

APPENDIX V

THE WATSONVILLE SUBAREA

1. Introduction
2. Apparent distribution of prehistoric resources
3. Research design
4. Evaluation of local policies
5. Recommendations

INTRODUCTION

Our contract called for a general study only of the Hollister and South Santa Clara subareas, on the assumption that, since San Felipe water is designed only to replace local supplies already in use in the Watsonville subarea, this subarea will experience no indirect or growth-inducing impacts from the project. We are not prepared to comment on this reasoning, but we limited our fieldwork in the Watsonville subarea to an inspection of the proposed rights-of-way and facilities only. In collecting background data on such direct-impact areas, however, we naturally had to look at the presently known distribution of prehistoric sites throughout the subarea. To design programs of salvage excavation where necessary, we had to establish a research design. To gain any idea of how valuable the resources directly threatened by San Felipe construction might be required that we obtain data on the potential future of archaeological resources in the subarea in general, by evaluating the archaeological policies of local agencies. As a result, we have gathered a body of data for the Watsonville subarea that is rather similar to that we obtained for the South Santa Clara and Hollister subareas, except that it is less complete, based on much more limited fieldwork, and totally lacking a historical component. This appendix presents these data, our interpretations and comments on them, and a set of recommendations for archaeological planning in the Watsonville subarea.

APPARENT DISTRIBUTION OF PREHISTORIC RESOURCES

The Data-Base

The various 18th century explorers who entered the San Felipe study area passed through the Watsonville subarea, and provide various comments on the distribution of Indian settlements there. In addition, Portola and Crespi, who did not cross into the Santa Clara Valley, passed through the Watsonville subarea on their way up the coast in 1769 (See Map 5); they report a village of 300, possibly Calendarruc (See Map 7 and Appendix I) in the vicinity of Watsonville.

During the 1940s and 1950s, reports of archaeological site locations were received by the Archaeological Research Facility (then Archaeological Survey) at the University of California, Berkeley, from a variety of sources. 23 sites were entered in the Berkeley records in the Watsonville subarea. Some sites were recorded by students (notably Arnold Pilling and Robert Greengo) engaged in research along the coast, while others were reported by private citizens. No intensive, systematic survey of the subarea was undertaken, however.

During the last few years an attempt has been made by the Monterey County Archaeological Society and Cabrillo College at Aptos in Santa Cruz County to update the Berkeley records and add new sites. Neither group, however, has had the money or manpower to undertake a systematic survey of the subarea.

Our own survey of San Felipe facilities provided data on about 20 lineal miles across the subarea, resulting in records of four sites not previously recorded.

In general, the result of this sort of sporadic activity is that archaeological sites that are easily accessible (and often damaged or destroyed as a result) and/or very obvious or spectacular, tend to be recorded, while sites that are not accessible from well-traveled roads, or which do not show very obvious surface signs, or which have not been discovered by bulldozer-drivers or artifact-collectors, have for the most part not been recorded. We must, therefore, be very cautious about using the data presently available for predicting the general locations of archaeological sites in the subarea, and by no means should it be assumed that anything approaching a comprehensive body of archaeological data exists for the Watsonville subarea.

Apparent Distribution of Sites

Known prehistoric sites in the subarea are concentrated along the edges of the Pajaro River and Elkhorn Slough, where they may lie on the tops of bluffs overlooking the floodplains, on terraces below the crests of the bluffs, or in some cases at the base of the bluffs on the very edge of the floodplain. A small number of sites are recorded in the upper drainages of Corralitos Creek and the tributaries of Elkhorn Slough and along the bluffs fronting on Monterey Bay.

We can project, therefore, that prehistoric midden sites will tend to occur along both the crests and bases of bluffs and terraces facing major streams, on bluffs overlooking the Bay, and on the banks of tributary creeks. On the basis of our present unsystematic data, we are not prepared to assume that any portion of the subarea is not archaeologically sensitive, but it is apparent that the sorts of locations specified above are.

RESEARCH DESIGN

As discussed in the body of this paper, to evaluate archaeological sites it is necessary to understand something of their potential value for scientific research. As we have also noted, there are other measures of archaeological significance, but we are unable to deal with these in any reasonable way on the basis of current data. Nominations to the National Register of Historic Places would be out of place when we lack an overall understanding of the area on the basis of which to rank specific sites; community values cannot be specified because we have not had extensive contact with the Watsonville subarea communities. The intrinsic importance of preserving Indian cemeteries is taken here as given, and we assume that others in the subarea are undertaking inventories of historic structures. We will attempt here to briefly define some possible archaeological research directions that can be pursued in the Watsonville subarea, as a basis for designing recommendations for general planning in this Appendix and for designing salvage recommendations for the second volume of this report.

The central California coast has figured implicitly in the California archaeological literature for many years, although very little field research has been done between San Francisco Bay and Point Conception. Lillard, Heizer and Fenenga (1939), Gerow (1968) and others have pointed to similarities between culture-traits typifying north-central and southern California, implying that some sort of cultural transmission was taking place during various time periods across south-central California. Presumably the central coast would be one important place to monitor such transmissions.

A significant difficulty in monitoring such transmissions of culture-elements, however, lies in deciding what human cultural processes are actually involved. On the one hand, it is only on the basis of its potential for telling us something about cultural process that tracing the movements of cultures and cultural elements across space has scientific significance; on the other, there are few ways of tracing such movements without making testable assertions about them, which requires some presumptive understanding of what was going on among the participating populations.

Given the assumption that the central coast constituted a zone of interaction between the Delta-Bay area to the north and the Channel area to the south, we can derive some testable propositions about the possible forms of interaction that went on across the area in prehistoric times, and about the socio-economic concomitants of these kinds of interaction.

The Millingstone Horizon: 7000-4000 B.P.: The Millingstone Horizon is an early culture-complex on the southern California coast that contains abundant evidence of hard-seed processing (Wallace 1955; C. King 1967). Some correlations between the Millingstone Horizon and early central California cultures have been recognized for some time, and the presence of a Millingstone-like complex on San Francisco Bay and in the North Coast Ranges is becoming increasingly apparent (Fredrickson 1972; L. King, personal communication 1973). How can we account for this broad similarity of ecological adaptation and specific tool-use?

As an initial hypothesis, we might propose that population increase in relatively sedentary villages on the southern California coast during the Millingstone Horizon might have resulted in progressive "budding" of subpopulations into the north, according to the same principles as those discussed in Chapter V. The appearance of "Millingstone" traits in central and northern California would be the result of this budding, and would presumably represent the first large-scale human occupation of the north part of the state.

If this proposition were correct, we should find that: a sequence of Millingstone sites on the central coast should show a progression from pioneering to established (sedentary) to overpopulated villages. Pioneer Millingstone sites on the central coast should be contemporaneous with overpopulated sites in southern California, and overpopulated sites on the central coast should be contemporaneous with pioneer sites in the north.

The characteristics we might expect of the three site-types alluded to above include:

Pioneer: Small population, many relatively "exotic" (i.e. nonlocal) tools, seasonal location shifts, poor adaptation to local specific resources.

Established: Large population, much and efficient use of local resources, relatively permanent occupation.

Overpopulated: Large population, possible imbalance in age-sex ratios among mortuary populations, possible evidence of violence, evidence of considerable energy expenditure for low return (acquisition of hard-to-get, low energy foods).

As an alternative, we can posit that for as far back in prehistory as we are very likely to be able to look, there were Millingstone sites along most of the California coast, and that the rise in sea level connected with the melting of the Wisconsin glaciers - which continued until approximately the present level was reached about 5000 years ago, forced abandonment of old sites and occupation of new inland locations. This process would occur differentially between southern and central California, because of the greater width of the continental shelf along the central California coast relative to the south coast, particularly in the Santa Monica Mountains area where most dated early Millingstone sites have been reported (Bickel, Jackson and King 1973). Thus southern California Millingstone sites would appear more substantial and would tend to be earlier than would such sites along the central California coast, but this disparity would be a function of differential coastal inundation rather than south-to-north population movement. If this hypothesis is correct, we would expect that fairly well-adapted Millingstone villages would appear rather suddenly on the central coast at the time when the sea level approaches its present stand.

The Middle Horizon: 4000-1500 B.P.: The Middle Horizon is a time of considerable culture-change in both the north and south, but the nature of this change is difficult to generalize about. The establishment of many new villages in new portions of the state suggests population dispersal, but the size and apparent organization of some Middle Horizon villages suggests nucleation. An expansion of trade is indicated by the widespread dispersal of obsidian from the various eastern and northern California sources, and of shell beads from the coast into the interior, but there is also evidence of considerable specificity in the adaptation of local populations to local environments. Mortuary populations show evidence of both widespread violence and complex political organization.

To place these apparent changes in an interpretive framework, we can propose that the Middle Horizon represents a period when maritime/littoral adaptation along the California coast permitted and impelled a large-scale population increase in sedentary coastal villages, culminating in periodic population pulses into the interior. Populations moving into the new

environments would have been under pressure to experiment with methods of readaptation, to interact with other groups, and to maintain trade and other ties with the coastal villages. This process, described in detail in Chapter V, may be responsible for the Middle Horizon as we know it.

If this reconstruction is accurate, we should find on the central coast that the Middle Horizon is a time of large, centralized village formation. There should be evidence of the use of many environmental niches, and there should be considerable evidence of contact - amical and enimical - with the interior.

The Protohistoric: 500-400 B.P.: During the protohistoric period in northern and southern California, there is evidence for rapid socio-economic change. The clam-disc bead economy appears, and clam discs are adopted as currency across broad parts of the north, while in the south a proliferation of Olivella money beads occurs. There are suggestions of shifts in coast-interior trade patterns; for example, the use of obsidian from east of the Sierra Nevada drops sharply in the Chumash area after the Middle Horizon.

A possible means of accounting for these changes is to propose that, in some major parts of the state at least, the protohistoric period is one of social breakdown, in which inflation and individual economic initiative characterize the socio-economic system. This breakdown might have been impelled by an insupportable imbalance between population and resources resulting from the adoption of subsistence strategies (such as trade itself) that permitted further population growth during and after the Middle Horizon, rather than establishing equilibrium.

If this proposition were to hold on the central coast, during the protohistoric we should find evidence of egalitarian-type social institutions such as age-grades, sex-specific societies, etc. rather than hierarchical organizations. There should also be evidence of the disintegration of large, organized groups, reflected in the denucleation of the settlement system and a tendency for community and mortuary organization to become less structured.

The propositions advanced above, sketchy in detail and of varying degrees of intuitive likelihood, nonetheless provide starting points for the systematic, problem-oriented investigation of archaeological sites within the Watsonville subarea.

EVALUATION OF LOCAL POLICIES

Like the agencies responsible for land-use planning in the Santa Clara Valley, the counties of Santa Cruz and Monterey and the City of Watsonville have policies that are pertinent to archaeological resource management.

The County of Santa Cruz, in its Parks, Recreation, and Open Space Plan (Santa Cruz County 1972), proposes a division of the County into Urban and Open Space Review Zones, each with a particular set of EIR

procedures. The Plan proposes enactment of an ordinance protecting archaeological sites, and says:

"Such an ordinance along with the Impact Review Zone procedure should enable important sites to be evaluated and, if appropriate, salvage research to be conducted." (Santa Cruz County 1972:77)

The Impact Review zone procedure, however, emphasizes the use of Environmental Constraint Maps locating areas of environmental concern. The maps given in the Plan are cited as Environmental Constraint Maps (Santa Cruz County 1972:15). These maps show known archaeological sites. The Plan recognizes the fact that the known sites probably represent only a small fraction of the total actually existing, and suggests the need for a county-wide survey (Santa Cruz County 1972:71, 76). It does not, however, suggest any planning measures to be used until such a survey is done. Santa Cruz's policy thus seems somewhat self-defeating: until the time when a county-wide survey can be done, only those sites already known and mapped will be dealt with in project planning, even though it is known that many unrecorded sites exist and are subject to impact.

Santa Cruz County's EIR Guidelines define impact on an archaeological site as a significant environmental impact (Santa Cruz County 1973:2), and require that cultural and scientific impacts be analyzed in EIRs (Santa Cruz County 1973:20). No criteria are established for deciding whether a project will impact archaeological resources, however, so it would seem likely that the inadequate Environmental Constraint Maps would come into play here, misdirecting decision makers into assuming that only known sites could be impacted.

The potentially saving feature of the Santa Cruz EIR procedure is its use of an Environmental Review Committee (ERC) to make operational decisions about the need for EIRs and specific elements in EIRs on each project and about the adequacy of submitted reports. The ERC, in turn, is to consult with a group of Environmental Advisors, including an Advisor in archaeology (Santa Cruz County 1973:12, 14). As long as consultation with archaeologists is regular and well-organized, the dangerous potential of Santa Cruz County's approach may not be realized, and adequate consideration of archaeological resources in EIR preparation may occur.

The EIR guidelines of the County of Monterey, aside from quoting CEQA's references to historic resources (Monterey County 1973:Sec. 301(b)(c)), make no specific allusion to archaeology. A special concern for "nonrenewable resources" is expressed, however (Monterey County 1973:Sec. 903(f)), under which category archaeological sites should certainly fall.

A conversation with Mr. Dave Young of the Monterey County Planning Department indicated that the following procedure is currently in operation:

- 1) A map of known and probable archaeological sites prepared by the Monterey County Archaeological Society, an avocational group, is referred to when project plans are submitted.
- 2) If the project falls in a potentially sensitive area, it is referred to the Society for review.
- 3) The Society is expected to review the project, including field survey, if necessary, at its own expense.
- 4) If the Society reports that significant impact is likely, then some evaluation of that impact may be required on the part of the project sponsor. (Young, personal communication 1973)

The inadequacy of this approach is manifest in a number of ways. As Mr. Gary Breschini, Vice President of the Monterey County Archaeological Society, points out, it places on the Society the burden of proof that archaeological resources are present and significant, even though it is the County and the land developer who benefit from the determination (Breschini, personal communication 1973). This would be merely unjust if the Society were funded and staffed to make the necessary studies, but in fact it is a purely volunteer group without professional staff; it is thus not equipped to make the studies for which the County is legally obligated.

It can be argued, of course, that only archaeologists are interested in archaeological resources, and that it is therefore proper to place the burden of proof upon the Archaeological Society rather than upon the County or the land developer. Even if this argument were based on fact, however, it skirts the issue. As noted above, CEQA, the Resources Agency Guidelines, and Brown vs. General Services indicate that archaeological resources must be considered in environmental planning. The Guidelines place the responsibility for EIR adequacy upon the local agency - in this case the County. In the case of Environmental Defense Funds vs. Coastside County Water District, the State Court of Appeal established the principle of judicial review of EIR adequacy and clearly indicated that qualified disclosure of environmental impacts is to be expected. The Monterey County Archaeological Society, however scholarly its motives and intentions may be, is not financially equipped to provide such qualified disclosure without reimbursement sufficient to engage qualified staff from the agencies legally responsible for EIRs. To expect the Society to provide qualified evaluations is roughly equivalent to expecting the local chapter of the American Institute of Architects to design housing projects without reimbursement from the builders, except that the AIA is composed of professional architects, while the Monterey County Archaeological Society does not include professional archaeologists among its active members. An appropriate role for the Society is one of public review, like that of the Sierra Club, Audubon Society, California Association of General Contractors, and other organizations interested in environmental matters; to lay the entire burden of qualified archaeological disclosure upon the Society's shoulders is to insure that Monterey County's EIR program will be inadequate at best.

The City of Watsonville's "Questionnaire for determining projects which may have a significant environmental impact" includes as question #7 the standard: "Could the project significantly affect a known historical or archaeological site or its setting?", though the City's "Criteria and factors for determining whether discretionary projects may have a significant effect on the environment" mentions only "known historical sites". The City's list of "Public Agencies for Review and Comment" does not indicate that EIRs are being referred to any agency capable of providing competent archaeological review (Watsonville 1973). Luckily, the City's General Plan (Watsonville 1969) projects open-space in many areas of presumptive high archaeological sensitivity, such as the banks of Corralitos Creek and the Pajaro River terrace west of Harkins Slough, but other terrace areas are projected for residential uses, and archaeological impacts can be expected. Since there are almost no "known" (i.e. recorded) archaeological sites within the City of Watsonville, but every probability that many exist there that have not yet been recorded, the failure of City policy to firmly require archaeological evaluations in EIRs does not bode well for the protection of archaeological resources in the City of Watsonville.

RECOMMENDATIONS

Lacking a basis for the kind of comprehensive sensitivity map we generated for the South Santa Clara and Hollister subareas, our recommendations to federal, state and local agencies responsible for land-use planning in the Watsonville subarea must necessarily be rather general.

Federal agencies: Federal agencies such as SCS and HUD should provide a channel for encouraging local archaeological responsibility. In the absence of systematic predictive data, no federally assisted or permitted project should go forward without archaeological field reconnaissance and evaluation.

State agencies: The Regional Coastal Zone Commission and the State Clearinghouses should be especially alert to the archaeological needs of the Watsonville subarea, and to the significant possibility that they are not being properly attended to by local authority.

Local agencies: Ideally, the City of Watsonville and the Counties of Santa Cruz and Monterey should undertake a valid predictive archaeological survey of the subarea, as a basis for future planning. Unless and until such a survey is made, there appears to be little choice, if archaeological needs are to be attended to, but to require archaeological field surveys on all EIRs and negative declarations that pertain to projects that might disturb previously undisturbed land surfaces, until such surveys have produced a predictively viable body of representative data.

In known areas of high sensitivity, over most of which the Regional Coastal Zone Commission has permit authority, archaeological field

evaluations should be required on all kinds of land-modifying projects, including those, such as single-family home construction, that are categorically exempt from the EIR requirement under CEQA.

When archaeological sites are discovered in advance of land-modifying projects, adequate mitigation of impact should be made a condition of any permit granted.