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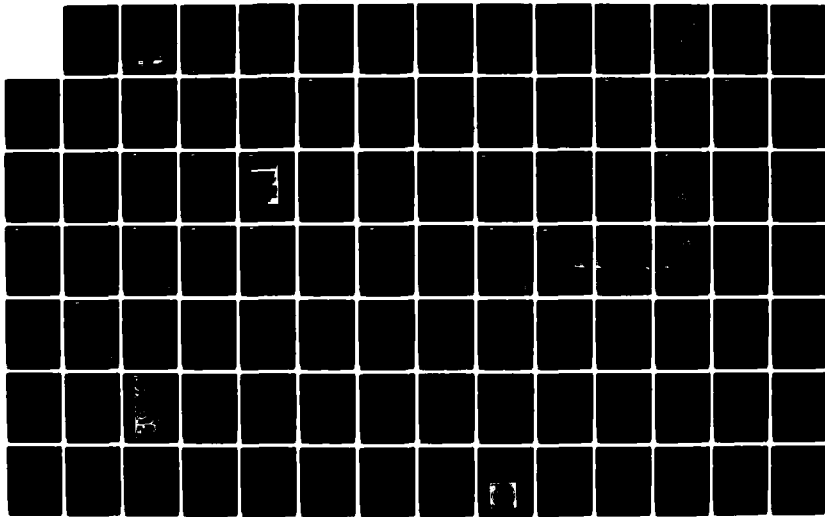
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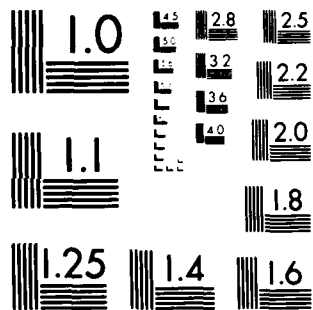
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FINAL REPORT
INTENSIVE CULTURAL RESOURCES SURVEY
for the
GOLETA FLOOD PROTECTION PROGRAM
SANTA BARBARA COUNTY
CALIFORNIA

AD-A144 612

Prepared Under:
U. S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT
Contract No. DACW09-81-C-0057
300 N. Los Angeles Street
LOS ANGELES, CALIFORNIA 90053

April 1982

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO. AD-A144 617	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Final Report Intensive Cultural Resources Survey for the Goleta Flood Protection Program Santa Barbara County, CA		5. TYPE OF REPORT & PERIOD COVERED
7. AUTHOR(s) Larry R. Wilcoxon		6. PERFORMING ORG. REPORT NUMBER NCA
9. PERFORMING ORGANIZATION NAME AND ADDRESS Archeological Systems Mangement, Inc. 9925-C BussinessPark Ave. San Diego, California		8. CONTRACT OR GRANT NUMBER(s) DACW09-81-C-0057
11. CONTROLLING OFFICE NAME AND ADDRESS Army Corps of Engineers L.A. DISTRICT P.O. Box 271, Los Angeles, CA 90053		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS NCA
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE April 1982
		13. NUMBER OF PAGES 157 p.
		15. SECURITY CLASS. (of this report) unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for Public Release; Distribution Unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES Copies are obtainable from the National Technical Information Service Springfield, VA 22151		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Archeology Cultural Resources Goleta Flood Protection Program Santa Barbara County		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)		

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Abstract

The results of a cultural resources survey and literature search are reported for the major tributaries and perimeter of the Goleta Slough in Santa Barbara County, California. The study was designed to locate cultural resources, evaluate their significance, and assess potential impacts from the U.S. Army Corps of Engineers' proposed Goleta Flood Protection Program. As a result of the inventory a total of 64 prehistoric and historic cultural resources were identified and documented; approximately 1711 acres of the project area were systematically surveyed. Resource management recommendations include additional research and nomination to the National Register of Historic Places.

ACKNOWLEDGEMENTS

The successful completion of any cultural resources study requires the care and dedication of many individuals and institutions. For this reason, I wish to thank the project personnel and research specialists who gave generously of their ideas and labor through all phases of this investigation. The field survey was under the very able direction of Jon Erlandson. Survey crew members were Roger Colten, James Consler, William Glover, Ann Messman, Hector Neff, Jeffrey Serena, David Stone, and Art Vaughan.

Research contributions were provided by Jon Erlandson, John Johnson, Gregory King, Diane MacKenzie, Mary O'Connor, David Stone, Claude Warren, and Susan Warren.

In addition to these individuals I wish to thank the U.S. Army Corps of Engineers, Los Angeles District, for their support of this project, and especially Mr. Richard Macias of the Environmental Section for his temporal flexibility and assistance during all phases of the work undertaken. I am equally indebted to Mr. John Cook and his staff at Archaeological Systems Management who took care of our every administrative, financial, and clerical need. Finally, I wish to thank all of my colleagues and co-workers who devoted extra time and energy gaining access to and surveying the concrete pavements, salt marshes, avocado orchards, and terrifying backyards of the Goleta Valley. May they gain strength and character from this endeavor.

LRW

I. Introduction

This report contains the results of a cultural resources literature search and an intensive cultural resources survey performed by a team of archaeologists, an ethnohistorian and a historian under the direction of Larry R. Wilcoxon (Principal Investigator) and Jon Erlandson (Crew Chief) on the major tributaries and perimeter of the Goleta Slough in Santa Barbara County, California.

The work was accomplished under a contract (No. DACW09-81-C-0057) awarded by the U.S. Army Corps of Engineers, Los Angeles District to Archaeological Systems Management, San Diego, California. The project period, extending from September 1, 1981, to the date of this report, included one background research session and one field session during which the bulk of the information provided here was collected.

The objectives of the project were: 1) to produce an inventory of prehistoric and historic cultural resources within the project area, 2) to evaluate the significance of the cultural resources and determine which ones were eligible for inclusion on the National Register of Historic Places, 3) to assess the generic project impacts and develop management recommendations to enhance preservation of the cultural resources, and 4) to estimate the costs of implementing management recommendations. In order to meet these objectives, the following data collection activities were undertaken: 1) the surface extent of all cultural resources were mapped with compass and chain, 2) site record forms were completed and updated for all sites, 3) the current state of preservation of each site was evaluated, 4) the presence of diagnostic artifacts on the surfaces of sites were recorded, and 5) the natural environment around each site was described and the nature of current and planned development impacts possibly affecting each site was evaluated. These activities are described in greater detail later on in the report.

During the field session, lasting from September 3 through October 8, a crew of six under the direction of Larry Wilcoxon completed the bulk of the data collection. A total 1711 acres of land was systematically covered in 687 person hours. It should be pointed out that the survey did not cover the entire project area as specified in the project scope of work as access was denied by a number of landowners. During the course of the survey a total of 64 cultural resources were evaluated of which 27 were undiscovered prior to this investigation.

II. Environmental Setting

The project area is located within southern Santa Barbara County, California, including the Goleta Slough and its tributaries (see Map 1). The More Mesa and Campus Mesa landforms, along with the estuarine sandspit known as Goleta Beach bridging the two mesas, form the southern project area boundary. Eastern, northern, and western limits are delineated by broad corridors surrounding the slough tributaries extending upward through the coastal plain of the Goleta Valley into the Santa Ynez Mountain foothills (see Map 2). These creeks, from east to west, are as follows: Atascadero, extending from the slough 2.75 miles eastward to San Marcos Road; Maria Ygnacio, extending 0.95 miles north of Old San Marcos Road; San Jose, extending 0.75 miles northeast of Patterson Avenue; Las Vegas, extending 0.75 miles north of Cathedral Oaks Road; San Pedro, extending 0.8 miles north of Cathedral Oaks Road; Carneros, extending 1.6 miles north of Cathedral Oaks Road; and Tecolotito, extending 1.85 miles north of Cathedral Oaks Road.

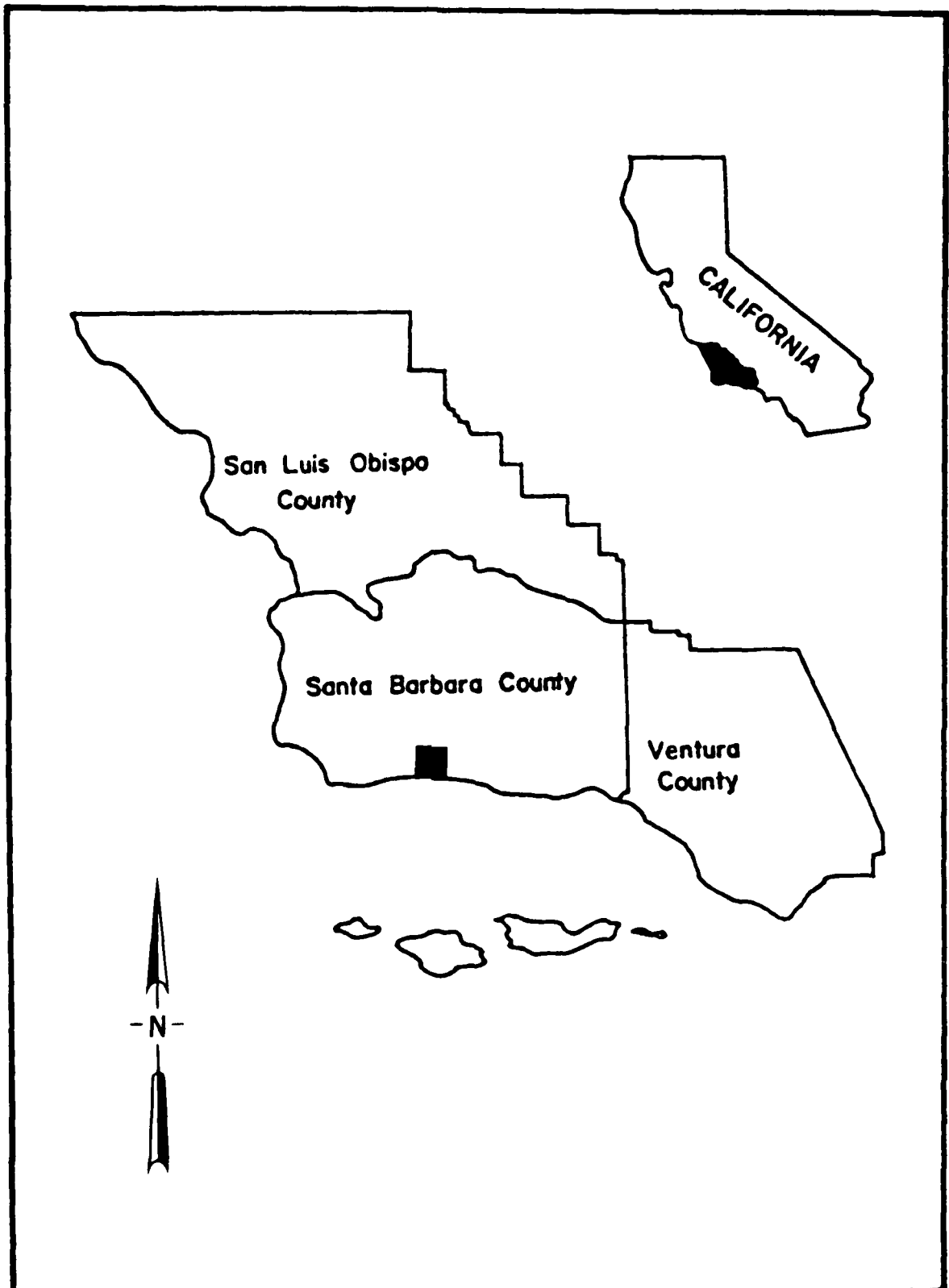
Physiography

The Goleta Slough project area is situated within a coastal plain sandwiched between the Santa Ynez mountains to the north and the Pacific Ocean to the south. The slough is but one of several estuarine basins located within this coastal plain that extends nearly fifty miles from Point Concepcion eastward to Rincon Point (Lantis et al. 1973:100). Formation of the coastal plain has been associated with the east-west trending Santa Ynez Mountain Range formation. Part of the Transverse Ranges, the Santa Ynez Mountains are a sedimentary formation spanning Upper Jurassic to Holocene time periods. The Transverse Ranges are anticlinal in nature and were probably formed by intense lateral deformation caused by collision between crustal plates of the San Andreas Fault (Macko and Erlandson 1980:126). Locally, the Santa Ynez Fault is located parallel to the mountains, separating them from the coastal plain (Lantis et al. 1973:180).

Monterey and Rincon Formations of Miocene age comprise the majority of sedimentary deposits in the Goleta Valley. Consolidated shales and claystones from these formations, along with some chert and limestone lenses, are the base of More Mesa and Campus Mesa. Monterey and Rincon outcrops are particularly conspicuous along beachfronts adjacent to the slough (Upson 1951:23-24, 103). Situated above Miocene and Eocene deposits are marine and non-marine poorly consolidated and poorly sorted clays, sands and gravels of the Santa Barbara formation. Pleistocene terrace deposits and Older and Younger Alluviums overlay these.

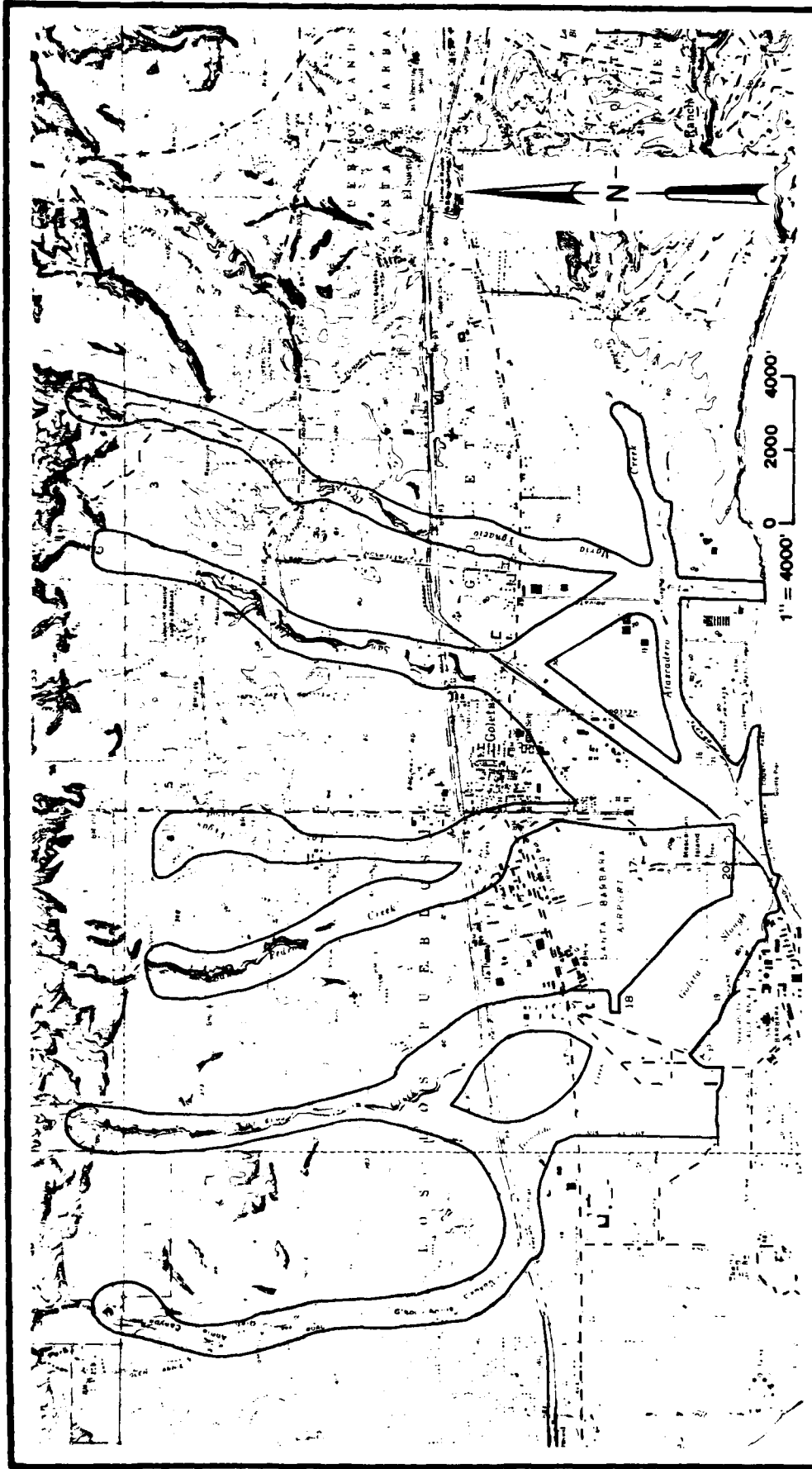
Goleta Slough morphology has been influenced by a series of geological forces, and most recently has been affected by human activity and manipulation of the environment. Faulting episodes after Miocene Monterey and Rincon formation and later Santa Barbara formation deposition created the original Goleta Valley

asm



Map 1

Generalized project location in Southern California.



Map 2 Location of project area on the Goleta and Dos Pueblos Canyon U.S.G.S. topographic quadrangles.

embayment (Upson 1951:28-29). Rising sea levels during the Sangamon interglacial flooded this basin. Subsequent sea level fluctuations and ensuing erosion developed steep canyons within the coastal plain which regularly infilled with alluvial sediments. Up to 6000 to 5000 B.P., the sea level continued to rise with glacial retreat (Shepard 1964:574).

Since this time, cliff erosion has continually eroded away a coastline that once was dominated by long channels or bays extending a quarter mile or more into what is now the Pacific Ocean (Bixler 1980:5, Norris 1968:89). Sedimentation has progressively infilled the slough, aided by the development of a protective sandspit across the estuarine entrance (MacDonald et al. 1980:28). This sedimentation has been accelerated by a series of flooding episodes, the largest happening in 1860-61 (Tompkins 1966:62).

Finally, the draining of slough bottoms in order to create available land for cultivation and grazing, along with Santa Barbara Airport and University of California construction, have continually reduced slough boundaries to their present size. The once deep open sub-tidal lagoon has been converted over time to the shrinking salt water marsh with adjacent intertidal mud flats and alluvial fans we recognize as The Goleta Slough (Stone 1980).

Climate

The Santa Barbara coastal region has been defined as having a Mediterranean climate, one of cool, wet winters and hot, dry summers (Erlandson 1979:9). Average temperatures are 10 degrees Celsius in January and 18 degrees in July. Precipitation averages 40 cm per year, increasing from the coast inland. The Santa Ynez Mountains are important in trapping coastal fog resulting in greater amounts of precipitation in the foothills, but also causing more temperate climatic conditions than those found in the mountain back country and Santa Ynez Valley to the northwest (Chartkoff 1967:5-26).

Experts agree that climate has varied over time depending upon changes in the general circulation of the atmosphere. Antevs (1955) has suggested a cool, moist period termed the Anathermal in the Western U.S., dating from 10,000 B.P. to 7500 B.P. The Altithermal, he believes, was a warm, dry period that followed from 7500 B.P. to 4000 B.P. The Medithermal, from 4000 B.P. to the present is a return to climates similar to those experienced today. Axelrod (1967) has determined a somewhat different story. His Xerothermic period from 8000 to 3000 B.P. is a more arid climate in contrast to a previous cooler, moist environment. After the Xerothermic, a shift is noted back to a cool moist period. Although other theories have been presented (Johnson 1977, Piasias 1978, 1979), most investigators agree that the Holocene (10000 B.P. to the present) was characterized by

alternating episodes of cool/moist to warm/dry climates, with a generalized regional dessication between 8000 and 3000 B.P. Since then, a cooler, wetter period has stabilized and has continued until the present. These climactic shifts were probably extremely important in terms of available flora and fauna and subsequent potential resources available to prehistoric populations residing in the project area (Leonard 1971).

Biology

Available flora and fauna within the project area are quite varied due to the distribution of several adjacent ecological zones between the Pacific Ocean and the Santa Ynez Mountain Range (Erlandson 1979:90). The proximity of the contrasting environments has increased the number of ecotones in which an optimal number of biological resources are found. Within broad environmental zones, a series of microclimates are recognized due to their contrasting elevation and degree of exposure to sun or shade. These microclimates in turn support associated microenvironments.

Below is a list of major environmental zones in the project area and their associated floral and faunal resources (Erlandson 1980:130-33, Smith 1976:19-20, California Department of Fish and Game 1971:42, Johnson Personal Communication Oct, 12, 1981):
Marine and Rocky Foreshore

Flora: Seaweed (Porphyra perfoliata)

Fauna: Guadalupe Fur Seal (Arctocephalus philippi), Sea otter (Enhydra lutris), California Gray Whale (Eschrichtius gibbosus) Stellar Sea Lion (Eumetopias jubata), Elephant Seal (Mirounga angustirostris), Harbor Seal (Phoca vitulina) and California Sea Lion (Zalophus californianus). Black Abalone (Haliotis cracherodii), Purple Olive (Olivella biplicata), California Mussel (Mytilus californianus), Pismo clam (Tivela stultorum), and Platform Mussel (Septifer bifurcatus).

Coastal Salt Marsh

Flora: Salicornia association, Cattail (Typha sp).

Fauna: Duck, Geese, Coot, Heron, Speckled scallop (Argopecten aequivalvatus), various clams (Chione undatella, californiensis, fluctuagraga), Bent nose clam (Macoma nasuta), Oyster (Ostrea lurida), Pacific Littleneck (Protothaca staminea), Washington Clam (Saxidomus nuttali). Shovel nose guitar fish (Rhionobatus productus), Topsmelt (Atherinops affinis), Shiner Perch.

Coastal Sage Scrub

Flora: California Sage (Artemisia californica), Bush Lupine (Lupinus arboreus), Mock Heather (Haplopappus erocoides), and Black Sage (Salvia mellifera). This environmental zone merges with the chaparral at times.

Fauna: see Hard Chaparral.

Hard Chaparral

Flora: Ceanothus species, with Bigpod Ceanothus most common (Ceanothus megacarpus), Chamise (Adenostoma), Manzanita (Arctostaphylos).

Fauna: Ringtail Cat (Bassaricus astustus), Coyote (Canus latrans), Pacific Kangaroo Rat (Dipodomys agilis), Brush rabbit (Sylvilagus bachmani), Gray fox (Urocyon cinereoargenteus).

Valley Grassland, Oak Woodland

Flora: Coastal Live Oak (Quercus agrifolia), various native bunch grasses.

Fauna: Coyote, California Ground Squirrel, Badger (Citellus beecheyi), California Grizzly Bear (Ursus horribilis) Raccoon (Procyon lotor), Mule Deer (Odocoileus hemionus), Tule Elk (Cervus elephas nonnodes).

Riparian Woodland

Flora: Elderberry (Sambucus sp.), Islay, Blackberry (Rubus sp.), Wild Onion (Allium sp.) Walnut (Juglans californica).

Fauna: similar to Coastal Sage Scrub, Valley Grassland, or Oak Woodland depending upon elevation and neighboring environment. Steelhead trout.

Important changes in distribution of grass species over time have occurred. Burning of vegetation was possibly undertaken by the Chumash in order to promote growth of chaparral and seed plants (Erlandson 1980:136). Sage, ceanothus, chamise, and yucca are all rejuvenated by fire. Also, Spanish occupation of the Goleta Valley was responsible for the introduction of Rye Grass, Wild oat and other annuals native to the American Southwest carried by sheep and in the fecal matter of herded cows (Ford 1979:3). These grass species were more adaptable than native varieties and were more resistant to periods of drought that occurred in the 1860's and 1870's. A total of approximately 400 weed species have been introduced to the area, including yellow and deep purple Mustard, Wild Radish, Dandelion, Castor Bean, Anise, Burdock, Poison Hemlock and Thistle (Ford 1979:5, Smith 1976:15).

Hydrology

The bulk of available surface water within the project area is supplied by the creeks serving as tributaries for the Goleta Slough listed in the locational information section of this chapter. However, numerous springs and occasional vernal pools are distributed over the project area (Smith 1976) and were certainly significant in the distribution of prehistoric population settlements.

III. Background Research Strategy

This study was designed to provide a cultural resource impact analysis of the Goleta Valley Flood Protection Program as required for compliance with the National Environmental Policy Act of 1969 (PL 91-190), the Archaeological and Historic Preservation Act (PL 93-291), and Executive Order 11593, Protection and Enhancement of the Cultural Environment. It conforms with the procedures and guidelines for such studies as specified in 33 CFR 305. Specifically, the study objectives were to locate and identify the Program's cultural resources, evaluate their significance in light of National Register Criteria (36 CFR 60.6), assess potential adverse impacts from the proposed levels of development, and recommend appropriate management measures.

The initial step in achieving these objectives involved archival research, review of existing site records and pertinent literature, examination of listings in the National Register of Historic Places and most recent Addenda published in the Federal Register, review of ethnographic data, interviews with knowledgeable local people having specific information related to the study area, and Native American consultation.

Sources and reference materials examined during the course of this investigation have been included in the bibliography of this report. A list of persons and institutions contacted is provided in Appendix I.

A. Previous Archaeological Investigation in the Goleta Valley

Archaeological explorations at Native American archaeological sites in the vicinity of the Goleta Slough have been conducted for over 100 years. This work has consisted of controlled and uncontrolled excavation and site reconnaissance of variable quality and research orientation. Much of the fieldwork prior to 1960 was oriented to obtaining artifacts for museum display and describing, in a very general way, the culture history of the area prior to European contact. Published reports exemplifying this era include the works of the Rev. Stephen Bowers (1884), Leon de Cessac (Reichlen and Heizer 1963), Paul Schumacher (1877), H.C. Yarrow (1879), D.B. Rogers (1929), Ronald Olson (1930), Phil Orr (1943), William Harrison (1964, 1965, and Harrison and Harrison 1966), Roger Owen (1964, and Owen, Curtis, and Miller 1964) and Marshall McKusick (1961).

Since 1960, the major archaeological research has focused on limited excavation of sites threatened by development, small-scale cultural resource surveys related to environmental impact review, and analysis of existing collections recovered during earlier excavations. The justification for the conservative approach currently taken toward excavation of sites is attributable to three factors: 1) failure to analyze existing archaeological collections which can be used to answer many significant research questions, 2) failure to successfully and logically resolve the many questions which exist about sampling internally complex cultural deposits, and 3) opposition to excavation in archaeological sites by contemporary Indian people.

A review of the site records and reports housed at the Regional Office of the State Office of Historic Preservation at the University of California indicates that eighteen cultural resource studies have been conducted within the project area boundaries. A list of these studies and a map showing their locations have been compiled in Appendix II.

Examination of cultural resource studies and their corresponding site records suggests that aboriginal occupation of the area was quite extensive and that most time periods known for the greater Santa Barbara Channel Region were represented at archaeological sites within the study area. Previous investigations have resulted in the documentation of thirty-seven archaeological sites within the study area.

B. Goleta Valley Prehistory

Initial human habitation of the Goleta Valley probably occurred as early as 9000 years ago. The ancestors of these early inhabitants are believed to have had their roots in the Paleo-Indian cultural tradition of the greater North American continent. Few details of Paleo-Indian lifeways are known from coastal California because few sites of this tradition have been discovered in datable contexts. Many researchers believe that

sites of this time period have either been covered by deep sediments or were inundated by rising post-Pleistocene sea levels.

From discoveries in eastern California and at widespread localities in the Great Plains and Southwest, we know that Paleo-Indian populations were greatly dependent on hunting large Pleistocene mammals. The degree to which they supplemented this diet with lesser mammals, waterfowl, and vegetal foods must await additional discoveries and future research.

As climates became warmer and environmental conditions deteriorated following the Pleistocene, a large number of Pleistocene megafauna suffered geographical displacement and/or extinction (Martin and Wright 1967). The reduction in Paleo-Indian prey caused a change in subsistence patterns from a primarily hunting economy to one highly dependent upon the collection and processing of wild vegetal foods and small game. Concurrent with this chain of events, some have postulated the movement of interior food-collecting populations to the coast of California at this time (Kaldenberg 1976, Wallace 1978).

The earliest well-defined cultural tradition in the Goleta Valley is the Milling Stone Horizon. This tradition is best represented by the Oak Grove culture first defined by D.B. Rogers in 1929 (Table 1). Archaeological sites of this culture reflect a generalized hunting and gathering adaptation with a particular emphasis on the collection and processing of wild plant seeds. The importance of plant foods in the early economy is reflected in the large number of grinding implements (manos and metates) frequently encountered in the cultural deposits and the situation of sites on elevated landforms near areas of high plant biomass. That hunting still occurred, but was of lesser importance than during earlier periods, is evident from the rare occurrence of crude projectile points, core and flake tools for scraping and cutting, and occasionally preserved faunal remains of small game. The degree to which shellfish were exploited by populations of this period is known to have varied throughout the region (cf. Macko and Erlandson 1980, Wallace 1978).

By 5000 years ago, the hunting of large land mammals--deer, elk, and bear--and the limited exploitation of marine and riparian resources emerged as a major economic activity. This somewhat dramatic shift in economic focus enabled Rogers (1929) to define his second cultural horizon, the Hunting People.

At sites situated near the coast and along major perennial streams, the recovery of compound bone fishhooks, gorges, J-shaped shell fishhooks, notched net weights, and the abundant remains of nearshore fishes provides conclusive evidence that hook-and-line and net fishing were developed.

Archaeological sites of the Hunting People are found in a wide variety of habitats throughout the Goleta Valley and surrounding foothills. Major settlements with residential features

YEARS	ROGERS (1929)	WALLACE (1955)	HARRISON (1964, 1966)	KING (n.d.)
AD 1805	Chumash			Late Period Phase 3
AD 1782				
	Canalino	Horizon IV	Protohistoric 1542 Chumash	Late Period Phase 2 AD 1500 Late Period Phase 1 AD 1100
AD 1000	?		?	
				Middle Period Phase 5 AD 900 Middle Period Phase 4 AD 700 Middle Period Phase 3 AD 400 Middle Period Phase 2b 0
Time of Christ	Hunting People		Hunting People, Del Mar Phase	Middle Period Phase 2a 500 BC Middle Period Phase 1 1200 BC
1000 BC		Horizon III		
	?	(Intermed.)		
2000 BC		2200 BC	Hunting People Extranos Phase	Early Period Phase Z 2400 BC
3000 BC	Oak Grove	Horizon II (Milling Stone)	2900 BC Oak Grove El Capitan Phase	Early Period Phase Y 3500 BC
4000 BC				Early Period Phase X
5000 BC		?	4700 BC Oak Grove, Goleta Phase	?
		?		

Table 1

Santa Barbara Channel Chronological Sequence

and cemeteries, minor settlements occupied intermittently and/or seasonally, and resource extraction and processing camps are among the types of archaeological sites that have been recognized and attributed to the Hunting People.

Sometime between A.D. 800 and A.D. 1100, Indian populations occupying the Santa Barbara Channel and the adjacent Channel Islands began to specialize in the exploitation of the marine environment. Utilizing marine resources from the intertidal, estuarine, nearshore kelp, and deep sea pelagic biomes, a stable, yet diverse, maritime resource base was established. From this base a complex prehistoric society evolved. It is during this period that the Canalino cultural tradition, a prehistoric predecessor of the historic Chumash Indians, is first recognized. The archaeological record for this era points to high population densities, large coastal communities, and extended trade networks exhibiting links with the adjacent Channel Islands and the greater Southwest.

Canalino sites are found in almost every major habitat along the coast and in the interior. Sites range from small limited activity loci, such as resource extraction camps, rock shelters with pictographs, and shrines, to major village communities with houses, cemeteries, and ceremonial structures. Assemblages from sites of this period are generally characterized by the presence of well-made tools and facilities such as small concave base and leaf-shaped projectile points (arrow points), flat-rimmed sandstone mortars (quite frequently with shell bead inlay), and circular shell fishhooks with divided shanks, and Olivella callus and Tivela cylinder beads. At sites with extraordinary preservation, basketry, wooden implements, and canoe planks have been occasionally recovered.

C. Ethnohistoric Overview of Native American Culture in the Goleta Valley (1542-1835) by John R. Johnson, Claude N. Warren, and Susan E. Warren

At the time of first European contact with the California Indians, the Goleta Valley was the most densely settled area in all of aboriginal southern California. From the earliest descriptions onward, Spanish records provide valuable data regarding Chumash cultural history, land use, and social organization. Our discussion is divided into two sections; 1) a review of the history of the Goleta Valley from the sixteenth century to the end of the Mission Period and 2) a summary of our knowledge of Chumash culture in the Goleta Valley at the time of Spanish contact.

Early Historic Contacts and Protohistoric Changes

The first Spaniard to encounter the Chumash was Juan Rodriguez Cabrillo, who entered the Santa Barbara channel in October of 1542. In the summary of Cabrillo's diary which has survived, several lists of Chumash village names are encountered

(Wagner 1929:86-88). Many of these names are recognizable as Chumash towns which were still occupied more than two hundred years later, at the time the first missions were established (Kroeber 1953:553; Harrington 1928:35; King 1975:176-178). Some towns had ceased to exist or had changed names since Cabrillo's visit, and this particularly seems to have been the case for villages surrounding the Goleta Lagoon.

In the first list of mainland Chumash names from Cabrillo's diary, the first seven names apparently occur in sequential order as one moves up the coast from Rincon: "Xuco" (Shuku at Rincon), "Bis/Sopono" (Mishopshno at Carpinteria), "Alloc" (Q'olog' near Summerland), "Xabaagua" (Shalawa at Montecito), "Xocotoc" (Syuxtun at Santa Barbara), "Poltoltuc", and "Nacbuc" (Wagner 1929:86; Harrington 1928:35). Unlike the first five villages, the latter two names are not recognizable as villages which were occupied during the Mission Period. Later in Cabrillo's lists these names are repeated with somewhat different spellings. Fortunately, evidence was gathered near the middle of the nineteenth century which allows us to identify the sixth and seventh names in Cabrillo's first list with placenames around the Goleta Lagoon.

In 1861, Alexander Taylor, the son-in-law of Goleta's first Yankee settler, Daniel Hill obtained identification of some of Cabrillo's names from older Indians whom he knew, "Partocac or Paltocac" was stated to be "the Indian cemetery on the Mesa of La Patera, near the sea", and "Anacbuc" was placed "near the islet of La Patera, near the sea shore" (Heizer 1973:75). In another list of Chumash placenames, published in 1860 Taylor recorded the native name of "La Goleta" as "Chuah", which may correspond to "Gua" which also appears in Cabrillo's lists (Heizer 1973:45; King 1975:76).

The ethnographic fieldnotes of J.P. Harrington recorded in the early twentieth century have allowed more precise placement of two of the three names from Cabrillo's lists. Paltuqag ("Paltocac", etc.) was on More Mesa, apparently SBA-42, and Kuwa'a ("Gua") was the name for Mescalitan Island, SBA-46, in the Dos Pueblos dialect of Barbareno Chumash (Harrington 1912-1922). The third name "Anacbuc" (or "Nacbuc") may be most likely identified with SBA-1695 at Goleta Beach or perhaps SBA-47 or 48 on the UCSB campus. These three village locations approximately correspond to the historically occupied settlements of 'Alkash, Helo', and Heliyik.

Significantly absent in the Cabrillo list is a name which might correspond to the largest Goleta town of the Mission Period, S'axpilil. King (1975:172, 1978:65-66), 1980:65-66) has suggested that settlement changes and village name changes during the Protohistoric Period may have been linked to a larger pattern of population aggregation which took place along the Santa Barbara channel and shifts in village allegiances to larger

political groupings. King noticed that many smaller villages in Cabrillo's list were abandoned by the Mission Period, e.g. "Aguin" ('Axwin at Las Llagas) and "Tucumu" (Tuxmu at Arroyo Hondo). Conversely, many of the largest Mission Period towns are not mentioned in Cabrillo's list; besides S'axpilil, notable examples are Mikiw (at Dos Pueblos), 'Onomyo (at Gaviota), and Shisolop (at Ventura). King maintained that existing archaeological evidence tends to support mostly a protohistoric occupation at these latter sites.

Cabrillo's diary also describes political groupings which were no longer in effect by the Mission Period. He states that there were two provinces existing along the Channel Coast; one called "Xexo" extending from "Cabo de Galera" (Pt. Concepcion) to the "Puerto de Sardinias" or "Ciucut" (Syuxtun at Santa Barbara), and a second called "Xucu" extending from the "Puerto de Sardinias" to the "Pueblo de las Canoas" (Mugu). "Ciucut" seemed to be the capital of the first province, which was ruled by an old Indian woman (Wagner 1929:88). By 1782 alliances had changed, and the Goleta villages were reported to be "declared enemies" of Dos Pueblos (King 1980:65). These shifting allegiances may have played a role in the name changes and possible settlement shifts which took place in the Goleta Valley during the Protohistoric Period. More precise dating of the archaeological deposits in the Goleta Valley will be needed to test King's hypotheses about protohistoric changes.

The coasts of the Santa Barbara Channel were seen again and described during the voyage of Vizcaino in 1602-1603, but there are no specific references to the Goleta area. After Vizcaino's visit, there is no further record of contact between Europeans and the Chumash until 1769. The recent find of five old encrusted cannon on Goleta Beach has rekindled speculation regarding visits by Manila galleons, or pirates, but no date has actually been determined for the cannon. The probability is perhaps greater that they date from the early nineteenth century.

Exploration and Reconnaissance, 1769-1782

In 1769 the Portola expedition passed through the Goleta valley en route to Monterey Bay and the eventual discovery of San Francisco Bay. Diaries, kept by members of Portola's expedition give good, but brief descriptions of Chumash towns and culture. After camping a night in Arroyo Burro, the expedition entered the Goleta Valley on August 18 where they found a large lagoon surrounded by populous towns. The soldiers of the expedition were struck by the presence of a prominent island in the estuary on which was situated the largest town of "more than eighty houses" (Smith and Teggart 1909:27). This reminded the soldiers of the legendary hearthland of the Aztec people known as Mescaltitlan, or Aztlan, where the Earth Mother resided on an island in a lagoon. The Goleta estuary resembled another place known as Mescaltitlan Lagoon in Nayarit,

Mexico, named after the legend. From the time of Portola onward the name Mescaltitlan became attached to the Chumash villages in the Goleta Valley (Santa Barbara Indian Center 1979:6-7).

The expedition passed through one of the Indian towns, S'axpilil, on the northern shore of the estuary. They camped at a watering place west of S'axpilil, possibly at Los Carneros Creek. There they were visited by inhabitants of the different Goleta villages, and an active trade ensued, for fish, seeds, and atole, and handcrafted items such as basketry, skins and feather headdresses. These were exchanged for glass beads, ribbons, and other items of European manufacture. So much fish was brought that it was necessary to induce the people not to bring more because it would spoil.

The members of the expedition noticed that there was rivalry among the towns as to which could entertain and provide the most. They were visited by the capitanes from each of the Goleta communities, and treated to elaborate displays of dancing and music. In fact the hospitality was overdone, so that Portola had to entreat the entertainers not to bother them further, so that the expedition members could get some sleep (Bolton 1927:167-168).

There was some disagreement among the diarists of the expedition regarding how many separate villages were present on the banks of the lagoon. Portola's scouts reported seven towns, the smallest having twenty houses and the largest on Mescaltitlan Island (Smith and Teggart 1909:27). Crespi later reported that there were five, three large and two small (Brown 1967:29). This confusion regarding the number of villages around the Goleta estuary was to continue into the Mission Period (see Table 2). The problem apparently resulted from the fact that Chumash rancherias were frequently composed of more than one spatially discrete community of households. Brown (1967:5) noted that this was obviously the case for Chumash towns west of the Goleta Valley, where two sections of a village were frequently divided by a stream and were suggestive of moiety social organization, which the Chumash did apparently possess (Harrington 1942).

A map drawn in 1782 by Pantoja y Arriaga from a supply ship which first provisioned the Santa Barbara presidio, indicates that there were indeed seven distinct house clusters arranged around the lagoon (see Map 3) but these were probably not each separate named villages. Since only four Goleta towns are known to have been present during the Mission Period, it may be assumed that the seven separated communities were actually segments of larger settlement entities. Table 3 provides a correlation of village names, locational information, and archaeological evidence, based on present knowledge, documenting the probable sites occupied during the beginning of the Colonial Era.

Number of Towns	Portola		Crespi		Crespi		Pont		Pantoja y Arriaga		Longinos		Menzies		Goycoechea		Baptisms of Individuals Originating from Goleta rancherías ^b		Total
	1769	1769	1769	1770	1770	1776	1782	1792	1793	1796	1785-1795	1796	1796	1796	1796	1796	1796-1806	1796-1806	
	7 towns	5 or 7 (3 quite large)	5 villages (3 large 2 small)	3 large villages	5 villages (7 house clusters on Pantoja's map)	3 villages	3 different villages	4 villages	upwards of 30 huts each	244	406	650							
Population size (all Coleta villages)	2000	1500	---	---	800-900	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>S'axpilil</u>	---	---	---	"largest"	"largest," 37 house symbols	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>Heio'</u>	"largest," 600-800 (exceeds 80 houses)	100 houses	---	---	21 house symbols (2 clusters)	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>'Alkash</u>	---	---	---	---	25 house symbols (2 clusters)	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>Heliyék</u>	---	---	---	---	23 house symbols (2 clusters)	---	---	---	---	---	---	---	---	---	---	---	---	---	---

a. Source: Brown 1967, Heizer 1975.

b. Tabulated from photocopies of the Santa Barbara, San Buenaventura, and La Purisima registers on file at the Santa Barbara Mission Archives. Includes children of native parents only, mission born children of Neophyte parents not included.

Table 2 Number of Towns and Size Estimates of Goleta Valley Chumash Settlements^a

Villages Names ^a	Etymology ^b	Taylor (1863) ^c	Henshaw (1884) ^d	Harrington (1912-1922) ^e	Tentative Archaeological site Identification	Pantoja's 1782 Map	Archaeological Evidence
S'aspillil	"roots"	"on the Patara ranch"	"La Patara"	Ju: "a little arroyo just east of La Patara" La: "Goleta town"	SBa-60, Goleta	37 house symbols	glass beads, metal, mission pottery (McKusick 1960, Crabtree and Warren 1977)
					SBa-58, Goleta	—	glass beads (Rogers 1929)
					Roberts' Farm, Goleta (SBa61? or 63?)	—	copper vessel, earthenware (Bowers 1877)
He'lo'	"the water"	"the Islet of La Patara"	"at Moore's Island"	Ju: "the island in the estero"	SBa-46, Mescalitan Island	14 house symbols	glass beads, copper pan, iron ax, iron knife (Yarrow 1879, Olson 1930)
'Alkash	"lake with no current"	"in La Goleta [land grant]"	"Near Moore's House"	--	SBa-45, Twin Mounds	7 house symbols	"typical... Canaliño (utensils) ...small, well-made...arrow-heads" (Rogers 1929)
					SBa-1696, More Mesa	19 house symbols	"kitchen midden" (Weir 1950), Late Period concave base projectile point
					SBa-42, More Mesa	6 house symbols	glass beads, iron knife (Heizer 1973:76)
					"near sea bluffs of La Goleta"		
Haliyšk	"the middle"	"near Islet of La Patara"	"Near Ocean near Moore's Island"	La: "Between 'alka'ash and the sea"	SBa-47/48, UCSB campus	16 house symbols	"Canaliño" (Rogers 1929)
					SBa 1695? Goleta Beach	7 house symbols	--

a. Orthography based on Applegate (1975). b. Etymology from Harrington 1912-1922 c. Heizer (1973)
d. Henshaw's consultants were Justo and Juan Estevan Pico. e. Harrington's consultants were Luisa Ygnacio (La) and Juan Justo (Ju).

Table 3 Locations of Historic Chumash Settlements of the Mission Period

After Portola's visits in 1769-70, there is little data on occurrences in the Goleta Valley, until the beginning of the Mission Period. The main route connecting the newly founded missions of San Carlos (1770), San Antonio (1771), and San Luis Obispo (1772) to the north with San Gabriel (1771) and San Diego (1769) in the south passed along the Santa Barbara Channel. Soldiers, couriers, missionaries, and a major group of settlers led by Anza in 1776 travelled along this route, which passed through the middle of the largest Goleta town, S'axpilil.

The large native population of the Santa Barbara channel worried the Spanish colonial officials due to the potential security risk if the Chumash were to arise in arms against the Spanish. Organized hostile activity along the channel coast would have cut the vital transportation link between the northern and southern parts of New California and threatened the existence of the northern Spanish settlements (Beilharz 1971:111-113).

It was therefore decided that a Presidio and several missions be established among the Chumash at the earliest opportunity. From the time of the Portola' expedition onward, the "pueblos de la Isla" or "Mescaltitan" were urged as the site of a new mission and presidio (Geiger 1965:7; Priestley 1937:45). But further reconnaissance in the area by Lieutenant Jose Francisco Ortega, who had travelled with Portola, and by the governor, Felipe de Neve, resulted in the selection of the site at Santa Barbara (Beilharz 1971:118).

Early Mission Period, 1782-1806

In 1782 the Santa Barbara Presidio and San Buenaventura Mission were founded. Governor Neve delayed the founding of Santa Barbara Mission, because he desired to bring about a change in the way the missions were organized. The policy which he attempted to adopt may be considered to be quite enlightened by modern standards. Neve wished to allow the Indians to remain in their native villages, and be attracted to Christianity only through the teaching, good example, and good will of the missionaries. The missions would cease to have large resident Indian populations under the total control of the Franciscan priests. Neve's approach would have omitted the need for the missionaries to engage in large-scale farming operations. No longer would mission location be dependent on availability of extensive tracts of land suitable for irrigation and pasture (Beilharz 1971:118-120).

Neve's plan was opposed by Father Junipero Serra, the president of the missions, who won out in the end. Mission San Buenaventura was founded in the traditional manner and operated for nearly six years prior to the establishment of Mission Santa Barbara. During that time, only four individuals originating from the Goleta towns accepted baptism, and at least two of these persons, a mother and daughter from Helo' ("Gelo"), were actually residing in the village of Shisholop on the

beach close to Mission San Buenaventura. In May of 1786, a very ill young girl from Shalawa ("Saluag") or Montecito, was baptized at Helo' and later buried there by the "gentiles."

The first Goleta villagers to become part of the new mission community at Santa Barbara were four children from S'axpilil ("Saspili"), baptized on January 24, 1787. In the first year of operation, 186 Chumash people were baptized. Eighty-three of these were from the Goleta towns. Table 4 presents the yearly number of Goleta Valley Chumash baptized at the missions between 1785 and 1806.

Not all who were baptized came to live in the mission community. Those who were ill, or near death, were baptized as cases of necessity in their native villages. Unless they recovered, they never became residents of the mission rancharia. Parents were encouraged to bring their young children to the Mission for baptism, by offerings of food and blankets. These children, although baptized, remained with their parents until they grew old enough to participate as part of the Mission work forces, or until their parents accepted baptism (Geiger 1960).

During the first few years of Mission Santa Barbara's existence, an attempt was made to apply names in honor of Catholic saints to the Goleta towns. This practice had been followed since the early years for villages in the vicinity of Mission San Buenaventura. Father Fermin Francisco de Lasuen, who succeeded Serra, as president of the missions, may have instigated the practice at Mission Santa Barbara when he visited there in 1788. The saints' names primarily occur in Lasuen's entries in the baptismal register, and in entries made just after his visit. S'axpilil is referred to as "San Gabriel de Saspilil". Helo' is called "San Miguel" and Heliyik is several times listed as "Las Llagas". The name "San Rafael" was confused in application, being assigned both to S'axpilil and to 'Alkash. The practice never really took hold, and the names quickly fell into disuse. But their early existence in mission documents has resulted in some confusion, especially since they duplicated later Spanish placenames. By 1804, a completely new saints' nomenclature arrived in the Goleta Valley. "San Miguel" was the name given to S'axpilil and "San Francisco" was apparently applied to 'Alkash and Helo' together. The name "Las Llagas" became associated with a canyon between Dos Pueblos and Refugio, and was no longer associated with the Goleta area.

Early in 1796, Felipe de Goycochea, the comandante of the Santa Barbara Presidio, had a census made of the number of Chumash residing in the various towns along the Santa Barbara Channel, (see Table 2). He was attempting to revive Neve's old plan which would have allowed the Chumash to remain in their native villages, when they became Christians. Goycochea sent his proposal along with the census to Governor Diego de Borica, who forwarded Goycochea's plan to the Viceroy in Mexico (California Archives 50:226-233).

Goycochea's proposal met with opposition from the Franciscans. Lasuen's main argument was that allowing the Chumash to remain in their villages would only leave them subject to "heathen" influences. In 1797 Lasuen was persuaded to witness a trial case, in which Goycochea assembled the villagers of Syuxtun in Santa Barbara and offered them baptism with the new privilege of remaining in their own houses. A portion accepted baptism, including the chief, Yanonalit, but of these, many decided in favor of living at the mission all the same (Kenneally 1965:6-7, 276-279). In 1803, Viceroy Iturrigaray, after considering the arguments pro and con, finally put the issues to rest by stating no change in the mission system would be attempted (Engelhardt 1930:607).

Apparently as a result of Iturrigaray's decision, and good portents of an abundant agricultural harvest (Coombs and Plog 1977), a massive wave of baptisms occurred throughout the Chumash region in 1803 (see Table 4 and Figure 1). From each major village on the Channel coast, the entire remaining population came to the mission for the rite of baptism. There are virtually no documents besides the baptismal registers themselves which elucidate the reasons and procedures behind this phenomenon. Since five missions and large numbers of Chumash throughout the region were involved, there must have been some coordinating administrative influence.

The large numbers of baptisms in 1803 put such a strain on mission housing, that the newly baptized Chumash were allowed to remain in certain native rancherias, which were renamed after the saints. In the Goleta Valley, there were at least two Christian communities, San Miguel and San Francisco. Chapels named in honor of these saints, were built for the residents of each community, at Mescaltitan (S'axpilil) and Cieniguitas Kaswa'a, respectively (Bancroft 1886:120; Forsythe 1961).

Mission agricultural fields were maintained at several locations in the Goleta Valley neighborhood at San Jose ("Abajo"), at San Juan Bautista ("Sauzal" at Hope Ranch), and at San Miguel ("Saspili"). Stock ranches were kept at the latter location and in the canyons immediately west of the Goleta estuary, at Canada de las Armas (Elwood Canyon) and Tecolote (Geiger 1965:54, 55, 57). The name "Los Carneros," still present in the Goleta Valley, originates from a Mission Period sheep camp on Los Carneros Creek, a tributary of the Goleta slough. Table 5 lists the results of agricultural production and animal husbandry in the Goleta Valley vicinity from 1798 through 1805.

In 1806 a measles epidemic took many lives among the neophytes, and there is no mention in the mission registers

Frequency Row Pct Col Pct	1785	1787	1788	1789	1790	1791	1792	1793	1794	1795	1796	
Alcas	0 0.00 0.00	8 10.53 9.41	11 14.47 18.03	8 10.53 14.55	1 1.32 25.00	3 3.95 17.65	1 1.32 11.11	0 0.00 0.00	0 0.00 0.00	1 1.32 25.00	0 0.00 0.00	6 7.89 13.95
Geliec	0 0.00 0.00	20 19.42 23.53	10 9.71 16.39	10 9.71 18.18	1 9.71 25.00	2 1.94 11.76	2 1.94 22.22	0 0.00 0.00	0 0.00 0.00	5 4.85 62.50	8 7.77 18.60	
Gelo	0 0.00 0.00	13 8.67 15.29	16 10.67 26.23	12 8.00 21.82	0 0.00 0.00	4 2.67 23.53	2 1.33 22.22	2 1.33 50.00	0 0.00 0.00	1 0.67 12.50	1 0.67 2.33	
Saspilli	1 0.32 100.00	44 13.92 51.76	24 7.59 39.34	25 7.91 45.45	2 0.63 50.00	8 2.53 47.06	4 1.27 44.44	2 0.63 50.00	3 0.95 75.00	2 0.63 25.00	28 8.86 65.12	
Total	1	85	61	55	4	17	9	4	4	8	43	

(continued)

Frequency Row Pct Col Pct	1797	1798	1799	1800	1801	1802	1803	1804	1805	1806	Total
Alcas	4 5.26 13.79	5 6.58 35.71	0 0.00 0.00	3 3.95 10.34	1 1.32 4.17	2 2.63 10.53	18 23.68 8.41	0 0.00 0.00	4 5.26 80.00	0 0.00 0.00	76
Geliec	6 5.83 20.69	4 3.88 28.57	1 0.97 9.09	8 7.77 27.59	1 0.97 4.17	0 0.00 0.00	24 23.30 11.21	0 0.00 0.00	1 0.97 20.00	0 0.00 0.00	103
Gelo	7 4.67 24.14	0 0.00 0.00	0 0.00 0.00	3 2.00 10.34	2 1.33 8.33	5 3.33 26.32	80 53.33 37.38	2 1.33 25.00	0 0.00 0.00	0 0.00 0.00	150
Saspilli	12 3.80 41.38	5 1.58 35.71	10 3.16 90.91	15 4.75 51.72	20 6.33 83.33	12 3.80 63.16	92 29.11 42.99	6 1.90 75.00	0 0.00 0.00	1 0.32 100.00	316
Total	29	14	11	29	24	19	214	8	5	1	645

Table 4 Table of Origin by Year

Wool Production at "Saspili" (San Miguel)

Agriculture at "Abajo" (San Jose)
[and "Saspili" (San Miguel) after 1803]^b

Year	Crops	Planting		Harvest		% total Mission Harvest per crop	Month	Amount ^d (arrobas)	% total annual production	No. Sheep sheared
		Month	Amount ^c (fanegas)	Month	Amount ^c (fanegas)					
1798	Wheat	Jan.	67.9	Jul.	806.2	47.4%	Sept.	20 ^e	9.4%	n.g.
	Barley	Jan.	0.4	--	n.g.	--	--	--	--	--
	Corn	Apr.	0.8	--	n.g.	--	--	--	--	--
	Beans	--	1.2	--	n.g.	--	--	--	--	--
1799	Wheat	Nov.-Jan.	98.5	Jul.	715.0	50.4%	Apr.	65.9	23.2%	818
	Barley	Jan.	1.0	--	n.g.	--	--	--	--	--
	Beans	May	1.2	--	n.g.	--	--	--	--	--
	Barley	Jan.-Feb.	87.2	Jul.	1332.2	67.6%	Mar.	70.0	30.5%	1420
1800	Wheat	Jan.-Feb.	87.2	Jul.	1332.2	67.6%	Mar.	70.0	30.5%	1420
	Barley	Feb.	1.0	--	n.g.	--	--	--	--	--
	Wheat	Jan.-Feb.	78.8	Jul.-Aug.	903.0	38.8%	Apr.	112.4	36.2%	1494
	Corn	Mar.	0.9	--	n.g.	--	--	--	--	--
1801	Wheat	Jan.-Feb.	78.8	Jul.-Aug.	903.0	38.8%	Apr.	112.4	36.2%	1494
	Beans	Apr.	3.2	Jul.-Sept.	28.6	100.0%	--	--	--	--
	Wheat	Jan.	51.7	Jul.	960.0	33.4%	Mar.	135.6	29.7%	2040
	Barley	Jan.	2.0	Jun.	44.0	100.0%	Mar.	135.6	29.7%	2040
1802	Wheat	Jan.	51.7	Jul.	960.0	33.4%	Mar.	135.6	29.7%	2040
	Beans	Apr.	7.5	--	n.g.	--	--	--	--	--
	Wheat	Dec.-Jan.	81.0	Jul.	780.0	42.0%	Mar.-Apr.	124.0 ^f	24.6%	2021
	Barley	Jan.	3.8	Jun.	42.0	100.0%	Sept.	38.0 ^f	7.5%	2021
1803	Corn	Mar.	1.2	--	0-	--	--	--	--	--
	Beans	Apr.	2.8	--	n.g.	--	--	--	--	--
	Wheat	Dec. 1803	50.8	July	1239.0	21.4%	Apr.	171.4	32.7%	n.g.
	Barley	Dec. 1803	24.5	Jun.	620.0	100.0%	Apr.	171.4	32.7%	n.g.
1804	Corn ^g	?	n.g.	Aug.	177.8	33.3%	--	--	--	--
	Beans	Apr.	0.5	--	0 ^g	--	--	--	--	--
	Wheat	Dec. 1804	40.0	July	1650.0	33.6%	Mar.	139.0	24.9%	2280?
	Barley	Dec. 1804	15.0	Jun.	1008.0	100.0%	Mar.	139.0	24.9%	2280?
1805	Corn	Mar.	3.2	Aug.	110.0	18.6%	--	--	--	--
	Beans	Apr.	0.4	--	0 ^g	--	--	--	--	--
	Wheat	Dec. 1804	40.0	July	1650.0	33.6%	Mar.	139.0	24.9%	2280?
	Barley	Dec. 1804	15.0	Jun.	1008.0	100.0%	Mar.	139.0	24.9%	2280?

a. Source: Book of Planting, Harvesting, and Husbandry, Ms. on file, Mission Santa Barbara Archive Library.

b. Corn plantings only were at "Saspili" in 1804 and 1805.

c. 1 fanega = 1.67 bushels (Geiger 1965:54).

d. 1 arroba = 25 lbs. (Geiger 1965:79).

e. "Saspili" and "Miguigui" combined.

f. Young sheep at "Saspili", Miguigui, and "Las Armas" combined.

g. Bean crop destroyed by horses herd in 1804 and by grasshoppers in 1805.

Table 5 Earliest Mission Agriculture and Animal Husbandry in the Coleta Valley, 1798-1805^a

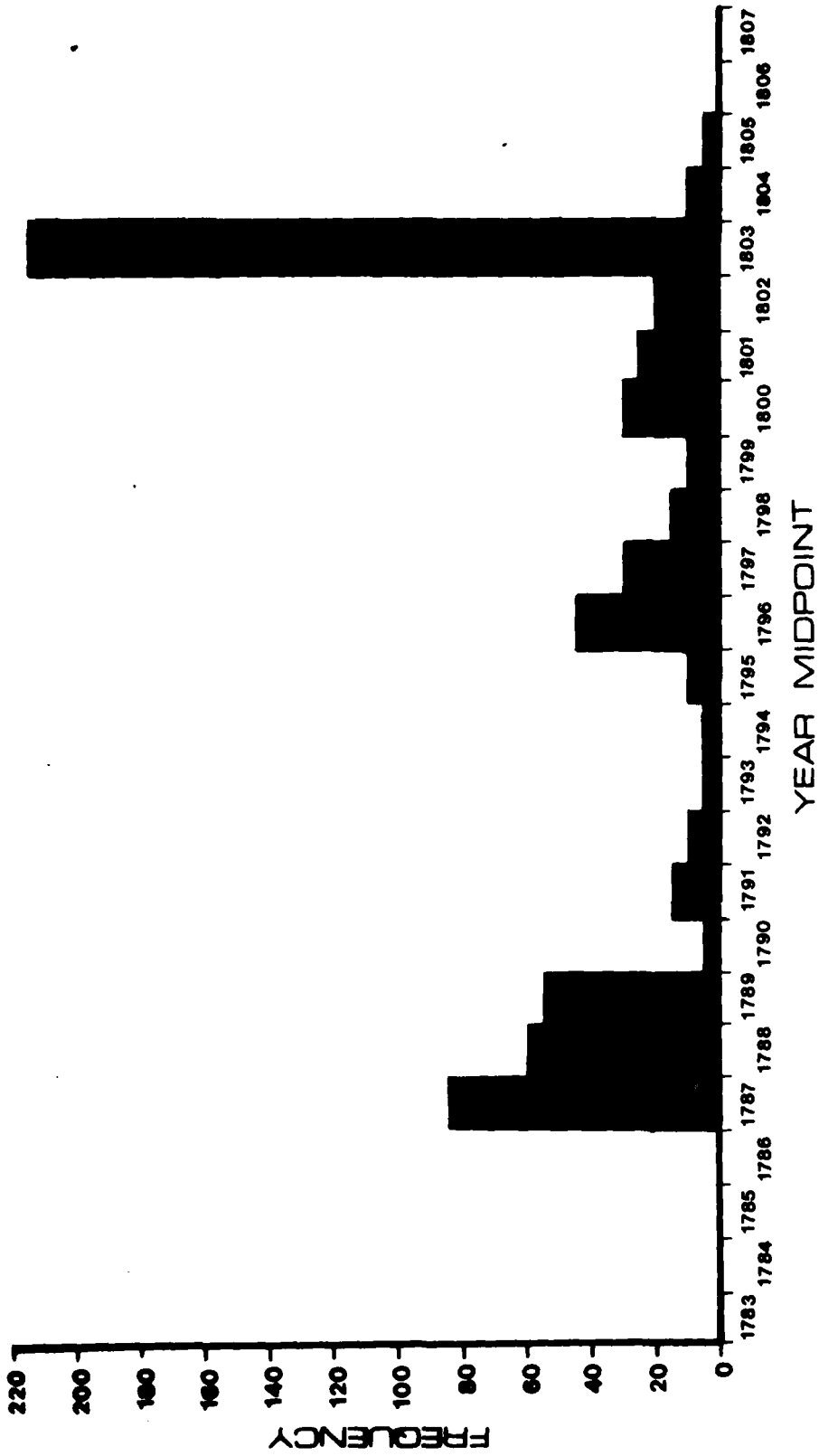


Figure 1 Number of Goleta Chumash baptized by year; frequency bar chart.

of burial or baptisms of the newborn in the Goleta rancherias after that year. The traditional settlements were gradually abandoned as neophytes settled in communities closer to the mission, its workshops, agricultural fields, and livestock ranches.

Late Mission Period 1807-1835

In spite of the missionaries good intentions, the reduction of the Chumash population to the missions had deleterious effects on the Indians. The introduction of European diseases, and cultural shock brought on by adaptation to an unaccustomed lifestyle, resulted in lowered fertility rates, a very high infant mortality, and high death rate generally among all age groups (Cook and Borah 1979).

After 1806, Mission Santa Barbara began a slow, but steady decline, parallel to the decline in Indian population. In 1812 a major earthquake rocked southern California and completely destroyed the chapel at San Miguel (Geiger 1965:255). From 1815 to 1818 the Chumash residing on the Channel Islands were brought over to the missions to bolster the neophyte community.

The year 1818 also brought the pirate Bouchard who sacked and burned the Refugio Rancho. The Missionaries at Santa Barbara took the mission valuables and retreated with the neophytes and presidio families over the mountains to Rancho San Marcos in the Santa Ynez Valley. Father Ripoll organized a band of neophytes to oppose the aggressors, but no battle proved necessary. The baptismal records indicate that en route to their place of refuge, several newborn infants were baptized. One was baptized in the "rancheria de San Jose" and another was born on the trail near San Jose and baptized at San Marcos. San Jose Creek preserves the name of the Mission farm community which once existed on its banks.

From 1822-1823 there were two very poor harvest years due to one of the most severe droughts in mission history. The resulting scarcity in food supply may have been an important factor leading to the Chumash revolt in 1824 (Coombs, 1980). That revolt led to a dispersal of Indian families into the mountains, and eventually to the southern San Joaquin Valley where refuge was sought from the presidio soldiers. An initial, ill-fated foray against the fugitive neophytes was unsuccessful. A second expedition succeeded without the use of arms in persuading the neophytes to capitulate. A key role was played by the missionaries who accompanied the expedition and whose sympathies lay with the Indians. They insured the safety of the neophytes if they returned to Santa Barbara (Cook 1962:152-157; Geiger 1970). The majority appear to have made the return journey, although it is known that some chose to remain in the San Joaquin valley where they were later visited by American trappers in the 1830s.

Among the Indians who died as a result of the initial clashes with the presidio soldiers were several who were

originally natives of the Goleta towns. These were Juan Fructuoso Suluajinasu of S'axpilil, Alonso Siyunauta of Helo', and Bartolome Suluapihueyaut of Helo'. Four other innocent neophytes from the agricultural fields of San Jose, east of Goleta, who came unarmed to the mission the day following the initial hostilities, were brutally slain without cause by the presidio soldiers (Mission Santa Barbara burial register and padron, Geiger 1970:362).

In 1826, Governor Echeandia issued an emancipation order which allowed neophytes who met certain qualifications to apply for a change in status and become Mexican citizens. In theory these emancipated Indians would no longer be subject to mission control, and their names were to be removed from the padron, or mission neophyte roll. There is no record of the effect of this order on neophytes living at Santa Barbara, but in general the plan did not succeed (Geiger 1965:109).

In 1835, secularization finally came to Mission Santa Barbara. The neophytes were made free citizens and the mission became a parish church. From secularization onward a number of former neophytes gathered together in small communities in the Goleta Valley. These had formerly been established during the Mission Period. One such hamlet was located just east of the mouth of the Goleta Slough, probably at or near the former village of 'Alkash (Harrinton n.d.).

The capitan of this settlement was Jose "Sudon" Kamuliyatset, a canoe-maker and former capitan of the village of Liyam on Santa Cruz Island. Jose Sudon and some other neophytes fled to the Channel Islands from Mescaltitan during the 1824 revolt with two Mission-owned canoes (Hudson 1976). The settlement near the slough had to be moved to the mesa top in 1853 or 1854 because of flooding (Hudson, Timbrook, and Rempe 1978:178).

The two most persistent Indian settlements of the Goleta area were centered at "Indian Orchard" on Maria Ygnacia Creek and on Cieniguitas Creek near the old San Francisco Chapel (Heizer 1973; Rogers 1929). Maria Ygnacia, the matriarch of the Indian Orchard community, was the daughter of Marcos Lihuisanaitset, the last capitan of the large village of Syuxtun on Santa Barbara beach (Johnson n.d.a). Her son, Jose Ygnacio, was the husband of Luisa Ygnacio, a principal Barbareno consultant of ethnologist, John P. Harrington. Two of Luisa's daughters, Juliana and Lucrecia, and a granddaughter, Mary Yee, also provided important anthropological data to Harrington. Pedro Ygnacio, a successful rancher, and Tomas Aquino Ygnacio were two of Luisa's sons who achieved some prominence. Because he was considered to be the last full-blooded Chumash, upon his death, the body of Tomas Aquino Ygnacio, was laid to rest beside the Franciscan Fathers at the Mission Cemetery vault (Geiger 1960:42-43).

Cieneguitas was home to a number of Indian families, until their forced removal in the last decades of the nineteenth century (Rogers 1929; Schaaf 1981). Two members of the Cieneguitas community, Justo, a consultant to H.W. Henshaw, and his son, Juan de Jesus Justo, a consultant to J.P. Harrington, provided valuable information on Chumash culture and on place-names in the Goleta Valley.

Ethnogeography

One major focus of J.P. Harrington's ethnographic research was the collection of Chumash placenames. His two principal Barbareno consultants, Luisa Ygnacia, and Juan de Jesus Justo were intimately familiar with the Goleta Valley vicinity. Both were born of Chumash parents and raised in Indian communities in the Goleta Valley. Luisa lived with her first husband in a small settlement just east of the mouth of the Goleta Slough, and later resided with her second husband at Indian Orchard on Maria Ygnacia Creek. Juan Justo was raised at Cieneguitas. Considerable confidence may be placed in the accuracy of their Goleta placename recollections. Two of Harrington's other principal Chumash consultants, Fernando Librado and Maria Solares, also provided data on Goleta placenames supplemental to the information supplied by Luisa and Juan Justo.

A total of twenty-eight Chumash placenames have been recorded for the immediate vicinity of Goleta Valley, besides the four occupied villages of the early Mission Period (see Table 6 and Map 4). These names refer mostly to geographical features such as canyons, marshes, springs, rocky points on the coast, etc. The names are often descriptive of some natural characteristic such as the locally associated flora and fauna or other natural resources. It is interesting to note that Harrington's consultants also knew some of these places as important hunting and gathering sites for certain shellfish species, birds, and food plants. For example, Juan Justo reported that Pismo clams could be obtained from mixas, the sandy beach in the vicinity of Deveraux Lagoon, and that mussels were likewise available at sismikiw, Goleta Point.

The native name for San Jose Creek, shkumuwash, meant "he arrived" (Applegate 1975:41). This name may record the function of San Jose Creek as the major route of travel for inland Chumash traders coming over San Marcos Pass. A related reference to San Jose's position relative to the San Marcos Pass trail may be present in the name for Santa Barbara Mission's San Jose Creek outpost called "Abajo", meaning "below". It will be remembered that several births took place during the Bouchard threat in 1818 at Rancho San Jose and afterward on the "camino" to Rancho San Marcos during the retreat to the Santa Ynez Valley.

Placename ^b	Etymology ^c	Locational Data provided by Chumash Consultants ^d	Modern Identification
'alawman	--	"Hill's house place" (La.) "near the windmill of La Patera" (Taylor, 1863)	at historic Daniel Hill adobe on La Patera Lane
'alilkon	"White clam"	"Cañada de Maria Ynacia" (La.) "Indian Orchard ... Next canyon east of San Jose" (Ju.)	Maria Ynacia Creek and historic settlement at Indian Orchard
'alwat'alam	"one that is choked (with weeds)"	"rancho de Hill. Natural lake there" (Sec. 22) "lake and old adobe house of Daniel Hill." (Jus.)	former pond and marsh adjacent to Burroughs and Raytheon, Goleta
'anasq'pu ^e	"wild cat spring"	"el agujero del gato montes ... the spring where lake is now ... (near) Daniel Hill's house" (Sec. 22)	vicinity of Lake Los Carneros
'anisaq'oyo'	"at the manzanita?"	"Mesa just west of La Goleta estero where brea (asphaltum) mine is" (Ju.)	UCSB Campus
he'l'erenxiwash	--	"Chico Remo's place, back of lake of Hill's Place, in hills" (Ju.)	in the Goleta foothills between Las Vegas and San Pedro Creeks
hult'iwis	--	"By boundary between La's ranch and the ranch of Charlie Hill, where bedrock mortars are". (La.)	unlocated
kaska'a	"the tule"	"Las Cieneguitas. Between Hoboc Road and Goleta road where there are ... (prickly pear cactus, old, adobe houses and a chapel)." (Ju.)	at intersection of Hoboc Road and Hollister Avenue
maxesim'u	"grinding place"	"A rinconada, a little west of napt'i'mé, where the waves come in, pile in. There is tar there." (Ju.)	Cove at More Mesa beach, half-way between Goleta Beach and Hope Ranch beach
múxas	"place of sand"	"Place of megalanos (sand dunes) farther west than p'ok'oy." (Ju.)	Coal Oil Point Preserve, east of Devereaux Lagoon
missik	"at the mouth"	"The whole mouth of the Goleta estero" (Ju.) "estero or lake of water = the whole La Patera estero" (La.)	Goleta Slough Inlet
natsawi	--	"name of high hill near Hollister's ranch house" (Ju.) "Cooper's [sic] canyon ... Hollister ranch is there." (La.)	hill behind Corona del Mar Ranch? or alternatively at other old Hollister ranch site in Glen Annie Canyon
napt'i'mé	--	"Mouth of Hope arroyo that flows from arroyo barranco" (Ju.)	mouth of Hope Ranch creek
paltuqaj	--	"on the Mesa of 'La Goleta y Patera" overlooking the sea shore" (Taylor 1863) "...used to be a rancharia on the Mesa above the cliffs opposite ... Mogwepp" (Ju.)	More Mesa (site SBA-42)
p'ok'oy	--	"name of point west of rock called sismikiw" (Ju.)	Coal Oil Point
quwa'	--	"the island in Goleta estero" (Quic.) "Mescalitan Island in Dos Pueblos language" (Quic.)	Mescalitan Island (cf. qwa')
qwa'	"small duck species"	"knows the place ... (the) father-in-law of Luisa and a good many other people were living at qwa'" (Qu.) "When La. was married to her first husband ... they were living near the beach east of the mouth of the Goleta estero." (La.)	More Mesa vicinity on Atascadero Creek
shkumuwash	"The arrived"	"Canon de San Jose" (Jus.), "Cañada de San Jose" (Quic.)	San Jose Creek
silipponomu'	"where it runs constantly"	"San Antonio. This side (east) of Tucker's Grove" (Jus.) "San Antonio canyon" (La.)	San Antonio Creek

p'ok'oy	--	"name of point west of rock called <i>sismikiw</i> " (Ju.)	Coal Oil Point
qwa'	--	"the island in Coleta estero" (Quic.) "Mescalitan Island in Dos Pueblos language" (Quic.)	Mescalitan Island (cf. <i>qwa'</i>)
qwa'	"small duck species"	"knows the place ... (the) father-in-law of Luisa and a good many other people were living at <i>qwa'</i> " (Qu.) "When La. was married to her first husband ... they were living near the beach east of the mouth of the Coleta estero." (La.)	Mesa vicinity on Atascadero Creek
shkumawash	"The arrived"	"Cañon de San Jose" (Jus.), "Cañada de San Jose" (Quic.)	San Jose Creek
si'ipponomi'	"where it runs constantly"	"San Antonio. This side (east) of Tucker's Grove" (Jus.) "San Antonio canyon" (La.)	San Antonio Creek
sismikiw	"place of the musseis"?	"on promontory west of mouth of Coleta estero." (Ju.)	Goleta Point
sitiptip	"place of much salt"?	"all the Salina (salt flat) at La Patara" (Sec. 22)	Goleta Slough (cf. <i>tiptip</i>)
siyolvus	"water of the bear"?	"Spring at the hitherward foot of the hill in ... center of ... live oak patch ... good view in from the highway" (Ju.)	east of San Antonio Creek, unlocated
tilko'y	--	"Tucker's Grove ... first arroyo crossed in going from Cieniguitas to La Coleta" (Jus.)	Tucker's Grove
tiptip	"much salt"	"Between <i>'anisp'o'yo</i> and <i>sismikiw</i> is the place called <i>tiptip</i> ... where we seemed to see the water of an estero ... means salina in general, but ... used it of said place as a placename." (Ju.)	UCSB Campus Lagoon
tiq'tsq'	"the blackberries"	"the ranch of Jose' Gutierrez ... where a certain road runs across to <i>shkumawash</i> " (Ju.)	unlocated
'ukshulo'	"stink water"	"A cienega, large, quite a distance from the house of old Hill by a road which used to run up the coast ... south of present county road." (La.)	Deveraux Lagoon?
wogwogo'	"much tar"	"More's Landing wharf site" (Ju.)	Asphaltum seep at Moro Mesa beach
xapax	--	"Next canyon to 'alikon this (Santa Barbara) way. Glass has property in that canyon." (La.)	East fork of Maria Ygnacia Creek?

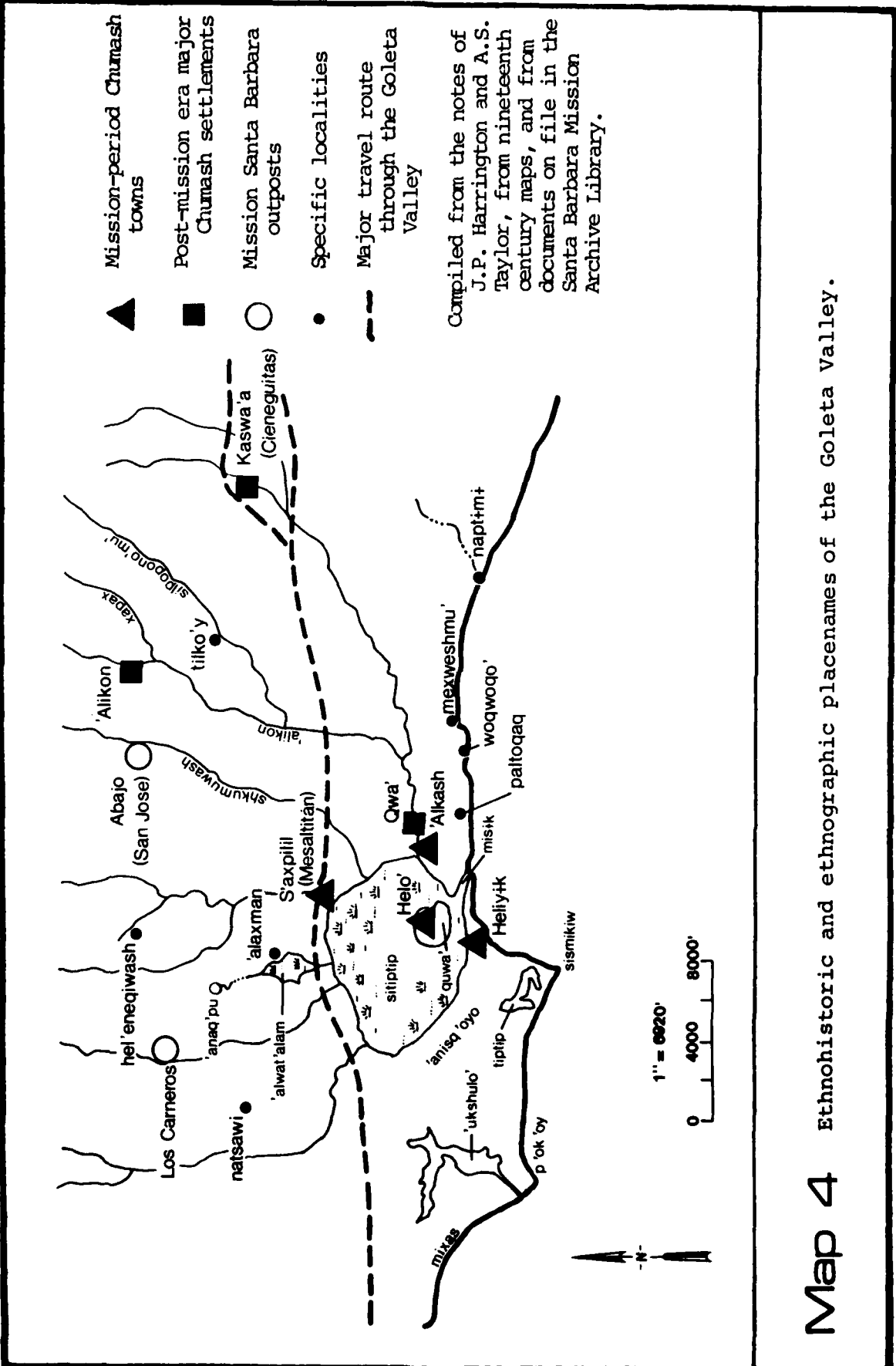
a. Sources: Harrington 1912-22, n.d.; Heizer 1973. See text and Table 3 for identification of village names.
 b. Orthography based on Applegate 1975.
 c. Harrington 1912-22; Applegate 1975.
 d. La. = Luisa Ygnacia, Barbareno
 Ju. or Jus. = Juan de Jesus Justo, Barbareno, of Dos Pueblos descent
 Sec. 22 = refers to a section of Harrington's notes, from Fernando Ibrado
 Quic. = Fernando Ibrado, Ventureño, but knowledgeable in other dialects, of Santa Cruz Island descent
 may be related to "Anachac" of Cabrillo's list (but cf. data from A.S. Taylor cited in text).
 e. Francisco Romo's homestead, granted Oct. 20, 1882, was situated in NW $\frac{1}{4}$ of SE $\frac{1}{4}$ and NW $\frac{1}{4}$ of SW $\frac{1}{4}$ (Lots 2 and 3) in T. 5N., R. 28W.
 f. (E.R. Blakley, personal communication).

1

2

Table 6

Chumash Placenames of the Goleta Valley Vicinity
Recorded by J.P. Harrington and A.S. Taylor^a



- ▲ Mission-period Chumash towns
- Post-mission era major Chumash settlements
- Mission Santa Barbara outposts
- Specific localities
- Major travel route through the Goleta Valley

Compiled from the notes of J.P. Harrington and A.S. Taylor, from nineteenth century maps, and from documents on file in the Santa Barbara Mission Archive Library.

Map 4 Ethnohistoric and ethnographic placenames of the Goleta Valley.

Population

The problem of original native population size present in the Goleta Valley prior to Spanish contact is of potential interest to anthropologists, human ecologists, geographers, and historians. As Table 2 indicates there is considerable disparity between the early estimates made by the members of the first Spanish land expedition and those estimates reported by later visitors.

Brown has suggested that the explorers' counts in 1769-70 probably overestimated the aboriginal population in the Goleta Valley, especially Helo' on Mescaltitan Island, which was not actually visited. Based on interpolation from a correlation between the logarithms of total baptisms and 1769 population estimates, Brown believed that Helo' was more likely in the 220-400 size range rather than the 600-800 range which the explorers diaries record. Crespi's 1770 estimate of 1500 would be thereby reduced to around 1200 persons. Brown hypothesized that a high death rate, largely accounted for the discrepancy in population numbers between 1769 and 1796, the year of Goycochea's census. He noted that the assumption of constant decline during that time would result in a population of 853 for the Goleta Valley in 1782, almost precisely the midpoint of Pantoja's actual estimate for that year (Brown 1967:76-78).

A combination of factors may account for disparate population figures at different points in time. The 1769 population figures may have been inflated somewhat by the presence of visiting Chumash from the Santa Ynez Valley and from the Channel Islands. Certainly the news of Portola's expedition northward travelled ahead of his daily marches, and it would be expected that such an event would have drawn outsiders to the coastal villages which he visited. In fact, the diaries record that at Ventura chiefs came from the mountains to meet the explorers. The expedition members were also informed that twelve canoes had been sent to the islands to bring people who wished to see them (Bolton 1927:160).

Another reason for higher estimates in 1769-70 is likely due to an actual decrease in population. The most likely factor was a high death rate, especially among young age groups, due to introduced European diseases. No major epidemics are reported for the Santa Barbara Channel area in the eighteenth century. The available documents are mute on this point. It is known that there was an epidemic at Mission San Francisco in 1795, (Brown 1974:7), and it is likely that the effects were felt in southern California as well. Outrages against Indian women, by Spanish soldiers were said to have been perpetuated since the beginning resulting in the introduction of venereal diseases (Bolton 1930:252). These later are known to have been a problem among the mission population (Geiger and Meighan 1976:74) and were one of the causes of high infant mortality.

Demographic Statistics from the Mission Records

To better understand some of the factors involved in Chumash population decline, and to gain greater insight into local demography and the process of missionization computer-generated tables and charts were prepared of the age and sex distributions of those Goleta Chumash who were baptized at Mission Santa Barbara. The results are presented in Tables 8 and 9 and Figure 3.

Prior to discussing these tables, it is necessary to digress for a moment, to clarify the procedures used to collect the data. An index of Chumash originating from Santa Barbara County villages had been previously prepared by Johnson for his M.A. thesis research. This index was based on village of origin, for each person baptized. Other data, including baptismal number, age, sex, date of baptism, and place of baptism, were also collected. The entire data set was placed on a computer disc file.

The use of the mission records involves a number of complications, not the least of which is the determination of village of origin. Apparently the padres desired to record the village of birth for each individual baptized. Although this was apparently the information recorded for most cases, it also frequently occurred that village of residence was recorded instead. This is especially true for those who were baptized very ill or near death and for middle-aged and elderly individuals who had lived most of their life at a particular village, even though they may have originally been born elsewhere. Sometimes the village of origin record for an individual varies among the different registers, often providing a clue that the village of birth and village of residence were confused for that particular case.

In a few instances the village of origin is omitted altogether. Such cases require reference to other registers or inferences derived from reconstructed geneological charts in order to confidently assign a person to a particular town.

In reviewing the tables produced in this report based on mission registers, it must be remembered that the statistics presented represent a mixture of both people born at Goleta Valley villages and people residing at these villages who had been born elsewhere. Figure 2 illustrates the breakdown in number and percentage of people originating from all the villages in the Goleta Valley.

Another difficulty in utilizing the mission records results from orthographic interpretations of village names. Different missionaries recorded the Chumash village names in different ways. Some of the variant names for a particular village are

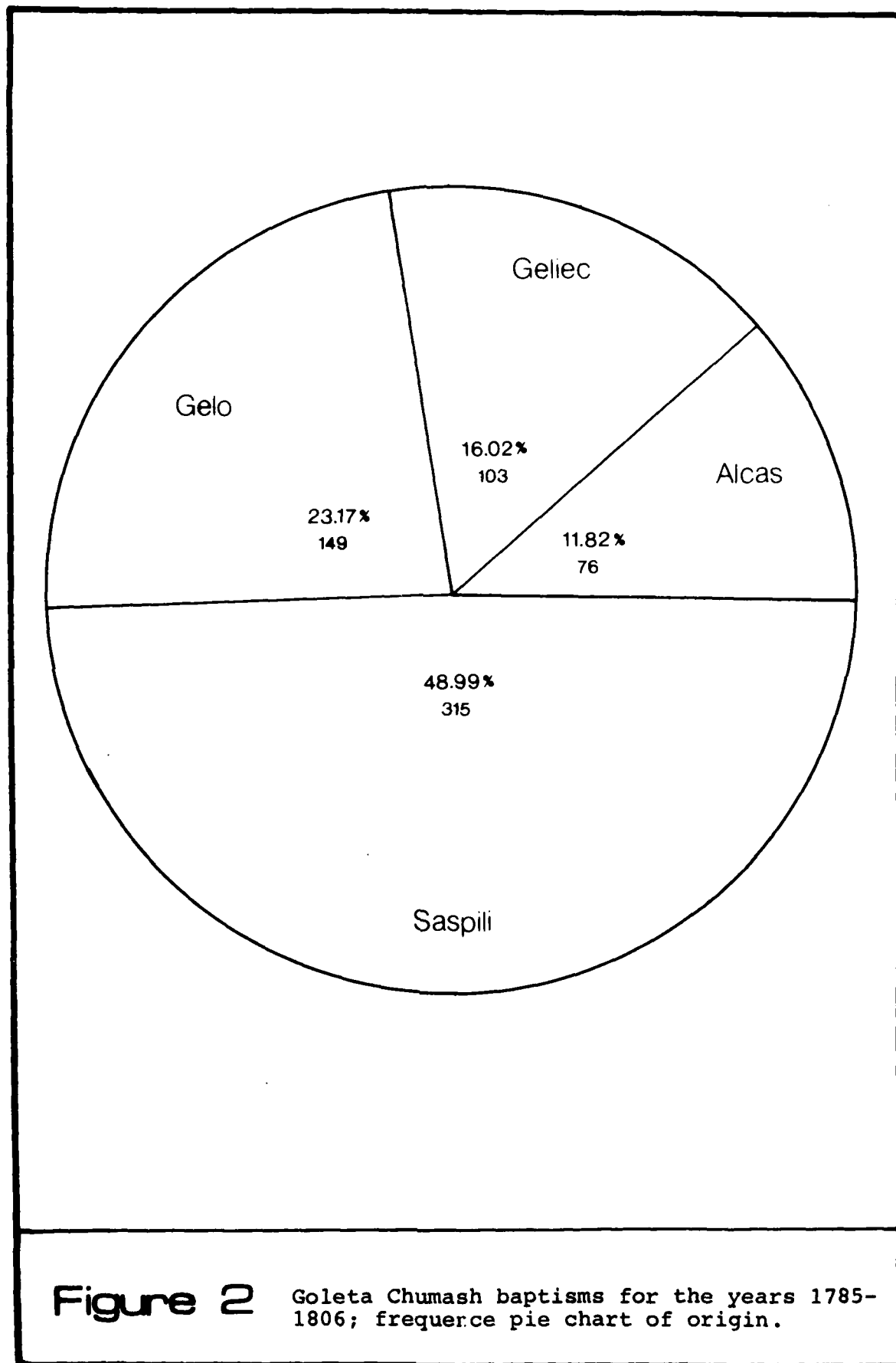


Figure 2 Goleta Chumash baptisms for the years 1785-1806; frequency pie chart of origin.

not readily recognizable as referring to the same place. Fortunately this is not as great a problem for the particular villages in the Goleta Valley, since the missionaries were fairly consistent in recording native names there. But as Table 7 indicates, even in the case of the Goleta towns, some variants would not normally be considered the same place. Some of the extreme examples are the forms "Arcaaz" and "Alcahes" for 'Alkash and "Elihec" and "Xilit" for Heliy~~ak~~. Correlations for less obvious variants have all been cross-checked using the marriage registers, burial registers, padrones, and geneological relationships.

Table 7 is necessary because a failure to distinguish between similar names of different villages, e.g. "Gelo" and "Geliec", and the opposite problem of not recognizing variant names for the same village have been a recurrent problem in studies utilizing the mission records.

A table of name variants for villages located in the Santa Ynez Valley and mountains north of Santa Barbara has been previously prepared (Johnson n.d. b) and was utilized in determining village of origin for relatives of Goleta natives.

From examination of Table 8 and Figure 2 some interesting observations may be made. The most striking discovery is the preponderance of women over men in the total number of Chumash baptized from the Goleta towns. Women outnumber men more than 2:1 after age 25. Several hypotheses may account for this disparity. Intervillage conflicts, which are amply documented in early Spanish diaries and official reports may in part account for lesser number of men.

A second factor, is that the more mobile status of men, may have encouraged a lesser tendency to be baptized. The option of becoming part of the mission community or moving to an area outside the mission influence, may have been sexually selective. Women with young children may have preferred the security of the mission food supply and residence among people whom they had known prior to baptism. Men, without as great a responsibility towards their progeny, especially with the mission as provider, may understandably have preferred freedom and moved elsewhere.

A third hypothesis takes into account Chumash social organization. The Chumash practiced matrilocal residence, as will be shown below. As a result the greater mobility among males may have been a further factor in their hypothesized selection of migration rather than missionization.

It must also be considered that the observed disparity between the sexes in Table 8 and Figure 3 is artificial. Matrilocal residence results in a greater movement of males to other villages. If the missionary recorders were not careful in distinguishing villages of birth and residence, men born at Goleta towns might be "hidden" in the statistics of other

Recorder	Years of Missionary Service at Santa Barbara ^b	S'axpiliil	Helo'	'Alkash	Heliyšk
Dametz	[at San Buenaventura]	Sajpiliin (in 1785)	<u>Celo</u> (in 1788)	---	---
Santa Maria	[at San Buenaventura]	---	<u>Celo</u> , <u>Gello</u> (in 1787)	Alcas' (in 1787)	---
Oramas	1787-1790	Saspiliil, Saspiliil, Saspiliil	<u>Celo'</u>	Alcaz', Alcaz, Alcaz	<u>Celiec</u> , Celiet, Jeliec
Paterna	1786-1793	<u>Saspili</u> , Xaspili	<u>Celo</u>	Alcaz, Alcaza, Arcaz, Arcas, <u>Alcas</u>	Celiet, Celiqu, Elihec, Elihec, Geliyec, Geliyc, Geliuc, Eliet, Xilit, Celie, <u>Celiec</u>
Lasuen	visited in 1788, 1790	Saspiliil, Saspiliil	---	<u>Alcas</u>	Elihec
Calzada	1788-1789	Saxpili	<u>Celo'</u>	Arcaaz	Celloc
Miguel	1790-1798	Saspiliil, <u>Saspili</u> Saxpili, <u>Saspily</u>	<u>Celo</u>	<u>Alcas</u> , Alcax, Alcaz	Celie, <u>Celiec</u> , Jeliec, Celyec, <u>Celiez</u>
Tapis	1793-1804	<u>Saspili</u> , Saspil	<u>Celo'</u> , <u>Celo</u>	Alcajch	<u>Celiec</u>
Uria	1797	<u>Saspili</u> , Saspili <u>Sajpiliil</u> [at La Purisima]	---	Alcax	<u>Celiec</u>
Cortes	1798-1805	<u>Saspili</u> , Sajpili, Saspili, Saspily, Saspiliil	<u>Celo</u> , <u>Celo</u>	Alcahes, Alcajch, Alcahse	<u>Celiec</u> , Celiet
Señan	visited on several occasions	Sajpiliil	---	---	<u>Celiec</u>
Olbes ^c	1813-1816	Sajpiliil	<u>Celo'</u>	Alcax	<u>Celiec</u>

a. The most often used form for each village is underlined.
 b. Gaiger 1969.
 c. Primary author of 1815 padron.

Table 7 Coleta Rancherías: Synonymy of Village Name Orthography^a in the Mission Baptismal Registers and Padron

Frequency Row Pct	F	M	Total
0-4	36 59.02	25 40.98	61
5-9	30 37.50	50 62.50	80
10-14	20 45.45	24 54.55	44
14-19	31 42.47	42 57.53	73
20-24	38 52.05	35 47.95	73
25-34	48 73.85	17 26.15	65
35-44	50 64.94	27 35.06	77
45-54	31 55.36	25 44.64	56
55-64	29 55.77	23 44.23	52
65-74	35 79.55	9 20.45	44
75-84	9 81.82	2 18.18	11
85+	7 100.00	0 0.00	7
Total	364	279	643

Table 8 Age Group by Sex of Goleta Chumash at Baptism.

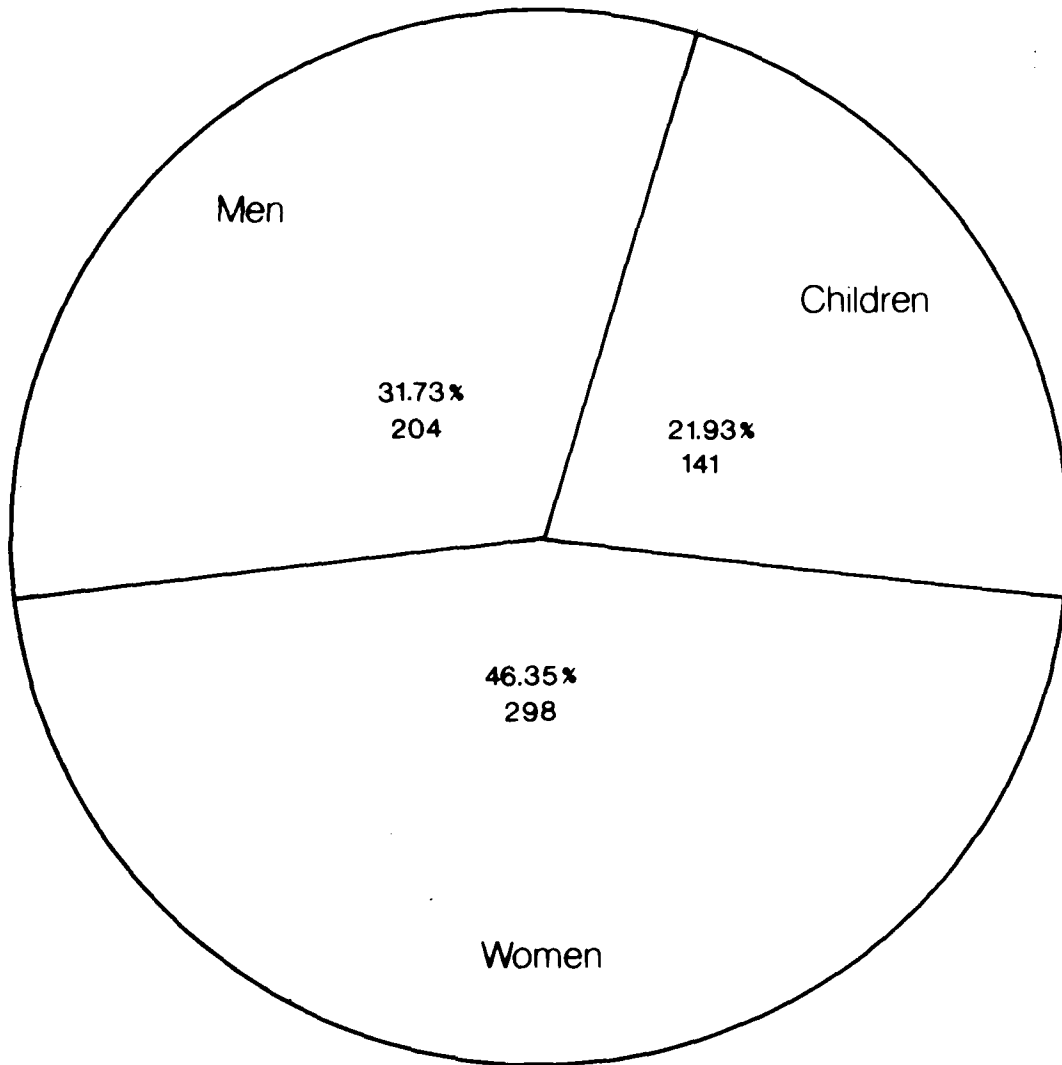


Figure 3

Goleta Chumash baptisms for the years 1785-1806; frequency pie chart of sex.

Chumash villages. Further research and comparative baptismal data from other Chumash towns are needed to test these hypotheses and to determine whether the pattern of sexual disparity in adult men and women is a general phenomenon.

Another observation derived from Table 8, indicates a comparatively low value for the number of infants baptized from the Goleta towns. This phenomenon was also noted at Mission San Luis Obispo in northern Chumash territory. At missions north of the Chumash region, infant baptisms in the 0-4 year old range accounted for nearly 25% of all gentile Indians which were baptized. This latter figure is in accord with what may be assumed to be the normal aboriginal condition of high birth rate combined with high death rate (Cook and Borah 1979: 196-204). Further data will be necessary to determine if this pattern of lower numbers of infants is characteristic for the Chumash region as a whole.

Table 9 represents an attempt to determine the number of Goleta Valley Chumash alive in 1782 and likewise the number alive in 1796 who were eventually baptized at the missions. The 1782 figure may be compared to Pantoja's estimate of 800-900 persons living in the Goleta Valley at the very beginning of the Mission Period. The 1796 figure may be compared to Goycochea's census estimate.

To arrive at the figures presented in Table 9, those individuals who were born after the respective dates of Pantoja's and Goycochea's counts were deleted from each compilation. Also deleted from the 1796 calculations were those individuals who had already been baptized prior to January, 1796. The differentiation between children and adults occurs at 10 years of age. This represents a distinction which the missionaries themselves made between those less than 10 years old, "parvulos", and those 10 years old or greater, "adultos".

The percentage of people eventually baptized from the Goleta towns who were living in 1782 was 56.5%, if the midpoint of Pantoja's estimate is used. The same percentage for 1796 is 74.2% for Heliyik, 80.4% for 'Alkash, 88.6% for Helo', 90.1% for S'axpilil, and 87.4% overall. The percentage of people never baptized after 1782 averaged over 24 years to 1806 results in a yearly average decrease of 1.8%. The average yearly decrease from 1796 to 1806 was even less, 1.3%. In order to extrapolate backward in time more data is required regarding the death rate of individuals from the Goleta towns baptized between 1785 and 1806, as obtained from the burial register. This data is not currently tabulated, but when available, and combined with data presented above, will make possible a more accurate determination of aboriginal population size in the Goleta Valley at the arrival of the Europeans.

A further significant point may be made by examining the data presented in Table 9. A proportionately greater number of

Goleta Chumash in 1782

Frequency Percent Row Pct Col Pct	Children	Women	Men	Total
Alcas	21	23	17	61
	4.38	4.79	3.54	12.71
	34.43	37.70	27.87	
	17.95	10.41	11.97	
Geliec	16	33	27	76
	3.33	6.88	5.63	15.83
	21.05	43.42	35.53	
	13.68	14.93	19.01	
Gelo	32	47	30	109
	6.67	9.79	6.25	22.71
	29.36	43.12	27.52	
	27.35	21.27	21.13	
Saspili	48	118	68	234
	10.00	24.58	14.17	
	20.51	50.43	29.06	
	41.03	53.39	47.89	
Total	117	221	142	480
	24.38	46.04	29.58	100.00

Goleta Chumash in 1796

Alcas	3	27	11	41
	0.82	7.36	3.00	11.17
	7.32	65.85	26.83	
	6.98	12.50	10.19	
Geliec	8	24	17	49
	2.18	6.54	4.63	13.35
	16.33	48.98	34.69	
	18.60	11.11	15.74	
Gelo	10	53	28	91
	2.72	14.44	7.63	24.80
	10.99	58.24	30.77	
	23.26	24.54	25.93	
Saspili	22	112	52	186
	5.99	30.52	14.17	50.68
	11.83	60.22	27.96	
	51.16	51.85	48.15	
Total	43	216	108	367
	11.72	58.86	29.43	100.00

Table 9 Table of Origin by Sex

children appears to have survived who were alive in 1782, than was the case of those children alive in 1796. If this inference is accepted, then it must be concluded that there was an increasing death rate among children between 1796 and 1803. The effect of European diseases, such as the "dolor de costado" epidemic in 1801, may directly account for this observation.

Sociopolitical Organization

The Chumash were organized politically into groups of villages, all apparently under the jurisdiction of a paramount chief or paqwot (Harrington 1942:32-34, 45; Hudson et al. 1977:15). In the Santa Barbara area, Yanonalit, the chief of Syuxtun, was reported by the Spanish to have influence over thirteen other villages (Brown 1967:147). At other villages there were also officials referred to as capitanes by the Spanish. Since there were multiple capitanes in some villages, it has been variously suggested that these men were lineage headmen (Landberg 1965:33; Brown 1967:5), people of importance in a clan or moiety (Warren 1977:247), or anyone holding a political office (Blackburn 1975:12). The Spanish observers report that in some instances, there were gatherings of capitanes from several villages at one location (Cutter 1960:65).

This latter reference is reminiscent of the ethnographic descriptions of the religious organization of the 'antap, a cult which cross cut village affiliation and may have served to integrate localized political and economic groups within portions of the Chumash region. A fiesta system is known to have existed which provided an occasion for religious ceremonies supervised by 'antap members, dancing, gift-giving, and economic exchange (Blackburn 1974). Persons from many different villages are known to have participated in these fiestas which were held at special times of the year (after the fall harvest, at winter solstice, etc.) (Hudson et al. 1977:43-63). Lack of attendance at these fiestas was reportedly a major social insult and could be considered a cause for warfare (Landberg 1965:30).

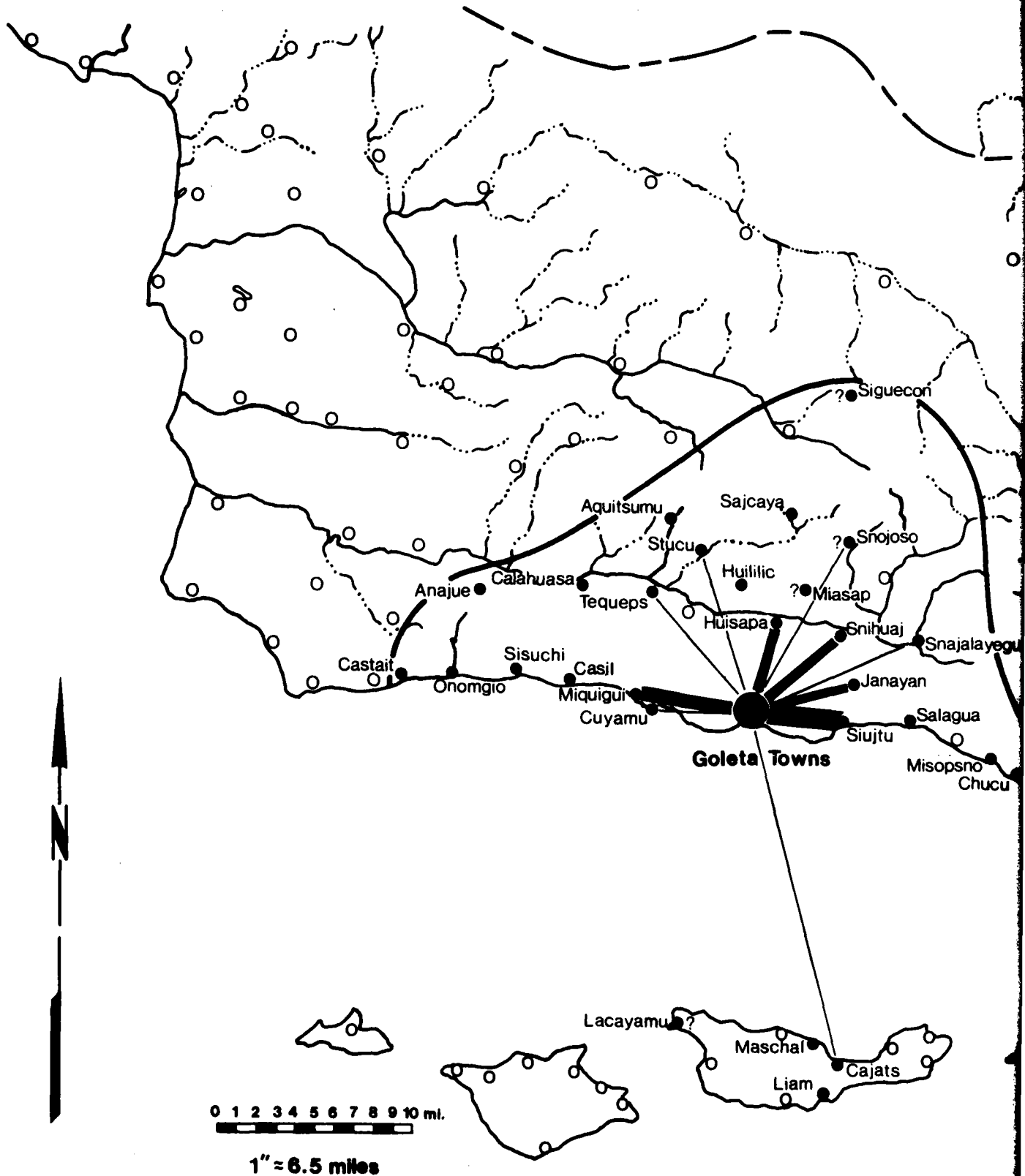
The one mention of a fiesta in the Goleta Valley occurs in 1798. On October 17 and 18, the commandante of the Presidio visited the Chumash settlements of "Tequeps" (Tegepsh) and "Calahuasa" (Kalawashaq) in the Santa Ynez Valley. Most of the people from these villages were absent at the time. Those Indians who remained reported that the others had gone to a fiesta at "Mescaltitan", probably the fall harvest ceremony (Goycochea to Borica, Oct. 21, 1798).

In order to better understand Chumash sociopolitical organization in the Goleta Valley, geneological data was collected from the mission registers for all people baptized from the Goleta villages. Diagrams were reconstructed showing the kinship relationships among the various individuals who were baptized. The methods used in these reconstructions were those discussed by Hodge and Warren (1980, n.d.). The geneolo-

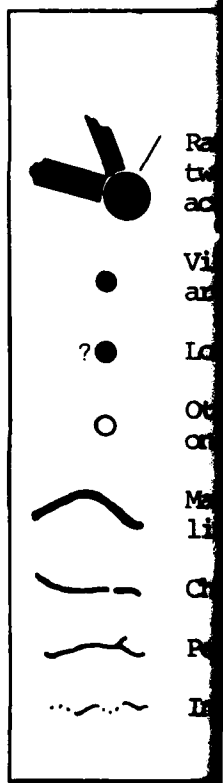
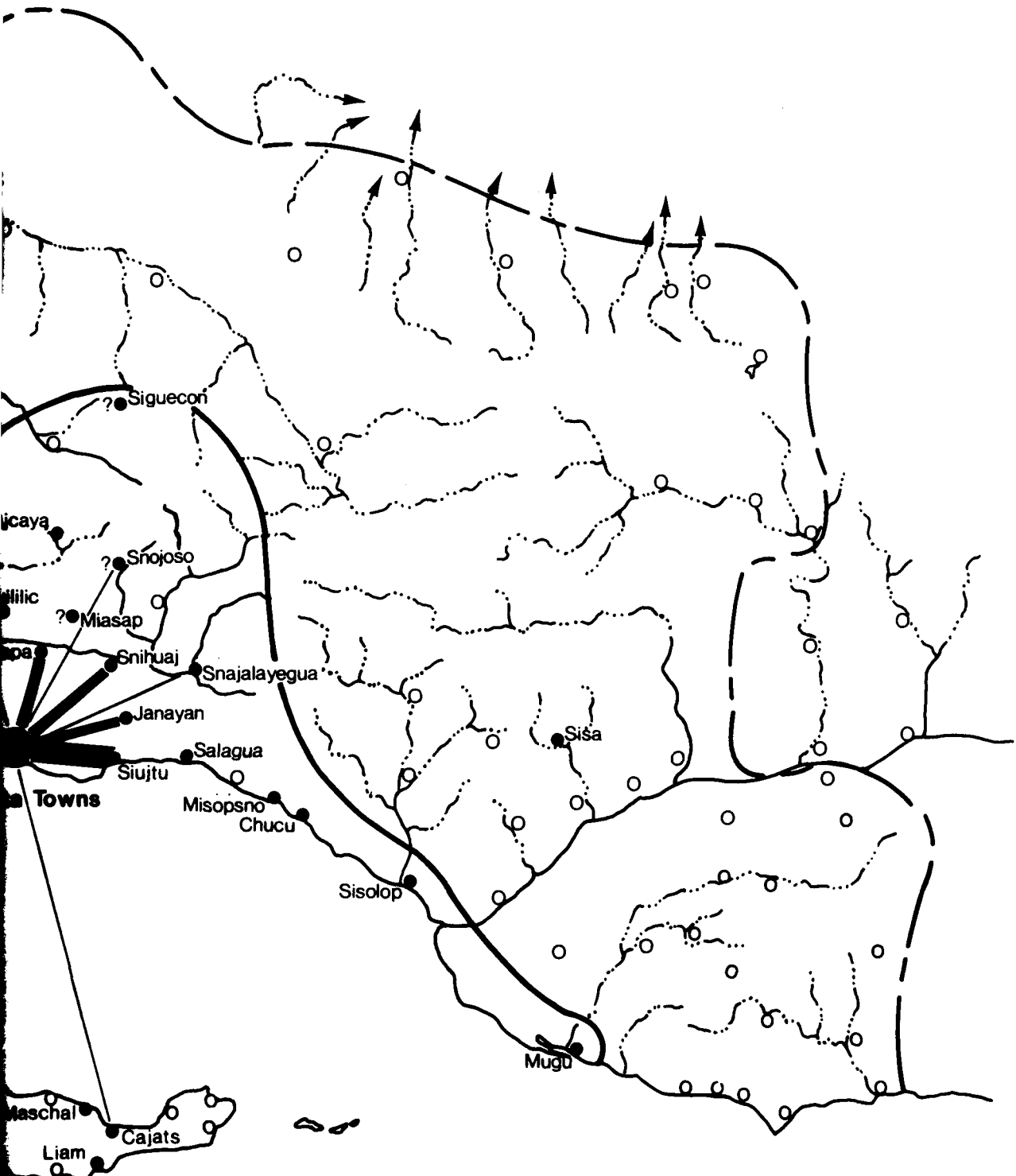
Goleta Valley Villages										Channel Island Villages					Islands (unspecified)		Total
Saepilli	CeLo	Alcas	Celiec	Total	Cajats	Liam	Maschal	Lacayamu	Total	Tequespis	Valley Yreasoñ Villages	Calahuasa	Najue	Total			
Villages East of Goleta					Villages West of Goleta					Valley Yreasoñ Villages							
Saepilli	CeLo	Alcas	Celiec	Total	Cajats	Liam	Maschal	Lacayamu	Total	Tequespis	Aguitsumu	Calahuasa	Najue	Total			
(30)	20(6)	6(4)	7(2)	33(12)	-	-	-	1	1	-	-	-	-	1			
20(6)	(18)	12(4)	11(2)	43(12)	-	-	-	-	-	-	-	-	-	0			
6(4)	12(4)	(3)	6(4)	24(12)	1	-	-	-	-	-	-	-	-	1			
7(2)	11(2)	6(4)	(6)	24(8)	3(1)	1(1)	1	-	2(2)	-	-	-	-	7(4)			
(12)	(30)	(15)	(14)	124(44)	4(1)	1(1)	-	-	2(2)	-	-	-	-	9(4)			
Villages East of Goleta																	
Saepilli	Janaya	Salagua	Misopano	Chucu	Sisopol	Muxu	Total										
11(5)	1(1)	1	2(1)	-	-	1(1)	16(8)										
7(4)	1	-	-	1(1)	-	-	9(4)										
1(1)	-	-	-	-	-	-	2(1)										
5(1)	6(3)	-	-	-	-	-	11(4)										
24(11)	8(4)	1	2(1)	1	1(1)	1(1)	38(17)										
Villages West of Goleta																	
Cuyasu	Miguilqui	Casil	Sisuchi	Nangio	Castait	Total											
1	8(4)	-	-	1	1	11(4)											
2(1)	7(4)	2	-	-	-	11(5)											
-	1	-	1(1)	-	-	2(1)											
-	1(1)	-	-	-	-	1(1)											
3(1)	17(9)	2	1(1)	1	1	25(11)											
Mountain Villages																	
Stucu	Sajeyra	Huillic	Sigueon	Huisapa	Misapo	Suhuai	Srojoso	Sanjalayuca	Sisa'	Total							
2(2)	1(1)	2(2)	1(1)	7(6)	1(1)	3(2)	-	1	1(1)	19(16)							
1(1)	-	-	-	1	-	5(2)	3(1)	-	-	10(4)							
-	-	-	1(1)	2	-	1	1	1(1)	-	6(2)							
1	-	-	-	2(1)	-	1(1)	-	1(1)	-	5(3)							
4(3)	1(1)	2(2)	2(2)	12(7)	1(1)	10(5)	4(1)	3(2)	1(1)	40(25)							

a. Source: Geneological diagrams by Warren, Warren, and Johnson, reconstructed from entries in Mission registers on file at the Mission Santa Barbara Archive Library.
 b. A total index of all Intervillage Kinship links is followed in parentheses by the number of native marriages where the village of each spouse is known. Double parentheses include counts of endogenous marriages.

Table 10 Goleta Valley Interaction Sphere, 1786-1806^a
 Intervillage Relationships and Intermarriages^b



2



1

3

Map 5

THE GOLETA CHUMASH INTERACTION SPHERE (1786-1806)

Reconstructed from kinship relationships
recorded in Mission Registers

KEY



Radiating bars represent villages with more than two relatives in the Goleta towns (width varies according to the number of kinship links)



Village with relatives from the Goleta towns (names are given in their common register forms)



Location tentative



Other native settlements of the Mission Period (based on King 1969, 1975)



Maximum mainland geographical limit of kinship linkages with the Goleta towns (Sisa being an exception)



Chumash linguistic boundary



Perennial stream



Intermittent stream

intermarriage of islanders with spouses from Heliyik, and a fifth instance may be implied where a mother from the islands is parent to a Heliyik child who is half-brother, by an unrecorded father to siblings from S'axpilil. No other Goleta town had the extensive ties to the Channel Islands which Heliyik possessed.

Other important data on intervillage relationships emerges from Table 10. Of 154 tabulated native marriages, including both those confirmed upon baptism and those inferred from geneological reconstruction, 101 (65.6%) were village exogamous. Actually this figure probably underrepresents the occurrence of village exogamy among the Chumash, due to the problem, previously discussed, of confusing village of residence with village of birth. A total of 57 "endogamous" marriages were recorded from the Goleta Valley towns, excluding 8 cases for which sufficient data were lacking to associate one of the partners with a village of birth. In most of these latter cases one spouse was baptized, seriously ill at one of the Goleta towns, but actual village of origin was unmentioned. Of the 57 cases, 31 were recorded in the marriage register in 1803, the year when baptisms were performed en masse at the mission, usually whole villages at a time.

During such a busy period, it would not be expected that the missionaries could accurately determine the village of birth for each individual. Thus the number of "endogamous" marriages in that year is probably not accurate. In fact several cases of exogamy were identified among the "endogamous" group when other registers, such as the padron, were consulted. These latter cases were included in our exogamous totals.

In order to assess the reliability of the village endogamy totals the geneological diagrams were inspected to determine who each spouse's relatives were. If no relative was recorded for a spouse or his or her relatives were from another village, then the endogamous nature of the union was suspect. Of the 57 "endogamous" cases only 11 couples were certain endogamous cases. The "endogamous" cases expectedly occurred mostly at the larger villages of S'axpilil (30 instances) and Helo' (18 instances). Only 3 were found at 'Alkash and 6 at Heliyik, and of these 9, only one was a certain occurrence of village endogamy.

While a good argument may be made for a tendency towards village exogamy among the Goleta Chumash, it is also true that they tended to marry individuals from other Goleta towns. If we look at exogamous cases only, 43% of the marriages were between people from different Goleta villages. If we combine this figure with the 57 "endogamous" marriages, count the latter twice to represent 2 marriage choices each, one for each partner, the result is 73.5% endogamy within the local Goleta area.

Post-marital residence has been a topic of some speculation among anthropologists interested in Chumash social organization. Harrington (1942:32) reported the presence of patrilocal clans

among the Chumash, based on his ethnographic research. On the other hand, recently conducted ethnohistoric research, using the mission registers, has tended to indicate matrilocality was more often practiced (Edwards 1969; Pfieffer 1977; King 1980-81).

The data derived from the present study would seem to provide conclusive evidence for matrilocality among the Chumash. Three types of data were considered as evidence of post-marital residence. One was the explicit statement by the missionary in the baptismal or marriage entry that a person was native of a village different than the one in which he was residing. The second type of evidence was the village of origin recorded for the children of a native union. The third type of evidence was the occurrence of an exogamous case among a group of "endogamous" couples all baptized the same day from the same village. This last type of evidence was useful only for the year 1803 and for an earlier occasion in 1797 when the majority of people living at Syuxtun accepted baptism.

Post-marital residence could be determined for 47 cases of exogamous marriage involving at least one spouse from a Goleta town. Of these, 2 were neolocal and 6 had evidence of residence at both spouse's villages i.e., their children were divided among those from their father's village and those from their mother's village. Of the remaining 39 cases, 32 were matrilocality and 7 were patrilocality (see Table 11). Of the matrilocality cases, 2 also had additional evidence of neolocal residence. As Table 11 indicates, the distribution in favor of matrilocality is significant, according to the chi-square test at the .001 level of probability. Goodman and Kruskal's tau for Table 11 is 0.422, indicating a moderately strong association of variables.

Table 11 Exogamous Marriages involving at least one spouse from a Goleta Chumash Village (X)

	Husband from Village X	Wife from Village X	
Residence at Village X	2	17	19
Residence at Spouse's Village	15	5	20
	17	22	39

Chi-square = 16.49, $p < .001$

Tau = 0.422

One patrilocality case was an instance where the wife from Helo' had moved to her husband's village of S'axpilil, where he was a capitan. Three other patrilocality cases were instances where wives had moved to Syuxtun, the village of residence of the paramount chief Yanonalit.

The present study has provided an opportunity to gain additional insight into the geneologies of persons with the rank of capitan. The names of six capitanes are known for Helo', five of which were baptized. Five names of capitanes are known from S'axpilil and three for 'Alkash, only one of these, from the latter, was evidently not baptized. One capitan from S'axpilil, Felipe Antonio Ahujait, was from the village of Syuxtun. But in Goycochea's 1796 census, he was capitan of Heliyik, his name recorded as "Ajuiait". No other capitanes are recorded from Heliyik.

Three geneologies provide evidence of inheritance of the Chumash rank of capitan. Figure 4 provides an illustration of one of these cases. Domingo Aliolioliguic was the first capitan from any Chumash village to be baptized at Mission Santa Barbara. His son-in-law, Florencio Maguiti, was baptized in 1801 several years after the death of his wife, Salvadora Maria (Domingo's daughter). In Florencio's subsequent marriage to another neophyte (Marriage No. 391), he is referred to as capitan. Another relative to Domingo, his grandson, Guillermo Gelemhuiyol of Helo' had a native marriage, never confirmed by the church, to a daughter of Zeferino Sulumauquiet, capitan of Mikiw (See Hodge and Warren 1980: Fig. 2 for part of Zeferino's geneology).

The two other recorded instances of capitan inheritance involve cases of patrimony, one for Helo' and the other for S'axpilil. In both instances, father and son were both capitanes.

The above discussion illustrates the types of information which may be derived from geneological reconstructions using mission register data. The uses to which the Goleta geneologies have been put in this study do not exhaust the possible analysis which may be conducted. Further studies will elucidate other aspects of Chumash sociopolitical organization.

Economic Organization

Chumash subsistence along the coastal Santa Barbara County was heavily dependent on the rich maritime resources of the Santa Barbara channel. Landberg (1965) has carefully reconstructed the availability and seasonality of pelagic schooling fish, the kelpbed fishery, and sea mammal populations. A reconstruction of the prehistoric fishery of the Goleta Lagoon itself has also been attempted by Johnson (1980).

The general picture which emerges is one of marine resource abundance in the channel and lagoon during spring and summer with a season of relative scarcity in the winter. During the

fall most villagers moved to the foothills and mountains for the collection of Islay (Prunus iticifolia), and after the islay harvest, acorn from Coast Live Oak (Quercus agrifolia) were gathered. Hunting of maritime birds which wintered at the Goleta Lagoon and the winter runs of steelhead trout up the tributaries to the estuary provided important sources of food during the lean season for fishing. Pismo clams and mussels from the open coast and Chione and oysters from the slough were important shellfish sources of sustenance year around.

The seasonal Goleta Chumash food supply is very well illustrated by the reports of eighteenth century chroniclers. In August, 1769 the members of the Portola expedition were so overwhelmed by gifts of fish from the Goleta towns that they had to turn away offers of food for fear it would spoil. In January, 1770 the Goleta towns had no fish whatsoever (Bolton 1927:167-8; 265-6). In November of 1793, members of the Vancouver expedition visited the Goleta Valley. In the towns around the estuary they found only a few old men and women. It was reported that:

...most of the Natives were at this time up the Country in a Wood at a little distance collecting Acorns which he assured us they stored up in considerable quantities as an article of food on which they greatly depended for maintenance... (Eastwood 1924:319).

Fishing in the Channel was conducted using well-constructed plank-canoes (Hudson, Timbrook, and Rempe 1978). Crespi's diary reported that 16 of these canoes were owned by people from Helo' in 1769 (Brown 1967:33).

Another important aspect of Chumash economy was a region-wide exchange system which operated by means of shell-bead currency (King 1971). The Channel Islands provided the bulk of the beads used as the standardized medium of exchange. However, archaeological evidence from SBA-60, the site corresponding to the town of S'axpilil, also has yielded evidence of bladelet production (Kowta 1961). From bladelets, were manufactured the small drills used in shell beadmaking.

Religious Practices and Sacred Locations

In the center of each Chumash village was located a ceremonial enclosure used by religious specialists and members of the 'antap cult. Juan Justo reported that men of wisdom used the enclosure, and he associated these men with bead-making. He had heard that such an enclosure, 35 feet square, was once located on Mescalitan Island (King 1971). Shrine sites, consisting of feathered poles, where the Chumash made offerings of food and shell beads, were located near village sites and at special localities in the foothills and along the coast (Hudson and Underhay 1978; Hudson et al. 1977). Two such sites

in the Goleta Valley were known to Juan Justo. One of these was at Helo' on Mescalitan Island and the other at tilko'y, Tucker's Grove (Harrington 1912-1922).

All the rancherias alike, without exception, plant a stake about a vara and a quarter high in the clearest and most elevated spot, and on top of it they place a bunch of feathers.... When the stake is destroyed by the weather, rain, or otherwise, they replace it in a new clearing. I have also observed that even when their idol is taken from them several times and their belief in it is ridiculed, they do not take offense or manifest the slightest annoyance. Hence I infer that their idolatry is inward and that they erect this reminder or symbol so that they may gaze upon it from a distance and fix their thoughts upon the Deity they worship, [invoking Him] for the happy outcome of their enterprises. On the coast they try to place it where it can be seen from out at sea when they go fishing, for the prayers of these gentiles are addressed to the One they hold as Author, so that He will give them the seeds, fish, and other foodstuffs they need for their sustenance (Simpson 1961:53).

D. Historic Overview of the Goleta Valley (1835-Present)

The Mexican Era (1835-1850) by Gregory King

Goleta, like many California coastal towns, can trace its beginnings to a harbor and Spanish land grants. The project area was originally embodied in two bordering ranchos, both granted in the 1840s. The 1834 Secularization Proclamation of Governor Jose Figueroa had dramatically altered the system of land tenure in California and had led to the golden age of the ranchos.

According to the decree, half of the disposed Mission lands were to be divided among the colonists and ex-neophyte Indians; the remaining property remained in the control of appointed mayordomos or executors of the provincial government. A potential for corruption, however, existed as the decree made no provision for the manner in which Mission properties could be disposed. Wide ranges of valuable land in both Upper and Lower California became available to private persons. Consequently, the ranchos increased most rapidly just when the Missions were crumbling fastest (Rolle 1969:155). Meanwhile, Mexican rule had allowed trading to be carried on more freely with foreign vessels, and the majority of those were of American origin (Loftis 1973:44-45).

The change in the Mission's status in Santa Barbara was reflected in the decision by the commandant of the Presidio to confiscate the land around Goleta and distribute the small parcels, or suertes, to military families by lot. On these lands the soldiers' families built their fincas, or summer homes, and planted their fields to various vegetables and fruits. Scant attention was paid to the boundary limits--land was not greatly valued without the improvements to make use of it (Tompkins 1966:19).

By the 1820s a transition was already underway, for vigorous entrepreneurs from the eastern United States and Great Britain were becoming permanent residents. Daniel Hill, a native of Massachusetts, came to Santa Barbara in the 1820s and in time married Rafaela Ortega, the daughter of the owner of the Refugio Rancho to the north. Similarly, Nicholas A. Den, arriving in the 1830s from Ireland, decided to make the Santa Barbara area his home. The men became citizens of Mexico and converts to Catholicism, and adopted the manners of their host country. They were allowed to settle permanently and become the beneficiaries of land grants.

In early 1842, Den applied to Governor Juan Alvarado for a nearly sixteen thousand acre land grant stretching from Mescalitan Island and including the entire Goleta Slough westward to Refugio Canyon, from the Foothills to the ocean. His grant was approved and Den christened his new home "Los Dos Pueblos Rancho" because of the two Indian village sites located near the mouth of the creek of that name. Den married Daniel

Hill's daughter Rosa (Tompkins 1960:52; Pendergast 1942:51). In 1846, a grant of 4,400 acres, or one square league, was given to Daniel Hill by Governor Pio Pico. This rancho, known as "La Goleta," extended from today's Fairview Avenue to the present boundary of Hope Ranch.

During the 1840s the rancho became the dominant social and economic institution. Both Den and Hill used their vast land holdings to raise cattle, primarily for dealing in the business of hides and tallow. The animals were kept loose and received practically no attention except at branding and butchering time. These ranchos were most likely stocked with cattle drawn from the former Mission herds. Here, also, dry farming was done. What was raised was apparently for family sustenance and was carried out with the help of local Indians (Tompkins 1960:63; Lane 1935:44).

The American Era (1850-present)

California's admittance to the Union in 1850 did not signal an immediate transformation of the Goleta Valley, although the ranchos certainly benefitted from the Gold Rush period, the price of beef quadrupling (Loftis 1973:66). But Den and Hill, as original owners of Mexican land grants, were now required to provide evidence of ownership in order to hold their lands. Each presented a petition for confirmation of the grant to a three-man Board of Land Commissioners set up to ascertain and settle the private land claims in the State of California. After many years these lands were confirmed and patents issued (Morefield 1951:37).

T. Wallace More, one of six brothers to leave Ohio for California, married Daniel Hill's daughter Susana and purchased from him a 400-acre parcel in 1856. The land was bounded on the north by the Goleta Road (Hollister Avenue), on the east by Maria Ygnacio Creek, on the south by Atascadero Creek and on the west by San Jose Creek.

In the ensuing decade More began to do some mining of asphaltum, albeit on a small scale, at the natural tar outcroppings at the seacliff of what is now Anderson Lane. Eventually it would be shipped to the exploding metropolis of San Francisco, where it was needed for roofing and road construction (U.S. Geological Survey 1865:132-33; Santa Barbara Daily Press (hereinafter cited as SBDP), November 27, 1875.

When Hill was confronted with economic disaster in 1864, he sold an additional thousand acres of land to More. The land extended from Mescalitan Island to Hope Ranch, and included the land still known as More Mesa, where at the intersection of the Maria Ygnacia and Atascadero, up on a knoll, the More Ranch complex was built (Tompkins 1966:57, 69; Storke 1891:546).

The circumstance which brought Hill--and many other California ranchers--to the brink of economic calamity, was a

long spell without rain. The drought years of 1862-63 were especially devastating to the cattle industry. As a result, the value of land in Santa Barbara County dropped significantly. Both Den and Hill had died by the mid-sixties.

As the Goleta region became ever more tied to America's westward expansion, the area changed from a sparsely populated region of cattle ranches and a small coastal settlement to a center of trade and farmsteads. The first subdivision map of Hill's Rancho partitioned the Goleta area north of Hollister Avenue into thirty-eight parcels of different sizes, from 31 to 258 acres. After a state newspaper advertising campaign in 1868, the parcels were promptly purchased at \$22 per acre (Tompkins 1966:73; SBNP, December 9, 1962). Among those pioneers to come to the Goleta area at this time were J.D. Patterson, Richard Sexton, B.A. Hicks, Ira A. Martin, John Edwards, and Issac Foster.

To the west, Den's former Rancho was being divided among his heirs, his ten children not to take possession until they had reached age twenty-one. Santa Barbara Attorney Charles Huse administered the will.

As new areas were opened up in the Goleta Valley to receive the influx of people, the Hispanic traditions of the ranchos necessarily declined (Camarillo 1979:37-38). A little community subsequently grew up on a site in the southwestern portion of the old La Goleta grant, west of Patterson, on the north side of Hollister Avenue, facing More's Ranch. It took on the name of Goleta. In the 1870s the town comprised a general store, lumber yard, blacksmith shop, school house, post office and church (O'Neill 1939:372).

John F. More took over the reins of the ranch started by his brother T. Wallace in 1876, and adamantly refused any subdivision of the land south of Hollister, save for a one acre school tract. For this reason the commercial center of Goleta would eventually shift westward near Fairview where land was available. This area, originally referred to as La Patera is now considered "downtown" Goleta (Tompkins 1966:267).

The stability of small-town rural communities in the nineteenth century has probably been exaggerated. Whereas in the 1870s there were estimated to have been some 200 people in Goleta, by 1890 this had jumped to about 700 people, or nearly a 250 percent population rise, many of these foreign-born (Goleta Valley Times (hereinafter cited as GVT), September 30, 1955).

There were several reasons for this increase. Due to several booster articles and books, and influential County Chamber of Commerce, the South Coast was becoming promoted as a general health mecca (King 1980:120). Increasing land values and commercial expansion were also stimulated by the construction of a wharf in the 1870s and the arrival of the railroad in the 1880s.

In 1874 T. Wallace More built a wharf, commonly known as More's Landing, principally as a means to ship the natural asphalt which seeped from the seacliff on his property. The pier soon became the central economic spur to Goleta's growth as farmers took advantage of the wharf's opportunities to ship goods and produce. It is believed to have existed until about 1904 or 1905, when it was destroyed by a storm (personal communication, Ruth Hammond, September 21, 1981).

Owing to the distance between large metropolitan centers and difficulties involved in surmounting Gaviota Pass to the north and the Rincon to the south, nearly everything was shipped by water. Direct steamship service to Goleta was not uncommon in the 1880s for delivery of freight, especially lumber for building purposes. Stearns Wharf in Santa Barbara also served the area's farmers. When the Southern Pacific Railroad extended its line north from its Los Angeles-Bakersfield line through Santa Barbara and Goleta in 1887, and southward from San Francisco in 1901, the geographical obstacles to the north and south were further diminished in importance. When these bottlenecks cleared, trade and migration increased.

Whether the newcomers came to make a living or to escape the conventions and oppressions of Old World communities, the new arrivals tended to see California as a place where they could freely express themselves. Ships from England, France, Scotland and Italy came to trade, and also bring a readily-accepted supply of labor.

James Smith, John Rutherford, William Begg, and William Hendry came to Goleta Valley in the 1870s and are typical of those successful immigrants to adapt and economically benefit in a new country. Some Scottish immigrants, as all these men were, worked initially for Ellwood Cooper planting eucalyptus trees.

Perhaps of this ethnic group John Stronach serves as a good example. Stronach and his wife, Anne, were born in Scotland. Upon hearing the news that opportunities existed in the Goleta area, they came to settle in the valley in 1885. John Stronach bought ten acres on Cathedral Oaks Road, built a home and established a farm. Later he was able to lease some 200 acres nearby, where he specialized in growing lima beans (Gidney 1917:680; Tompkins 1966:176).

Another Scotsman to come in the mid-1880s was James Anderson. With \$62 in his pocket upon arrival to Goleta, he began working with John F. More on the asphalt-mining operation at the ranch. When work slowed he moved on and worked a short time on both the Stow and Edwards ranches. He saved his hard-earned money and sent back to Scotland for his wife. Eventually he purchased a 12-acre farm on Fairview Avenue, and went into the vegetable business, and leased land to raise hay. Finally, in the first decade of this century, the Andersons settled near Glen Annie Canyon (Gidney 1917:533-34; Tompkins 1966:173-74;

personal communication, Mrs. William Anderson, September 23, 1981). Other prominent Goletan families who had come from Scotland include: Milne, Simpson, Main, Troup, Sangster, Shewan, Irvine, to just begin the list.

As one local historian noted, "an interesting characteristic of Goleta's Scottish immigrants is the rapidity with which they adapted themselves to American ways" (Tompkins 1966:178). Still, certain Scottish holidays were celebrated by most immigrants for a time. Sometime in the 1880s it became an annual event to picnic on July 4 at Tucker's Grove--but the practice was discontinued during World War II.

The Italians, too, were among the earliest and largest immigrant settler groups in the Goleta Valley, and unlike the Scottish, maintained a strong national identity. Many Italians also climbed the ladder from farm labor to ranch ownership, in some instances with spectacular success. For example, Carlo Bottiani, who arrived from Italy in the early 1880s, was able to find work on the Stow Ranch. By 1892 he had earned enough to buy 37-acres lying between San Pedro Creek and Fairview Ranch where he proceeded to raise grapes and establish a winery. (Goleta Valley Sun, Inc. 1971:2; Tompkins 1965:204; Goleta Valley News, March 26, 1980; personal communication, October 3, 1981).

Families which came before the turn of the century to Goleta include: Cavalletto, Jordano, Pomatto, and Pagliotti. As Louis Cavalletto recently stated, "Italian people stuck together. They had their own ways of doing thing," (GVN, March 26, 1980). Italian immigrants continued to come to Goleta until the 1920s when national restrictions were made (SBNP December 7, 1964).

One of the necessary factors for the influx and success of newcomers was available lands. Col. W.W. Hollister, along with other area ranchers, became involved in a long and bitter legal dispute with the Den Estate which eventually opened up new land parcels for purchase. This further encouraged converting grazing lands for cattle to wheat fields, fruit orchards and vegetable farms. Joseph Sexton developed the softshell walnut, and within a short time dozens of area farmers had planted their land to walnuts and formed a grower's association. Coddling moths all but destroyed the walnut industry about the time of World War I, however.

Goleta ranchers, who had watched the success which the Stow Ranch enjoyed with lemon crops, came to convert their own fields to lemon groves. Lima beans and tomatoes also enjoyed a surge in popularity. Avocados were a post-war phenomenon.

But Goleta's agricultural economy was not confined to food alone. Another industry that experienced a boom about the turn of the century was the dairy business. As was typical in other California counties, wealthy farmers took the lead and built

remarkably large and progressive operations. Both the Kellogg Dairy (Goleta Creamery), across from Sexton's mansion and the Potter Dairy Farm, near today's airport, became Goleta landmarks before totally vanishing. Their role for the community was important; they also allowed farmers to bring their own milk to have processed there. On a small scale, Goleta agriculturalists invariably kept at least one cow capable of giving milk for their home use (Gidney 1917:505, 640; SBMP, May 13, 1920, Storke 1891:500).

Since the Second World War, development of the Goleta Valley went forward at an accelerated pace. For instance, in 1930 the More Mesa was estimated to have had fifteen people. This had risen to 160 people by 1950. The upper Fairview area went from ninety people in 1930 to 550 people in 1950 (Pereira and Luckman 1958:21). The fifties would bring even more changes.

The established pattern of community settlement was supplemented by the establishment of UC- Santa Barbara at Goleta Point, the building of Cachuma Dam in 1956, and the activation of Vandenburg Air Force Base in Lompoc as a major missile center which brought major technological and space engineering firms to Goleta. Development of the valley went forward at an accelerated pace until a 1970s water hook-up moratorium. Before that occurred, however, orchards, grasslands, and truck farms had given way to housing development, shopping centers and light, smokeless industries.

Goleta Slough and Vicinity

The Goleta Slough was at one time a deep and large enough harbor for the construction of ocean-going vessels. Benjamin Foxen's shipyard was some 1200 feet north of his property on the mesa affronting Atascadero Creek. But Goleta never became a significant shipbuilding center, probably because of the lack of good native wood suitable for building boats and the shallow water immediately off the sandspit.

At that time, waves lapped the area now occupied by Goleta's Hollister Avenue at high tide. The estuary was dramatically altered, however, by enormous storms and floods during the winter of 1861-62, which, in less than a few months time, filled the harbor with tremendous amounts of sand and gravel from the mountains. The process of sedimentation continued through the years and ultimately a shallow lagoon was created.

Much of Goleta's economic and social activity focused itself around the harbor and Slough. A whaling camp was established at the mouth of the Slough in about 1870, and was thought to have lasted about a decade. According to a government report, "there were three different companies here, the first being composed of Jamaica Negroes (California Fish and Game Commission 1922:29). During the migrations of the California gray whale, sailors from

the sea shore station would harpoon the whales from boats and finally kill them with explosives. The carcuses would then wash ashore. A visitor to the Goleta whaling station described it to a journalist in 1873: "The camp is situated on a sandspit at the head of a bold headland, and consists of two houses which are inhabited by six whaleman and a moon-eyed representative of the flowery kingdom who presides over the culinary department" (SBNP, February 4, 1968).

The Slough area had also been long used for recreational purposes: In describing this area, one early observer noted that there were "numerous stretches of marsh, or tide-land, on which the hunting is extremely good. The sea forms countless little bays, surrounded by shores covered with wild rice, and shallow estuaries extend landward for a considerable distance." The writer found that duck and other fowl were "vigorously hunted by native and visiting sportsmen" (Roberts 1886:76-77). Decades later another enthusiast echoed the sentiments that the Slough did indeed "furnish sportsmen with goodly bags of ducks" (Chase 1913:88). Fishing, too, was good. Historically, the Slough supported Flounder and Salmon (California Department of Fish and Game 1970:19).

In the early days of the community there were frequent entertainments enjoyed by residents. One native resident recalled that she had spent many happy adolescent hours engaged in moon-light beach suppers and clam digs in the 1890s (Kroll 1963:4). Another native remembered many "teas" were held which brought to the beach many of Goleta's adolescents (SBNP, May 20, 1979).

Swimming in the estuary, on the other hand, was not always favored by local people "because it was common knowledge that this was a favorite place for the stingarees to lie" (Spaulding 1961:10). Some found it a great sport to stand in a boat and spear the spiny ray that was found in the Slough's mouth (GVT, September 30, 1955).

Then as now, Sloughs and salt marshes were in a different category than free-running sand and sea. People could and did own wetlands. For many years the More family owned the Slough area and permission to trespass through it required the permission of John More. However, the Sexton family and their invited friends were allowed to camp at the Slough each summer. They had to row across Goleta Slough to get to "Camp Lupine," named after the blue pea-like flowers growing nearby (Franklin 1979:57-58).

On Mescalitan Island John More constructed a two-story frame house for a relative and planted it to lima beans. Early in the century Harry Sexton rented the island from More for a few years and was engaged as a bean grower, dairyman and stockman (Sexton 1964:88). Sheep were raised here for a time (Orr 1941:6). It was widely known that the island contained countless Indian cultural remnants, but More prohibited their taking (personal

communication, Ruth Hammond, September 19, 1981). Apparently, the Sexton's were excluded from this ban (Sexton 1964:46).

As early as 1901, the Mescalitan Island and Development Company had drilled a well on the edge of the estero, east of the island and close to the ocean (Lane 1935:72). A dry hole, it was the only well the company was to drill (California Department of Conservation, Onshore Oil and Gas Wells, Goleta 1978). Later, after oil was discovered at Ellwood, several oil and gas wells were drilled, many of them successful.

During his lifetime More had limited the use of the Slough and Sandspit area to friends. But with his death in 1919, public use of the beach increased steadily. This was especially true as yachting became ever more popular among the wealthy estate-builders of Montecito and Hope Ranch in the 1920s.

This new sport resulted in an intensity of use of the Goleta harbor and adjacent sandspit. According to a contemporary account whereas during the summer of 1921 there were only one of two huts on the sandspit, by the end of the following summer there were more than twenty huts and tents, and a canvassed wall picnic area with tables seating upwards to 100 persons. Additionally, the sandspit's popularity was such that a skiff acted as a ferry boat on Sundays and made regular trips from the mainland to the sandspit, (SBMP, October 23, 1922).

During this time, indicative of the interest in the possibilities of developing the Slough, the first report to suggest that the Slough be made into a navigable harbor was made. The study, developed by Messers Leeds and Bernard in 1923, came out prior to the construction of the airport when it was estimated that there were about 1,300 acres of Slough suitable for harbor constructions (Pereira & Luckman 1958:32). This report also appeared before the construction of the Santa Barbara yacht harbor in 1929, which would in time take the wind out of their sails.

By 1926 one reporter found many local residents had constructed cabins on the 24-acre sandspit--that perhaps thirty stood, along with boats (unidentified newspaper clipping, contained in Metcalf Scrapbook, Santa Barbara Historical Society). This formed the basis of a shanty-town during the harsh depression years (Tompkins 1966:287). The sandspit became the property of the county, which developed it as a park (L. Deming Tilton Papers, Community Development and Conservation Collection, UC--Santa Barbara).

But materials and silt continued to accumulate in the Slough. By the 1920s it had mostly filled up so that at low tide one could walk across it with little wading. Except at high tide, open water north of Mescalitan Island was not to be found after 1930 (Franklin 1979:57; City of Santa Barbara 1978:5).

Perhaps the most significant event in the Goleta Slough, given its precedential nature, occurred in 1928 when a make-shift airplane runway was built on the Slough's outskirts by Gordon Sackett and Royce Stetson who leased the land from Oakley and Bonetti. A grader was used to clear the briars off a 3,000-foot runway extending southwesterly toward the marshes.

In 1930 General Western Aircraft Company, formerly of Burbank, set up a factory on property near the airport to manufacture several meteor planes, before going bankrupt in 1932 (SBNP, February 1, 1970, March 10, 1974, April 26, 1981).

A few years later, Frederick Stearns II laid the foundation for the modern development of the airport by grading runways, building hangars and installing radio equipment. A report prepared in 1934 for the City of Santa Barbara weighed the relative merits of various proposed municipal airport sites. Because most of the Slough was open space, the report recommended it over other locations (Tilton 1934). Within a short time the air field was accommodating United Airlines scheduled passenger flights (SBNP, March 29, 1942).

Finally, in 1941, a bond issue was passed by Santa Barbara voters to acquire the Goleta Slough from Harold Chase and Peter C. Bryce for a municipal airport. The city bought Mescalitan Island and the surrounding tide flats. Work commenced in June, 1941. United Airlines built a control tower and administrative wing. An extensive effort to channelize the Slough was undertaken in order to direct runoff around the airport facilities. Dikes, berms, and realignment of streams were carried out. Fill dirt was needed so nearby Mescalitan Island was scraped (SBNP, February 11, 1970).

Soon the United States entered the Second World War and the airport became a Marine Corps Air Training Base (Fox and King 1979:55; Storke 1959:414). Upwards of a hundred major structures were put up in the area to service the military needs. At the same time, Adams Street and Troup Road were constructed in the western portion of the Slough.

Mescalitan Island was further reduced in size when road fill was needed for the construction of Ward Memorial Freeway leading to the University, the site of the former base. The remaining portions of the "island" were sold to Pacific Lighting Gas Supply Co., and the Goleta Sanitary District.

After World War II developing the harbor for small craft again became a local interest. Many Goletans believed that an excellent yacht harbor could be developed if the U.S. Army Corps of Engineers would initiate a program of dredging the mouth of the Slough (SBNP, November 2, 1947). Despite no real movement in this direction, this desire was kept into the 1950s and 1960s.

In 1953, J.J. Hollister, Jr. representing the Goleta Valley Chamber Beach and Harbor Committee unfurled a plan for the development of the Goleta harbor (SBNP, October 25, 1953). In 1955 the town held a "Goleta Harbor Day" to enlist public and Congressional support for improving the Slough to a commercial harbor. It was hoped that a marina could be built at Santa Barbara and Newport Beach. But a lack of adequate funds was always the achilles heel (GVT, June 10, 1955, June 1, 1956, August 10, 1956). In the meantime, part of the Slough was continuing to be used for road racing events, as it had been since the 1940s (Goleta Gazette, May 25, 1961, August 31, 1961).

Private interests got impatient with the government's lack of action and began to submit proposals to the local government planning authorities for a marina or other types of development--on the average a new plan was drawn up every two years. These included Beguhl and Santa Barbara Investors (1958), Chappell and Breton (1960), Sorrells and Bates (1961), Braun (1962), Pacific Bridge Co. (1962), Parker and Bayshores Development Co. (1964), Quinton Engineers, Ltd. (1967). These proposals included such schemes as creating man-made lakes, developing golf courses, building a Grand Prix racetrack, a seven-story condominium and office complex. Costs ranged upward to \$30 million.

Santa Barbara City officials, which had jurisdiction over the Slough, seemed to agree with this attitude. In 1963, for example, one airport commissioner said, "The Slough should be upgraded and the city needs the revenue" (SBNP, January 24, 1963). A few years later the Mayor of Santa Barbara called the Slough "One of the area's greatest economic assets, given its tourist potential, if properly developed (SBNP April 9, 1967)."

But various obstacles to development such as right-of-ways and conflicting land uses compounded the difficult situation as to which proposal would be in the City's best interest (Rockwell 1962:63). The general environmental awakening in the late 1960s began to be felt in regards to the Slough, although as one local journalist aptly remarked, "probably what has saved the Slough is the sheer high cost of building on the goo" (SBNP, December 27, 1970).

Just months after the Santa Barbara oil spill of 1969, a group of UC-Santa Barbara students appeared before the City Council to complain that the Slough was becoming a general dump. There was truth in this assertion (Goleta Gazette-Citizen, May 13, 1967). A local contractor razing old military buildings on campus merely pushed the wreckage into the adjacent Slough. The City cleaned up the mess, and in December, 1970, the City Council voted to declare the 360-acre Slough area as an ecological preserve. This signaled a major shift in attitudes regarding the Slough, and the City's Local Coastal Program a few years later contained policies aimed at preserving the area as a salt marsh.

IV. Survey and Site Recording Procedures

Introduction

In the preceding sections pertinent prehistoric, ethno-historic, and historic information has been presented. For the most part it is contextual in nature and is meant to provide an overview of the cultural history of the Goleta Valley and the project area. In addition it also serves to facilitate a better understanding of the range of cultural behaviors that have left their mark, in the form of sites, structures, and objects, throughout the Goleta Valley.

In any large and complex study area, exhibiting a diverse array of environmental zones and land-use patterns, it is obviously necessary to employ a flexible and variable strategy for an intensive archaeological survey. The current project area contains survey zones including an estuarine salt marsh, residential tract housing, agricultural fields and orchards, steep chaparral-covered slopes, commercial districts, a golf course, and vast fill zones associated with dredged stream channels and airport or highway construction.

Such diversity would severely limit the effectiveness and accuracy of any single method of archaeological survey. In the following sections the variable techniques used and the specific limitations or problems encountered in the field will be discussed. When an archaeological site (or potential site) was encountered, a different set of techniques was employed in order to deal with specific data requirements demanded by our research design and/or project scope of work. The procedures employed in site recording are also outlined in the following sections.

The field survey for the project resulted in the systematic coverage of 1,710.76 acres in 525 person hours, the equivalent of 3.26 acres per person hour or 26.07 acres per person day. These figures do not include time spent (59 person hours) or acreage covered while in spot-check zones or during site re-visits.

Survey Technique

Wherever possible, a systematic method of archaeological survey utilizing parallel transects separated by no more than 20 meters was employed. While generally oriented either north to south or east to west, such transects sometimes ran parallel to a geographic feature such as a stream, or a cultural feature such as orchard rows. In some cases, transect width was dependent upon the width of the survey area divided by crew size, and fluctuated between 5 and 20 meters. In the above mentioned example of survey parallel to a stream, transect width often expanded and/or contracted with the width of the survey area.

In cases (outside of residential zones) where surface visibility was obscured or limited by vegetation or leaf litter, the material was removed with a mattocks or trowel every 10 to 20 meters.

In areas of restricted access, such as commercial and residential areas, systematic transects were employed where possible, but generally were discarded in favor of a strategy of random, yet thorough examination of all available ground surfaces.

In all cases, particular attention was provided to erosion scars, open trenches, road cuts, rodent burrows, and stream or bluff banks which provided visual access to subsurface deposits.

Whenever possible landowners were consulted concerning potential knowledge of archaeological resources upon their own or adjacent properties. On a number of occasions, residents of private homes were interviewed during the field survey concerning artifacts displayed around their homes.

Within the project area, a number of parcels had been previously surveyed. Some of these areas were excluded from re-survey if they had proved archaeologically negative and the survey intensity and vegetation characteristics were deemed to be adequate. Other areas where visibility had been poor or coverage and accuracy were uncertain were systematically re-surveyed.

Those areas designated in the Scope of Work as spot-check zones were examined only if a known archaeological site was present, or alternatively, if background research produced evidence for a possible site location.

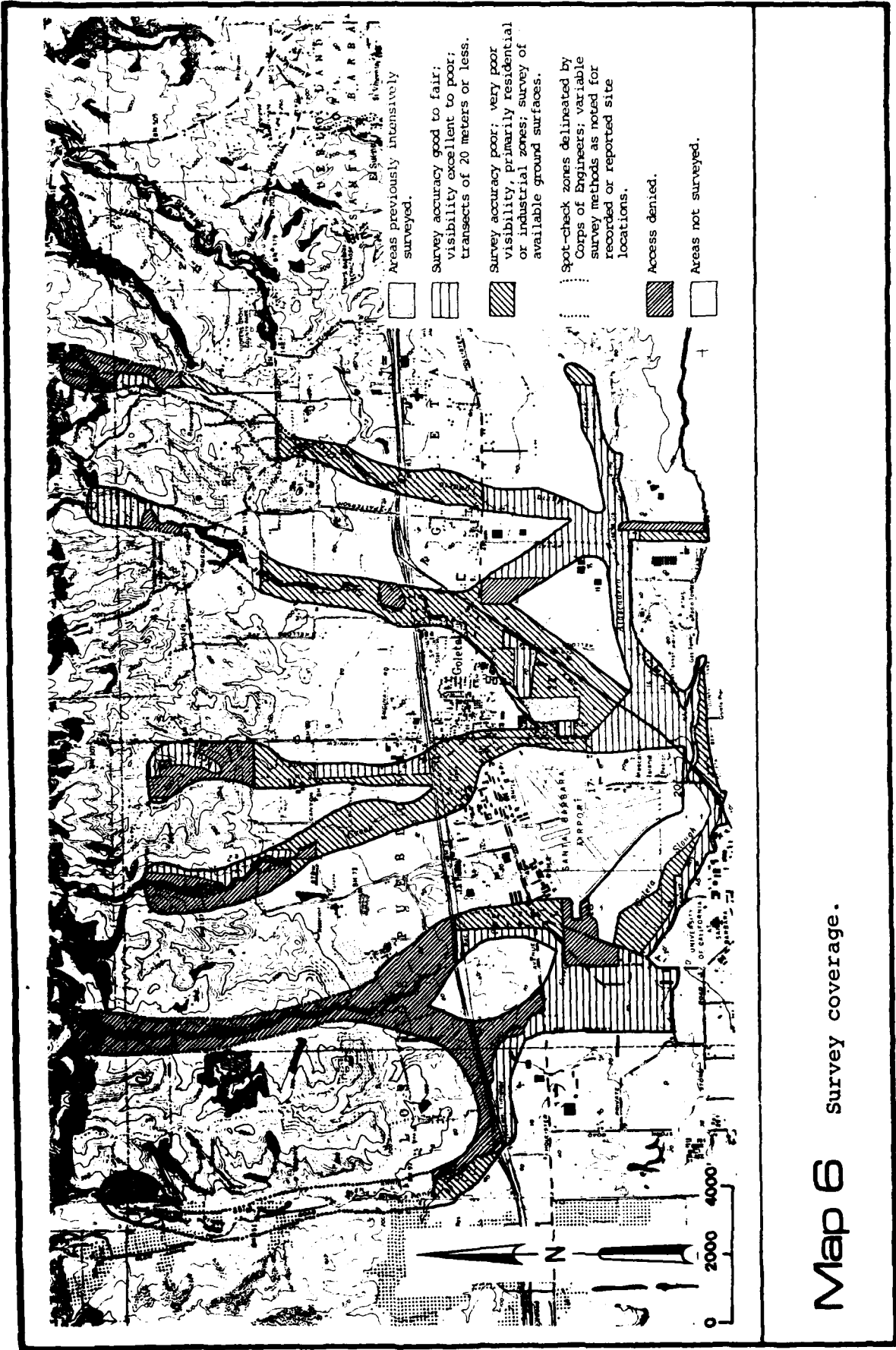
A generalized map depicting the types of survey conducted in specific areas is presented as Map 6.

Criteria for Site Recognition

The criteria traditionally used for the recognition of archaeological sites in the Santa Barbara region include one or more of the following:

Prehistoric sites

- 1) presence of shellfish or other faunal materials;
- 2) presence of artifacts;
- 3) presence of flaking debris from stone tool manufacture;
- 4) soil discoloration associated with human occupation;
- 5) other unusual soil disconformities;
- 6) presence of painted or incised rock surfaces associated with rock art.



Historic sites:

- 1) presence of stone or adobe features associated with structural remains;
- 2) presence of characteristic ceramics (roof and floor tiles, pottery) associated with Spanish, Mexican, or Early American occupations;
- 3) the presence of iron or glasswares not associated with prehistoric sites;
- 4) the presence of faunal remains introduced by the Spanish in the historic period (cow, horse, pig).

Native American village sites which contain historic components often exhibit a mixture of these characteristics.

A major complicating feature of the Goleta Slough region is the widespread occurrence of non-archaeological shellfish derived from dredging of the estuarine channels. These deposits have been used in many areas of the valley as construction fill. While strictly estuarine assemblages per se are readily identifiable, in a number of cases, mixed deposits of estuarine and archaeological material have been combined, complicating their evaluation.

Another problematical factor encountered during the survey was the fairly common co-occurrence of estuarine and high energy coastal shell species (Tivela, Mytilus, etc.) with no associated artifacts. While these deposits clearly do not represent estuarine fill, their temporal placement and cultural origin remain problematical.

Site Recording Procedures

In the course of the field survey, when an archaeological site (or an isolated find) was encountered, an intensive survey was initiated in order to determine the site boundaries, locate temporally diagnostic artifacts, record faunal and artifact inventories and other site characteristics, define the environmental context of the site and its vicinity, and determine a preliminary assessment of site disturbance factors.

At the same time, the cultural resources were recorded using standard forms. Each resource was photographed (color and black and white prints), accurately sketched mapped, and its location was plotted on both 7.5' USGS topographic maps and 1:1000 scale color aerial photographs. In some instances diagnostic artifacts were flagged and mapped according to point provenience with the aid of a compass and metric chain. Site boundaries were determined strictly on the basis of physical evidence in the form of artifacts, ecofacts, and features.

Factors Effecting Survey Accuracy

Vegetation

Vegetation density directly effects survey accuracy by restricting surface visibility and, in some cases physical access. While periodic removal of the surface vegetation can partially alleviate problems associated with poor visibility, it is doubtful that such techniques will result in the location of high proportions of certain classes of archaeological sites (low density shell and/or lithic scatters, etc.).

Vegetation density caused substantial problems for the present study, especially in low-lying salt marsh or stream terrace locations, and in landscaped residential or commercial zones. The latter areas caused special problems because land modification was often extensive and visibility had already been largely obscured by paved areas and structures. In addition, the opportunity for systematic surface clearance is severely restricted in landscaped areas surrounding private residences or businesses.

Siltation

Given the nature of estuarine evolution, with associated progressive sedimentation and the progradation of surrounding landforms, the potential for the presence of buried sites is very high. This problem is especially a factor around the edge of the ancestral Goleta slough, where the large number of settlements undoubtedly utilized the slough edge for refuse disposal and potentially other activities (food processing, etc.). Low stream terraces adjacent to known site areas must also be recognized as potential loci of archaeological remains.

While examination of erosion channels and stream bank profiles can minimize such problems, these were often either not present or were obscured through historic fill and/or stream channelization within the project area.

Land modification and Development

The problems associated with land modification and development in the Goleta Valley are extensive. Residential and commercial developments not only severely restrict accessibility to surface exposures, but also often impact sites through outright removal and/or dispersal. Extensive grading and filling operations have in some cases formed secondary archaeological deposits, and in others buried former site areas. Such activities obviously cause problems in the location of sites, boundary definition, etc.

Access Restrictions

In a number of instances (including an entire drainage) we were denied access to private properties. In such cases,

the problems involved in any evaluation of archaeological resources are obvious and need not be reiterated here. The properties to which we were denied access have been listed in Appendix III, and presented graphically on Map 6.

V. Survey Results: Cultural Resource Inventory

Introduction

The intensive cultural resources survey and literature search resulted in the location, recording, and mapping of 64 cultural resources within the boundary of the project area. 27 of these resources were previously unrecorded. In terms of broad classification, 47 cultural resources were Native American archaeological sites, ten were historic architectural sites, and seven were archaeological sites of undetermined origin. Of the 47 Native American archaeological sites, 36 were recorded during previous studies; and of these 27 were re-examined during the course of this investigation.

The following section presents brief descriptions of all the cultural resources known to exist within the project area, including information on location, environmental context, and current state of integrity. The completed State of California, Department of Parks and Recreation, Cultural Resource Survey Record Forms are contained in Appendix IV.

Native American Archaeological Sites

Native American archaeological sites are the most frequent type of cultural resource encountered during this investigation. The site density for those areas systematically surveyed is 5.35 sites per km². Native American archaeological sites are defined as places where human activity has measurably altered the earth. In the project area most archaeological sites contain material remains which resulted directly from the occupation of the Goleta Valley by historic and prehistoric Indian societies.

SBa-41*

Location: This site is situated at the confluence of the East and West Forks of Maria Ygnacio Creek approximately 61 meters east of Old San Marcos Pass Road. It rests upon a low creek terrace approximately 15 meters above the creek and 55 meters above sea level.

Description: The site consists of a well developed shell midden associated with a large boulder containing cupules. It was originally recorded in the 1920's by D.B. Rogers who described the site as exhibiting an areal extent of some "150 feet each way" (Rogers n.d.). Rogers attributed this site to his "Canalino Period". The boulder containing at least 74 pecked cupules, has been removed from its original position on the site and is presently located in front of the Barker residence at 1142 North Old San Marcos Pass Road.

* Access Denied

Environmental Context: unknown

Degree of Disturbance: unknown

SBa-42**

Location: This site is situated on the ocean bluff at More Mesa and extends in an east-west direction from the terminus of Anderson Lane to the KTMS radio towers. It is 24 meters above sea level.

Description: The site consists of a very large shell midden covering approximately 132, 822 square meters in surface area. Two important natural resources issue from the sea cliff at the southern boundary of the site--a freshwater spring and a large asphaltum seep. The latter was known to J.P. Harrington's Chumash Indian informants as wokwok. A number of artifacts were observed within the current project boundaries, including mortar and pestle fragments, a small steatite bowl fragment, and numerous flake tools of chert and quartzite. A number of local residences along Anderson Lane contained whole mortars which may come from SBa-42. The dominant shell species observed included Chione undatella and Tivela stultorum. Also present were specimens of Saxidomus, Protothaca, Argopecten, and Polinices. A Pleistocene marine shell stratum underlies much of the site and is visible in the face of the sea cliff.

The size and density of SBa-42 have attracted the attention of a number of early archaeologists, including Bowers, Yarrow, and Olson. Olson excavated forty-nine burials from this site in 1928 and noted the presence of many pipes, charmstones, mortars and pestles, and assigned the site to his terminal Early Mainland Period (Olson 1930: 17). A reanalysis of artifacts excavated by Olson has provided a tentative date between 1200 B.C. and 500 B.C. (King n.d.).

Environmental Context: The site and immediate environs is covered by houses, nurseries, and agricultural fields. The nearest freshwater appears to be from springs located in the sea cliff near the eastern portion of the site.

Degree of Disturbance: While impacts to the portions of SBa-42 currently under study have apparently been extensive, the specific extent of these impacts cannot be addressed with the present information. Obvious impacts include house, utility, and road construction, nursery farming, and agricultural cultivation.

** Access Limited

SBa-43

Location: This site is situated on a slight knoll near the western end of More Mesa. The entire site is on the mesa bluff within Pacific Gas and Lighting Company's property. The mouth of the Goleta slough lies nearly 250 meters to the southwest and 24 meters below.

Description: The site consists of a large and dense shell midden covering approximately 77,652 square meters in surface area with the long axis extending eastward from the edge of the bluff above the south bank of Atascadero Creek. A large row of eucalyptus trees limited the visibility of the ground surface along the bluff edge on the northwestern side of the site. In order to define boundaries and determine the temporal placement of SBA-43, access was obtained to the main portion of the site which lies southeast of the project boundaries.

Although D.B. Rogers first recorded the site in 1929, he apparently never visited SBA-43. Therefore, the present study provided the first in depth record of the site's characteristics. A number of artifacts were observed on the surface of the site. These included a number of mortar and pestle fragments, several relatively crude projectile points (leaf-shaped, contracting stemmed, and side-notched varieties), two bifacial manos, tarring pebbles and asphaltum-coated stones, fire-cracked rock, and a number of quartzite and chert flake tools. The shell species observed consisted of Tivela stultorum, Chione undatella, Polinices lewisii, Saxidomus sp., Mytilus californianus, and Protothaca staminea. A single shark vertebra was also observed. A cluster of five broken mortars along the north central site periphery may represent a cemetery area; although, no human bones were observed. The artifact inventory appears to represent an early Middle Period occupation probably dating between 2900 B.C. and 500 B.C.

Environmental Context: The site is currently under agricultural production. At the time of European exploration this area is described as being predominantly oak woodland (Santa Barbara Indian Center 1979: 2-4).

Degree of Disturbance: That portion of SBA-43 within the project boundaries has undergone limited disturbance from agricultural activities and the root systems of numerous eucalyptus trees. Outside the project boundaries the site has been impacted by the construction of natural gas facilities, roadways and utilities, and cultivation. Despite these impacts large portions of this site appear to be intact.

SBa-44

Location: This site is located at the westernmost extremity of More Mesa and overlooks the tidal entrance to the Goleta Slough. The site is situated on Pacific Gas and Lighting Company property at an elevation of 18 meters above sea level.

Description: The site is a high density shell midden deposit covering approximately 30,038 square meters in surface area with a minimum depth of 1 meter. Ground surface visibility was poor on the western and southern boundaries of the site and few artifacts were noted. The total artifact inventory consisted of two utilized flakes of Monterey chert. A site record form at the Regional Office of the State Office of Historic Preservation revealed that a mano, a bowl fragment, a blade fragment, and a piece of fossilized whale bone were associated with this site. These artifacts were sought at the UCSB Anthropology Department Museum but were not located. A wide variety of shellfish species were observed on the site surface. These included Chione undatella, Cerpidula sp. and Tivela stultorum. The other shellfish present are included in Appendix IV. In addition to food refuse and artifacts, three isolated human bone fragments (a clavicle, scapula, and innominate) were observed eroding out at separate locations along the southern sea cliff in the western portion of the site. These finds suggest the presence of a cemetery in this area of the site.

Environmental Context: The site is currently under agricultural production. At the time of European exploration this area is described as being predominantly oak woodland (Santa Barbara Indian Center 1979: 2-4). Atascadero Creek would have been approximately 250 meters northeast of the site, and this appears to have been the nearest source of fresh water.

Degree of Disturbance: That portion of SBA-44 within the project boundary has undergone only minor disturbance from cliff erosion and the root systems of numerous eucalyptus trees. There appears to be large portions of this site which are still intact. Outside the project boundary the site has been impacted by the construction of natural gas facilities, roadways, and utilities, and cultivation.

SBa-45

Location: This site is located approximately 150 meters east of Ward Memorial Blvd. and is exposed in the northern bank of Atascadero Creek. At high tide the site is partially submerged. Prior to creek channelization and the construction of Ward Memorial Blvd. this site was situated on a small bilobate mound. This mound was clearly visible on the 1928 aerial photographs of the area.

Description: The site is a high density shell midden deposit visible as a buried stratum in the northern bank of

Atascadero Creek. The surface of the site is now covered by several feet of dredged fill and the aerial extent of the deposit is undetermined except for the 107 meter linear band of midden. The original landform was described as two low mounds extending for nearly 200 meters from southeast to northwest. The midden deposit situated atop the southeast mound reached a maximum depth of 1.93 meters; that on the northwest mound was 2.34 meters deep. Ronald Olson and Willard Hill of U.C. Berkeley excavated a total of 17 units in SBa-45 and reported the presence of fishhooks, small projectile points, a pestle, mortars and a rubbingstone. They also recorded the presence of a single burial and lenses of burnt shell and ash.

In 1978, the site was rediscovered by Jon Erlandson and Larry Heinzen, who observed the presence of human remains, flakes of chert, quartzite, and siltstone, and a single tarring pebble. Also noted were abundant quantities of shellfish, land mammal, and sea mammal remains.

During the course of the present investigation two additional burials were discovered eroding from the creek bank. One of these had recently been excavated by relic collectors.

On the south bank of the creek, immediately across from the buried midden stratum, is a redeposited shell midden which is the result of recent channel dredging. This midden material, mixed with modern estuarine shell, contained burned whale bone, asphaltum cakes, a mano, a mortar fragment, and numerous pieces of fire-cracked rock. Rogers (1929) attributes the site to his Hunting Period.

Environmental Context: Currently the site is within the salt marsh setting of the Goleta Slough basin. At the time of human habitation the site was adjacent to tidal flats rich in plant foods, estuarine resources and avifauna. Fresh water would have been available in Atascadero Creek which was located, at that time, about 100 meters south, adjacent to the foot of More Mesa.

Degree of Disturbance: The northwestern portions of SBa-45 were reportedly destroyed or buried by the construction of Ward Memorial Blvd. The southeastern portions of the site were impacted by the rechanneling of Atascadero Creek. Impacts associated with channel dredging have caused an unknown amount of damage to the original landform. Despite such impacts, the presence of human remains and ash and shell lenses along the creek bank suggest a high degree of integrity. The low elevation (0-1.5 meters) and partial submergence of the site have probably served to enhance the preservation of archaeological materials and limit the reworking of the deposit by burrowing rodents.

SBa-46

Location: This site is situated on the remnants of Mescalitan near the middle of the entrance to the Goleta Slough approximately 100 meters north of Goleta Beach County Park.

Description: The site consists of substantial quantities of midden/habitation debris representing a time span of 3000 years (1200 B.C. - 1800 A.D.). Between 1875 and 1978, at least twelve organized archaeological investigations have been conducted at SBa-46. This research has resulted in the definition of eight discrete cemeteries and two loci of historic village occupation (Santa Barbara Indian Center 1979). The largest historic component, located on the southeastern portion of the island (Site 1) represents the large Chumash village of 'Helo'.

Environmental Context: Today the site is situated within the Goleta Slough salt marsh. In former times it was surrounded by the open embayment of the Goleta Lagoon. Early exploration accounts of the island describe it as lush with numerous oaks. Currently, it is covered with low scrub brush and annual grasses.

Degree of Disturbance: The western half of Mescalitan Island was removed during the early 1940's and utilized as fill material for construction of the Santa Barbara Municipal Airport. Additional areas have been impacted or removed in the intervening years through the construction of Ward Memorial Blvd., facilities associated with natural gas and sewer treatment, and stream channelization. Only the easternmost edge of SBa-46 was located within the present project area. A recent study of earth modification on the island by Greenwood suggests that this portion of SBa-46 is the most intact (Greenwood 1975).

SBa-48

Location: The site is situated on the University of California campus mesa overlooking the Goleta Slough at an elevation of 12 meters above sea level. At the present time the deposit is north of Building 489.

Description: The site consists of a well developed shell midden deposit containing a diverse assemblage of shell, deer bone, and flakes of Monterey and Franciscan chert. Previous excavations of this site by Tournapulls in 1941 and Fenenga in 1948 have recovered human remains, manos and metates, mortars and pestles, a bifacially pitted hammerstone, a chopper, and a small steatite bead. These excavations established the depth of the site at nearly 2 meters. During our investigation, the visibility within the site was restricted in many areas by thick ice plant, inhibiting the delineation of accurate site boundaries.

The work of Tournapulls (n.d.) indicates that the site contains both Canalino and Oak Grove components.

Environmental Context: At the present time the site and immediate environs are covered by buildings, roads, and landscaping of the University of California campus. At the time of European exploration, the campus mesa was covered by extensive oak groves. A number of fresh water springs currently exist at the base of the bluff immediately below the site.

Degree of Disturbance: The degree of integrity of this cultural resource is highly questionable. Major impacts resulting from early roadway, building, and utility construction have been substantial. Much of this impact occurred prior to the establishment of the University and is related to when this parcel was used as a Marine Base during World War II. It would appear that portions of the archaeological deposit were pushed eastward during road construction.

SBa-49

Location: This site is situated on the University of California campus mesa overlooking the Goleta Slough. The site is located along Mesa Road north of the entrance to the Facilities Management Complex and lies at an elevation of 6 meters above sea level.

Description: The site consists of a dense shell midden deposit comprised primarily of Chione sp., Tivela stultorum, Protothaca staminea, Saxidomus natalii, and Mytilus californianus. Artifacts observed during our investigation included three Franciscan chert flakes. Previous excavations at this site by Phil Orr in 1941 documented the presence of four cemeteries (A-D), numerous manos and metates from the lower levels and hopper mortars, pestles and asphaltum in the intermediate levels, and two steatite bowl fragments and shell beads from the upper levels.

Glassow (1973) reported SBA-49 to be "completely gone" and Chartkoff (1967) considered it a "poor site", reporting its location as being south of Mesa Road. Our investigation, however, located what appears to be a relatively undisturbed remnant of this otherwise heavily damaged site located in an exposure along the edge of the bluff. The entire site covers approximately 12,504 square meters and has a depth of at least 1.3 meters.

Environmental Context: At the present time the site is partially covered by a roadway and is adjacent to University buildings and facilities. At European contact the campus mesa was covered by extensive oak groves. A number of fresh water springs currently exist at the base of the mesa approximately 100 meters south of the site.

Degree of Disturbance: Major impacts associated with the construction of a Marine Base on the University campus during World War II have destroyed all but a remnant of this site. This remnant situated along the bluff edge appears to be intact.

SBa-52

Location: This site is situated on a finger-shaped ridge that projects in an easterly direction from the western periphery of the ancestral Goleta Slough. SBA-52 is bisected by

Los Carneros Road and lies on Delco Electronics Company and Santa Barbara Municipal Airport properties. The site is approximately 3 meters above sea level.

Description: SBa-52 is a large (154,065 square meters) habitation site consisting of a dense shell midden over .76 meters deep. D.B. Rogers excavated extensively at this site, locating two cemeteries, and attributing the site to the Hunting People (Rogers 1925, 1929). Phil Orr also conducted limited salvage excavations in 1950 and recorded a third cemetery area. In 1968-69, Desautels, Karon and West excavated at the site as part of a salvage excavation associated with the construction of Los Carneros Road. Claude Warren is currently analyzing the material recovered from this excavation and feels that the site was occupied between 3000 and 5000 years ago and may represent the earliest indication of canoe manufacture yet known in the Santa Barbara area (Warren 1976).

The artifact inventory from SBa-52 includes mortars, pestles, manos, metates, anvil stones, hammerstones, flakes, planers, and large quantities of drills and asphaltum applicators. The faunal assemblage is comprised of a dense shell component (Chione, Tivela, Haliotis, Polinices) and large numbers of land and sea mammal bones.

At present SBa-52 is being utilized by members of the local Native American community as a sanctioned reburial area for human skeletal remains recovered from a variety of archaeological contexts.

Environmental Context: The site is presently covered with disturbed scrub and soft chaparral vegetation and is surrounded by salt marsh and mudflat associations. At the time of European contact the site was on a peninsula projecting into the Goleta Lagoon and served as a prime location from which to collect abundant marine and estuarine resources and avifauna. The nearest fresh water source appears to be Tecolotito Creek located approximately 610 meters north of the site.

Degree of Disturbance: The portion of the site which falls within the project area has undergone a number of direct impacts including the construction of Los Carneros Road, past agricultural plowing, and the construction of a motorcycle racetrack. Despite these impacts a substantial amount of the cultural deposit appears to be intact.

SPa-54

Location: This site is located near the southwestern bank of Tecolotito Creek along the northwest edge of the former Goleta Slough. The site was originally described as existing on a small knoll at the southern terminus of a peninsular ridge. Today it is situated southeast of the intersection of the Glen Annie overpass and the Southern Pacific Railroad tracks at 15 meters above sea level.

Description: SBa-54 is a habitation site consisting of a dense shell midden deposit covering approximately 28,242 square meters and having a depth of .55 meters. D.B. Rogers superficially explored the site in the 1920's and attributed its occupation to the Oak Grove Period on the basis of its physiographic location and the presence of manos and metates. William Harrison excavated 20.3 cubic yards of midden in 1956 and described the site as being 35 meters north-to-south and 75m east to west. Harrison recovered flake and core tools of quartzite, siliceous shale, and chert, numerous projectile points (contracting stems and large side-notched), roughly equal numbers of manos and metates and mortars and pestles, two charmstones, a quadrifacial drill, an asphaltum applicator; and one human burial. Harrison concluded that the artifact inventory from SBa-54 represented a Hunting Period occupation (1966).

Environmental Context: The site is presently covered by annual grasses and open fields. To the southeast a major industrial center is being developed. At the time of human habitation the site was situated on an elevated knoll adjacent to the Goleta Lagoon where marine and estuarine resources and avifauna were readily available. The nearest fresh water source appears to be Tecolotito Creek located approximately 305 meters east of the site.

Degree of Disturbance: SBa-54 has undergone a number of historic impacts. Harrison has stated that the site was completely destroyed in 1962 for the construction of housing tracts. The site and surrounding vicinity is relatively flat but contains no tract housing. An old dead oak still stands on the eastern site boundary where Harrison described it. While the top of the original knoll has unquestionably been removed (and possibly pushed to the east), it appears that the lower slopes of the knoll may still contain relatively undisturbed midden deposits. The former center of the knoll has been covered with a square plot of imported non-archaeological soil, which appears to represent a garden area, resting unconformably upon a yellow clay-rich subsoil. Dense shell midden is present on the east and west sides of this area and the two deposits are roughly 60-75 meters apart, conforming to Harrison's recorded site boundaries.

SBa-56

Location: This site is located centrally between the Southern Pacific Railroad tracks, Los Carneros Road, Hollister Avenue, and Aero Camino Road. The site was originally situated at the southern terminus of a narrow ridge which projected into the Goleta Slough along its northern margin. The site is approximately 9 meters above sea level.

Description: SBa-56 is a habitation site consisting of a dense central shell midden deposit surrounded by a peripheral low density shell and artifact scatter. The entire deposit

covers approximately 75,472 square meters and is known to have a depth of .80 meters. Rogers (1929) excavated 46 trenches in 1927, failing to locate a discrete cemetery, but noting the presence of two distinct temporal horizons. The lower component (ca. 20 cm thick) contained exclusively manos, metates, and crude hammers, while the upper stratum (ca. 60 cm thick) consisted of a well developed dense shell midden containing "a few well made flint weapons" (Rogers 1927). Rogers concluded that SBa-56 consisted of an Oak Grove Deposit overlain by Canalino remains.

Our investigation defined Rogers' central site area as extending approximately 150 meters north to south and 125 meters east to west. In addition we were able to identify a peripheral low density shell and artifact scatter extending a total of nearly 400 meters north to south and 350 meters east to west. This deposit contained several manos, numerous flakes, two projectile points, and an obsidian flake. The faunal inventory at SBa-56 is dominated by large valves of Saxidomus, with Protothaca, Chione, Mytilus, and Polinices well represented.

Environmental Context: The central portion of the site is presently in walnut orchard and the entire landform has undoubtedly been cultivated for years. At the time of human habitation the site was adjacent to the ancient Goleta Slough where abundant quantities of marine and estuarine resources were readily available. A strong spring feeds a fresh water marsh on the south and east side of the site and would have been an ideal source of potable water.

Degree of Disturbance: SBa-56 has undoubtedly undergone a number of historic impacts. In 1967, Chartkoff and Kona concluded that the top part of the site had been destroyed by bulldozing. No evidence of such impacts were recognizable during our investigation. The central site area is planted in walnut orchard and the entire landform has been cultivated for years. Pothunters have been actively excavating the central midden area for at least three years, and over a dozen trenches or pits remain open. Despite this disturbance, it would appear that this illicit excavation has been confined largely to the upper levels of the site.

SBa-57**

Location: This site is located on the eastern bank of Los Carneros Creek north and east of the intersection of Aero Camino Road and Camino Vista behind the Los Padres National Forest Supervisor's Office. The site was originally described as being situated along the northern border of the ancestral Goleta Slough. SBa-57 is approximately 8 meters above sea level.

Description: SBa-57 is presently represented by a low density shell scatter covering an area of approximately 15,468 square meters. In the past much more of the deposit was present

and the site was known to have a maximum depth of 1.2 meters. Rogers conducted extensive excavations at SBa-57 in 1925 and was able to identify two superimposed cemeteries representing Canalino and Oak Grove occupations. Rogers speculated that the upper Canalino cemetery may have been looted by Francisco Leyva, who removed burial associated artifacts but left the bones in place. The Oak Grove cemetery was apparently intact, with millstones placed over a number of burials. Roger's field notes record the abundant presence of shellfish, whale, seal, fish and crayfish remains.

Environmental Context: The site is presently covered by buildings, parking lots, and a cement-lined stream channel. At the time of human habitation the site was adjacent to the ancient Goleta Slough where abundant quantities of marine and estuarine resources were readily available. Approximately 20 meters east of the site a fresh water spring exists.

Degree of Disturbance: SBa-57 has been heavily impacted by industrial development. The majority of the site deposit has apparently been removed and/or dispersed by construction activities. Access and visibility was restricted leaving a low density shell scatter of secondary origin as the sole testimony of the site's former presence.

SBa-60

Location: This large site is located between U.S. Highway 101 and Hollister Avenue and is bounded on the west by San Pedro Creek and on the east by Fairview Avenue. The site was formerly located on the northern edge of the Goleta Slough at an approximate elevation of 6 meters.

Description: SBa-60 unquestionably represents the single largest habitation site in the Goleta Slough region. The site covers a total area of approximately 179,817 square meters, and reaches a depth of at least 2.00 meters. The density and size of the site have attracted a large number of investigators from the 1870's on. Salvage excavations in the right-of-way of U.S. 101 recovered over 100 burials with associated Late Period artifacts and historic trade items (McKusick 1961; Warren 1968). SBa-60 is believed to represent the historic village of 'Saspilil'.

Environmental Context: SBa-60 is currently almost totally covered by commercial businesses. San Pedro and Las Vegas Creeks converge at the southern edge of the site. Prior to historic sedimentation and airport construction, the site was located at the edge of the Goleta Slough, and was probably surrounded largely by a wealth of estuarine floral and faunal associations which provided a rich resource base for the occupants of the site.

Degree of Disturbance: The site has unquestionably been subjected to a variety of historic impacts associated with highway, road, and railroad construction, stream channelization, and

the development of the Goleta commercial district. However, significant portions of SBa-60 may remain relatively intact beneath the Fairview Road overpass, paved parking areas, and the Fairview Golf Center.

SBa-61

Location: SBa-61 is situated at an elevation of 9 meters on the west bank of Las Vegas Creek, east of Vega Drive and south of Shirrell Way. The site lies approximately .5 kilometers north of SBa-60.

Description: This site was briefly described in 1929 by Rogers, who attributed the occupation to his Canalino Period. The northern site area was evaluated by UCSB's Office of Public Archaeology in 1981. An extremely low density shell scatter and a single projectile point were noted on the surface of the site, but no discrete subsurface archaeological deposit was identified (Kornfeld 1981). The present investigation was hampered by poor visibility, but identified low density shell deposits south of Shirrell Way on both sides of Las Vegas Creek. No artifacts were observed.

Environmental Context: SBa-61 is currently covered with lemon orchards and residential and commercial buildings. The perennial Las Vegas Creek has been realigned to the west (Moore 1980), but formerly emptied into the Goleta Slough approximately .5 kilometers to the south. The site vicinity was probably covered with an oak woodland environment and would have provided access to a wide variety of terrestrial and marine resources.

Degree of Disturbance: Kornfeld (1981) concluded that the northern portion of the site had either been removed or mismapped. The southern portions of SBa-61 identified during the present survey have been subjected to a variety of impacts associated with plowing, stream realignment and commercial and residential construction. While surface exposures appear to be heavily disturbed, subsurface materials may retain significant levels of spatial integrity.

SBa-62

Location: This site is recorded as being located on the west bank of San Pedro Creek approximately 875 meters north of U.S. 101, and 150 meters south of Stow Canyon Road. Elevation of the site is 15 meters.

Description: Rogers excavated six units at SBa-62 in 1926 and reported a high density of shell and the presence of abundant chert flaking debris and fire cracked rock. Human remains were exposed during plowing, however, Rogers did not locate a discrete cemetery area. The maximum reported depth of the site was 60 centimeters. Rogers reported finding evidence of all three cultures at SBa-62. The present investigation could not locate evidence of the site.

Environmental Context: Rogers (1929) reports the presence of peat beds to the north of SBA-62 and suggests that the site was located along the edge of a northern extension of the ancestral Goleta Slough. Fresh water marsh habitats must have been present in former times. The channel of San Pedro Creek has been lined with cement adjacent to SBA-62 and the entire site vicinity is covered by residential tract housing.

Degree of Disturbance: No remnants of the site were located during our survey. Impacts have unquestionably been extensive and would appear to be associated primarily with construction of housing and channelization of San Pedro Creek.

SBA-63

Location: This site is located at an elevation of 18 meters on the west bank of San Pedro Creek approximately 25 meters south of Stow Canyon Road. The site is probably located on the edge of a former inlet of the Goleta Slough.

Description: SBA-63 currently consists of a low density scatter of estuarine shell species. Creek bank exposures exhibited an occasional shell fragment. No artifacts were observed. Rogers excavated at least 48 units at the site in 1926, noting the abundant presence of shellfish, flaking debris, cores, hammerstones, and asphaltum. The archaeological deposit reached a maximum depth of 70 centimeters and covered a total area of 10,120 square meters. Rogers attributed the occupation of SBA-63 to a combination of Hunting Period and Canalino populations.

Environmental Context: The site is currently covered largely by housing tracts and landscaped lawn areas. Oak trees and riparian vegetation are present along the creek channel. Rogers (1929) mentions the presence of peat beds to the east of the site, postulating the presence of a northern extension of the ancestral Goleta Slough. Such a presence adjacent to the Slough would have provided a diverse resource base for the occupants of the site.

Degree of Disturbance: Impacts to this site appear to have been relatively extensive. The site has been subjected to long term agricultural activities, construction of residential tracts, and erosion of the creek bank. However, significant portions of the site may remain on land presently owned by the County of Santa Barbara.

SBA-64

Location: The site is situated on an old stream terrace 15 meters east of the San Pedro Creek, considerably north of the Goleta Slough, and near the base of the Santa Ynez foothills. The site boundaries are within the property of Mrs. B. Ralston, northeast of where an access road from Cathedral Oaks Road crosses the creek. The site is 24 meters above sea level.

Description: The site is a low density shell and flake scatter, which was originally described by D.B. Rogers as being situated on a small elevated knoll roughly 60 meters north-south and 120 meters east-west. Quartzite flakes were observed on the site's surface in a density approaching one flake per square meter. Shell species included Chione undatella, Protothaca staminea, and Haliotis sp. The shell density was less than seven fragments per square meter. Rogers did not excavate at the site due its isolated location and disturbance caused by effects of previous intensive cultivation.

Environmental Context: A young avocado orchard now occupies the site area. Coastal Live Oak and riparian associations surround the site adjacent to the creek.

Degree of Disturbance: Apparently the knoll described by Rogers has been leveled during agricultural and road construction activities. It is unclear based on the present investigation, whether intact cultural deposits remain within observed site boundaries.

SBa-67*

Location: This site is located along Los Carneros Creek at an elevation of approximately 61 meters and nearly 3.3 kilometers north of the Goleta Slough.

Description: Rogers first described SBa-67 (1929: 155) stating:

there is a spring, clustered about which and sheltered by a heavy forest of oak, there was once a small village. I could find nothing here that would definitely determine the culture, but feel fairly sure that it belonged to the first.

Environmental Context: Unknown.

Degree of Disturbance: Unknown.

SBa-137*

Location: SBa-137 is situated on the west bank of Los Carneros Creek at an elevation of 30 meters. Cathedral Oaks Road bisects the northern portion of the site.

Description: The site was first recorded in 1956 by William Harrison who surface collected 19 artifacts, including manos, chert flakes and a projectile point of white chert. Macko (1979) describes SBa-137 as a "low density shell and lithic scatter on a gently sloping knoll above the creek". He reports the presence of chert and quartzite flakes, although ground stone artifacts were conspicuously absent. Total site area is 18,580 square meters.

Environmental Context: SBA-137 is currently covered in lemon and avocado orchards. An extensive riparian association exists within the creek channel on the east side of the site. The site area was probably covered by oak woodland and chaparral floral communities prior to European contact.

Degree of Disturbance: Disturbance processes at the site appear to be associated primarily with long-term agricultural activities and road construction. A dirt access road skirts the southern and eastern site periphery, and construction of Cathedral Oaks Road appears to have removed portions of the site. A secondary deposit of dense shell midden incorporated in a matrix of historic asphalt and trash has been dumped along the creek bank along the site's southeastern edge. The origin of this midden is known (Macko 1979).

SBA-143

Location: The site is located on property administered by Dos Pueblos High School. SBA-143 is bounded by a school athletic practice field to the west, Del Norte Drive to the south, Tecolotito Creek to the east, and an open overgrown field to the north. Site topography conforms to an ancient elevated stream terrace west of Tecolotito Creek, but does not extend to the current creek edge. The site is situated 30 meters above sea level.

Description: Patricia Lyons originally recorded the site in 1959 and attributed it to Roger's Hunting Period. Dos Pueblo High School archaeological field classes have excavated the site until the practice was discontinued recently. An extensive shell midden with a maximum depth of over one meter is indicative of extensive prehistoric habitation. Artifacts from SBA-143 include manos and metates, mortars, projectile points, scrapers, cores and flakes. Associated shellfish species included Saxidomus nutalli, Tivela stultorum, Chione undatella, Ostrea lurida, Cerithidea, Protothaca staminea, Mytilus californianus and Tegula sp.

Environmental Context: The site area is within a lemon orchard, surrounded by oak and riparian vegetation. A corrugated tin shed is situated in the center of the site. Tecolotito Creek is located approximately fifty feet to the east.

Degree of Disturbance: Agricultural plowing and planting, along with sheet erosion, are the main contributors to site disturbance. Excavation units associated with the high school field classes have not been backfilled.

SBA-169

Location: SBA-169 is reportedly located on the east bank of Maria Ygnacia Creek around the intersection of Old San Marcos Pass Road and Via Parva. Elevation of the site is approximately

49 meters. The UCLA Archaeological Survey deleted the site after a failure to locate it in the field. Larry Spanne reported the map location as being "approximate" in 1968.

Description: The site was located and recorded in 1944 when burials and a steatite bowl were exposed in a collapsed creek bank. The presence of shell was also recorded. The current investigation located several shell fragments in the front yard of a private residence located at the intersection of Via Parva and Via Regina. No artifacts were observed and surrounding yards were devoid of visible cultural material. The isolated nature and undetermined origin of the observed shell make the potential association with SBA-169 problematic.

Environmental Context: The recorded location of the site lies at the base of the foothills along a perennial stream. The entire area is now covered with residential buildings and associated ornamental landscaping. Extensive riparian vegetation zones are still present within the stream area. Oak woodland habitats probably dominated the low alluvial terraces in former times, with chaparral associations present on the slopes above. A wide variety of terrestrial resources would have been available to the site occupants.

Degree of Disturbance: Since the precise location of SBA-169 remains unknown, specific levels of impacts to the site are difficult to assess. However, if the recorded location of the site is accurate, impacts associated with construction of housing and roads would have to be regarded as extensive.

SBA-562*

Location: This site is described as being located approximately 2.8 kilometers north of Goleta on San Jose Creek. The Assessor's Parcel number is 67-010-12. Elevation of the site is 49 meters.

Description: The site is reported as Olson's Mainland 5, a site he attributed to his Early Mainland Period (Olson 1930). If such an assumption proves correct, SBA-562 probably contains a Milling Stone component.

Environmental Context: Unknown

Degree of Disturbance: Unknown.

SBA-589*

Location: This site is described as being located on the west bank of Los Carneros Creek 137 meters south of Cathedral Oaks Road. The site lies within the Corona Del Mar Ranch at an elevation of 30 meters.

Description: The site has been described as a small (10m X 10m) shell scatter consisting primarily of Tivela stultorum and Chione sp. No artifacts were observed, although a shell sample was collected by Joe Tainter.

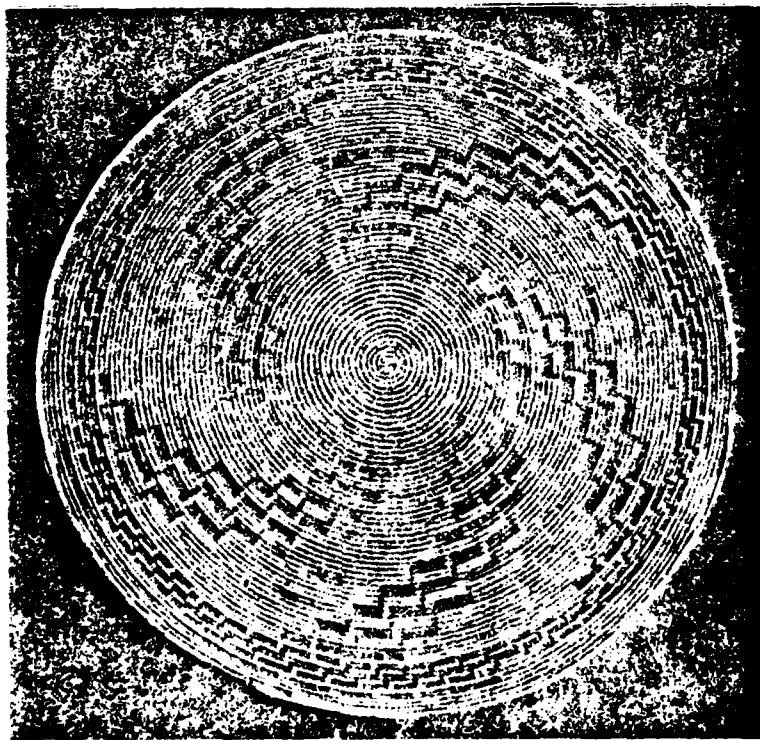
Environmental Context: Unknown

Degree of disturbance: Unknown.

SBa-1158

Location: SBa-1158 lies at an elevation of approximately 1.5 meters at the westernmost end of Goleta Beach County Park. The site is situated on the Goleta sandspit at the base of a slope which leads up to the UCSB campus.

Description: At the time of the present survey the site was virtually entirely covered with wind-blown beach sand. The site was first recorded by Erlandson in 1980 who described it as "a shell, bone and lithic scatter of unknown dimensions located just behind the beach." The shellfish assemblage at SBa-1158 consisted predominantly of Chione, Protothaca, Ostrea and Mytilus. Small amounts of sea mammal bone were also observed. The artifact inventory included chipping debris of Monterey and Franciscan chert, a bifacial knife



fragment, and an asphaltum nodule. Because of beach sand encroachment, the boundaries of the site have never been reliably defined. Pantoja recorded the presence of a Chumash house cluster on the Goleta Sandspit in 1782.

Environmental Context: SBa-1158 is located immediately behind the beach near the mouth of the Goleta Slough. Landscaped ornamental vegetation surrounds the site, although coastal scrub probably covered the site prior to European contact. The site is located immediately adjacent to a wide variety of marine, estuarine, and terrestrial habitats which would have provided a rich resource base for the inhabitants.

Degree of Disturbance: Due to the encroachment of wind-blown sand, the degree of disturbance at SBa-1158 is difficult to evaluate. The construction of parking areas and other park facilities may have impacted portions of the site.

SBa-1203*

Location: SBa-1203 is located on both sides of Tecolotito Creek, approximately 150 meters north of Hollister Avenue at an elevation of 3 meters. The site area, now owned by University Exchange Corporation, is located at the former edge of the Goleta Slough.

Description: SBa-1203 was recorded and tested in 1981 by the UCSB Office of Public Archaeology (Serena 1981). Investigations revealed a small (30 X 60 meter) central midden area surrounded by a low density lithic scatter extending approximately 60 by 90 meters. Faunal remains included primarily estuarine shellfish species and bone of fish, bird, reptile, land mammal and sea mammal. Large triangular and leaf-shaped projectile points, trifacial drills, manos, mortar fragments, basin metates, a "flowerpot" mortar rimsherd, netsinkers, a chipped shale tablet, retouched flakes, and bifacial cutting and scraping tools were recovered (Serena 1981). Serena concluded that SBa-1203 represents a small Late Middle Period village with an associated minor Late Period component.

Environmental Description: The site area is currently in an open field. Coastal sagebrush (soft chaparral) is the prominent site vegetation, with a riparian association adjacent to the Tecolotito Creek bank.

Degree of Disturbance: Tecolotito Creek was realigned from the western boundary of the site through the central midden area in 1974. Road construction, rodent burrowing, and erosion have contributed to further site disturbance, although over two-thirds of the site is seemingly intact.

SBa-1207

Location: This site is located on the east bank of the former channel of Las Vegas Creek, just west of Fairview Avenue and north of Shirrell Way. Fairview School lies approximately 100 meters to the north. Elevation of the site is 11 meters.

Description: SBA-1207 consists of a partially buried shell midden located on a small knoll covered by historic siltation. Shell species observed included Tivela stultorum, Mytilus californianus, Haliotis sp., Chione sp. and Protothaca staminea. The site was evaluated by the UCSB Office of Public Archaeology in 1981. Kornfeld recorded the presence of fire-cracked rock and a low density of quartzite cores and chert flakes. Midden depth reached a maximum of .50 meters and covered a total area of 22,209 square meters.

Environmental Context: SBA-1207 is situated upon a small buried knoll on the east bank of the original channel of the perennial Las Vegas Creek. The area is now covered with a lemon orchard but probably supported oak trees and a fresh water marsh habitat prior to the inducement of siltation (Kornfeld 1981). The ancestral Goleta Slough was located approximately .6 kilometers to the south, providing a diverse resource base for the occupants of the site.

Degree of Disturbance: Kornfeld (1981) excavated a number of trenches in and around the site in order to assess the integrity of the archaeological resources present. He concluded that the top of the knoll had been graded flat, with midden subsequently spread over a substantial area of the surface. On the slopes of the knoll was a buried apron of relatively intact midden deposit which had been covered during induced siltation associated with the filling of marsh areas formerly present around the knoll. The intact portion of the site is outside the project area boundary.

SBa-1548

Location: SBA-1548 is located approximately 400 meters north of the intersection of University and Ribera Drives, directly opposite a residence at 568 Ribera Drive. The site is situated on the east bank of Maria Ygnacia Creek at an approximate elevation of 31 meters.

Description: SBA-1548 is described as a small, low density scatter of shell, ground stone and chipping debris. Erlandson and Heinzen recorded the site in 1977, noting the presence of a pestle fragment, two chert flakes and shell

of Chione sp. The current investigation observed only a single fragment of Ostrea lurida, an estuarine shell species. Total recorded area of the site is 2,100 square meters.

Environmental Context: SBa-1548 contains a number of oak trees at present and sits adjacent to an extensive riparian habitat. The area to the east is covered by a residential housing tract. The size, density, and location of the site suggest that it represents a small campsite for the exploitation of terrestrial resources.

Degree of Disturbance: SBa-1548 appears to have been impacted by construction of Ribera Drive and potentially the adjacent housing tract. A public bikeway runs through the site and may have caused an increase in illicit collection of surface artifacts. Erosion of the creek bank may also have resulted in the partial loss of the site. The mature oak trees which surround the site may have served to protect the deposit during grading associated with the adjacent housing tract and Ribera Drive.

SBa-1550*

Location: SBa-1550 is situated atop a high knoll above the west bank of Maria Ygnacia Creek. The site is situated on properties owned by the County of Santa Barbara and Manuel Tosta, 781 La Buena Tierra. Site elevation is 49 meters above sea level.

Description: This site represents a large Milling Stone occupation with an associated cemetery area. Erlandson and Heinzen recorded the site in 1977, reporting the presence of dense chipping debris and flake tools of chert and quartzite, large numbers of manos and metate fragments, and a low density shell component comprised primarily of Tivela stultorum and Chione sp. While the majority of the site is located atop the large knoll around the Tosta residence, a significant portion of the site exists on a relatively low alluvial terrace just above the creek.

The present study located a single mano fragment eroding out of the creek bank a short distance north of the previously recognized site boundaries, causing us to extend the site boundaries to encompass this find.

Environmental Context: SBa-1550 is currently planted in lemon and avocado orchards. During the time of its occupation, the site was probably covered by a large oak woodland, with an associated riparian habitat in the perennial stream below. The predominance of grinding and cutting/scraping tools observed at the site suggests a primarily

terrestrial subsistence base, with minor reliance on marine resources demonstrated by the low density of shellfish.

Degree of Disturbance: Impacts to SBa-1550 have been associated primarily with agricultural activities. Construction of a basement at the Tosta residence in 1944 reportedly uncovered portions of a Milling Stone cemetery. Erosion of the lower alluvial terrace continues to impact the site.

SBa-1556

Location: SBa-1556 is situated north and west of the intersection of Cathedral Oaks Road and Avenida Pequena on the east bank of San Jose Creek. The site is located at an approximate elevation of 31 meters.

Description: The site consists of a low to moderate density shell and artifact scatter. Recorded by Erlandson and Heinzen in 1978, the predominant shell species consisted of Chione undatella. The artifacts observed were a single chert flake and a polished bone bead, cut diagonally through the long bone of a medium-sized mammal and strung through the nutrient foramen. The present investigation noted a low density of shellfish remains, but observed no artifacts despite relatively good visibility.

Environmental Context: SBa-1556 lies adjacent to a lush riparian zone bordering a perennial stream. Large numbers of oak trees still stand on or near the site, remnants of a larger oak woodland largely destroyed by the construction of housing tracts and associated roads. At least three private residences exist on the site today, limiting access and complicating boundary definition.

Degree of Disturbance: As stated above, the site has undergone extensive impacts associated with housing and road construction. The County of Santa Barbara impacted up to six inches of the remaining portions of the site during brush clearance operations in 1978. The increase of human traffic over the site may have increased illicit artifact collection.

SBa-1568

Location: This site is located on a low flat above and approximately 30 meters east of San Jose Creek. The site lies on land owned by the County of Santa Barbara directly opposite a residence located at 470 Merida Drive. Elevation is 24 meters above sea level.

Description: SBa-1568 consists of a low density scatter of shellfish and chipped stone debris. A single chert flake was observed in 1978 along with shell species of Chione, Protothaca, Ostrea, and Mytilus. The current investigation recorded a similar shell assemblage, but observed no artifacts. The conformation of the landform containing the shellfish suggests that it may well represent a secondary fill deposit.

Environmental Context: The site area is currently utilized as recreational open space. Ornamental shrubs and lawn areas are the primary vegetation. A riparian zone associated with the perennial San Jose Creek borders the site on the west. Prior to development, the surrounding area probably comprised a mosaic environment of oak woodland and light chaparral.

Degree of Disturbance: The site is utilized as a hill climb and jump for bicycle motocross riders. The conformation of these surface features suggests that the deposit was either imported as secondary fill or has been extensively recontoured.

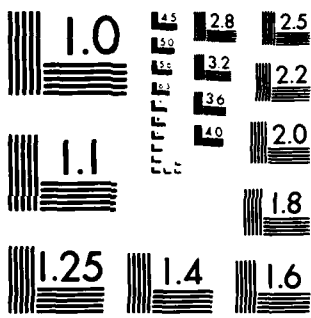
SBa-1569

Location: SBa-1569 is located on the east bank of San Jose Creek on a small knoll approximately 50 meters south of the point where Patterson Avenue crosses over the creek. The site lies 24 meters east of the creek channel at an elevation of about 34 meters. The property is owned and administered by the County of Santa Barbara.

Description: Erlandson (1979) described SBa-1569 as a temporary campsite and recorded the presence of a single small tarring pebble. The 1981 survey updated the site record and observed shell species of Chione, Protothaca, Tivela, Mytilus, Ostrea, and Macoma, indicating the exploitation of a relatively diverse range of marine and estuarine environments. No artifacts were observed. Total area of the site is approximately 1,050 square meters.

Environmental Context: SBa-1569 is situated on a small knoll set slightly higher than the surrounding alluvial terrace. Oak trees cover the knoll with sycamore and other riparian plants within the immediate area. The site is surrounded by residential housing and associated roads. The site locality would have provided access to a variety of terrestrial faunal and floral resources.

Degree of Disturbance: The integrity of SBa-1569 appears to remain relatively intact, disturbed primarily by burrowing rodents. Erosion continues along the western edge of the site and illicit artifact collection may be occurring on a sporadic basis.



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

SBa-1570

Location: SBa-1570 is located on the west bank of San Jose Creek at an elevation of approximately 30 meters. The site begins at the intersection of Patterson Avenue and Queen Ann Lane and extends southward to the confluence of the west and east forks of San Jose Creek.

Description: The site has been described as a "fairly extensive, low density shell scatter," of at least 306 meters in depth which contains a very low density lithic debris component. The total site area covers nearly 10,000 square meters (Erlandson 1979). The current study noted the presence of Tivela, Chione, Mytilus, and Argopecten, as well as a single large flake tool of Franciscan chert. A historic trash feature described in 1979 could not be relocated. This feature consisted of a localized concentration of burnt mammal bone (lacking butcher cut saw marks) in association of a single fragment of Early American ceramics. The feature was located in an eroded creek bank area, and may have been destroyed.

Environmental Context: SBa-1570 has largely been cleared of vegetation, with the exception of remnant oak trees along the creek edge, which represent a formerly more extensive oak woodland environment. The construction of residential tracts over much of the site area has resulted in the introduction of exotic ornamental plants around the site. A riparian habitat borders the site on the east side. Terrestrial faunal and floral resources were undoubtedly abundant in the site vicinity prior to European contact.

Degree of Disturbance: The vast majority of the site has been either destroyed or heavily impacted by the construction of housing tracts and an associated road system. At present the southern portions of the site appear to retain the greatest potential integrity. Erosion continues to impact the site all along the creek bank and illicit artifact collection may be occurring.

SBa-1588

Location: This large site is situated on a long elevated ridge which is bounded by two drainages, rising immediately south of Atascadero Creek. The site lies approximately 475 meters due south of the terminus of Via Miguel Avenue. The elevation of the site is 24 meters above sea level.

Description: SBa-1588 consists of a very large but low density shell and lithic scatter on a broad knoll above a perennial stream. The site was first recorded by Desautals and Leach in 1978 who reported the presence of moderately

dense chert and quartzite debitage, a large flake chopper, and a possible micro-core. The current study located an andesite flake tool and a metate fragment and recorded a shell assemblage including species of Chione, Tivela, Ostrea, and Olivella. The maximum observed density of shellfish was 3 fragments per square meter. Total site area is approximately 10,811 square meters.

Environmental Context: SBA-1588 is currently covered with dense annual grasses and disturbed scrub vegetation. Dense riparian zones formerly surrounded the site on three sides, and a fresh water marsh reportedly existed on the northeastern site periphery. Oak trees were probably much more numerous in the past and estuarine, terrestrial, and marine resources were close at hand.

Degree of Disturbance: Desautels and Leach (1978) described this site as "relatively undisturbed." Little appears to have changed since that time. While the landform has probably been farmed in the past, other historic impacts have been few. A dirt road passes through the site, but associated erosion has been minor.

SBA-1653*

Location: SBA-1653 is situated on the Corona Del Mar Ranch immediately north of U.S. Highway 101 and approximately 875 meters east of Glen Annie Canyon Road. The site is located on the southern terminus of a low ridge near the edge of the ancestral Goleta Slough. Elevation of the site is approximately 23 meters.

Description: SBA-1653 was tested and recorded in 1979 by Michael Macko. Macko describes the site as a "small buried shell midden" between 30 and 50 centimeters in depth. Total area of the site is 16,758 square meters. Macko excavated three 1 X 1 meter test pits and 13 small backhoe trenches (the latter scattered around the site periphery). Estuarine shell species, predominantly Ostrea, Protothaca and Chione, were abundant, and found in association with two chert flakes, a single fish vertebrae, and a predominance of historic trash. Based upon the limited size and thickness of the site, Macko concluded that SBA-1653 represented a short-term occupation or a limited activity area.

Environmental Context: The site area is currently undeveloped, covered in grasses and utilized as grazing land. The site appears to have been located along the northern border of the ancestral Goleta Slough, providing access to fresh and salt water marsh habitats where a variety of floral and faunal resources could be obtained.

Degree of Disturbance: Although the site has been disturbed by construction of U.S. Highway 101 and a variety of agricultural impacts, primary site deposits were reportedly identified by Macko (1979).

SBa-1655*

Location: SBa-1655 is located in the southeastern corner of the Corona Del Mar Ranch, approximately 90 meters west of Los Carneros Creek and 50 meters north of U.S. Highway 101. Site elevation is 28 meters above sea level.

Description: Macko (1979) describes this site as a "very low density shell and lithic scatter" estimated to have a total area of 74,320 square meters. The lithic component consists of both chipped and ground stone artifacts. In the excavation of 19 auger holes, Macko recovered shell species such as Tivela stultorum, Ostrea lurida, Chione sp., and Haliotis sp. Also recovered were avian and herbivore remains, including domestic species. Historic trash, including porcelain and glass were abundant.

Environmental Context: While SBa-1655 is situated on or near the northern boundary of the former Goleta Slough, little else is known about its immediate environment.

Degree of Disturbance: The western six acres of the site have been utilized for and severely impacted by the construction of an earthen reservoir system. Macko concluded that the only portions of the site exhibiting any spatial integrity and significance were those located between the reservoir and Los Carneros Creek. Portions of the site appear to be farmed at present.

SBa-1657*

Location: SBa-1657 is situated on a knoll at the extreme southwest corner of the Corona Del Mar Ranch, 190 meters east of Glen Annie Road, and 470 meters north of U.S. Highway 101. The current ranch entrance road runs along the southern site periphery. The elevation of the site is approximately 28 meters.

Description: This site was recorded by Macko in 1979, who described it as a low density shell and lithic scatter on a gently sloping knoll. A site visit in 1981 by Erlandson observed a relatively high density shell midden containing fish bone and flakes of Monterey and Franciscan chert. Several metates were observed on the site surface in 1979.

The predominant shellfish species observed were Haliotis sp., Tivela, Chione and Mytilus. The artifact and ecofact assemblage at the site appear to indicate an Early Period occupation. The total site area covers approximately 32,515 square meters.

Environmental Context: SBa-1657 is located on the east side of Tecolotito Creek along the northern border of the ancestral Goleta Slough. Currently undeveloped, the site area has been used for agricultural activities and grazing. An oak woodland environment probably covered the site in pre-Contact times, with riparian and estuarine habitats abundant.

Degree of Disturbance: Site disturbances appear to have been limited largely to agricultural, grazing, and erosion control activities. Burrowing rodents are also active on the site.

SBa-1694

Location: SBa-1694 is located on the floor of the Goleta Slough basin, approximately 80 to 100 meters east of SBa-52, and 10 to 20 meters south of a small white concrete block building owned by the Santa Barbara Municipal Airport.

Description: The site consists of a low density shell and lithic scatter of approximately 5,182 square meters. The shellfish component consists of highly weathered fragments of Haliotis and Chione species. Observed lithics included large flakes of siltstone quartzite and small flakes of Monterey and Franciscan chert. A dense salt marsh plant association hampered areal site definition so that established boundaries must be regarded as tentative.

Environmental Context: The site is situated in a small dry pan depression, void of vegetation, which might have contributed to deflation of the soil profile. This combination of factors exposed the archaeological materials and ground surface. A thick salt marsh plant association (Salicornia sp.) covers the ground surface in areas adjacent to the site.

Degree of Disturbance: Fill deposits associated with the adjacent building and its access road may have buried portions of the site.

SBa-1695

Location: SBa-1695 is located within the boundaries of Goleta Beach County Park, immediately south of the restroom facility and across the access road from the park ranger's

residence. The site is bounded to the south by a shower, to the east by the beach and parking lot, and to the north by a set of benches, to the west by a play area.

Description: The site consists of a small area of exposed shell midden associated with a single flake of Monterey chert. This flake was found within a clay-rich soil matrix containing numerous angular shale fragments. Immediately north and west of the restrooms is found an organically enriched beach sand which appears to represent a native soil. This sand contains a number of fragments of shell, including Chione, Protothaca and Olivella. No artifacts were found from this soil, although visibility was restricted to a few recent rodent burrows. An early map of the Goleta Slough made in 1782 by Pantoja y Arriaga places a Native American Village on the Goleta Sandspit although supporting archaeological confirmation has not yet been provided. The clay-rich soil bears a striking resemblance to archaeological material located at the western boundary of the County Park at SBa-1158.

Environmental Context: Fill might have been placed over native beach sand within the site area. A sand volleyball court lies directly southward.

Degree of Disturbance: Landscaping and bathroom construction could have disturbed significant portions of the site.

SBa-1696

Location: SBa-1696 is situated on the south bank of Atascadero Creek on a small knoll below and north of SBa-43. Site boundaries are within property owned by Pacific Gas and Lighting Company, 175 meters southwest of the terminus of Ward Drive, at an elevation of 15 meters above sea level. A roadway intersects the northwest tip of the site from the bulk of the cultural deposit on the mesa top.

Description: The site is between 40 and 60 centimeters deep and contains a moderately dense shell component (predominantly Ostrea lurida), with fire-cracked rock, sea and land mammal bone, and fish remains. The southern half of the site contained several pestle fragments, three large triangular (in cross-section) drills, a tooth of the Great White Shark, and a small leaf-shaped projectile point. The assemblage as a whole appears to indicate a Late Period occupation.

Environmental Context: The northern half of the site is covered with annual grasses and eucalyptus trees. The southern half of the site is currently used for cultivation.

Degree of Disturbance: Grading associated with road construction has removed substantial portions of the northern site section, although large areas remain essentially intact. Continued erosion of the exposed roadcuts was observed.

SBa-1697

Location: SBA-1697 is situated approximately 150 meters east of SBA-1696 atop More Mesa south of Atascadero Creek and just west of a small spring. The site boundaries are within property owned by Pacific Gas and Lighting Company at an elevation of 12 meters above sea level. A large gas processing facility lies along much of the southern site boundary. Poor surface visibility hindered site boundary determinations.

Description: This site is a moderately dense (seven pieces per square meter) shell midden with a low density (one flake per m²) lithic component. Primary shell species noted were Tivela stultorum, Chione sp. and Mytilus californianus, with Saxidomus nuttalli, Olivella biplicata, Polinices and Protothaca staminea also represented. Artifacts observed were limited to flaking debris of Monterey and Franciscan chert, two manos, and two battered quartzite cobbles. The total artifact/ecofact assemblage appears to represent an Early Period occupation.

Environmental Context: A grove of eucalyptus trees and dense annual grasses cover the site area. The duff from the trees is extremely thick. Surrounding vegetation is of a riparian variety.

Degree of Disturbance: The level of impacts on archaeological resources associated with the construction of the gas processing facility is currently unknown. The site area south of the facility appears to be intact.

SBa-1700

Location: The site is situated on the mesa bluff south of Atascadero Creek and to the west of SBA-1699. Site boundaries extend westward from the intersection of Orchard and James Drives for about 168 meters. The site is 15 meters above sea level.

Description: This site is a relatively high density shell midden deposit covering approximately 10,913 square meters. The predominant shell species observed were Saxidomus nuttalli and Chione undatella. Among the observed artifacts recorded were fire-cracked rock, a quartzite flake, a steep-angled

flake tool, and a well worn bifacial mano. Visibility was limited by residential development.

Environmental Context: The site is currently covered by tract housing, road pavement, and landscaping. In the past this locality was probably covered by an oak woodland. At the north edge of the site at the base of the mesa a small spring is present.

Degree of Disturbance: Extensive impacts have resulted from residential development, landscaping, and road construction. The possibility for intact deposit exists.

SBa-1698**

Location: The site is situated on the northern edge of More Mesa south of the intersection of Patterson Avenue, Shoreline Drive, and Anderson Lane on the south side of Atascadero Creek. Site boundaries extend along the natural mesa edge on each side of Anderson Lane. The site is at 15 meters above sea level.

Description: This site is a low density shell and artifact scatter covering approximately 54,514 square meters. Although access to a large part of the area was limited, two manos, a small pitted anvil stone, a polished cylindrical sandstone object with asphaltum on one end, fire-cracked rock, and flake tools of quartzite and Franciscan and Monterey cherts were observed. Faunal remains included burnt large mammal bone and shellfish remains. Their distribution appears to be continuous from the top of the knoll to the floodplain below. The southern site boundary remains undetermined.

Environmental Context: The site is situated on the northern edge of a former oak-covered mesa overlooking Atascadero Creek. The site today is partially covered by residences, orchards, nurseries, and roads.

Degree of Disturbance: The site has been subject to a number of impacts from the above historic developments. In addition, during major flooding episodes, Atascadero Creek has been known to exceed its current channel and create impacts on the lowermost portions of the site. Despite these impacts, there is probably a considerable amount of intact site deposit still extant.

SBa-1699

Location: The site is situated on the mesa bluff south of Atascadero Creek and immediately northeast of the intersection

of Orchid Drive and Via Tarrega. It rests at 18 meters above sea level.

Description: This site is a small high density shell midden with a low density lithic component. It covers an area of approximately 10,714 square meters. The predominant shell species include Saxidomus and Chione, with trace amounts of Tivela, Mytilus, Ostrea, Macoma, Argopecten, and Tegula. All shell appeared to be heavily weathered. Only three artifacts were observed. These included a battered andesite cobble, a single andesite flake, and a core of Franciscan chert.

Environmental Context: The site is currently covered with annual grasses and scrub, which severely restricted surface visibility. Riparian vegetation is dominant to the north of the site area. Several single family residences are located along the southern boundary on Via Tarrega. In the past this locality was probably covered by an oak woodland. Approximately 75 meters to the west a small spring emanates from the base of the bluff and would have served as an ideal source of fresh water for the site's inhabitants.

Degree of Disturbance: Chief impacts to this site have been from agricultural cultivation and residential construction. Major portions of the site are probably still intact.

SBa-1701**

Location: SBa-1701 is situated on the south bank of Atascadero Creek upon a peninsular ridge extending northward from More Mesa in the easternmost portion of the project area. The site, at 15 meters above sea level, is bisected by a private driveway extending west of the terminus of Vieja Drive.

Description: The site consists of a ground stone cluster with no observed faunal or chipped stone associations. The owner of the property has in his possession a quadrangular "billet-shaped" mano and a pestle fragment which he reportedly found within his garden area. Although no in situ archaeological remains were observed during the survey, locational and descriptive information from the field notes of Ronald Olson suggest that SBa-1701 may be related to or represent his Mainland site No. 3. Olson (1928) apparently collected "about 40 mullers and a fragment of an oval metate" from the site surface but found "not a single thing" in eight test pits. In association, Olson found "a very few" flakes and a single shell fragment on the surface. A fresh water marsh was reportedly drained in recent years immediately south of SBa-1701 where Olson's map shows "springs and seepage of water."

Environmental Context: Residential structures now occupy the site area. Oaks and landscaping are observed, while a riparian marsh vegetation type surrounds the site. The freshwater marsh described above may have existed in a low area to the south of the site prior to drainage.

Degree of Disturbance: House construction and agricultural activities are responsible for impacting unknown portions of the site.

SBa-1702

Location: SBA-1702 is located on the west bank of San Jose Creek between Cathedral Oaks and Calle Real. The site is situated at an elevation of 24 meters on land owned by the County of Santa Barbara. County tennis courts are located immediately south of the site.

Description: The site consists of a shell scatter comprised primarily of Chione sp., with a trace of Tivela, Mytilus, Tresus, and Ostrea. Despite an intensive reconnaissance and reasonably good visibility, only one chert flake was observed. The shellfish represent a variety of marine and/or estuarine environments and are heavily weathered. In the absence of diagnostic artifacts, the temporal relationship of the deposit remains undetermined.

Environmental Context: The site area represents a former walnut orchard and portions appear to have been recontoured. Annual grasses are found within the site area while surrounding vegetation is of a riparian variety.

Degree of Disturbance: Adjacent housing and road construction have impacted the site to an unknown degree. Agricultural practices have probably caused disturbances to site context as well.

SBa-1703

Location: The site is situated along the west bank of the rechanneled portion of Las Vegas Creek and extends from U.S. Highway 101 to approximately 75 meters north of Calle Real. SBA-1703 is situated at an elevation of 9 meters and lies between (and possibly connects) SBA-60 and SBA-61.

Description: This site is a well developed midden deposit buried beneath 1 to 2 meters of historic fill. The archaeological deposit is roughly .75 meters thick and contains fire-cracked rock and flakes of quartzite and Franciscan and Monterey cherts. The predominant shell species

observed were Chione, Protothaca, Tivela, and Olivella. The channel bank exposure contains an A Horizon of dense midden underlain by a transition zone, gradually shifting into a clay-rich B Horizon containing caliche clasts. The presence of this essentially complete soil profile appears to indicate that this portion of the site retains a high degree of internal integrity. Approximately one block west of the creek the disturbed remnants of a dense shell midden are evident. It is quite possible that this is a surface exposure of SBa-1703, although this is hard to determine given the residential development in the area. For practical purposes we have included this surface deposit within the boundaries of the site.

Environmental Context: The site is currently covered by residential development and historic fill material. In its natural setting it was situated adjacent to Las Vegas Creek and would have probably had both riparian and oak woodland plant associations. The Goleta Lagoon would have been less than one-quarter mile to the south.

Degree of Disturbance: Chief impacts to the site have been stream rechannelization and possibly house construction. It is felt that a major portion of the site is protected by fill and is probably intact.

SBa-1704

Location: SBa-1704 is located on the Indian Orchard Ranch on the west bank of Maria Ygnacio Creek at the base of Old San Marcos Pass Road. Evidence of the site is distributed on a low alluvial terrace and two elevated knolls within the property of Mr. Charles Waugh. The site is situated at 61 meters above sea level.

Description: This site consists of an extensive shell midden covering approximately 37,256 square meters. In 1928, a number of burials were exposed during road construction. This prompted subsequent investigation at the site by Ronald Olson who designated it as his Mainland Site No. 4. Olson's field notes were used to relocate the site whereupon an intensive reconnaissance was carried out, as well as mapping activities. Time-sensitive artifacts observed appear to indicate a predominantly Late Period occupation. Among the temporally diagnostic artifacts were a concave base triangular arrow point, a triangular bladelet of blonde chert, and a Tivela tube bead. In addition to these were fire-cracked rock, flakes and shattered cobbles of quartzite, and bifacial flake tools of Franciscan chert. The faunal inventory included burnt terrestrial mammal bone, fish vertebrae, and shellfish.

The Maria Ygnacia Adobe was also located within the site boundaries, although it was reportedly leveled in the 1920s. A possible early American Period glass bead observed near the adobe's approximate location may be attributable to this occupation.

Environmental Context: The majority of the site is currently planted in avocado and orange trees. Two residences rest on top of the elevated knolls. In the past this area was probably covered by oaks and riparian plant associations.

Degree of Disturbance: The construction of residences and the roadway have served to cause undoubted impacts to the site. The agricultural activities have taken their toll as well. Despite these impacts there is a good possibility that intact portions of this site still exist.

Archaeological Sites of Undetermined Origin

During the course of the intensive field survey, several archaeological deposits whose origins were problematic or uncertain were discovered. In some instances it was possible to determine that several of these deposits were Native American archaeological deposits which had been imported to their current locations (i.e., Loci 1 and 2). In other instances we were unable to determine with certainty if the deposits were of Native American origin and/or secondary in nature. Concurrent with our investigation a number of persons were consulted about these deposits and some interesting hypotheses were developed. Among the more plausible explanations are:

- (a) The archaeological deposits are primarily cultural deposits representing the by-products of human consumption during the prehistoric or historic period. If these deposits are attributable to historic period land use, then they would be expected to co-occur with homesteads, out-buildings, and other facilities.
- (b) The deposits represent secondary deposits imported from archaeological sites of the prehistoric or historic period.
- (c) The deposits represent material dredged from the Goleta Slough and the lower reaches of its tributaries and imported to its current location during levee construction or reinforcement. A number of contemporary analogs were observed along San Jose Creek during the present investigation.
- (d) The deposits are the by-products of agricultural liming activity. A common practice among early

farmers in the area was to introduce calcium carbonate in the form of sea shells to reduce soil acidity.

- (e) The deposits represent the by-products of chicken ranching activities. A number of ranchers feed their chickens sea shell to enhance the durability of their egg shells.

In order to determine with certainty the nature of these deposits, subsurface testing will have to be conducted in conjunction with intensive background research.

SBa-1567

Location: SBa-1567 is located on land owned by the County of Santa Barbara at the intersection of Cathedral Oaks Road and North Kellogg Avenue. The site sits at an elevation of 24 meters on the west bank of San Jose Creek. The site extends south of Cathedral Oaks Road and may also extend across Kellogg Avenue westward into the adjacent housing tract.

Description: SBA-1567 is a small low density shell scatter of undetermined origin. Total area of the shell deposit appears to cover approximately 2,425 square meters. Neither the original survey (Erlandson 1979) nor the present study could locate any artifacts at the site. The shell remains are heavily weathered and represent species from both estuarine (Chione, Protothaca) and rocky shore marine environments (Mytilus, Balanus). In the absence of observed artifacts the origin of the shellfish at SBA-1567 must remain problematical.

Environmental Context: The site currently lies adjacent to a large residential housing tract. Oak trees and riparian vegetation are abundant along the creek. Thick annual grasses obscured much of the site surface.

Degree of Disturbance: The site has apparently been subject to fairly extensive impacts associated with road and housing construction.

Locus 1

Location: Locus 1 is located approximately 10 meters west of Tecolotito Creek and 5 meters south of Hollister Avenue at an elevation of 3 meters.

Description: The deposit consists of a relatively dense, dark gray/brown shell midden containing fire-cracked rock.

Surface exposure of the midden is limited to an area of approximately 1 X 1.5 meters, and surrounds a gas line. No sign of midden was observed in the adjacent creek bank, although the Tecolotito Creek channel has reportedly been realigned (Serena 1981). The limited surface exposure of Locus 1 prohibits any definition of areal extent for the deposit.

Environmental Context: Locus 1 is located near the edge of the ancestral Goleta Slough. It is currently surrounded by extensive fill zones associated with dredging of Tecolotito Creek. Vegetation in the immediate area includes disturbed scrub and soft chaparral, with salt marsh associations to the south. A small buried archaeological site (SBa-1203) lies approximately 60 meters to the north at a similar elevation. The original channel of Tecolotito Creek appears to have been located slightly west of its present course.

Degree of Disturbance: Given the lack of a demonstrated primary context for Locus 1, the degree of disturbance of the deposit is difficult to assess. However, if the observed midden represents a discrete buried archaeological site, disturbances associated with the construction of Hollister Avenue, creek realignment, bridge construction, and utility emplacement might be expected.

Locus 2

Location: Locus 2 is situated at the confluence of San Pedro and San Jose Creeks, immediately west of Ward Memorial Boulevard and east of the southern portion of Mescalitan Island. Midden and artifacts are exposed on both the north and south banks of San Pedro Creek.

Description: This deposit represents archaeological shell midden and modern estuarine shellfish in a secondary context associated with historic channel dredging and road construction. The north bank of the creek contains a dispersed artifact scatter in a dredged estuarine silt. Artifacts observed included three tarring pebbles, fire-cracked rock, a chert flake, and a polished bone awl fragment. The southern creek bank contains a lens of dark shell midden at the base of a road leading onto Mescalitan Island. Artifacts observed in this exposure included chert flakes and a tarring pebble. The midden deposits appear to be derived from either SBa-46 or SBa-45.

Environmental Context: Currently the locus is within the salt marsh setting of the Goleta Slough basin at the foot of the former Mescalitan Island. Most of the deposit appears to be buried. In historic times this locality was under water.

Degree of Disturbance: The midden deposits on either side of San Pedro Creek are clearly of secondary origin, the north bank deposit being derived from dredged estuarine silt, and the south bank material existing in an area which has been graded flat by the construction of Ward Memorial Boulevard. The southern exposure is rapidly eroding into the creek channel.

Locus 3

Location: Locus 3 is situated around a private residence located on Ward Drive approximately 50 meters south of its intersection with Ekwill Drive. An industrial park lies immediately to the north. The elevation of Locus 3 is 6 meters above sea level.

Description: This locality consists of a low density shellfish scatter composed of estuarine species such as Chione and Protothaca and non-estuarine species of Tivela and Haliotis. No artifacts were observed in association. The soil matrix consisted of a gray/brown silt loam.

Environmental Context: Locus 3 is currently situated in a lemon orchard and surrounds a private residence and associated ranch buildings. Prior to European contact, the area probably represented a flood plain environment on the border of the Goleta Slough. A buried creek channel is visible on the aerial photographs approximately 350-400 meters to the southeast. Marsh associations probably existed between the channel and Locus 3.

Degree of Disturbance: The landform on which Locus 3 is situated appears to have been cultivated for an extensive period of time. If the shell scatter extended northward, it was undoubtedly impacted by construction of the industrial buildings in this area.

Locus 4

Location: Locus 4 is situated at the confluence of Maria Ygnacia and San Antonio Creeks, west and southwest of the intersection of Matorral Way and Ribera Drive. The elevation is 21 meters above sea level.

Description: Locus 4 consists of a low density shell scatter of undetermined origin eroding out of a bank beneath a residence at 231 Ribera Drive. Shell species include Tivela, Mytilus, Chione and Protothaca. Surface visibility was restricted by thick beds of ice plant. No artifacts were observed, although a pestle fragment was located approximately

75 meters to the north by Erlandson and Heinzen (Erlandson 1979). The presence of estuarine fill, containing a number of Cerithidea shells, was noted along an asphalt bikeway to the east of the locus area.

Environmental Context: Locus 4 is situated between two perennial streams which empty into the Goleta Slough. While both channels have been cemented, riparian vegetation zones were undoubtedly prominent in former years. The elevated terrace on which the deposit rests has been extensively altered through housing tract construction, but probably contained an Oak Woodland mosaic environment prior to development.

Degree of Disturbance: Channelization of the two adjacent creeks and the construction of surrounding residential tracts have apparently severely impacted Locus 4. The specific degree of such impacts cannot, however, currently be addressed.

Locus 5

Location: Locus 5 is located approximately 50 meters northeast of the intersection of Kellogg Way and Kellogg Avenue at an elevation of 6 meters.

Description: The locus consists of a low density shell scatter of undetermined origin and temporal association. Shell consisted predominantly of estuarine species such as Chione and Protothaca, but also included the marine species Tivela stultorum. No artifacts were observed. The soil matrix consisted of a tan/gray silt.

Environmental Context: Locus 5 is currently covered in disturbed scrub and annual grasses. The realigned channel of San Jose Creek is approximately 50 meters to the west. The area probably represents a floodplain landform bordering the northeast edge of the Goleta Slough. Former vegetation probably included oak trees with surrounding riparian and marsh associations.

Degree of Disturbance: The immediate vicinity of Locus 5 has apparently undergone a variety of historic impacts including cultivation, discing associated with brush clearance, road grading and construction, creek realignment, and house construction. The level of impacts to the shell deposit cannot at present be assessed.

Locus 6

Location: Locus 6 is located on the east side of San Jose Creek on the Bosio Ranch, approximately .5 km.

north of Patterson Avenue and .4 km south of the main ranch residence. It is situated at 43 meters above sea level.

Description: Locus 6 consists of a very low density scatter of estuarine shell species dispersed throughout the avocado orchards and agricultural fields south of the main ranch buildings. Several pieces of historic mammal bone were also observed within the orchard area. No artifacts were located despite excellent visibility.

Environmental Context: The shell deposit is primarily confined to a low alluvial terrace between 10 and 75 meters east of the creek. Steep chaparral-covered slopes rise from the canyon bottom on the east and west. The stream banks support a dense riparian association. Although the alluvial terrace is currently in agricultural use, it probably contained oak trees prior to ranch development.

Degree of Disturbance. Impacts to Locus 6 have probably been limited largely to agricultural disturbances associated with initial land clearance and long-term crop production. A dirt road runs along the eastern edge of the site.

Historic Architectural Sites

Historic architectural sites are standing structures which have not yet decayed to the point where they are only identifiable as archaeological sites. Architectural sites dating from the Mission Period (1788-1835) through the period of the early years of the 'great depression' (1929-1930) were present within the project area.

Historic Resource A: Pomatto House and Barn (c. 1920)

The house, a one-story tee-shaped wood frame residence, is painted yellow with green trim, and is approximately 45 feet by 20 feet. The house is of utilitarian design, with clapboard siding. The windows are multi-pane. The roof, low-gabled, is covered with tar paper, probably a feature of more recent vintage, as is a concrete porch facing the north. There are several shade trees.

Approximately 90 feet west of the house is a red board and batten barn, which has an east-west orientation and faces the house. It has a low gabled wood shingle roof and a central carriage door flanked by the west gable. Sliding doors still appear to be in working order. A pepper tree stands south of the barn and several eucalyptus trees dot the northern areas, which are somewhat in a basin. There are also a few

native California live oaks to the north of the barn and house. The house is about 150 feet west of the creek, the barn 250 feet west of the creek. The barn and house, built by the Pomatto Brothers, an early Goleta Italian family, is still in use and lived in by a custodian of a local school, the property's owner. Strewn about the property, especially west of the barn, is equipment appropriate to an educational system--swing sets, back boards and benches.

There are groves of fruit trees south of the property, on a rising knoll, most likely part of the original ranch. Although Dos Pueblos High School borders the property to the west, the house and barn remain somewhat secluded. This is probably due to the fact that they sit in a tiny valley. The area has been undoubtedly altered over the years, but vandalism does not seem to be an immediate threat.

Historic Resource B: Pomatto Barn (c. 1905)

The brown board and batten barn, located some 25 feet west of Glen Annie Road, has a low gabled roof which is made of corrugated metal. The wood floor structure is 49 feet wide and has a central carriage door and four windows without glass on the north side. On the west side (back) are metal hinges patented in 1901 and 1903 from Danville, Illinois, indicating a probable construction date between 1903 and 1908. A small wooden pen is connected to the outside, to the south. A large shade tree is also situated close to the barn on the south side. There is a wooden shed located southwest of the barn, and a one-story single family residence is situated 150 feet to the south. The house is of more recent origin and was built about 1939 and replaced the original house that was located there that was built at the same time as the barn.

Glen Annie Creek is further west of the barn, ranging from approximately 20 to 40 feet from the stream bank. For the most part, the surrounding vegetation is primarily planted to avocado trees, with a few orange trees. Originally these lands were planted to walnuts. The barn is open to the elements, although the metal roof will prolong its existence. A thin single strand wire fence of recent origin separates the barn from the road, but it is easily gotten around. While the barn has been continuously used over the years, it is still largely intact as it was when originally constructed. Additionally, the barn is full of many farm implements dating back to an earlier, but undetermined, era. The owner of the barn at its likely construction date (c. 1905) was Ulpiano Yndart, but not much information is known about him. The Pomatto Brothers a few years later bought the property, and it is still owned by the family.

Historic Resource C: Glen Annie Ranch Archway (1869-1874)

This resource is located at the entrance of Howard M. Goldman's Ranch at 570 Glen Annie Road. It is a detached rectangular wooden gateway, ornately-designed, approximately 10 feet high, painted white, and of redwood construction. It is approximately 12 feet wide and has irregular depth having more depth on the east side (to the right as you face it), where an old operating box, no longer working, is located. The arch is located approximately 12 feet east from Glen Annie Road, which it parallels, and faces west. Glen Annie Creek is approximately 500 feet west of the arch. Surrounding the archway are lemon groves.

The archway ostensibly looks the same as it has for a long period of its history, believed to have been built between 1869 and 1874, when it served as the entrance way to the Glen Annie Ranch owned by Col. W. W. Hollister. Originally the arch had trundle gates which were opened by a mechanism consisting of a counter-balance of a barrel of rocks which rode up and down in a 30-foot well on the right side of the arch, and a gear device, like a grandfather's clock, which, when wound up, carried the weighted barrel to the highest point. By pulling on a rope, the visitor triggered the mechanism, the action resulting in an open gate. None of this mechanism remains connected to the archway, although the adjoining box to the arch itself is intact. The Goldmans still have some of the original parts in storage. Given its rural location, it has not been the prey of vandals, although there is a little trash inside the former gear box.

In December 1961, the structure was moved from 6700 Hollister Avenue, approximately 1 mile north to its present location by Mr. Goldman because of a commercial development which threatened its existence. About 5 years ago, a truck entering the driveway damaged part of the arch in a minor way, but it was restored quickly thereafter.

Historic Resource D: Pagliotti House and Barn (c. 1900-1920)

The modest one-story house with clapboard siding rests at the base of a small knoll at 957 North Fairview Avenue, affronting La Goleta Road, and forms the northwest corner where the two streets meet. The structure is positioned on a high cement foundation, as it levels off into the hillside. The 20 foot X 20 foot house has an American Colonial Revival style, a common type of architecture at the time. The house was originally rectangular in shape, but as the Pagliotti family grew in number, an addition was made which gives the house its current ell shape. At one time the house, which faces

south, had a corner porch, but the house addition made this a central porch. For this reason, there is only one truncated column. The double-hung, small-paned windows are also typical of this period style. Concrete steps lead up to the house. It is currently being rented and its condition is deteriorating slowly as it is not being kept up. A large magnolia tree is next to the house on the west side. A tall eucalyptus tree stands on the east. The outhouse was formerly north of the house, higher on the hill, and near some eucalyptus trees.

To the northwest of the house is a brown redwood barn and garage. The barn has an asymmetrical height, and is about 28 feet X 30 feet, with two stables and a central carriage room. The roof and sides of the barn have many missing shingles and are therefore exposed to the elements in many places. A chicken coop appears to have been located south of the barn. Several stacks of boards rest in the weeds and grass. Inside the barn are many cultural artifacts including early twentieth-century farming equipment, automobile parts and paper items. It does not appear the barn will be standing too many more years. Some 30 feet further southwest of the barn is an early garage (c. 1925-30), about 200 feet from the house. Its door faces a private driveway/road extension of La Goleta to some ranch houses. An old wagon skeleton was observed near Las Vegas Creek, about 400 feet northwest of the house.

Historic Resource E: Anderson Lane School House (c. 1895)

The house, painted white, is originally of simple board and batten and of rectangular shape. It now has clapboard siding, boxed eaves and was initially about 12 feet wide and 17 feet deep before additions were made. The north side has double parallel gables on the front and rear portions--that is present due to the addition which was made in the early 1950s which in effect doubled the size of the structure. There is visible evidence that there was a door on the north side of the house that has been removed at some time in the past. A porch runs along a portion of the front of the house. The house is located 30 feet from Anderson Lane (1175) and is still occupied as a residence. There is a modern garage to the southwest.

For many years the William Anderson family lived in the house but the widow recently moved to a new house to the north. To the south of the structure is a modern apartment complex. On the east, across from the structure, is open space, a former short-lived cemetery.

Apparently the building was at one time a one-room school-house, located somewhere on More Mesa, but this information has

been difficult to verify. At any rate, the structure has been greatly altered and bears only a faint resemblance to a one-room schoolhouse. There have been a series of alterations, the most important being the connection with another structure of almost equal size. In addition, it was moved from its earlier location about 30 years ago, thereby losing its original site integrity.

Historic Resource F: Begg House (c. 1885)

The green, board and batten house, is located on the site of a trailer park, near the Goleta Community Center, at 469 South Kellogg Way, approximately 100 feet west down a private concrete driveway. San Jose Creek's old streambed (it was rechanneled in 1961) is approximately 200 feet northwest of the house. The entrance door faces north toward Hollister Avenue, which is about 300 feet away.

The house, about 45 feet wide by 17 feet deep, is currently rented out and has a Gothic Revival architectural style with a steeply pitched roof and a narrow wooden double-hung evoking a gothic mood. Decorative boxed eaves are another feature. A wooden porch seems to be a later addition, although it too is old. There is a brick chimney on the south side. On the east side of the house is an unusual window with two mullions. An addition was made to the western portion of the house.

The house has a small front yard, partially fenced, which also contains several items reminding one of the time when the property served as a three-par golf course in the early 1960s. There is a plaque commemorating its use as a leisure center embedded in the sidewalk 20 feet northwest of the house.

Peter J. Begg, a native of Edinburgh, Scotland, came to the Goleta Valley in 1885 and soon thereafter had this house built. He first settled on property which is about one-half mile to the west, near Fairview Avenue, to farm and raise stock. According to a descendent of the original owner, the house was moved to its present location from this site at an unknown date, although it already appears on a 1902 map in the location where it is today. The Begg family lived in it until about 1934.

Historic Resource G: Joseph Sexton House (c. 1880)

The two-story house with white shiplap siding is located at 5490 Hollister Avenue, some 200 feet off that street, at the end of a curved dirt driveway. The structure is of Italianate style with broadly projected roofs and eaves and groups of tall double-hung windows with mullions. There is a square observatory cupola on the roof. There is an emphasis on the rectangular and vertical in the construction.

The house was built in 1880 for Joseph Sexton by Peter J. Barber, a noted regional architect of the nineteenth century. The elaborately scrollsawed eaves brackets and the ornate cupola are Barber trademarks. It is believed that the first indoor bathtub and the first metal roof in Goleta Valley were associated with this house. There have been more recent ranch adaptations, including the construction and enclosure of a porch on the south side of the house. Also a cement fountain, at least 50 years old, is positioned in front of the house. A water tower is on the north side.

The Sexton house is still surrounded by several visual reminders of a different era, such as a cement post and a gas lamp. Too, the thick surrounding vegetation is reflective of the nineteenth century. Joseph Sexton, a well-known nurseryman, always planted a sample of each new plant or tree in his front yard. Some of these trees and bushes appear to have been recently cleared to make room for automobile parking slots, as the Sexton house is now owned and used by the Jubilee Church. Because it is privately owned, the house and grounds may not be used in a manner aimed toward preservation of the structure or grounds.

The Sexton house is a County of Santa Barbara Historical Landmark, #14, and is listed in California's Historic Resources Inventory for its architecture.

Historic Resource H: F. G. Stevens House (c. 1906)

Nestled several hundred feet northward beyond old San Marcos Road (1168 N.) is a meandering drive which passes a barn and leads up to a house. The house, built in 1906, has a low pitched roof with board and batten sheathing, and a cupola. Rectangular in shape, and about 11 feet wide by 16 feet deep, the house has a southwesterly orientation. It has a front entrance and porch with steps, and a side entrance to the northwest, next to a water tank. Approximately 300 feet southwest of the house is a barn built during the same period.

The house was built for Fred G. Stevens and is located on property which was part of the Ygnacio Indian orchard. It is estimated to be about 200 feet due north from the site of the old Ygnacio adobe which was removed from the area in the early 1920s, after suffering earthquake damage. It is now planted with orange and lemon trees. An original orange tree, which has been dated between 1834 and 1838, was believed to have been planted by the Indians from seeds given to them by the Mission Padres. The property is still planted with orchards, although most of the groves are devoted to lemons and avocados rather than oranges.

Historic Resource I: F. W. Fowler House (c. 1910)

The structure is located at 825 La Josa, behind some tall hedges. The detached simple one-story house is of symmetrical design, rectangular shape and approximately 25 feet wide by 20 feet deep. It is still occupied. The house has a low gable roof with tongue and groove siding and double-hung green trim windows. There is a shed roof porch over the entrance. A garage a few feet to the west of the house has been converted to a living unit sometime in the recent past. The shiplap siding on the converted garage therefore has been added since it was an automobile port. There is also a gabled roof addition to this converted structure. Native oak trees loom over the two structures. A dirt driveway is to the immediate east of the house.

The house and converted garage are located approximately 150 feet southeast of San Jose Creek. To the west is North Patterson Avenue. To the south and east are avocado groves. F. W. Fowler originally owned the house and surrounding 98 acres. His ranch foreman lived in the house. Few specific details were available concerning the activities carried out on the ranch or Mr. Fowler.

Historic Resource J: San Jose Winery (c. 1804)

A long private driveway extends north up from the street at 5320 Vineyard Road, passing an avocado grove on the east side, and an open field to the west. Approximately 300 feet north of Vineyard Road are a series of buildings--a modern residence, a rectangular wood barn, and another rectangular wood structure with doors which encapsules an adobe structure without windows and flat tiled roof, this being the winery. The entrance door to the adobe is on the west side, and as one enters the structure one observes that the thick west wall of the adobe has a large crack in it. Many of the roof tiles are ajar. All of the buildings are a couple hundred feet west of San Jose Creek. None of the original grape vineyard remains.

The adobe structure contains many tools and equipment representative of the period when wine was manufactured, including barrels, a large redwood wine vat, a small grape press, wine bottles and jugs, a wooden mallet, and wooden crates.

In the 1870s a local newspaper described the house as a "relic of the past, one of the first habitations ever built in this part of the country" (*SBNP*, February 7, 1971). This house, which can be seen in an 1883 Thompson and West print, is no longer visible. It is not known when it was removed. The current owner, the Cavaletto family, has owned the property

since 1900, and decided many years ago to protect the winery by enclosing it in a shed structure. This has kept it from the weathering elements.

Native American Archaeological Site Summary and Classification

In order to summarize the salient characteristics of each Native American archaeological site to be evaluated, a table listing the attributes of each site visited during the survey was compiled (see Table 12). Attribute information was derived from both background research and direct field observation. When using this table for comparative purposes, it should be taken into account that the information was obtained through different levels of data recovery (i.e., excavation versus surface observation) and from different cultural contexts within the archaeological deposits (i.e., cemeteries versus residential trash areas). Despite these obvious shortcomings, several regularities in site characteristics and distribution are evident. The sites in the project area have been tentatively classified into the following categories:

o Type 1: Major Residential Middens

Sites of this type have the following characteristics:

- (a) They range in size from 60,000 m² to 180,000 m²; with a mean size of 114,003 m².
- (b) They usually have substantial depth ranging from .75 m to 2.50 m; with a mean depth of 1.43 m.
- (c) They frequently contain discrete cemeteries.
- (d) They contain a great diversity of artifacts which indicate multiple activity performance.
- (e) They contain evidence that a great diversity of subsistence resources were procured, prepared, and consumed by the inhabitants.
- (f) They contain non-local exotic materials and beads which suggest participation in both regional and interregional exchange networks.
- (g) They are exclusively situated adjacent to the former boundary of the Goleta Slough.

Examples of Type 1 sites from within the project area are: SBA-42, SBA-43, SBA-46, SBA-52, SBA-56, SBA-60, and SBA-1703.

Site	Type	Area (m ²)	Depth (m)	Temporal Placement	Multicomponents	Midden	Scatter	Shellfish	Fish	Sea Mammal	Land Mammal	Aurifera	Mano	Metace	Mortar	Pestle	Debitage	Unifacial Tools	Projectile Points	Fishhooks	Fish Barbs	Net Weights	Beads	Obsidian or Scapolite	Human Remains	Structures
SBA-42	1	132,822	1.50	H	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-43	1	77,652	U	H	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-44	2	30,038	1.00	U	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-45	2	16,090	2.00	U	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-46	1	33,977	2.50	H,C,HI	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-48	2	22,315	1.93	O,C	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-49	2	12,504	1.30	O,H,C	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-52	1	154,065	.76	H	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-54	2	28,242	.35	H	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-56	1	15,472	.50	O,C	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-57	1	17,887	1.50	O,C	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-61	2	17,887	2.25	C,HI	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-62	2	14,046	U	C	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-63	2	10,120	.60	O,H,C	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-64	3	7,989	U	H,C	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-143	2	14,632	1.00	H	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-169	4	?	U	U	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1158	3	4,283	U	U	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1207	2	22,209	.50	U	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1548	3	2,100	U	U	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1556	3	15,923	U	U	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1568	3	482	U	U	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1569	3	1,050	U	U	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1570	3	10,000	.30	U	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1588	3	10,811	U	U	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1694	3	5,182	U	U	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1692	4	20,931	U	U	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1697	2	21,771	.60	C	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1698	2	21,771	U	O7	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1699	2	54,514	U	O7	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1700	2	10,712	U	O7	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1701	4	6,367	U	O7	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1702	3	9,532	U	O7	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1703	1	64,188	.75	U	U	U	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
SBA-1704	2	37,256	U	C,HI	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	

Key to Table 12:
 P = Present
 A = Absent
 U = Unknown
 O = Oak Grove Period
 H = Hunting Period
 C = Canallino Period
 HI = Historic Post-Contact Period
 Type 1 = Major Residential Middens
 Type 2 = Minor Residential Middens
 Type 3 = Light Scatter of Shellfish Remains and Lithic Debitage
 Type 4 = Residual Category

Attribute information is derived from a combination of background research information and direct field observation. Sites not visited during the survey were excluded from consideration.

Table 12 Attributes of Native American Archaeological Sites Evaluated During the Survey¹

o Type 2: Minor Residential Middens

Sites of this type have the following characteristics:

- (a) They range in size from 10,000 m² to 40,000 m²; with a mean size of 19,161 m².
- (b) They often have moderate depth ranging from .50 m to 2.00 m; with a mean depth of 1.00 m.
- (c) They frequently contain discrete cemeteries or dispersed burials within residential trash areas.
- (d) They contain a moderate diversity of artifacts which indicate multiple activity performance.
- (e) They contain evidence that a wide diversity of subsistence resources were procured, prepared, and consumed by the inhabitants.
- (f) They contain limited quantities of non-local exotic materials and beads which suggest participation in both regional and interregional exchange networks.
- (g) They are frequently situated immediately adjacent to the former boundary of the Goleta Slough, on mesas overlooking the slough, and at the confluences of major tributaries draining the Santa Ynez Mountain Range.

Examples of Type 2 sites from within the project area are: SBA-44, SBA-45, SBA-48, SBA-49, SBA-54, SBA-57, SBA-61, SBA-62, SBA-63, SBA-143, SBA-1207, SBA-1696, SBA-1697, SBA-1699, SBA-1700, and SBA-1704.

o Type 3: Light Scatters of Shellfish Remains and Lithic Debitage

Sites of this type have the following characteristics:

- (a) They range in size from 500 m² to 16,000 m²; with a mean size of 11,080 m².
- (b) The deposits are relatively shallow and seldom exceed 40 cm in depth.
- (c) They do not contain well-developed midden deposits.
- (d) They lack a diversity in artifact types indicating limited activity performance.

(e) They lack evidence for a diversity of subsistence resources.

(f) They frequently occur immediately adjacent to tributaries draining the Santa Ynez Mountain Range.

Examples of Type 3 sites from within the project area are: SBa-64, SBa-1158, SBa-1548, SBa-1556, SBa-1568, SBa-1569, SBa-1570, SBa-1588, SBa-1694, SBa-1698, and SBa-1702.

o Type 4: Residual Sites

Sites included in this category represent those cultural deposits about which there are insufficient information enabling us to assign them to one of the other categories. Three sites represent Type 4. These are: SBa-169, SBa-1695, and SBa-1701.

The formulation of these site categories must be regarded as tentative until research serves to refine and elucidate the nature of these diverse cultural resources. As with any typology of sites, the variability of individual sites is often sacrificed for heuristic presentation and management considerations. In some respects this conflicts with the goals of anthropological theory which are frequently expressed as the recognition and explanation of cultural variability. The presentation of site attributes in Table 12 preserves the individual site variability while at the same time allowing us to discuss variations in the broader types of cultural deposits. For example, of the Type 1 sites, 86% are known to have milling equipment. This contrasts markedly with the Type 2 and Type 3 sites where milling equipment is present in only 75% and 27% of the sites, respectively. This variation among sites of different types can be quite informative about human behavior. Similar kinds of information is provided in Table 13.

Table 13: Shared Site Attributes for Each
Archaeological Site Type

	Major Residential Middens	Minor Residential Middens	Shell & Lithic Scatters
Multi-components	43%	38%	0%
Milling equipment	86%	75%	27%
Projectile points	86%	44%	0%
Fishing equipment	29%	13%	0%
Human remains	71%	63%	0%
Beads	57%	31%	0%
Exotic materials	86%	38%	0%

Native American Consultation

As part of the cultural resources assessment, research was conducted on the heritage value of the project area and its cultural resources. The research attempted to identify those cultural and natural resources which have special importance to the living Native American Community. Heritage value may be embodied in the actual physical cultural remains themselves or may be of a more general conceptual nature. Because of the difficulty present-day archaeologists have in ascertaining which areas may or may not be of heritage value, it is necessary to solicit direct input from the descendants of the pertinent groups. For the purposes of this study, emphasis was placed on the heritage concerns of the Chumash Indians, the Native Americans who once resided, and in some instances still reside, in the Goleta Valley.

Native American consultation was initiated in the early stages of the cultural resources study when local Native American groups were contacted. Meetings were held to inform members of the Native American community and request assistance in the identification of heritage issues. Knowledgeable individuals were interviewed and their concerns are addressed in Section VI of this report. A list of those people consulted is provided in Appendix V.

VI. National Register Eligibility Assessment

Introduction

The significance of prehistoric and historic cultural resources in the Goleta Valley project area are evaluated using criteria established for property nominations to the National Register of Historic Places (36 CFR 60.6 a-d). Under these legal criteria cultural resources are deemed eligible for inclusion on the National Register if they possess integrity of location, design, setting, materials, workmanship, feeling and association and a) are "associated with events that have made a significant contribution to the broad patterns of our history;" or b) are "associated with the lives of persons significant in our past;" or c) "embody the distinctive characteristics of a type, period, or method of construction, or ... represent the work of a master, or ... possess high artistic values, or ... represent a significant and distinguishable entity whose components may lack individual distinction;" or d) "have yielded, or may be likely to yield, information important in prehistory or history."

These criteria for evaluation were established, in part, to provide guidelines for assessing the significance of cultural resources which may be damaged or otherwise affected by developments under Federal sponsorship and/or on public lands. Cultural resources which fail to meet at least one of these criteria are considered insignificant and are subject to developmental impacts without mitigation.

Native American Archaeological Resource Significance

The intensive surface survey revealed that Native American archaeological resources within the project area are quite varied, and that, in many instances, the available information was insufficient for adequately delineating the full range of complexity represented by the resources. More specifically, the survey did not allow us to accurately determine the vertical and horizontal extent of many sites nor the full range of constituent classes represented within each deposit. Moreover, we were not able to estimate with any degree of precision the nature and extent of disturbances to many of the sites. To obtain data adequate for a more complete discussion of significance, more intensive level investigations of both surface and subsurface components would have to be undertaken. These investigations are usually conducted only if 1) impacts to sites cannot be avoided by project redesign, and 2) specific plans for project design are available. In compliance with the project scope of work the following discussion makes maximum use of the data we were able to collect from previous excavations and our surface observations.

At the outset it should be made clear that our significance and impact evaluation is limited to those sites we were actually able to inspect during the course of the field survey. Sites

located on properties where access was denied were not considered in this evaluation but have been described in Section V.

Archaeological sites in the Goleta Valley represent the sole source of information available concerning prehistoric developments in the area. This fact combined with recent statistics which indicate that at least 81% of the archaeological sites in Santa Barbara County have been destroyed (Moratto 1973), supports the contention of many researchers that all of the sites in the area are irreplaceable. Furthermore, in our opinion, all the sites we investigated during the course of this study appear to meet the National Register criteria of significance as they "have yielded, or may be likely to yield, information important in prehistory or history."

A major shortcoming of the National Register criteria of significance is their failure to provide specific guidance for making determinations of relative site significance. In other words, they appear to be too non-specific and do not provide a detailed rationale for decision making. The process of assessing significance can be simplified, however, by considering site significance in the context of scientific research, Native American, heritage values and public education.

Importance of Sites to Archaeological Research

The sites evaluated in this document are significant because they have yielded or have the potential to yield information important to answering research questions about the prehistoric and historic native societies which once occupied the Goleta Valley region. Contemporary research interests in the Santa Barbara Channel have placed a major emphasis on understanding how population, environment, and the evolution of culture are interrelated. To gain a more complete understanding of these relationships studies have emphasized the description and explanation of variability in subsistence patterns, prehistoric economics, and social organization. Such research interests require that large areas containing a wide diversity of intact cultural deposits such as occur in the Goleta Valley be available for future investigation. The sites contained in the project area represent a unique part of the regional pattern of prehistoric and historic Native American occupation on the southern California coast.

Many aspects of the archaeological record are comprehensible only after the information contained in the archaeological sites is compared and logically arranged. In order to provide a coherent framework for structuring the archaeological information, research questions are posed. The Santa Barbara region is fortunate as archaeological research is well established and a number of important research questions have been expressed in the literature. Among the best recognized are three basic questions which concern cultural evolution along the Santa Barbara coast:

- 1) How did maritime subsistence adaptations evolve?
- 2) How did the development of shell bead money occur?
- 3) How did social systems evolve which exhibit distinct status differentiation and social stratification?

The development of maritime adaptations is a major theoretical topic in studies of prehistoric hunter-gatherers (Osborn 1977; Perlman 1980; Stark and Voorhies 1978; Yesner 1980). The observation that human populations began to systematically exploit marine resources relatively late in prehistory has resulted in a number of hypotheses to explain this adaptation. The circumstances surrounding the origin of marine resource use and the fine scale details of the subtle shifts in subsistence strategies are thought to be extremely important in helping to unravel this evolutionary development. The Santa Barbara Channel is an ideal testing ground for documenting the nature of this development as evidence for marine resource exploitation is potentially available for over 7000 years of prehistory. Glassow (1975) has hypothesized that the evolution of fishing and subsistence technology may be related to increasing population density through time. More specifically, he notes (1975:4) 1) "... that a population at any given time will exploit a set of resources that involves the least expenditures of energy." and 2) "... that each resource of a region has a population carrying capacity or at least a point where further exploitation becomes uneconomical with respect to other resources." From this theory Glassow proposes a sequence of marine habitat zones that he feels will be sequentially exploited by the prehistoric inhabitants of the Santa Barbara Channel. Each zone would require increasingly elaborate fishing gear and increasingly greater expenditures of energy in obtaining a given amount of food value in marine resources.

In order to test this theory of marine resource exploitation information from sites containing shellfish remains, fish bones, fishing technology, and objects used in the manufacture of fishing equipment would be needed. In addition these sites should contain components of every time period and from as many diverse environmental habitats as possible. An examination of Table 12 reveals that all of the Native American archaeological sites in the project area contain information which is important for testing this theory and should therefore be considered significant.

A second major research question concerns the development of monetary economic systems. At the time of European contact the inhabitants of the Santa Barbara Channel were engaged in inter-village trade and were known to possess an economy based on shell bead money. Presently available evidence from the archaeological record indicates that this development probably originated sometime around A.D. 800. The explanation of why primitive money developed in the Santa Barbara region as opposed to other areas in southern California is an important research question. Glassow (1975: 7) has attempted to explain this development as

resulting from the interrelationship of particular environmental characteristics and population growth. In his theory shell bead money is seen as "averaging" the differences in spatial and seasonal economic production and promoting reciprocal exchanges which could be spread out in time. From this view, resources that became available in one part of the region at a particular time could be exchanged indirectly for other resources available in other parts of the region during other times. In order to understand the development of the use of shell bead money in the Santa Barbara Channel and how delayed exchange became necessary in the first place it is important to determine the types of resources that were exploited and their seasons of availability in different parts of the Santa Barbara Channel region, including the Goleta Valley. In addition it is necessary to look for evidence that economic specialization originated about the same time that the use of shell bead money did. If we assume that the use of shell bead money originated around A.D. 800, then those components dating to the period before and just after this date will be most significant for testing this theory. An examination of Table 12 reveals that archaeological sites SBa-42, SBa-45, SBa-46, SBa-48, SBa-49, SBa-56, SBa-57, SBa-60, SBa-61, SBa-62, SBa-63, SBa-1696, and SBa-1704 contain information which is potentially important for testing this theory and should therefore be considered significant.

The third research question centers on the development of social complexity. Evidence at contact indicates that Chumash society was composed of ranked lineages and high status positions that were hereditary. Status ranking is believed to be related to the regulation of the flow of goods and services between members of a population such that those of higher rank have greater control over the flow of energy. Initial evidence for the development of status ranking in the Santa Barbara region comes from cemetery contexts dating to 1200 B.C. (King n.d.). The circumstances surrounding the development of social complexity are poorly understood at the present time. Future research documenting this process will depend primarily on information derived from aboriginal cemeteries and from variations in characteristics of house structures and their contents. An examination of archaeological site attributes contained in Table 12 reveals that sites SBa-42, SBa-44, SBa-45, SBa-46, SBa-48, SBa-49, SBa-52, SBa-54, SBa-56, SBa-57, SBa-60, SBa-62, SBa-63, SBa-143, SBa-169, and SBa-1704 contain information which is potentially important for understanding the development of social complexity and should therefore be considered significant.

In addition to the three research questions just discussed, a number of others can be considered equally relevant. Some of these are summarized in Table 14.

The range of research questions currently recognized in archaeology is quite diverse and directly reflects the vigor of an evolving discipline. Significance assessments, such as the present one, which employ contemporary research problems to evaluate archaeological resource significance will always be

Research Problem	Site (s)
Significance to regional studies of settlement location and population distribution	All sites
Comparative study of hunter-gatherer subsistence	All sites
Technology of food procurement	All sites
Comparative study of the manufacture of stone tools	All sites, especially SBa-43, SBa-56, SBa-62, SBa-1207
Problems oriented to studying changes in the frequency, form and wear patterns of artifacts	All sites
Problems oriented to studying the internal organization of archaeological sites	All sites
Subsistence base and variability in types of settlement	All sites
Comparative study of residences and other types of architecture	SBa-43, SBa-57, SBa-60
Spatial organization of work and other types of activity	All sites
Studies oriented to understanding how archaeological sites are formed.	
Studies pertinent to sites with a limited range of activities present in their deposit	SBa-64, SBa-1158, SBa-1548, SBa-1556, SBa-1568, SBa-1569, SBa-1570, SBa-1588, SBa-1694, SBa-1698, SBa-1702

Table 14 Relation Between Research Problems and Archaeological Resources
Within the Goleta Flood Protection Program Project Area

confronted by the problem of assuring that a representative sample of all classes of archaeological deposits are preserved for future research. As research questions change and the demand for new types of data analysis are recognized we can only hope that significant archaeological deposits remain.

Importance of Archaeological Sites to Native Americans*

In addition to their value to the scientific community, archaeological sites are also significant to Native Americans. For Native Americans, the values of archaeological sites are derived from the importance such sites have for reconstructing tribal history and because of their sacredness.

Traditional religions in California imparted value to the earth at the locations of villages and associated places of importance which had a bearing on the course of human life. During interviews conducted with members of the local Chumash Indian community a universal concern was expressed for the preservation of all Native American archaeological sites whether these possessed integrity or not. Special concern was expressed for the protection of cemeteries and human burials in residential sites and for archaeological site SBA-52 which was recently leased to the Native American community for reinterment of human remains unearthed during archaeological and development related excavations.

Only one informant could provide information about the locations of sacred sites, other than archaeological sites, in the project area. This informant indicated that wherever fresh water meets salt water is considered to be sacred according to traditional Chumash values.

In addition to cultural resources, interest was frequently expressed in the protection of natural resources. The following plants and animals were cited by various informants as being of potential use to contemporary Native Americans:

Tule (<u>Scirpus sp.</u>)	Plantain (<u>Plantago sp.</u>)
Bear Grass (<u>Xerophyllum tenax</u>)	Golden Dock (<u>Rumex fueginus</u>)
Juncus (<u>Juncus sp.</u>)	Chickweed (<u>Stellaria sp.</u>)
Squaw Bush (<u>Rhus trilobata</u>)	Bitter Root (<u>Lewisia rediviva</u>)
Manzanilla (<u>Matricaria matricrioides</u>)	Ruta (<u>Ruta chalapensis</u>)
Black Sage (<u>Salvia mellifera</u>)	Joint Grass (<u>Equisetum sp.</u>)
Eucalyptus (<u>Eucalyptus globulus</u>)	Verdolaga (<u>Chenopodium sp.</u>)
Jackrabbits (<u>Lepus sp.</u>)	Hawks
Jacktail Kites	Rattlesnakes

* Information for this section was derived from the fieldnotes of Mary O'Connor

None of the informants knew of any current use by Native Americans of these resources in the project area, but all of those contributing the names of these resources regularly collected them elsewhere for personal use. No specific location of these resources within the project area was given, but it was recommended that Native Americans be consulted about this.

In general, concern for the preservation of all natural resources was expressed by all of those interviewed. In conjunction with the possible flood control project, the hope that natural courses of the creeks be preserved and that existing natural features such as large trees and rocks be left undisturbed. On the other hand, clearing of brush and fortifying the sides of creeks is seen as unobjectionable, as long as these activities do not disturb archaeological sites.

Importance of Archaeological Sites to the Public

The archaeological sites in the project area are significant to the general public, primarily for their educational value. Generally, California Native American sites do not attract the broad popular interest that sites in the southeast or Mesoamerica do. For the most part California sites consist of undifferentiated shell midden deposits with low densities of artifacts and cultural features which are not easily preserved for on-site observation and interpretation. The primary contribution of these sites to the public comes from the scientific study of these resources. This information about the local prehistory can be communicated directly to the public by means of books, articles, films, and other media, and some of the remains from these sites may be suitable for the development of public displays.

Integrity of Archaeological Sites

An overriding consideration of the significance of archaeological resources in the realms of scientific research and public importance is site integrity. Integrity is manifest in the relative disturbance the resource has undergone and the degree of preservation of each class of cultural material. As indicated in Section V a number of archaeological sites have undergone severe historic impacts. In many cases, given the level of our investigation, we were unable to determine with certainty if portions of cultural deposits still remain intact. In rare circumstances, where subsurface exposures were available for inspection, we were able to make a determination of relative integrity. The sites which appear to contain intact cultural deposits within the project area include: SBa-43, SBa-44, SBa-45, SBa-46, SBa-49, SBa-52, SBa-56, SBa-143, SBa-1207, SBa-1569, SBa-1696, and SBa-1703. The remaining sites within the project could possibly contain intact deposits, but information to confirm this must be obtained from limited sub-surface testing programs. Sites lacking integrity are considered to be of minimal scientific or public value but are still considered by the Native American community to be significant.

Significance of Archaeological Resources of Undetermined Origin

During the course of the investigation seven archaeological resources of undetermined origin were recorded. Given the current level of investigation and our inability to make adequate determinations of site content, integrity, and extent, the scientific and public significance of these sites cannot be assessed. Loci 1 and 2, which are known to be Native American cultural deposits (of possible secondary nature), are considered to be significant by members of the local Native American community.

Historic Architectural Site Significance

As historic architectural sites are often more fully documented than prehistoric and historic archaeological sites, the significance evaluation of each resource is presented individually.

Historic Resource A: Pomatto House and Barn

The Pomatto house and barn qualify for the National Register of Historic Places as they represent a cultural system which evolved during an earlier period of American history--when the ethnic tide of Italian migration to the United States swelled. These two buildings embody significant historic values relating to an earlier lifestyle in the Goleta Valley. While neither the house or barn individually represent unusual examples of rural design or construction, the Pomatto Farm complex should be considered in its value as a small group of buildings or a semi-rural property. The Italians were a major force in the settlement and development of Goleta as a community, and there are no known sites in the area which serve as an apt representation of that ethnic group.

The three Pomatto Brothers--John, James, and Pietro, came to Goleta in 1890 from Turnino, Italy. They initially leased 144 acres in Glen Annie Canyon from Nicolas C. Den, where they established a dairy herd. After twenty-five years of hard work and thriftiness, in 1916, the three brothers bought for \$50,000 a 368-acre tract on the west side of Glen Annie Road, the former Bruno Orella ranch, and built the house and barn a few years later.

Historic Resource B: Pomatto Barn

In evaluating the barn according to National Register criteria, it appears unlikely that it meets the national requirements as a significant historic property. Although it is seventy-five years old, the barn has lost considerable integrity with its surroundings. The original house which was associated was replaced by a more modern structure just prior to 1940.

In addition, the original adjacent land uses have shifted to more modern agricultural pursuits. The barn itself has had a new metal roof added in the recent past to protect it from

weathering. The building is not likely to provide unique information pertinent to barns or agriculture that could not be obtained in other localities in the Goleta Valley. It should be noted, however, that structures such as these are becoming increasingly scarce.

Historic Resource C: Glen Annie Ranch Archway

This structure is eligible for inclusion on the National Register of historic places as it meets the established set of criteria. The ornate wooden archway was, for nearly a century, a symbol to many of one of Santa Barbara County's principal pioneers, Col. W. W. Hollister. It spanned the ranch entrance to the tree-lined road which led to the Glen Annie mansion and other associated buildings. The structure serves as a visible reminder of an era when the Glen Annie Ranch was a renowned showplace in California. The Ranch itself, in 1890, became the Thomas B. Bishop (Corona del Mar) Ranch--the largest farming operation in the Goleta Valley. Col. W. W. Hollister was an important regional and state figure. He helped found Santa Barbara College in 1869, built the posh Arlington Hotel in the City of Santa Barbara, and was the leading figure in the passage of the Trespassing Laws by the Legislature. Thus the gate is an important link with a significant historical figure on a regional and state level.

Given the technological innovation at the time, the arch reflected in its prime the socio-economic status of its owner, and the attempt to reduce the amount of physical labor for guests and family. When the gates were in working order, a driver of a coach could open or close the gates without getting down from his seat.

Because the gate has been relocated and has none of the original machinery intact, it is not likely that the object would yield a great deal of scientific information regarding American technology in the 1870s. Yet, there are no other known examples of this type of structure, working or not.

Historic Resource D: Pagliotti House and Barn

The house, built between 1900 and 1910, and barn and garage which were later constructed appear to have some significance from the standpoint of local history, as it is the house and property of an early Italian Family in the Goleta Valley--the Pagliotti's. Antonio Pagliotti and his wife arrived from Italy in 1890, and purchased a farm which had been owned by Tom Lillard for a number of years. On their farm the Pagliotti's grew a variety of vegetables and had several walnut trees. This site is an important representation of the early settlement of an ethnic group important to Goleta's history. Additionally, the house, although altered just a few years after it was built, and barn, in somewhat of a deteriorated condition, both combine to make a statement about a period of economic activity--the

small farm--which is important to the history of the community. Generally, only the structures from higher socio-economic agricultural and ranching operations are preserved. There are few examples such as this left in the area, and it is likely that the property could yield important information about a family undergoing acculturation in California in the early decades of the century, and their modest life style. The house is still owned by the family. In our opinion the property is eligible for inclusion on the National Register of Historic Places.

Historic Resource E: Anderson Lane School House

Formerly a one-room school house, the present structure on Anderson Lane does not appear to meet National Register criteria for significance as a historic structure. A structure that has been relocated from its original site, or is a reconstructed historic structure, is not ordinarily considered to be significant. Exceptions to this are known for example when a building or structure possess significant architectural values or are associated with a historic person or event. This does not appear to be the case with this structure. The subsequent remodeling of the structure has modified its original design to a considerable extent. In addition, better preserved one-room school houses are known to exist elsewhere in Santa Barbara County.

Historic Resource F: Begg House

The Begg house has characteristics and associations which make it eligible for the National Register of Historic Places. Although the building may have been removed from its original location, one could argue that the structure is significant primarily for its architectural values. There are few examples of the Gothic Revival influence in architectural styles in the Goleta Valley area. Many of the architectural details appear to be intact--the steeply pitched roof, the double hung, and a window with two mullions--which suggest that the integrity of the structure remains consistent.

Additionally, the house was built by a member of a prominent Scottish family, an immigrant group which had a wave of immigration to the Goleta Valley in the 1870s and 1880s, and made important contributions to the growth and development of the community-at-large. The European flavor of the house suggests the European roots of its owner.

The adjacent creek side may also contain other cultural remnants which could afford social scientists information regarding an earlier lifestyle of a people becoming assimilated into American society. According to personal communications, for instance, a horse was buried near San Jose Creek several decades ago. Also, during Prohibition, a still in the house allowed the Begg Family to enjoy spirits in a dry period. Supposedly some of the machinery is now lying in the same overgrown creek area. However, this was not discovered during the course of our survey.

Historic Resource G: Joseph Sexton House

The Joseph Sexton House is currently used and owned by the Jubilee Church. In most circumstances, properties owned by religious institutions or used for religious purposes shall not be considered eligible for the National Register. Nevertheless, such properties will qualify if it is a religious property deriving foremost significance from its architectural, artistic, or historical distinction.

The house, built in 1880 by a well-known local architect, Peter J. Barber, is an excellent example of the Italiniate-Victorian style of architecture. Although it has been modified, it still retains enough of its original design and environmental setting to still evoke the intended mood. In addition, the property has a clearly identifiable relationship to the history and settlement of the Goleta Valley by one of its pioneering families--the Sextons. The thick and diverse vegetation around the house is consistent with the economic livelihood of the home's owner, as he operated a well-known nursery. In our opinion this structure is eligible for inclusion on the National Register of Historic Places.

Historic Resource H: F.G. Stevens House

The F.G. Stevens house, built in 1906 is not of a unique architectural style and does not meet the criteria for inclusion on the National Register of Historic Places.

Historic Resource I: F.W. Fowler House

According to the National Register criteria, this building probably does not qualify as a significant building in any fashion. With its simple, box-like shape, the scale suggests the middle to lower range of the economic class of its occupant, a foreman for a small ranch. There are many structures of similar architectural style in the area.

Historic Resource J: San Jose Winery

The San Jose winery is an important structure of historical significance. It is probably the oldest structure still extant in Goleta. It was built by Padres and neophytes from Santa Barbara Mission around 1804, who originally established a number of fruit trees and grape vines on about nine acres of land near San Jose Creek. Little is currently known about the Vineyard's earliest days, although it is likely that Indians helped with the cultivation of the grapes.

James McCaffrey, a native of Ireland, rented the vineyard from a Catholic Bishop in the early 1850s. He produced about 8,000 gallons of wine a year, some of this being shipped to San

Francisco markets. During the 1880s, Indians from Saspilil cared for the vineyard. In 1900, Mike Cavaletto purchased the winery and continued to make wine until prohibition began.

While none of the grape vineyard remains, the winery maintains enough of its design and character as an adobe structure to make it worthy of preservation. Research, for example, may explain how the building was constructed. The building and site has the potential to yield important information in a number of areas of economic development. Further research may explain, for example, why the winery was successful at this location, the different functions of the various artifacts found throughout the structure, and the specific changes in land use the various owners of the land brought about. The San Jose Winery should be considered eligible for the National Register of Historic Places as it is a significant historical structure.

VII. Cultural Resource Impact Analysis and Proposed Management Recommendations

Direct and Indirect Impacts

The cultural resources within the project area will be subject to a variety of direct and indirect impacts should the Goleta Flood Protection Study be implemented. Direct impacts are defined as the immediate demonstrable effects of a land modification project on cultural resources (McGinsey and Davis 1977: 30). Such impacts might include disturbances related to creek channelization, dam construction or excavation of borrow areas. Indirect impacts are usually intensified as the result of construction and development. These impacts are brought about by land modification projects and would not have resulted without implementation of the project (McGinsey and Davis 1977: 30). Examples of indirect impacts include increased erosion, increased access to previously inaccessible areas, and the removal of vegetation which may expose surface artifacts to unauthorized collection. Impacts which result in a loss of resource integrity or have other detrimental effects on a cultural deposit are considered to be adverse.

Impact Assessment and Management Recommendations

The assessment of impacts to cultural resources must be done on a site specific basis; however, at the present time a detailed project development plan for the Goleta Flood Protection Study has not been formulated. To facilitate a realistic assessment of project impacts to cultural resources, a typology of developments and their possible effects was created. The following types of developments were recognized as being probable for the project area:

Type I: Debris Basin Facility Description:

A debris basin is often formed by the excavation of a basin (60,000-300,000 cu. yds.) and the construction of a dam across the existing canyon floor. Ancillary facilities might include concrete spillways, access and maintenance roads, debris pools, outlet drains and fencing. Smaller sediment basins may be constructed in lower areas below the dam.

Typical Location:

In the upper portions of drainages at or near the base of mountains.

Impacts to Cultural Resources:

May result in the disturbance and/or removal of cultural deposits. Access and maintenance roads may open up areas to increased recreational use and enhance the possibility of looting and vandalism at the site of cultural resources.

Type II: Channelization of Creeks

Description:

Creek channelization often consists of enlarging the existing stream or creek bed and reinforcing the newly exposed walls with concrete, gabions, and revetments. The width and depth of the channel will vary depending on its placement along the course of the creek. Ancillary facilities might include access and maintenance roads within the right-of-way easements, fencing, the replacement of bridges along intersected thoroughfares, and the relocation of utilities.

Typical Location:

Near the lower parts of drainages close to their entrance into the sea.

Impacts to Cultural Resources:

May result in the disturbance and/or removal of cultural deposits. Access and maintenance roads may open up areas to increased recreational use and enhance the possibility of looting and vandalism at the site of cultural resources.

Type III: Levee Construction

Description:

Levees are usually constructed by the placement of fill along the edge of existing creek channels. In some instances fill is distributed in low lying areas behind the levees to elevate the ground surface and reduce ponding. Ancillary facilities might include access and maintenance roads within the right-of-way of easements, fencing, and borrow areas.

Typical Location:

Adjacent to existing stream courses in the lower parts of drainages close to their entrance to the sea.

Impacts to Cultural Resources:

The construction of levees often involves the use of heavy earth moving equipment which has the potential to disturb and/or remove cultural deposits. Access and maintenance roads may open up areas to the public and increase the probability that exposed cultural resources would be subject to looting and vandalism. The placement of fill over cultural resources would prohibit access to them for scientific investigation.

Type IV: Brush Clearance Along Stream Channels

Description:

Brush clearance is an activity which frequently occurs in stream channels to reduce the prospect for down stream flooding. In many instances this may involve the use of heavy mechanized equipment such as catapillars. In other situations light-duty hand-operated equipment such as chainsaws are used.

Typical Location:

In the upper portions of drainages above channelized creek areas.

Impacts to Cultural Resources:

When heavy-duty mechanized equipment is used, portions of deposits are frequently disturbed and/or removed. The use of light-duty equipment may disturb cultural deposits as well, but to a lesser degree. The removal of vegetation may enhance erosion of cultural deposits and expose surface artifacts to looting and vandalism.

If these developments occur within the boundaries of known cultural resources they will have obvious direct and indirect adverse impacts. The anticipated distribution of these developments within the project area was derived from a previously published Study (U.S. Army Corps of Engineers 1968) and from conversations with members of the U.S. Army Corps of Engineers, Los Angeles District, Environmental Planning Section. A comparison of locations of proposed project developments and cultural resources inspected during this investigation reveals that sixteen cultural resources will potentially be impacted by the Goleta Flood Control Program (see Table 15). A discussion of impacts and management recommendations for each affected cultural resource is provided.

SBa-45

Nature of Proposed Development

SBa-45 is situated on the northern bank of Atascadero Creek, north of More Mesa. The primary project development that will potentially impact the cultural deposit is the construction of a trapezoidal earth-bottom channel 100'-300' wide and 13'-17' deep with stone revetted side slopes within the existing creek bed.

Nature of Potential Impacts

Creek channelization may result in disturbance and/or removal of portions of SBa-45. Indirect impacts are considered to be minor as a major portion of the site appears to be covered by dredged fill material.

Recommendations

SBa-45 is thought to contain intact cultural deposits buried by several feet of dredged fill material. It is recommended that the proposed channelization incorporate a project design which minimizes excavation of the existing channel on the north side of the creek in the area of the buried cultural stratum. From our analysis it appears that a rock revetment or gabion would be the most appropriate design. In our opinion any development will have some adverse impact on the archaeological site. In those areas to be impacted we recommend that a mitigation program be implemented to salvage those portions of the site that will be disturbed or destroyed.

Estimated Cost¹

The cost of salvaging those portions of SBa-45 is estimated to be in excess of \$2800.00 per cubic meter.

SBa-60

Nature of Proposed Development

SBa-60 is situated between Las Vegas and San Pedro Creeks near the intersection of Fairview and Hollister Avenues. Anticipated project developments along Las Vegas Creek within archaeological site boundaries include: 1) the construction of a rectangular concrete reinforced channel 14'-40' wide and 7.5'-12' deep within the existing creek bed; 2) the replacement of bridges at U.S. Highway 101, the Southern Pacific Railroad easement and Hollister Avenue; and 3) the relocation of unspecified minor utilities. Anticipated project developments along San Pedro Creek within archaeological site boundaries include: 1) the construction of a rectangular concrete lined

¹All cost estimates provided in this study are based on figures in Kornfeld et al. (1980: Table 16-1). The authors feel that these are accurate and reflect current costs of sub-surface studies in the region.

channel 20'-70' wide and 11' deep; 2) the replacement of bridges at U.S. Highway 101, the Southern Pacific Railroad easement, Eckles Road, and Hollister Avenue; and 3) the relocation of unspecified minor utilities.

Nature of Potential Impacts

As the integrity of the cultural deposit in the areas to be impacted is unknown, the explicit nature of the impacts cannot be assessed. The development may result in disturbance and/or removal of portions of SBa-60.

Recommendations

If impacts to this cultural resource cannot be avoided by project redesign, it is recommended that a sub-surface testing program be implemented within the area of the site to be impacted by development. The purpose of this testing program would be 1) to delimit the horizontal and vertical boundaries of the cultural deposit; 2) to determine the integrity of the site; 3) to make a refined significance assessment using the criteria of the National Register of Historic Places; and 4) develop a detailed program of impact mitigation.

Estimated Cost

As no detailed development plans have been prepared for the Goleta Flood Protection Program, the amount of sub-surface excavation necessary cannot be determined. Excavation costs for similar types of cultural deposit in the Santa Barbara Channel area appear to be about \$2800.00 per cubic meter. This figure represents field, lab, and report preparation costs.

SBa-61

Nature of Proposed Development

SBa-61 is situated on the east bank of Las Vegas Creek north of Calle Real. The primary project development that will potentially impact the cultural deposit is the construction of a rectangular concrete reinforced channel 14'-40' wide and 7.5'-12' deep within the existing creek bed.

Nature of Potential Impacts

As the integrity of the cultural deposit in the area to be impacted is unknown, the explicit nature of the impacts cannot be assessed. The development may result in disturbance and/or removal of portions of SBa-61. Indirect impacts are considered to be minor or non-existent.

Recommendations

If impacts to this cultural resource cannot be avoided by project redesign, it is recommended that a sub-surface testing

program be implemented within the area of the site to be impacted by development. The purpose of this testing program would be 1) to delimit the horizontal and vertical boundaries of the cultural deposit; 2) to determine the integrity of the site; 3) to make a refined significance assessment using the criteria of the National Register of Historic Places; and 4) develop a detailed program of impact mitigation.

Estimated Cost

As no detailed development plans have been prepared for the Goleta Flood Protection Program the amount of sub-surface excavation necessary cannot be determined. Excavation costs for similar types of cultural deposits in the Santa Barbara area appear to be about \$2500.00 per cubic meter.

SBa-63

Nature of Proposed Development

SBa-63 is situated on the west bank of San Pedro Creek south of Stow Canyon Road. The primary project development that will potentially impact the site is the construction of a rectangular concrete line channel 20'-70' wide and 11' deep in the existing creek bed.

Nature of Potential Impacts

As the integrity of the cultural deposit in the area to be impacted is unknown, the explicit nature of the impacts cannot be assessed. The development may result in disturbance and/or removal of portions of SBa-61. Indirect impacts are considered to be minor or non-existent.

Recommendations

If impacts to this cultural resource cannot be avoided by project redesign, it is recommended that a sub-surface testing program be implemented within the area of the site to be impacted by development. The purpose of this testing program would be 1) to delimit the horizontal and vertical boundaries of the cultural deposit; 2) to determine the integrity of the site; 3) to make a refined significance assessment using the criteria of the National Register of Historic Places; and 4) develop a detailed program of impact mitigation.

Estimated Cost

As no detailed development plans have been prepared for the Goleta Flood Protection Program, the amount of sub-surface excavation necessary cannot be determined. Excavation costs for similar types of cultural deposits in the Santa Barbara area appear to be about \$2500.00 per cubic meter.

SBa-1548

Nature of Proposed Development

SBa-1548 is situated on the west bank of Maria Ygnacio Creek south of Cathedral Oaks Road. The primary project development that will potentially impact the site is brush clearance.

Nature of Potential Impacts

Brush clearance may result in disturbance and/or removal of portions of SBa-1548 depending on the equipment being used. Indirect impacts are considered to be minor or non-existent.

Recommendations

It is recommended that all brush clearing activities within the boundaries of the cultural deposit be restricted to techniques which minimize ground surface disturbance. Trees and large shrubs should be cut off at ground level. No attempt should be made to remove stumps.

If sub-surface impacts cannot be avoided, it is recommended that a sub-surface testing program be implemented within the area of the site to be impacted by brush clearance. The purpose of this testing program would be 1) to delimit the horizontal and vertical boundaries of the cultural deposit; 2) to determine the integrity of the site; 3) to make a refined significance assessment using the criteria of the National Register of Historic Places; and 4) develop a detailed program of impact mitigation.

Estimated Cost

The cost of hand brush clearance is considered to be minimal. The excavation cost for a sub-surface testing program would appear to be about \$1400.00 per cubic meter.

SBa-1556

Nature of Proposed Development

SBa-1556 is situated on the east bank of San Jose Creek north of Cathedral Oaks Road. The primary project development that will potentially impact the site is brush clearance.

Nature of Potential Impacts

Brush clearance may result in disturbance and/or removal of portions of SBa-1556 depending on the equipment being used. Indirect impacts are considered to be minor or non-existent.

Recommendations

It is recommended that all brush clearing activities within the boundaries of the archaeological site be restricted to techniques which minimize ground surface disturbance. Trees and large shrubs should be cut off at ground level. No attempt should be made to remove stumps.

If sub-surface impacts cannot be avoided, it is recommended that a sub-surface testing program be implemented within the area of the site to be impacted by brush clearance. The purpose of this testing program would be 1) to delimit the horizontal and vertical boundaries of the cultural deposit; 2) to determine the integrity of the site; 3) to make a refined significance assessment using the criteria of the National Register of Historic Places; and 4) develop a detailed program of impact mitigation.

Estimated Cost

The cost of hand brush clearance is considered to be minimal. The excavation cost for a sub-surface testing program would appear to be about \$1400.00 per cubic meter.

SBa-1567

Nature of Proposed Development

SBa-1567 is situated on west bank of San Jose Creek south of Cathedral Oaks Road. The primary project development that will potentially impact the site is brush clearance.

Nature of Potential Impacts

Brush clearance may result in disturbance and/or removal of portions of SBa-1567 depending on the equipment being used. Indirect impacts are considered to be minor or non-existent.

Recommendations

It is recommended that all brush clearing activities within the boundaries of the archaeological site be restricted to techniques which minimize ground surface disturbance. Trees and large shrubs should be cut off at ground level. No attempt should be made to remove stumps.

If sub-surface impacts cannot be avoided, it is recommended that a sub-surface testing program be implemented within the area of the site to be impacted by brush clearance. The purpose of this testing program would be 1) to delimit the horizontal and vertical boundaries of the cultural deposit; 2) to determine the integrity of the site; 3) to determine the nature of the deposit; 4) to make a refined significance assessment using the criteria of the National Register of Historic Places; and 5) develop a detailed program of impact mitigation.

Estimated Cost

The cost of hand brush clearance is considered to be minimal. The excavation cost for a sub-surface testing program would appear to be about \$1400.00 per cubic meter.

SBa-1569

Nature of Proposed Development

SBa-1569 is situated on the east bank of San Jose Creek south of Patterson Avenue. The primary project development that will potentially impact the site is brush clearance.

Nature of Potential Impacts

Brush clearance may result in disturbance and/or removal of portions of SBA-1569 depending on the equipment being used. Indirect impacts are considered to be minor or non-existent.

Recommendations

It is recommended that all brush clearing activities within the boundaries of the archaeological site be restricted to techniques which minimize ground surface disturbance. Trees and large shrubs should be cut off at ground level. No attempt should be made to remove stumps.

If sub-surface impacts cannot be avoided, it is recommended that a sub-surface testing program be implemented within the area of the site to be impacted by brush clearance. The purpose of this testing program would be 1) to delimit in a more precise manner the horizontal and vertical boundaries of the cultural deposit; 2) to determine the integrity of the site; 3) to determine the nature of the deposit; 4) to make a refined significance assessment using the criteria of the National Register of Historic Places; and 5) develop a detailed program of impact mitigation.

Estimated Cost

The cost of hand brush clearance is considered to be minimal. The excavation cost for a sub-surface testing program would appear to be about \$1400.00 per cubic meter.

SBa-1570

Nature of Proposed Development

SBa-1570 is situated on the west bank of San Jose Creek south of Patterson Avenue. The primary project development that will potentially impact the site is brush clearance.

Nature of Potential Impacts

Brush clearance may result in disturbance and/or removal of portions of SBa-1570 depending on the equipment being used. Indirect impacts are considered to be minor or non-existent.

Recommendations

It is recommended that all brush clearing activities within the boundaries of the archaeological site be restricted to techniques which minimize ground surface disturbance. Trees and large shrubs should be cut off at ground level. No attempt should be made to remove stumps.

If sub-surface impacts cannot be avoided, it is recommended that a sub-surface testing program be implemented within the area of the site to be impacted by brush clearance. The purpose of this testing program would be 1) to delimit the horizontal and vertical boundaries of the cultural deposit; 2) to determine the integrity of the site; 3) to make a refined significance assessment using the criteria of the National Register of Historic Places; and 4) develop a detailed program of impact mitigation.

Estimated Cost

The cost of hand brush clearance is considered to be minimal. The excavation cost for a sub-surface testing program would appear to be about \$1400.00 per cubic meter.

SBa-1702

Nature of Proposed Development

SBa-1702 is situated on the west side of San Jose Creek south of Cathedral Oaks Road. The primary project development that will potentially impact the site is brush clearance.

Nature of Potential Impacts

Brush clearance may result in disturbance and/or removal of portions of SBa-1702 depending on the equipment being used. Indirect impacts are considered to be minor or non-existent.

Recommendations

It is recommended that all brush clearing activities within the boundaries of the archaeological site be restricted to techniques which minimize ground surface disturbance. Trees and large shrubs should be cut off at ground level. No attempt should be made to remove stumps. If sub-surface impacts cannot be avoided, it is recommended that a sub-surface testing program be implemented within the area of the site to be impacted by brush clearance. The purpose of this testing program would be 1) to delimit the horizontal and vertical boundaries of the

cultural deposit; 2) to determine the integrity of the site; 3) to make a refined significance assessment using the criteria of the National Register of Historic Places; and 4) develop a detailed program of impact mitigation.

Estimated Cost

The cost of hand brush clearance is considered to be minimal. The excavation cost for a sub-surface testing program would appear to be about \$1400.00 per cubic meter.

SBa-1703

Nature of Proposed Development

SBa-1703 is situated on the west bank of Las Vegas Creek north of Calle Real. The primary project development that will potentially impact the cultural deposit is the construction of a rectangular concrete reinforced channel 14'-40' wide and 7.5'-12' deep within the existing creek bed.

Nature of Potential Impacts

Creek channelization may result in disturbance and/or removal of portions of SBa-1703. Indirect impacts are considered to be minor as a major portion of the site appears to be buried by historic fill material.

Recommendations

SBa-1703 is thought to contain intact cultural deposits buried by 1 to 2 meters of historic fill. It is recommended that the proposed channelization incorporate a project design which minimizes excavation on the west side of the creek in the area of the cultural deposit. It appears from our analysis that a rock revetment or gabion would be more appropriate than a concrete reinforced channel. In our opinion any development will have some adverse impact on the archaeological site. In those areas to be impacted we recommend that a mitigation program be implemented to salvage those portions of the site that will be disturbed or destroyed.

Estimated Cost

The cost of salvaging those portions of SBa-1703 is estimated to be in excess of \$2800.00 per cubic meter.

SBa-1704

Nature of Proposed Development

SBa-1704 is situated on the west side of San Jose Creek at Indian Orchard. The primary project development that will potentially impact the site is brush clearance.

Nature of Potential Impacts

Brush clearance may result in disturbance and/or removal of portions of SBA-1704 depending on the equipment being used. Indirect impacts are considered to be minimal or non-existent.

Recommendations

It is recommended that all brush clearing activities within the boundaries of the archaeological site be restricted to techniques which minimize ground surface disturbance. Trees and large shrubs should be cut off at ground level. No attempt should be made to remove stumps. If sub-surface impacts cannot be avoided, it is recommended that a sub-surface testing program be implemented within the area of the site to be impacted by brush clearance. The purpose of this testing program would be 1) to delimit the horizontal and vertical boundaries of the cultural deposit; 2) to determine the integrity of the site; 3) to make a refined significance assessment using the criteria of the National Register of Historic Places; and 4) develop a detailed program of impact mitigation.

Estimated Cost

The cost of hand brush clearance is considered to be minimal. The excavation cost for a sub-surface testing program would appear to be about \$2500.00 per cubic meter.

Locus 1

Nature of Proposed Development

Locus 1 is situated on the west bank of Tecolotito Creek south of Hollister Avenue. Anticipated project developments along the creek within or near the boundaries of the site include: 1) the construction of a trapezoidal earth bottom channel 100'-400' wide and 14'-16' deep within the existing creek bed; 2) the construction of an earth levee adjacent to the creek; 3) the replacement of a bridge at Hollister Avenue; and 4) the relocation of unspecified minor utilities.

Nature of Potential Impacts

As the integrity of the cultural deposit in the area to be impacted is presently unknown, the explicit nature of the impacts cannot be assessed. The development may result in disturbance and/or removal of portions of Locus 1. Indirect impacts will result from levee construction as portions of the site may be buried by fill deposit and access for scientific study would be limited.

Recommendations

If impacts to this cultural resource cannot be avoided by project redesign, it is recommended that a sub-surface testing

program be implemented within the area of the site to be impacted by development. The purpose of this testing program would be 1) to delimit the horizontal and vertical boundaries of the cultural deposit; 2) to determine the integrity of the site; 3) to determine the nature of the deposit; 4) to make a refined significance assessment using the criteria of the National Register of Historic Places; and 5) develop a detailed program of impact mitigation.

Estimated Cost

As no detailed development plans have been prepared for the Goleta Flood Protection Program the amount of sub-surface excavation necessary cannot be determined. Excavation costs for similar types of cultural deposits in the Santa Barbara area appear to be about \$2500.00 per cubic meter.

Locus 2

Nature of Proposed Development

Locus 2 is situated at the confluence of San Pedro and San Jose Creeks north of Ward Memorial Boulevard. Anticipated project developments along the creeks within the boundaries of the site include: 1) the excavation of a triangular-shaped sediment basin; and 2) the construction of earth levees with stone revetted side slopes.

Nature of Potential Impacts

As this deposit is known to be secondary in nature, it has minimal scientific value and does not qualify for the National Register of Historic Places. Any impacts do not require mitigation.

Recommendations

The Native American community has expressed concern for all Native American archaeological sites whether of primary or secondary depositional context. As the possibility that human remains may be present in the secondary deposit, it is recommended that members of the Native American Community be contacted and asked to monitor development activities within the confines of Locus 2.

Estimate of Costs

Costs are expected to be minimal.

Locus 4

Nature of Proposed Development

Locus 4 is situated at the confluence of Maria Ygnacio and San Antonio Creeks. The primary project development that will potentially impact the site is brush clearance.

Nature of Potential Impacts

Brush clearance may result in disturbance and/or removal of portions of Locus 4 depending on the equipment being used. Indirect impacts are considered to be minimal or non-existent.

Recommendations

It is recommended that all brush clearing activities within the boundaries of the archaeological site be restricted to techniques which minimize ground surface disturbance. Trees and large shrubs should be cut off at ground level. No attempt should be made to remove stumps. If sub-surface impacts cannot be avoided, it is recommended that a sub-surface testing program be implemented within the area of the site to be impacted by brush clearance. The purpose of this testing program would be 1) to delimit the horizontal and vertical boundaries of the cultural deposit; 2) to determine the integrity of the site; 3) to determine the nature of the deposit; 4) to make a refined significance assessment using the criteria of the National Register of Historic Places; and 5) to develop a detailed program of impact mitigation.

Estimated Cost

The cost of hand brush clearance is considered to be minimal. The excavation cost for a sub-surface testing program would appear to be about \$1400.00 per cubic meter.

Locus 6

Nature of Proposed Development

Locus 6 is situated on the east side of San Jose Creek on the Bosio Ranch. The primary project development that will potentially impact the site is brush clearance.

Nature of Potential Impacts

Brush clearance may result in disturbance and/or removal of portions of Locus 6 depending on the equipment being used. Indirect impacts are considered to be minor or non-existent.

Recommendations

It is recommended that all brush clearing activities within the boundaries of the archaeological site be restricted to techniques which minimize ground surface disturbance. Trees and large shrubs should be cut off at ground level. No attempt should be made to remove stumps. If sub-surface impacts cannot be avoided, it is recommended that a sub-surface testing program be implemented within the area of the site to be impacted by brush clearance. The purpose of this testing program would be 1) to delimit the horizontal and vertical extent of the cultural deposit;

2) to determine the integrity of the site; 3) to determine the nature of the deposit; 4) to make a refined significance assessment using the criteria of the National Register of Historic Places; and 5) to develop a detailed program of impact mitigation.

Estimated Cost

The cost of hand brush clearance is considered to be minimal. The excavation cost for a sub-surface testing program would appear to be about \$1400.00 per cubic meter.

Cultural Resource	DIRECT IMPACT TYPES				Indirect Impacts	No Impact	MANAGEMENT RECOMMENDATIONS
	I	II	III	IV			
SBa-42					none	X	
SBa-43					none	X	
SBa-44					none	X	
SBa-45		X			none		project redesign or salvage excavation
SBa-46					none	X	
SBa-48					none	X	
SBa-49					none	X	
SBa-52					none	X	
SBa-54					none	X	
SBa-56					none	X	
SBa-57					none	X	
SBa-60		X			minor		project redesign or sub-surface testing program
SBa-61		X			minor		project redesign or sub-surface testing program
SBa-63		X			minor		project redesign or sub-surface testing program
SBa-64					none	X	
SBa-143					none	X	
SBa-1158					none	X	
SBa-1207					none	X	
SBa-1548				X	minor		hand brush clearance or sub-surface testing program
SBa-1556				X	minor		hand brush clearance or sub-surface testing program
SBa-1567				X	minor		hand brush clearance or sub-surface testing program
SBa-1568					none	X	hand brush clearance or sub-surface testing program
SBa-1569				X	minor		hand brush clearance or sub-surface testing program
SBa-1570				X	minor		
SBa-1588					none	X	
SBa-1694					none	X	
SBa-1695					none	X	
SBa-1696					none	X	
SBa-1697					none	X	
SBa-1698					none	X	
SBa-1699					none	X	
SBa-1700					none	X	
SBa-1701					none	X	
SBa-1702				X	minor		hand brush clearance or sub-surface testing program
SBa-1703		X			minor		project redesign or salvage excavation
SBa-1704				X	minor		hand brush clearance or sub-surface testing program
Locus 1		X	X		none		project redesign or sub-surface testing program
Locus 2	X		X		none		Native American consultation and monitoring
Locus 3					none	X	
Locus 4				X	minor		hand brush clearance or sub-surface testing program
Locus 5					none	X	
Locus 6				X	minor		hand brush clearance or sub-surface testing program
Hist. A					none	X	
Hist. B					none	X	
Hist. C					none	X	
Hist. D					none	X	
Hist. E					none	X	
Hist. F					none	X	
Hist. G					none	X	
Hist. H					none	X	
Hist. I					none	X	
Hist. J					none	X	

X = present
 I = Debris Basin Facility
 II = Channelization
 III = Levee Construction
 IV = Brush Clearance

Table 15 Goleta Flood Protection Study Impacts and Mitigation Recommendations.

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