

Perspectives on the Role of CRM Archaeology in California

L. Mark Raab

When “Cultural Resources Management” (CRM) appeared on the American archaeological scene, Willey and Sabloff (1980:262) correctly predicted that “...problems confronting archaeologists working under contract will not be easy to surmount and, if they are not confronted and solved, American archaeology will receive a considerable blow.” As it turns out, prospects for failure have been built into every phase of CRM research. The press of fierce commercial competition leaves little time for many contract archaeologists to keep up with important research advances. In the meantime, hit-and-run archaeology churns out tons of reports that, despite the snappy formats and slick graphics of “desk-top publishing,” seldom contain information that is widely circulated or appears in peer-reviewed publications. Authors such as Fagan (1995:10) deliberately exclude this “gray literature” from popular archaeology textbooks, once again rendering much of CRM invisible to mainstream scholarship and scientific research. Despite the large number of archaeological investigations currently being carried out under legal mandates in southern California, one must agree with Martz (1993) and Sutton (1993) that general scientific progress often remains painfully elusive.

Happily, this alarming scenario is countered by examples of research like those presented in “Cultural Dimensions of Time: Archaeological Perspectives from Camp Pendleton, Part 1” edited by Seetha N. Reddy and Stan Berryman. The discussions presented in this volume serve as proof that contract investigations can deliver outstanding scientific results. Equally important, the Camp Pendleton work makes it clear that real intellectual progress—and compliance with legal mandates—follows from the insights of committed researchers and resource management policies that actually support the scientific process. To illustrate this kind of syncretism, I offer comments on the papers included in this volume outlining what I believe are the major research contributions of each. Finally, I briefly summarize what I believe are some of the lessons of the Camp Pendleton research that can benefit California archaeology generally.

It should be recognized at the outset that the discussions in this volume are summaries of a much more extensive body of work. An impressive array of reports on Camp Pendleton archaeology has been produced over the last five years. Readers who make the effort to obtain these reports will be rewarded with one of the most up-to-date, comprehensive and well-documented treatments of southern California coastal archaeology currently available (e.g., Byrd 1996, 1997; Byrd et al. 1995; Reddy 1997, 1998).

Applying GIS to Archaeological Site Prediction at Camp Pendleton, Southern California, by Seetha Reddy and Alice Brewster

Geographic Information Systems (GIS) hold out great promise for archaeological research. Archaeologists have recognized for decades the value of understanding regional patterns of cultural adaptation, particularly as reflected in ancient settlement systems. It has never been easy, however, to correlate the myriad of cultural and environmental variables that might form such systems. As the paper by Reddy and Brewster shows, GIS techniques allow spatial pattern recognition on a scale and with a degree of flexibility that archaeologists could only dream about previously. Although there is a daunting amount of initial data assembly work required to make GIS a useful tool, the resulting ability to correlate the distribution of archaeological data with a host of environmental features is clearly worthwhile. The potential for recognition of ancient cultural landscapes is enhanced enormously with these techniques. In one of the most detailed applications of GIS modeling in archaeology of which I am aware, Reddy and Brewster undertake the interesting task of reconstructing prehistoric cultural landscapes on Camp Pendleton using Luiseño and Juaneño ethnohistoric settlement patterns as a baseline model.

This effort must not be confused, however, with merely using GIS technology to reinforce traditional interpretive schemes based on ethnographic analogy. In my view, one of the most significant changes that has overtaken southern California archaeology during the last decade is the emergence of competing models of prehistoric culture change, including models of optimal foraging, neo-Marxist control of labor, resource intensification, marine and terrestrial sources of paleoclimatic stress, and others. Beyond their diversity of subject matter and theoretical orientation, recent models have resulted in conclusions about southern California prehistory that could not have been derived from traditional ethnographic sources. More provocatively, these models have yielded insights that sometimes are at odds with inferences about past cultural behavior derived from ethnohistoric sources (e.g., the Byrd and Reddy paper in this volume). In modeling coastal and interior settlement-subsistence patterns on Camp Pendleton, Reddy and Brewster show that settlement modes correlate well with patterns of vegetation, sources of water, and slope conditions. However, some of the correlations that they describe are much more detailed than ethnohistoric accounts or are not found in ethnohistoric evidence at all. As a tool for modeling prehistoric settlement-subsistence patterning, the GIS applications of the type described by Reddy and Brewster seem likely to become increasingly important. Of course, in terms of resource management utility, these same applications are of obvious value.

A Geoarchaeological Assessment of Alluvial Valleys at Camp Pendleton With an Overview of the Important Natural Site Formation Processes, by Fred Pearl And Michael Waters

The discussion by Pearl and Waters brings into focus a number of issues that archaeologists occasionally ignore to their disadvantage. Unfortunately, archaeologists sometimes have a tendency to focus narrowly on the contents of archaeological sites. The Pearl and Waters discussion reminds us that it is a mistake to think of archaeological sites as entities separate from their environmental context, particularly in geomorphic settings as complex as the southern California coast. The Pearl and Waters article points out that a variety of forces have worked both to preserve and destroy archaeological deposits, including fluvial deposition along coastal streams, changing sea levels, tectonic dynamics, and sea-cliff retreat. These are forces that, in various combinations, have affected much of the southern California coast. The Camp Pendleton geoarchaeological research documents the conditions under which archaeologists can expect to encounter buried cultural deposits at the mouths of major coastal streams on the base. This information has direct and practical applications to resource protection programs. Also quite interesting, Pearl and Waters document successive paleosols, or fossil soil horizons, some of which may be correlated with episodes of extreme, Medieval-era droughts (Byrd et al. 1998) and other significant paleoenvironmental trends that likely affected prehistoric cultural adaptations along the Camp Pendleton coast. These data afford an extremely valuable context for understanding cultural trends identified in other papers in this volume, such as the discussions by Byrd and Reddy, Foster, and Goldberg and Byrd.

Collecting and Residing Near the Shore: The Role of Small and Large Sites in Settlement Reconstruction, by Brian Byrd and Seetha Reddy

The paper by Byrd and Reddy is a synthetic discussion; i.e., this analysis summarizes a large amount of work that could not be presented in detail owing to limitations of space (Byrd 1996, 1997; Byrd et al. 1995, 1998; Reddy 1997; 1998). The relative brevity of this paper may tend to obscure its importance as a major contribution to southern California coastal archaeology on both conceptual and empirical levels. I noted above that traditional renditions of southern California prehistory based on ethnographic analogy are meeting increasing competition from other types of explanatory models. Models of resource intensification are offering a vigorous challenge to traditional thinking (Byrd et al. 1998; Raab 1996). The paper by Byrd and Reddy makes a substantial contribution to this developing area of California archaeological research. From my perspective, one of the most salient aspects of recent work on Camp Pendleton is the fact that researchers such as Byrd and Reddy have not been timid about replacing outdated research models with new approaches. Part of this process involves opening constructive debate. The paper in this volume by Byrd and Reddy is based in part on a critique of traditional theorizing about coastal San Diego County prehistory. Byrd (1997:137-152) refers to this traditional thinking as the "Coastal Decline Model" in which reconstructions of San Diego County prehistory have concluded that the coast was largely

abandoned during the late Holocene as major lagoons and estuaries in the region were choked by silt, thus forcing major settlements into the interior in search of more productive terrestrial food resources. This model is strongly contradicted by recent work on Camp Pendleton (Byrd 1997). Not only this, but a recent synthesis of the data from Camp Pendleton suggests that traditional thinking about Late Holocene maritime adaptations along the whole of the California Bight may be flawed in light of the evidence that a combination of forces, including resource intensification and paleoclimatic stress, may have played major, widespread roles in culture change (Byrd et al. 1998, Jones et al. 1999, Kennet and Kennet 2000).

Byrd and Reddy demonstrate that during the Late Holocene, a distinctive new type of settlement system appeared on the Camp Pendleton coast. They show that during the Late Holocene, some of the largest sites known from any time period served as hubs of a settlement-subsistence system that featured a large number of small, special-use loci, or “dinner camps.” Based on the subsistence data and other evidence from these sites, a strong case is made that beginning about 2,000 years B.P., the population of the northern San Diego County Coast shifted to a settlement mode that allowed the extraction of the widest range of subsistence resources from the landscape. This shift, possibly encouraged by long-term forces of resource intensification and more punctuated episodes of Late Holocene paleoenvironmental stress (and contrary to the Coastal Decline Model and some ethnohistoric models), appears to have involved a coastal positioning strategy that made access to marine sources of animal protein and other resources a potent stimulus to coastal settlement. Even the smallest food “packages,” including *Donax* and grass seeds, became increasingly important. Byrd and Reddy are correct in pointing out that this trend is similar to Holocene resource intensification trends identified in many other regions of the world, including the appearance of ceramic vessels (Tizon Brownware) in late Holocene Camp Pendleton sites (Byrd et al. 1998). This approach brings the Camp Pendleton research within the scope of explanatory theories of global significance, an element of research strategy that, unfortunately, has thus far been comparatively rare in southern California archaeology.

The Red Beach Site: 3,000 Years of Prehistory, by Karen Anne Rasmussen Foster

Foster’s approach to the Camp Pendleton archaeological record is conventional in that it relies heavily on familiar concepts such as ethnographic analogy and subsistence shifts introduced by Holocene sea-level rise. On the one hand, shifts in the composition of archaeofaunal assemblages, particularly of shellfish, are attributed to alterations to the coastline by rising sea levels. On the other hand, the cultures recorded in the region’s ethnohistoric data are viewed as the endpoint of millennia of culture change, with attention given to how such change might have culminated in the historically observed patterns.

Foster’s analysis centers on the Red Beach site (CA-SDI-811), one of the most interesting Camp Pendleton coastal sites thus far documented. With radiocarbon dates spanning a range from 4,200 years B.P. to A.D. 900, Red Beach contains evidence of many of the crucial

technoeconomic and settlement-pattern shifts documented in the paper by Byrd and Reddy. On an interpretive level, Foster notes that some of the changes in the Red Beach archaeofaunal assemblage are likely to have come about as a result of rising sea levels. At the same time, attention is given also to how the Red Beach site might be used to validate one or the other of competing ethnohistoric reconstructions of aboriginal settlement-subsistence patterns in the Camp Pendleton region. Foster points out that ethnohistoric reconstructions are divided over the question of whether historic aboriginal coastal settlement on the northern San Diego County coast was permanent or only of seasonal duration. Foster also cautions that ethnohistoric data should not necessarily be viewed as an accurate guide to the prehistoric past, given that native southern California cultures were probably extensively affected by contact with Euroamericans long before ethnographic data were collected by scholars.

Foster's warning about the limits of ethnographic information is sensible, but she then goes on to cast interpretation of the Red Beach site in terms of contrasting ethnographic settlement models. Essentially, her analysis centers on the question of whether Red Beach can be construed as a permanent or seasonal settlement in the fashion characterized by ethnographic reconstructions. There is nothing inherently wrong with this approach, but Camp Pendleton archaeological research increasingly suggests that ethnographic analogies alone fail to account for crucial aspects of the regional archaeological record. Here we might note again that this point is addressed in the Byrd and Reddy paper where those authors point out that large late Holocene coastal residential bases weigh against ethnohistoric models that feature only seasonal occupation of the coast. The Byrd and Reddy paper also suggests that setting up a simple dichotomy between seasonal versus permanent occupation of the coast obscures a distinctive bi-modal settlement-subsistence pattern that simply is not reflected in ethnohistoric data.

This contrast between the Byrd and Reddy and Foster papers is one of the most salient results of the Camp Pendleton research. Reliance on ethnohistoric analogy is a time-honored strategy by California archaeologists and one that obviously should not be ignored. Even so, it must be recognized that ethnohistoric information heavily constrains modeling prehistoric culture change. In effect, this approach often places the weight of explaining thousands of years of culture change on ethnographic interpretations that are themselves warranted only by weak and ambiguous evidence. Setting aside questions about the reliability of ethnohistoric sources, the data emerging from Camp Pendleton point to prehistoric cultural patterns that have no analogs with historic times.

Although the sea-level-change component of Foster's discussion is only minimally developed, it deserves brief comment. The appearance of the *Donax* clams in the prehistoric Camp Pendleton diet cannot be accounted for merely in terms of changing coastal habitats (Strudwick 1998). A more compelling case can be made that *Donax*, along with a variety of other plant and animal resources, were targeted for exploitation as a result of long-term processes of resource intensification (Byrd 1997; Byrd et al. 1998). Any implication that

archaeofaunal assemblages reflexively mirror whatever habitat changes were induced by rising sea-levels oversimplifies what is likely to be more complex patterns of prey choice or diet-breath dynamics affected by a host of technoeconomic and demographic factors.

Lessons From Camp Pendleton

As the papers in this volume illustrate, recent research on Camp Pendleton has produced a rich and varied body of new archaeological information. The same can be said of many recent CRM projects, however. Studies of southern California coastal prehistory have generated thousands of pages of new data, some of it quite useful for model building and testing new ideas. But how many of these studies have succeeded in moving beyond purely descriptive studies or reliance on shopworn interpretive models? What best distinguishes recent Camp Pendleton archaeological research is the way that it articulates around model-building efforts of the kind found here in the Byrd and Reddy paper. Through the application of new hypotheses about the influences of resource intensification, settlement pattern change, paleoclimatic stress and other forces, this work is opening the way to productive debate about California coastal prehistory. In particular, this work is offering productive new alternatives to research strategies based on ethnographic analogy. The point here is not that ethnohistoric information should be ignored—a clear mistake—but rather recognition that new tools are needed with which to recognize the limitations of the ethnohistoric record for understanding long-term culture change. Research models that allow methodological and theoretical independence from ethnohistoric reconstructions are the only way to avoid the built-in constraints of the historical cultural record. This process requires creativity and energy, but it is not mysterious. Truly successful scientific research of all kinds advances through a competition of explanatory models. Increasingly, California coastal archaeologists can evaluate the relative explanatory power of traditional ethnohistoric or paleogeographic theories within a field of competing theories. On this account, California coastal archaeology may well be entering its most productive era— an era in which both basic and contract research can work as true partners in intellectual progress.

Even if one does not embrace the conclusions reached by investigators such as Byrd and Reddy, there can be no question that the Camp Pendleton work moves research in fresh directions, directions that simply could not arise from static reliance on research strategies of the past. No amount of “data” will lead to new scientific insights unless the search for those insights is guided by testable new questions. At the moment, designers of CRM research seem generally timid about contributing to scientific debate or developing research models that depart from traditional interpretive schemes. Perhaps this reluctance stems from commercial anxieties about being viewed as “controversial” or an assumption that theoretical innovation is best left to the academic sector of the discipline. We should recognize that this reluctance exacts a heavy price on California archaeology. Public agencies in California long ago defaulted on any commitment that they might have made to regional archaeological research designs or other strategies for forging general scientific advance from CRM studies. It appears

that archaeologists have only their own disciplinary dialogue to guide them toward this end. At the moment, this dialogue is more like an intermittent conversation rather than a series of clear, vigorous, and productive debates. The Camp Pendleton research suggests that this picture may be changing.

Finally, one of the fascinating patterns pointed out by the Camp Pendleton research is the large role that southern California coastal military reservations have assumed in advancing archaeology. Military bases such as Camp Pendleton are some of the largest relatively pristine expanses of land on the southern California coast, hence some of the best places to understand prehistoric cultural adaptations on a regional scale. In recent years, military reservations from Point Conception to the Channel Islands to San Diego County have hosted an array of innovative archaeological studies (e.g., Glassow 1996, 1997; Martz 1994; Raab et al. 1994; Schwartz and Martz 1992). What is notable about these efforts is the willingness of military CRM programs to support robust research programs, not merely narrow legal compliance. Coastal military bases have become some of the finest laboratories of archaeological research in California—probably in the nation—and much of this work is driven by CRM mandates. There are many features of these programs that could profitably be copied by other public agencies. The civilian and military authorities in charge of the Camp Pendleton cultural resources program deserve thanks for their support of an exceptionally productive archaeological research program.

References Cited

Byrd, Brian F. (editor)

- 1996 Coastal Archaeology of Las Flores Creek and Horno Canyon, Camp Pendleton, California. Report prepared for U.S. Army Corps of Engineers, Los Angeles District by ASM Affiliates, 545 Encinitas Blvd., Encinitas, California.
- 1997 Coastal Archaeology at CA-SDI-10.728, Las Flores Creek, Camp Pendleton. Report prepared for U.S. Army Corps of Engineers, Los Angeles District by ASM Affiliates, 545 Encinitas Blvd., Encinitas, California.

Byrd, Brian F., L. Mark Raab, Seetha. N. Reddy and Thomas Wake

- 1998 Late Holocene Maritime Foraging Variability: An Example from Coastal Southern California. Manuscript on file with the authors, and ASM Affiliates, 545 Encinitas Blvd., Encinitas, California.

Byrd, Brian, Drew Palette and Carol Serr

- 1995 Archaeological Testing Along San Mateo and San Onofre Creeks, Northwestern Camp Pendleton, San Diego County, California. Report prepared for U.S. Army Corps of Engineers, Los Angeles District by Brian F. Mooney Associates, San Diego, California.

Fagan, Brian M.

1995 *Ancient North America* (2nd ed.). Thames and Hudson, New York.

Glassow, Michael A.

1996 Purisimeno Chumash Prehistory. *Case Studies in Archaeology*, Harcourt Brace, Orlando, Florida.

1997 Middle Holocene Cultural Development in the Central Santa Barbara Channel Region. In, *Archaeological of the California Coast During the Middle Holocene*, edited by Jon M. Erlandson and Michael A. Glassow, pp. 73-90. *Perspectives in California Archaeology, Volume 4*, Institute of Archaeology, University of California, Los Angeles.

Jones, Terry L., Gary M. Brown, L. Mark Raab, Janet L. McVickar, W. Geoffrey Spaulding, Douglas J. Kennett, Andrew York, and Philip Walker

1999 Environmental Imperatives Reconsidered. *Current Anthropology* 40(2):137-170.

Kennett, Douglas J. and James P. Kennett

2000 Competitive and Cooperative Responses to Climatic Instability in Coastal Southern California. *American Antiquity* 65(2):379-395.

Martz, Patricia C.

1993 A History of Archaeological Research from the Perspective of the Los Angeles District, U.S. Army Corps of Engineers. In, *Proceedings of the Society for California Archaeology, Vol. 6*:245-248, Chief Editor, Martin D. Rosen, Society for California Archaeology, San Diego.

1994 A Research Design for Prehistoric Archaeological Sites, San Nicolas Island. Manuscript on file, Naval Air Weapons Station, Point Mugu, California.

Raab, L. Mark

1996 Debating Prehistory in Coastal Southern California: Political Economy vs. Resource Intensification. *Journal of California and Great Basin Anthropology* 18:64-80.

Raab, L. Mark, Andrew Yatsko, and Katherine Bradford

1994 Advances in Southern Channel Islands Archaeology: 1983-1993. *Journal of California and Great Basin Anthropology* 16:243-270.

Reddy, Seetha N. (editor)

1997 Camping and Milling in the Highlands, Archaeological Investigations of Case Spring and Firebreak Sites on Camp Pendleton, San Diego County, California. Report prepared for U.S. Army Corps of Engineers, Los Angeles District by ASM Affiliates, 545 Encinitas Blvd., Encinitas, California.

1998 Prehistoric Landscapes on Coastal Southern California, Archeological Survey on Camp Pendleton, San Diego County, California, Volume I. Report prepared for U.S.

Army Corps of Engineers, Los Angeles District by ASM Affiliates, Encinitas, California.

Schwartz, Steven. J. and Patricia C. Martz

1992 An Overview of the Archaeology of San Nicolas Island, Southern California. *Pacific Coast Archaeological Society Quarterly* 24 (4):46-75.

Strudwick, Ivan

1998 Marine Shell Procurement Strategies Characteristic of the MCB Camp Pendleton Coast, Northern San Diego County, California. Paper presented at the Annual Meeting of the Society for California Archaeology, San Diego, California; on file with the author.

Sutton, Mark Q.

1993 A Perspective on Archaeological Research in the California Deserts: 1960 to 1990. In, *Proceedings of the Society for California Archaeology, Vol. 6:233-237*, Chief Editor, Martin D. Rosen, Society for California Archaeology, San Diego.

Willey, Gordon R. and Jeremy A. Sabloff

1980 *A History of American Archaeology* (2nd ed.). W. H. Freeman, San Francisco.