

## **UC Merced**

### **Journal of California and Great Basin Anthropology**

#### **Title**

The Significance of Small Sites to California Archaeology

#### **Permalink**

<https://escholarship.org/uc/item/6wz4d9gh>

#### **Journal**

Journal of California and Great Basin Anthropology, 7(1)

#### **ISSN**

0191-3557

#### **Author**

Glassow, Michael A

#### **Publication Date**

1985-07-01

Peer reviewed

# The Significance of Small Sites to California Archaeology

MICHAEL A. GLASSOW

A universally recognized aspect of archaeological endeavor in California has been the study of prehistoric settlement systems. Similar to hunter-gatherer settlement systems in many parts of the world, those of aboriginal Californians were complex, involving the use of many different sites for a variety of reasons through the course of an annual cycle (see Gould [1966: 88-92] for an ethnographic example). Settlement systems, of course, are closely related to subsistence, but they are also known to reflect aspects of social organization and economic exchange (Trigger 1968: 66-70). Data relevant to the study of settlement systems are the distributions and abundances of different types of sites, the types being defined in terms of characteristics such as environmental context, size, soil characteristics, and cultural material content. It goes without saying that a truthful definition of a prehistoric settlement system depends upon knowledge of all types of sites comprising the system, which implies that conservation of archaeological sites must consider the full range of site types that exist within a given region.

A serious problem has arisen in California archaeology which will have long-term effects on the scientific ability to understand prehistoric settlement systems: sites on the smaller end of the size range are being systemati-

cally neglected by many archaeologists in favor of sites on the larger end of the size range. Not only are small sites seldom investigated, but they are frequently assessed as having no appreciable significance to research and are therefore being destroyed by land development with little or no data recovery. If this trend continues, the sample of sites left to study will become increasingly skewed toward larger sites, and knowledge of aboriginal California settlement systems will become increasingly more biased. Because of the real threat to the survival of small sites created by assessments of little or no significance, my intent in this paper is to demonstrate that small sites, especially those with low densities of cultural remains, do indeed have considerable value to prehistoric research in California.<sup>1</sup>

A significance assessment from a recent report of a survey on federal property in south-central California illustrates the practice of declaring that small sites are not significant and therefore not worthy of preservation. To quote the report:

This surface scatter of tool production flakes and two bifacial tools can provide only a limited amount of data that can be used to study important local research topics. As a site of high integrity, some useful data can be derived for the study of . . . inter-site relationships, but the limited nature of available data is not particularly applicable in the study of other important regional

---

Michael A. Glassow, Dept. of Anthropology, Univ. of California, Santa Barbara, CA 93106.

research topics. Because of these research limitations, this site cannot be considered potentially eligible for inclusion into the National Register of Historic Places.

This assessment was based on a reconnaissance of the site surface and one post-hole test unit. The site was described as having depositional integrity, so this was not a consideration in its evaluation. Importantly, the site occurs in a region in which no site having its general characteristics has ever been the subject of comprehensive investigation, and in which very little is known about settlement patterns for any prehistoric period.

The problem with such significance assessments is twofold. First, not enough data are being collected to determine the full range of classes of cultural remains that might be relevant to research, and second, even with the availability of some data, not enough effort is being expended to identify research problems to which the data might be relevant. In such instances as the example just quoted, it is not simply a matter of differing professional opinions, it is a matter of whether there exists a cogent argument of significance or insignificance based on sufficient quantities of data.

Why is the significance of small sites frequently so casually dismissed? Certainly one of the reasons is the considerable emphasis placed on large and complex sites through much of the history of archaeology. Despite the increasing popularity of settlement pattern studies, this emphasis is still deeply entrenched. Another reason appears to be related to the context in which site significance is considered; that is, the significance of a site is generally evaluated for the purpose of determining the site's eligibility for inclusion on the National Register of Historic Places or its eligibility for treatment under the California Environmental Quality Act. State and federal laws and implementing guidelines concerned with significance evalua-

tion require the development of arguments of significance rather than insignificance. Because the significance of small sites is usually more difficult to argue in comparison to the significance of large and complex sites, especially to nonarchaeological audiences, it becomes convenient simply to classify small sites as insignificant.

The objectives of this paper are, first, to cite a number of reasons why small sites are often very significant to general and regional research; second, to demonstrate this by reference to examples from the archaeology of the Santa Barbara Channel and Vandenberg regions of California; and third, to propose ways in which consideration of the significance of small sites might be improved. Before addressing these objectives, however, some sort of definition of what is here meant by a small site is in order. Pilles and Wilcox (1978: 1) provide a functional definition of a small site in suggesting that they are

ones whose size and artifactual assemblage suggest a limited temporal occupation by a small group of people, gathered at the locality to carry out a specific, seasonally oriented set of activities.

However, not all small sites would necessarily fit this definition, an example being a site occupied year-round by a small sedentary household group, but for only a few years. For present purposes, therefore, the physical characteristics of a small site are emphasized. Small sites in California typically have surface areas on the order of 1,000 m.<sup>2</sup> or less, deposits of less than 50 cm. depth, only two or three major classes of cultural remains, and very few, most often fragmentary, finished artifacts. Of course, small sites are not a discrete category, so a precise definition is neither possible nor necessary. Indeed, smallness of a site may be said to diminish to the single isolated artifact, whose importance in studying regional land use has been argued by Thomas (1975). The concerns voiced here

also could be construed to embrace sites with large surface areas but with low diversities and densities of cultural remains.

### THE SIGNIFICANCE OF SMALL SITES TO ARCHAEOLOGY

In a seriously neglected publication issued by the National Park Service in 1977, Talmage and Chesler (1977: 1) pointed out that small sites are important where the research is oriented toward determining the full range of archaeological data present in a region for the purpose of inferring aspects of resource procurement and processing activities, socio-political systems, culture contact situations, and demographic patterns. In short, a small site and its contents gain importance as a document of a set of activities that occurred at a specific place within a particular setting. While the same set of activities might have occurred at a number of other places, it is often important to know the number of such places and the variations in their settings.

Talmage and Chesler (1977: 1) also noted that small sites often represent very short periods of time and therefore present the archaeologist with a body of data "unclouded by the complexities of larger sites." Because small sites may represent only a few episodes of activity, assemblages of artifacts associated with a given activity may be able to be isolated, and the data could then be used to help interpret the complex patterning of artifact distributions found at large, stratified sites. In California, where rodent disturbance has raised so much havoc in deep, stratified sites representing several hundred years of occupation, this advantage is of no small importance.

It is noteworthy that some of the recent methodological advances in collections analysis apply best to small sites. The spectacular studies of refitting flakes to cores and the analysis of the spatial dispersion of flakes derived from one core across the area of a site

(Cahen, Keeley, and Van Noten 1979) cannot be undertaken except at sites that are small in area, allowing the excavation sample to approach 100 percent, and which witnessed only a few episodes of knapping. In general, intrasite spatial analysis of the types described by Kintigh and Ammerman (1982) and Berry, Kvamme, and Mielke (1980, 1983) are most powerful and informative when sites are small and the range and number of activities are limited. Small sites, in other words, provide the data relevant to highly detailed and specific studies of cultural activity.

### REGIONAL SIGNIFICANCE OF SMALL SITES

Up to this point, I have discussed the potential relevance of small sites to general classes of archaeological problems. Much of the importance of small sites, however, is in terms of regionally specific research problems. On the one hand, small sites may contain unique classes of data not found in larger sites in the region; on the other, small sites may *not* contain unique data classes and instead acquire significance because of the variations in the quantities or proportions of data classes also found at larger sites. In both cases, research value has to be defined through comparisons between sites within a region.

These two kinds of regional research values are illustrated below with examples from two neighboring coastal California regions: the Santa Barbara Channel and the area encompassing Vandenberg Air Force Base. In both regions, small sites abound, but still are minimally known. It was not until contract-funded archaeology was initiated in the 1970s that systematic surveys to locate the full range of site sizes were undertaken, and that some sites became subject to excavation. In fact, virtually all earlier excavations emphasized large, coastal or pericoastal midden sites. Regrettably, those excavations that have taken place at small (or large) sites within the

last several years have been extremely limited since the context of these excavations has usually been small-scale testing programs for purposes of significance assessment. Even the few subjected to excavations to mitigate development-induced impacts have had only relatively small samples removed because of mitigation funding limits imposed by governmental agencies. As a consequence of investigations over the last 15 years, therefore, certainly much has been learned about the nature and distribution of small sites in the two regions, but none has been the subject of intensive investigations with the aim of determining anything but the grossest details of intrasite spatial patterning.

One of the more intensively studied small sites in the Santa Barbara Channel region is CA-SBA-1582, located along a creek draining into the Goleta Slough and about four kilometers from the ocean (Erlandson 1983). This site illustrates the value a small site may have because of the uniqueness of its contents. The surface of the site is characterized by a low-density scatter of chert flakes and shellfish remains, as well as a few fragments of ground stone artifacts. A central concentration of surface material covers an area of 275 to 300 m.<sup>2</sup>, and the full extent of the site is about 1,200 m.<sup>2</sup>. There is no apparent soil discoloration within the site deposits, and the low densities of materials found on the surface parallel those encountered during subsurface excavation. In two phases of investigation, collections were made over the entire site surface using 2-m. grids, and ten 0.5 x 1-m. units and ten auger holes were excavated. The excavations represented just under a one-percent sampling of the central (surface-defined) area of the site (Erlandson 1983: 26-29, 31).

The investigator, Jon Erlandson, believed that the site represents a single short-term occupation sometime around A.D. 1500-1550 (Erlandson 1983: 113). Assuming that fresh

water would not have been locally available later on in the summer and into the fall, Erlandson (1983: 131, 139) suspected that occupation took place during other times of the year. This inference was supported by the absence of remains of late-summer to early-fall marine schooling fish. However, remains of other marine fish species were present, and in the absence of artifacts related to fishing, Erlandson (1983: 130) hypothesized that fish were brought to the site by its inhabitants as a stored food resource or were acquired through trade. Shellfish may also have been obtained through the same means. Notwithstanding indications of marine resource exploitation, however, the composition of the faunal assemblage suggested that terrestrial hunting was a major subsistence focus while the site was occupied.

The most intriguing class of data from the site is *Olivella* shell detritus almost certainly the result of shell-bead making, an inference supported by the presence of microwear, attributable to the working of shell, on chipped stone tools of shapes usable for perforating beads (Erlandson 1983: 65-71, 80-88). Although considerable evidence of shell-bead making exists on the northern Channel Islands that form the southern margin of the Santa Barbara Channel, little evidence of this industry has ever been found at mainland sites (Arnold 1983). Its occurrence at a small site representing a short-term occupation was therefore unexpected, and Erlandson (1983: 125) hypothesized that bead making may reflect a response to periods of food-resource scarcity since the type of bead manufactured at CA-SBA-1582 appears to have been used extensively as currency during the late prehistoric period. He reasoned that beads produced by inhabitants of the site could have been used to buy food resources from neighboring groups.

Erlandson (1983: 141) concluded his study by noting that explanation of the place

of CA-SBA-1582 in the subsistence-settlement system and socioeconomic network must rely on comparisons with equal or greater amounts of data from a number of other inland sites in the region. One might ask, for instance, whether evidence of shell-bead making at an inland site is unique to CA-SBA-1582. More precisely, was CA-SBA-1582 one of a very few coastal or inland sites where bead making took place, or do a number of other inland sites share an emphasis on this activity? In either case, the investigator is presented with an interesting explanatory problem which requires that more be known about other small sites in the region. For instance, if a number of small sites contain abundant evidence of bead making, one might propose that they represent occupation in marginal environments where production of bead money compensated for lack of a reliable food-resource base.

The next example is taken from research on northern Vandenberg Air Force Base to mitigate the effects of MX missile test-facilities construction (Chambers Consultants and Planners 1984). That portion of the project area considered in this analysis consisted of a tract of land of about eight km.<sup>2</sup> covered by relatively stabilized dunes. Within this area, 19 sites yielded sufficient data through limited testing to be classified as to settlement type, and 13 of these yielded projectile-point types indicative of an earlier and a later period of occupation within the last 2,000 years. Typical of most sites in the Vandenberg region, flaked-stone debitage comprised the most abundant class of cultural remains at sites of both ages, and lithic technology and use-wear studies (carried out by Douglas Bamforth, Univ. of California, Santa Barbara) were consequently the major foci of the analysis. The sites are not unique in terms of the kinds of cultural remains they contain; rather, they gain significance because of the varying proportions of artifact classes

typically found at most sites in the Vandenberg region.

The sites fall into two general types: those with some midden development and relatively denser and more diverse cultural remains and those with no midden development and relatively less dense and less diverse cultural remains. The former were hypothesized to be *seasonal residential bases*, whereas the latter were subdivided into two additional settlement types on the basis of variations in density and the particular types of remains present. *Overnight hunting camps* contain tools related to hunting and butchering of game animals, as well as noticeable quantities of imported marine food resources and evidence of culinary activity in the form of fire-altered rock, which also had to be imported to the dunefield site locations. In contrast, *day-use hunting locations* contain tools related to hunting and butchering in the absence or near absence of imported marine food resources and fire-altered rock. Sites classified as overnight hunting camps and day-use hunting locations typically are small – normally less than 1,000 m.<sup>2</sup> – and contain such low densities of remains that they are difficult to locate without careful scrutiny of the ground surface at close survey transect intervals. Indeed, had frequent unvegetated patches not occurred on the dune surfaces, these sites would have gone unnoticed.

What makes this body of data especially interesting is the spatial patterning in the distribution of sites assigned to the different settlement types. To evaluate spatial patterning, the greater portion of the project area was divided into three geographic zones: the southern, overlooking the bottomlands of a major drainage; the intermediate, directly to the north; and the northern, encompassing the central portion of the dunefields. Seasonal residential bases are all located within the southern zone. Deer and a variety of plant resources are abundant in the bottomlands

Table 1  
**DISTRIBUTION OF VANDENBERG AIR FORCE BASE ARCHAEOLOGICAL SITES  
 BY TYPE AND GEOGRAPHIC ZONE**

Site Type	Temporal Period	Geographic Zone			Total
		Southern <sup>a</sup>	Intermediate	Northern <sup>b</sup>	
Seasonal Residential Base	late	3	-	-	3
	early	1	-	-	1
	unknown	-	-	-	-
Overnight Hunting Camp	late	-	-	-	-
	early	-	-	2	2
	unknown	1	-	-	1
Day-use Location	late	2	2	-	4
	early	-	2	-	2
	unknown	3	2	-	5
Subtotals	late	5	2	-	7
	early	1	2	2	5
	unknown	4	2	-	6
Total		10	6	2	18

<sup>a</sup>overlooking bottom lands

<sup>b</sup>central dunefields

adjacent to this zone, which appears to account for the locations of the seasonal residential bases. Sites classified as day-use hunting locations are also located in the southern zone, as well as somewhat farther to the north in the intermediate zone. Finally, sites classified as overnight hunting camps are located in the northern zone. Although sample sizes are very small, especially with regard to overnight hunting camps, there is a pattern in the distributions of sites by geographic zone (Table 1) that makes sense in terms of the economics of resource exploitation.

Discounting for the moment variations in time, it appears that day-use sites tended to be located relatively near seasonal residential bases, presumably because travel to and from the latter did not significantly cut into a day's hunting activities. Overnight hunting camps would, of course, be expected to be more distant, where relatively greater travel times

to and from seasonal residential bases makes overnight stays more economical. However, this picture is complicated by apparent changes through time in the settlement system. Seasonal residential bases all appear to have been occupied late in prehistory, whereas the overnight camps appear to have been occupied during an earlier period. Day-use camps were occupied during both periods, but fall primarily within the later period. It would seem, therefore, that the seasonal residential bases of the later period tended to pull hunting activity in the dunefields to nearby zones. Conversely, during the earlier period, the absence of seasonal residential bases within the project area, as well as the presence of overnight camps well within the dunefield, point to greater mobility of the population.

Mention should be made of one rather unique site within the northern zone which dates to the recent period. This site contained hearths and an unusual number of plant-

processing tools. Apparently an overnight camp devoted to collection and processing of plants, its meaning in relation to other recent sites is not clear. (It is not, therefore, included in Table 1.)

Taken separately, the significance of any one of the sites just discussed really cannot be understood. The sites classified as day-use hunting locations and overnight hunting camps would simply be considered small lithic scatters containing limited quantities of data. But when data from many of such sites are combined and looked at in terms of their spatial patterning and environmental contexts, they gain considerable meaning. It should be pointed out that the frequency or density of each site per environmental zone is important information, which implies that any one site within a settlement type is not necessarily expendable simply because there are many others.

### CONCLUSIONS

These examples of the research potential of small sites in two neighboring regions of coastal California should drive home the point that small sites turn out to have considerable relevance to regional research once the commitment is made to understand their role in regionally based cultural systems. Small sites such as CA-SBA-1582 are significant to regional research because of their unique contents, whereas the small sites in northern Vandenberg Air Force Base are so because of the patterns of variation in their contents and their spatial relationships to one another. In both cases, the testing of behavioral hypotheses accounting for their contents must rely on knowledge of their distribution and abundance and their relationships with large sites.

The significance of small sites is frequently discounted because of their relative abundance in a region, the argument being made that only a few representatives need to be saved or investigated. While this argument

may have some merit in situations where a regional sample of sites must be selected for preservation, leaving the rest to be destroyed (e.g., Lipe 1974), it must be recognized that the "redundancy" of a particular class of small sites is frequently an important piece of information for testing hypotheses which concern the density and environmental contexts of a class of small sites. The Vandenberg data clearly illustrate this. It would be wrong, therefore, to neglect investigating a small site slated for destruction simply because seemingly comparable sites will be preserved elsewhere within the region.

In light of the importance of small sites, what can be done to enhance their preservation and to utilize effectively the information they contain? Since it is difficult to understand the research value of small sites without relatively intensive investigation, management programs might best consider them significant on *a priori* grounds until such time that adequate investigation might take place. If the regional significance of the site must be known, then a program of investigation must be sufficiently comprehensive to document its contents and their behavioral meaning. Even then, however, the full significance of the site may not be demonstrated until more is known about the contents of neighboring sites, since so much of the research value of a small site is gained only when compared to data from other sites in the region. Significance evaluations of small sites, therefore, should ideally be aspects of regional programs.

Beyond this, more effective approaches to gathering information about small sites should be developed. Certainly more data should be collected from small sites than is frequently the case (e.g., the example cited at the beginning of this paper) in order to learn more about their contents and structure. To accomplish this under typical budgetary constraints, regional data collection efforts might



devote less effort to large sites and more effort to small sites, under the assumption that sufficient significance arguments for large and complex sites can usually be based on comparatively little data. Given the considerable abundance of small sites in many regions, however, attention must also be given to developing more *efficient* ways of gathering information relevant to significance assessments, regardless of site size. Inasmuch as field testing procedures in California tend to be standardized almost to the point of ritual, effort might be put into experimenting with alternative data-collection approaches which yield information sufficient for significance assessments with less expenditure of effort per site than is typically the case. Finally, the wording of laws and guidelines governing significance assessment might be revised to oblige an archaeologist to devote as much attention to arguments of insignificance as to arguments of significance (cf. discussion by Tainter and Lucas [1983: 716]). Nonetheless, none of these proposed solutions will stand much of a chance of addressing the plight of small sites if much of the archaeological community continues to turn its back on this valuable aspect of the state's prehistoric heritage.

#### NOTE

1. A shorter version of this paper was presented in 1984 at the 49th Annual Meeting of the Society for American Archaeology in Portland, Oregon. I thank the two anonymous reviewers of an earlier draft of this manuscript for their constructive comments.

#### REFERENCES

- Arnold, Jeanne E.  
 1983 Chumash Economic Specialization: An Analysis of the Quarries and Bladelet Production Villages of the Channel Islands, California. Ph.D. dissertation, University of California, Santa Barbara.
- Berry, Kenneth J., Kenneth L. Kvamme, and Paul W. Mielke, Jr.  
 1980 A Permutation Technique for the Spatial Analysis of the Distribution of Artifacts into Classes. *American Antiquity* 45: 55-59.  
 1983 Improvements in the Permutation Test for the Spatial Analysis of the Distribution of Artifacts into Classes. *American Antiquity* 48: 547-553.
- Cahen, D., L. H. Keeley, and F. L. Van Noten  
 1979 Stone Tools, Toolkits, and Human Behavior in Prehistory. *Current Anthropology* 20: 661-683.
- Chambers Consultants and Planners  
 1984 Archaeological Investigations on the San Antonio Terrace, Vandenberg Air Force Base, California, in Connection with MX Facilities Construction. Report on file at the U. S. Army Corps of Engineers, Los Angeles.
- Erlandson, Jon  
 1983 Final Report, Results of Phase II and Phase III Archaeological Investigations at CA-SBa-1582, Santa Barbara County, California. Report on file at the Office of Public Archaeology, Social Process Research Institute, University of California, Santa Barbara.
- Gould, Richard A.  
 1966 Archaeology of the Point St. George Site, and Tolowa Prehistory. University of California Publications in Anthropology 4.
- Kintigh, Keith W., and Albert J. Ammerman  
 1982 Heuristic Approaches to Spatial Analysis in Archaeology. *American Antiquity* 47: 31-63.
- Lipe, William D.  
 1974 A Conservation Model for American Archaeology. *The Kiva* 39: 213-245.
- Pilles, Jr., Peter J., and David R. Wilcox  
 1978 The Small Sites Conference: An Introduction. In: *Limited Activity and Occupation Sites, A Collection of Conference Papers*, A. E. Ward, ed., pp. 1-5. Albuquerque: Center for Anthropological Studies Contributions to Anthropological Studies 1.

Tainter, Joseph A., and G. John Lucas

1983 Epistemology of the Significance Concept. *American Antiquity* 48: 707-719.

Talmage, Valerie, Olga Chesler, and the Staff of Interagency Archaeological Services

1977 The Importance of Small, Surface, and Disturbed Sites as Sources of Significant Archaeological Data. Washington: National Park Service, Office of Archaeology and Historic Preservation Cultural Resource Management Studies.

Thomas, David Hurst

1975 Nonsite Sampling in Archaeology: Up the Creek without a Site? In: *Sampling in Archaeology*, J. W. Meuller, ed., pp. 61-81. Tucson: University of Arizona Press.

Trigger, Bruce G.

1968 The Determinants of Settlement Patterns. In: *Settlement Archaeology*, K. C. Chang, ed., pp. 53-78. Palo Alto: National Press.

