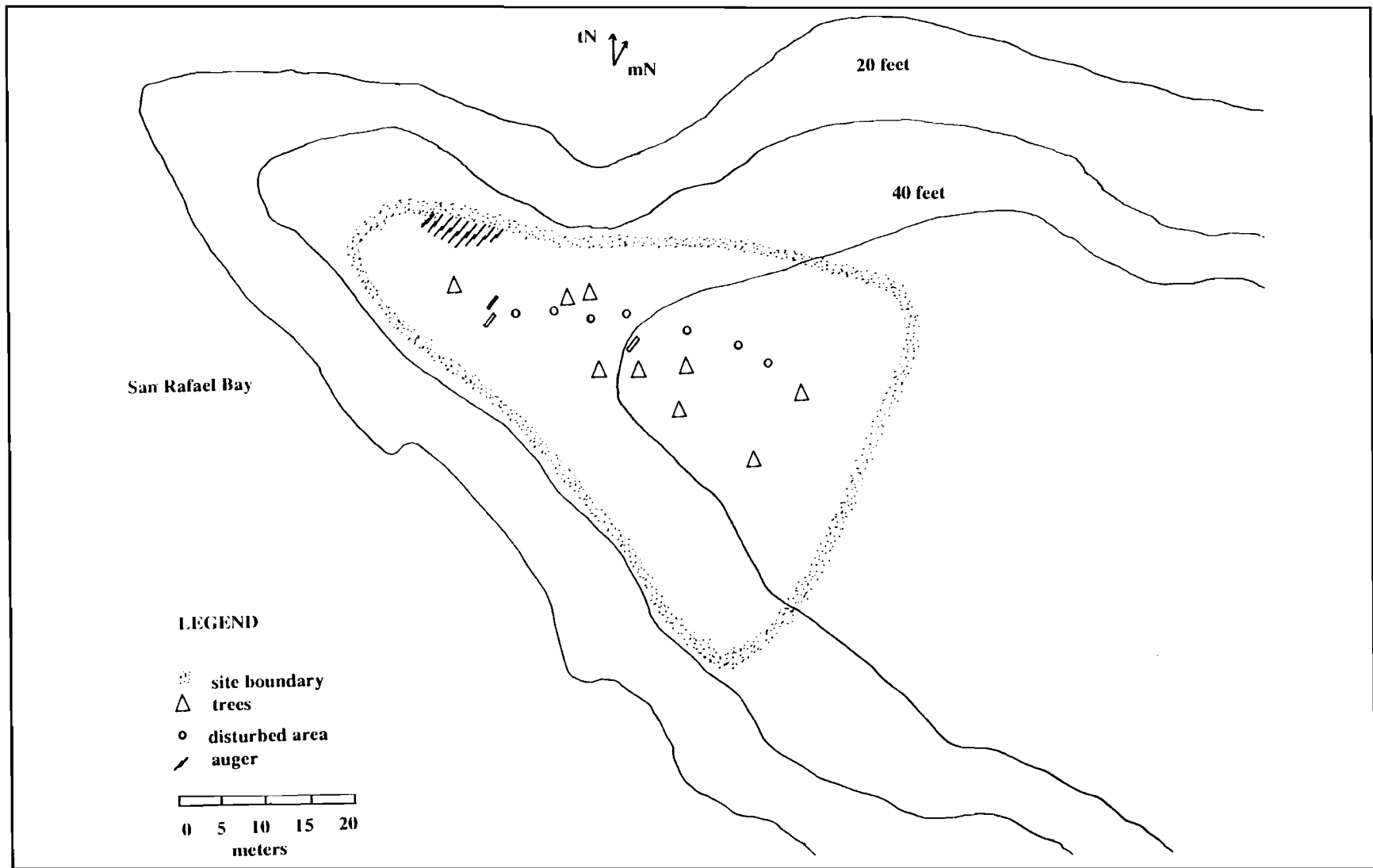
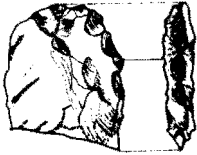
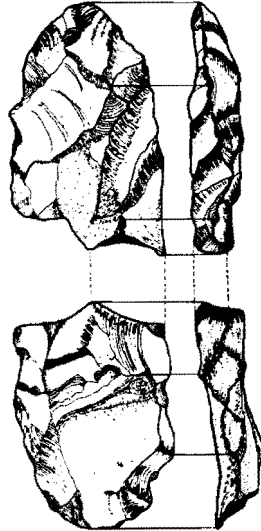


Figure 2. MRN-611.

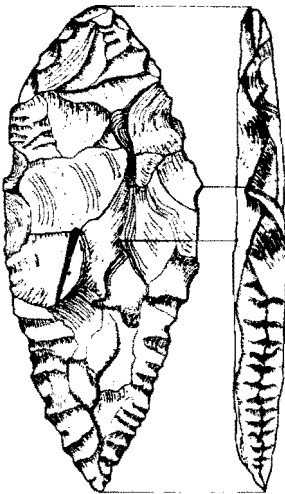
D
= 1 CM.



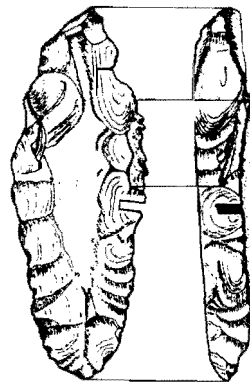
A. 001-38 Scraper-like tool made from obsidian, Unit 1



B. 001-157 Obsidian tool, perhaps used in scraping, Unit 3



C. 001-170 Obsidian projectile point, found on surface



D. 001-206 Obsidian blade, found on surface, dated to A.D. 1510

Figure 3. Obsidian tools.

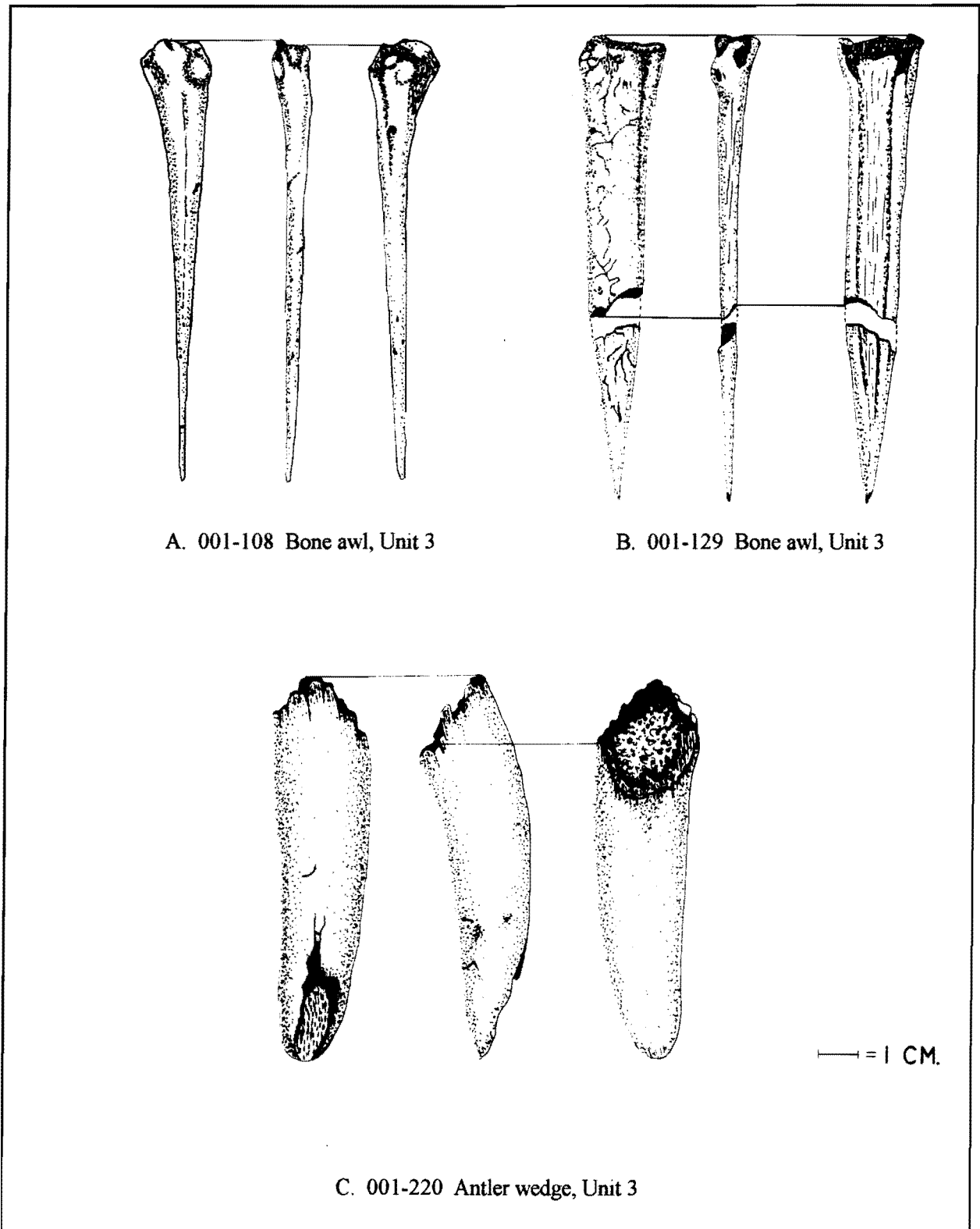


Figure 4. Bone awls and antler wedge.

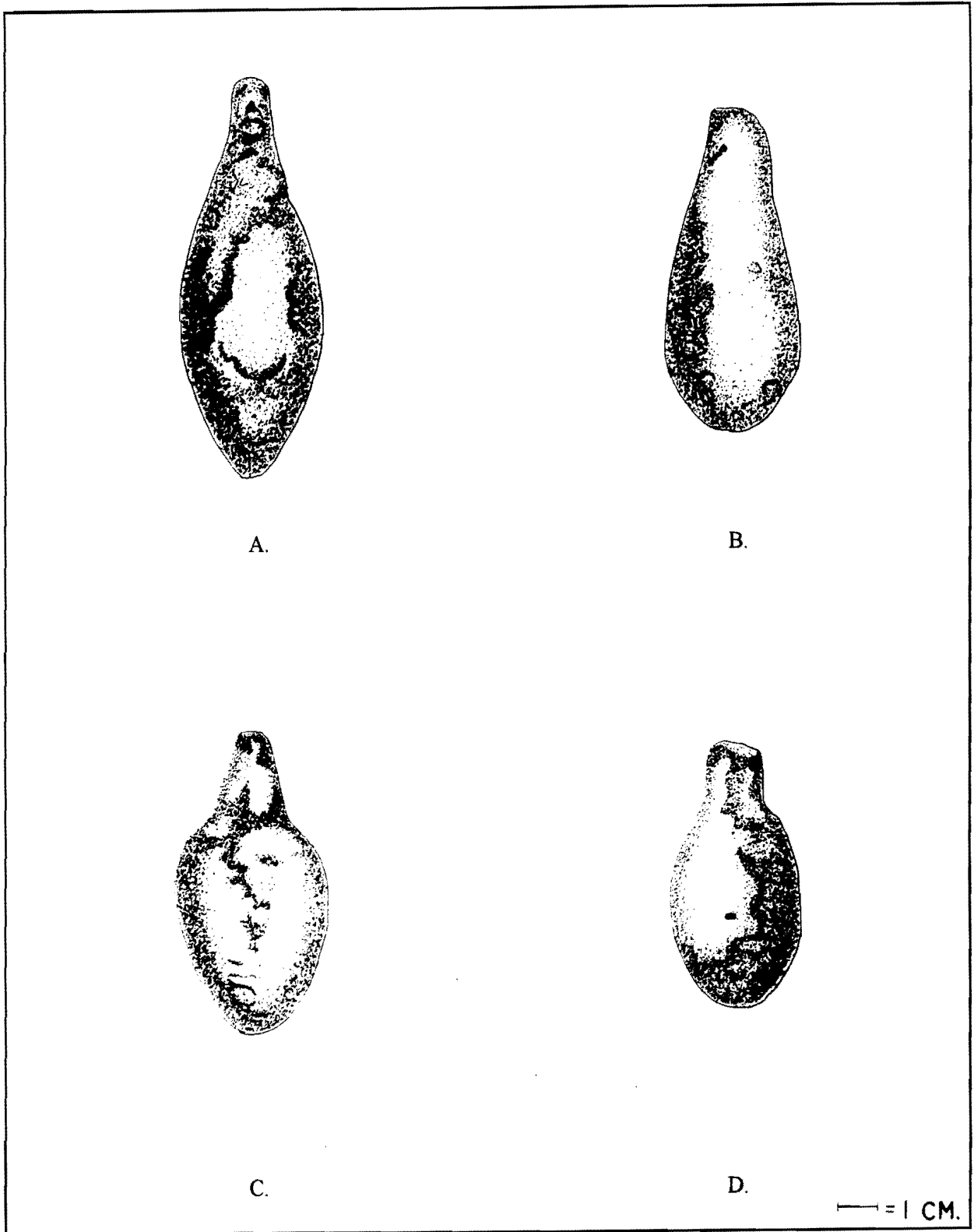


Figure 5. Charmstones, 001-182-1 (A) to 001-182-4 (D), Unit 1.

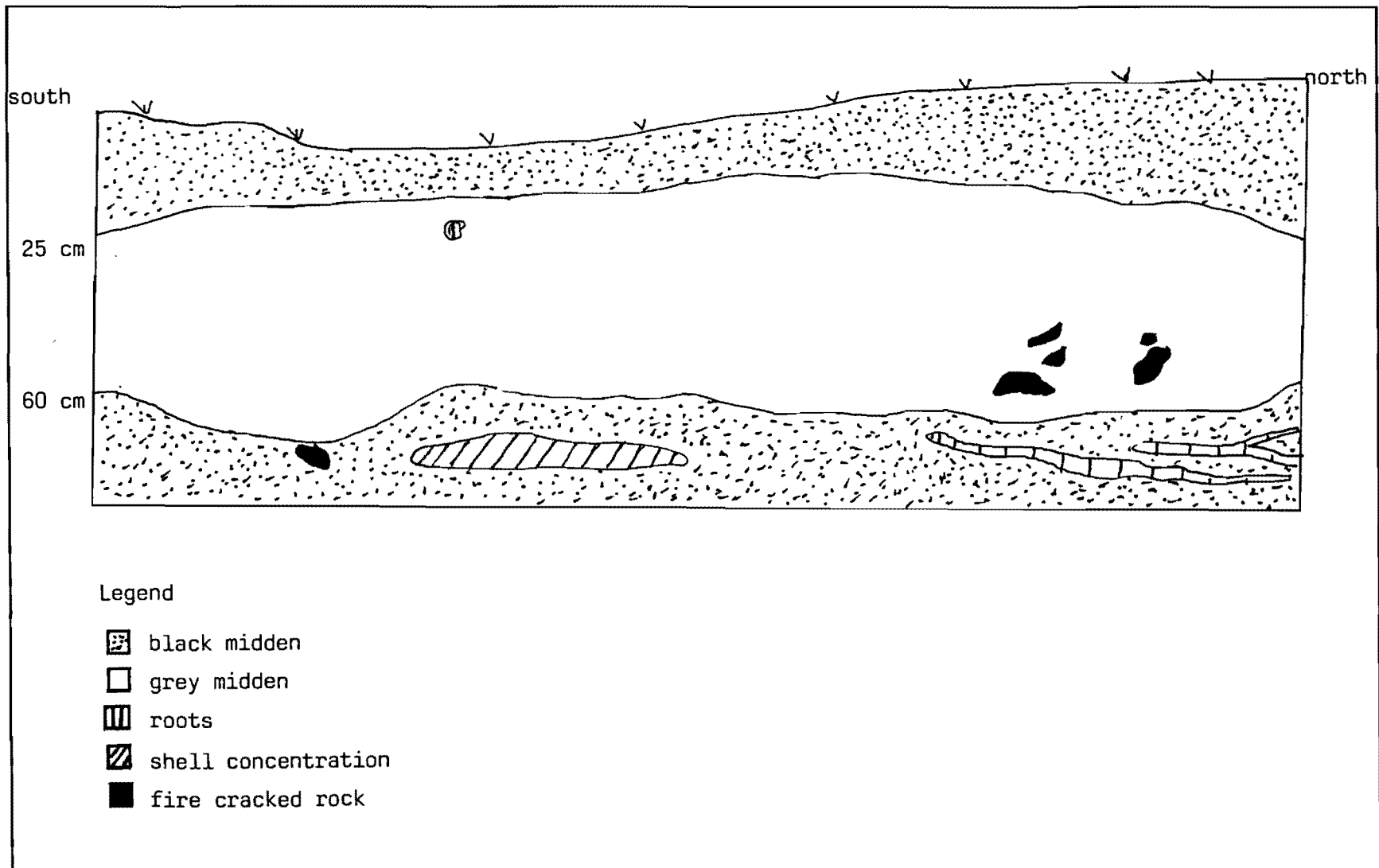


Figure 6. Stratigraphic profile, Unit 1, west wall.

EXCAVATIONS AT MRN-611

The shell midden at East Marin Island is located roughly 10 meters above sea level on the edge of a cliff. It measures approximately 50 by 20 meters, and is somewhat oval shaped. Several species of trees grow within the boundaries of the site. Aside from an area used for a garden by previous owners of the islands, and some paths crossing over the surface, the site is mostly undisturbed. No source of fresh water has been found on the island.

A series of small, circular, three-inch augers were placed in the site once the approximate boundaries had been established by surface inspection. Augering revealed that the site sloped sharply as it approached the cliff, and ranged in depth from approximately 32 to 92 cm. Three distinct layers were observed in the augers; all were heavily laden with shell and rock.

Three 1.0 by 2.0 meter units were set up. Units 1 and 2 were placed very close to each other in the part of the site suspected to contain the deepest deposits. For intrasite comparison, Unit 3 was placed 20 meters east of the other units in a shallower area.

Sixteen students participated in the excavations. All three units were excavated in 10 cm levels using trowels, whisk brooms, and dental picks. Detailed maps were made and records completed after every level was finished. All soil was sifted through a one-eighth inch screen to retrieve animal bone and artifacts. Several soil samples were obtained and then taken back to the university for detailed midden analyses. All artifacts were curated at the Treganza Anthropology Museum at SFSU, where they formed the centerpiece of an exhibit in May 1992.

RESULTS

Several cultural features and artifacts were found, along with large amounts of shell, rock,

and animal bone. Four hearth-like areas were uncovered at varying depths, consisting of ash, charcoal fragments, and scatters of fire-cracked rock. One hearth (Feature 4), for instance, was associated with a chert core, some burned animal bone, an abundance of shell, and two halves of an obsidian scraper (Figure 2).

Obsidian points (Figure 3), bone awls (Figure 4A, 4B), antler tools (Figure 4C), and chert cores were also found. The obsidian tools were probably used for processing food and animal skins, and for hunting. Bone awls may have been used in preparing hides or baskets, and antler tools for resharpening stone tools. These tools, and the presence of hearths or cooking areas, suggest that the site was used in part to roast shellfish or to cook butchered meat.

A particularly exciting discovery was a group of four ash-covered charmstones found near the base of the shell midden (Figure 5). The charmstones had been carefully placed next to one another and were apparently burned. Composed of ground basalt, they bore traces of asphaltum. The deliberate placement and burning of the charmstones strongly suggests that they were symbolically meaningful. Charmstones are found throughout sites in the Bay Area, often in mortuary contexts, but it is unclear whether they were used as ceremonial objects, as most experts think, or as slingstones to hunt marine birds, as others have suggested. In any event, it is clear that they were purposefully brought to the island, burned, and left behind.

The excavation of the three units confirmed the stratigraphic profile revealed by the initial augers. Three layers were present in the site (Figure 6). The top layer consisted of loose black soil and crushed shell, and ranged from the surface to 25 cm. The middle layer was composed of finely crushed shell with a few concentrations of mussel shell, and was dry and grey. It ranged from 15 cm to 60 cm. The bottom layer of the site ranged from 45 to 110 cm and was black. Although it resembled the top layer in texture and appearance, it contained far more cultural and ecofactual

material, including the charmstones, and areas of whole mussel and clam shell. A sterile layer of yellow clay beneath the site was reached at depths ranging from 52 cm in Unit 3 to 110 cm in Unit 1.

Charcoal was found in all levels of the site. The two best preserved samples came from the lowest layer in Unit 1, not far from the charmstones. The radiocarbon dates provided by Washington State University in Pullman were A.D. 210 and A.D. 720. Obsidian hydration analysis of a single point was conducted by Sonoma State University, and provided a date of A.D. 1510. The dated material suggests that the site was occupied for more than 1,300 years, though it is unclear how continuous this occupation was.

The distinctive "fishtail" and "pyriform" shapes of the four charmstones also helped to date the site. These shapes indicate that the site is associated with the Berkeley Pattern (Ellis Landing fascies). Together, the radiocarbon data and the charmstones indicate that the site was initially occupied around the transition between the Berkeley and the Augustine tradition, ca. A.D. 300 - 700. In view of the artifact types uncovered at the site, an earlier occupation appears unlikely, although more radiocarbon and obsidian analyses would need to be carried out to be certain.

SPECIALIZED STUDIES

The detailed investigations of micro-constituents and animal bone will be reported elsewhere, but an outline of the results is provided below.

The most common material identified in the microconstituent analysis was shellfish, including *Macoma nasuta* (clam), *Mytilus edulis* (bay mussel), and *Ostrea lurida* (oyster). Clam and mussel were the most common species identified; oyster occurred much less frequently. The profile of shellfish frequencies suggests that sand bars and rocky areas were nearby, while access to gravel beds was either more difficult or the shell-

fish derived from them somewhat less desirable to eat.

Several different species of birds, mammals, and fish were identified in the animal bone analysis. Some species commonly found in the area today were identified. "Sea Ducks", including the Goldeneye, Bufflehead, and Scoter, were found most frequently. "Bay Ducks", such as the Greater Scaup, and "mergansers" were also found. The common loon and the great blue heron were identified in much smaller numbers. Some of the duck bones had been cut, burned, or both.

Several species of other animals were identified, including the bones of harbor seal pups, black-tailed deer, and meadow vole, as well as the bones of fish species such as the sea bass and sturgeon. Some of the seal bones had been burned.

The animal bone assemblage suggests that the site was most heavily occupied in the winter and early spring. Most of the birds identified commonly migrate to spend winters on the California coast, although experts disagree about the extent of seasonality of some species. Nevertheless, these birds tend to inhabit protected bays and inlets during the winter. In addition, harbor seals generally bear their pups within a two-month period in early spring in the San Francisco Bay area.

The specialized studies of microconstituents and animal bone suggest that people probably traveled to East Marin Island to hunt juvenile seals, to fish, and to trap waterfowl. Some of these activities probably took place during specific times of the year. Shellfish was also collected, and the relative abundance of the three main species was more or less consistent over time.

DISCUSSION

The somewhat isolated location of East Marin Island, together with the results of surface survey and augering, suggested that MRN-611 would be

a relatively clear example of a specialized camp for processing shellfish. However, excavations showed that more activities were taking place at the site, such as capturing migratory birds, seal hunting, and cooking food in hearths. Tools made of obsidian and chert, and possibly bone, were intentionally brought to the island, and seal and bird remains may have been removed to sites on the mainland. East Marin Island appears to have been a good location to visit, especially during the winter, when food might have been more difficult to locate elsewhere.

Compared to any of the large shell middens on the bayshore which are likely to be habitation sites -- including the West Berkeley, Emeryville and San Rafael sites -- it is clear that MRN-611 is more like a specialized camp than a habitation site. Several indicators of a temporary occupation exist: imported tools and objects, the lack of human burials, and the absence of mortars and pestles. However, MRN-611 was not a place to which people would travel only to collect and process shellfish. Instead, the evidence suggests that a range of subsistence-related and perhaps ceremonial activities occurred. Although it appears that the site was not occupied for long periods of time during a single visit, neither was it visited solely for the purpose of processing shellfish.

CONCLUSIONS

Although archaeological evidence associated with Chief Marin was not found on East Marin Island, public attention was focused on Native American history and prehistory. An organization like "Friends of the Marin Islands" demonstrates that the public, and not simply archaeologists, play a key role in preserving and protecting archaeological resources like those on the Marin Islands.

The excavations at East Marin Island also suggest that special-purpose camps like MRN-611 may have been more variable than "common-sense" models have suggested. The habitation vs.

specialized camp site dichotomy is only a starting point for understanding variability in the nature and duration of site occupation.

MRN-611 is only one of many sites on the shore of the San Francisco Bay, but perhaps the excavations at this one site can help focus attention on the need to characterize differences among small specialized camps. In exploring variability more methodically in smaller sites, regional settlement patterns can be more thoroughly understood. Once this variability is characterized, the search for its source (ecological? post-depositional? cultural?) can begin.

ACKNOWLEDGEMENTS

Special thanks to the Spring 1992 class of Anthropology 492 and to the extra efforts of Victoria Bradhaw, Keith Colvin, Kathy Hirzel, Andrea Scharff, and Rick Wolter. I am grateful to Miley Holman for helping me to arrange this project, and for the support of the Treganza Anthropology Museum. Richard Spight and the entire Spight family graciously assisted us with all aspects of the excavations, including arranging favorable tides and good weather. I am grateful for their support. Other individuals who provided important help were Pamela Derish, Jim Schelper, and Randy Wiberg. Our efforts are dedicated to Paul Jameson, who passed away shortly after our season ended.