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From Sheepherders to Cruise Missiles: A Short History of Archaeological Research at San Clemente Island

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Introduction

Since the 19th century, San Clemente Island and the other California Channel Islands have experienced intermittent periods of archaeological activity. From the relic collecting of the 1870s to the compliance-based, problem oriented research of the 1980s, the history of archaeological research on these islands is a microcosm of the general evolution of archaeology in the United States over the past 100 years. A review of these earlier investigations is important to an understanding of the research reported in this volume.

Archaeology on the California Channel Islands

Michael Glassow (1980:79-80) has written that the islands off southern California provide archaeology with some of the world's best laboratories for investigating the development of human adaptive systems. Perhaps the most important reason why this is so is that the islands are discrete geographic units on which a diversity and abundance of many of the resources available to human populations may be accurately measured. In addition, the islands vary significantly in a number of environmental characteristics that affect human adaptations, thus permitting effective tests of empirical hypotheses where verification requires variability. No less important in efforts to develop and test hypotheses concerning human adaptation is that the islands' ecosystems are relatively simpler than the mainland, and potentially easier to understand. As the basis for these investigations, all the Channel Islands contain numerous, relatively intact archaeological sites representing the exploitation of marine resources. The islands' isolation has promoted an especially high degree of preservation of archaeological resources on some of the islands, in stark contrast with the mainland coast, where a large portion of the sites representing a maritime-adapted cultural development has been destroyed by development and vandalism. Preservation is also enhanced by the absence of burrowing animals on most of the Channel Islands, resulting in greater stratigraphic integrity than is normally found in mainland sites.

Beginning in the 1870s and likely before, the earliest archaeological research on the Channel Islands had comparatively little realization of these distinct advantages. The paradigm of the time primarily was concerned with obtaining artifacts and human remains as representative museum collections, almost exclusively from aboriginal cemeteries (e.g. Paul Schumacher 1877, 1878a, 1878b; Putnam 1878;

Abbott 1879; Yarrow 1879; Carr 1880; Alliot 1915, 1917; Reichlen and Heizer 1963). Because of the wealth of materials revealed by this early collecting, the archaeological potential of the Channel Islands became widely known. By the 1920s there was a flourishing of activity by both relatively untrained amateurs and fully professional archaeologists. Much of this work was carried out in the tradition of the earlier relic collectors, with some increasing attention to provenance (e.g., Glidden n.d.; Rogers 1929; Bryan 1930). Some professionals, however, including R. L. Olson (1930) of the University of California, began attempting to define temporal and spatial variations in the islands' archaeological record, toward a reconstruction of their cultural histories. The considerable activity of the 1920s was followed by only sporadic research until after the Second World War when Phil Orr (1968) began work at Santa Rosa Island. His twenty years of research there serves as a link between the temporally-oriented workers of the 1920s and the work begun in the early 1950s (Glassow 1980:79).

In 1953, Clement Meighan and the University of California at Los Angeles began a research program on the Channel Islands which continues to this day. The establishment of the UCLA Archaeological Survey in 1958 intensified this activity which involved extensive reconnaissance and some excavation on Anacapa, San Nicolas, Santa Catalina, Santa Barbara and San Clemente islands (e.g. McKusick and Warren 1959; Meighan 1959b; Reinman and Townsend 1960). This merged with that of Charles Rozaire (1959b) for the Southwest Museum, working largely on the northern islands. The major objectives of Channel Island research into the 1960s were to inventory the archaeological resources of each island systematically, and trace the evolution of maritime ecological adaptation (Glassow 1980:80). In order to document the characteristics of these adaptations, investigators abandoned the focus on cemetery excavations and began to use the techniques of midden analysis that had developed in California archaeology from investigations of San Francisco Bay shellmounds (e.g. Cook 1946; see Meighan 1959b). These early ecological studies laid the foundation for much of the current research.

New environmental legislation lent impetus to a major portion of Channel Island archaeological research beginning in the early 1970s Federal agencies, including the National Park Service and the U.S. Navy, became increasingly committed to a much more active role in the management of cultural resources on the six Channel Islands they own. Steps in their evolving management programs have initially involved inventories of archaeological resources and the assessment of current archaeological knowledge of the islands. This has generated, among other things, an overview of the Northern Channel Islands for the Channel Islands National Park (Glassow 1977), assessments of existing inventories, and ongoing intensive inventories on many islands, including San Clemente Island (Yatsko 1989).

San Clemente Island has been Federal land since 1850. Before the U.S. Navy acquired it from the Department of Commerce in 1934, the island was managed for use by private sheep and cattle grazing enterprises. Historic use has also included the sea otter trade, seal hunting, smuggling, and the Chinese abalone industry. Recent chronometric data have shown that San Clemente Island was aboriginally occupied by maritime-adapted groups beginning nearly 10,000 years ago (Salls, 1988; Goldberg et al., Chapter 4). During the late prehistoric period, the island was occupied by Island Gabrielino peoples, who had departed or died out by 1820, leaving little ethnographic record; however, the island's aboriginal occupation did leave an especially rich archaeological legacy.

San Clemente Island has one of the densest concentrations of cultural loci in western North America (Yatsko 1989). Early pilfering and vandalism of the

island's archaeology have had some effect on its integrity, but the magnitude of this disturbance in no way approaches that documented for the mainland or for neighboring Santa Catalina Island. San Clemente's remoteness and rugged terrain, its paucity of safe landing sites, restricted access by early ranchers, and its current status as a naval reservation, have all combined to limit such impacts. Disturbances due to the Navy's activities have been less severe than is commonly assumed. Despite over 50 years of Navy use, only about 15-20 per cent of the island's land area has been affected. The remainder survives relatively undisturbed, as do the associated archaeological remains. Like the rest of the Channel Islands, the quality of its archaeological resources has long drawn investigators to San Clemente Island.

Archaeological Research At San Clemente Island, 1877-1988

In the late 19th and early 20th centuries, San Clemente Island experienced intermittent periods of archaeological activity. Most of this activity consisted of the uncontrolled, poorly-provenanced relic collecting described for the Channel Islands as a whole. The first documented visits were by Paul Schumacher (1878a, 1878b), in 1875 for the National Museum (Smithsonian) and in 1877 for Harvard's Peabody Museum (Putnam 1878:221). Interestingly, Schumacher (1878a:201) suggests that others had, even at this early date, already preceded him:

> As on San Nicolas Island, the greater portion of our collection was obtained on the surface of the shell mounds; and here too we found to our sorrow that the larger utensils, the well worked, and often rare articles were broken by vandals and scattered about.

Around the turn of the century came collectors representing the Heye Foundation's Museum of the American Indian, Berkeley's Hearst Museum, and avocationalists from nearby Santa Catalina Island and the mainland (Glidden n.d.; Trask 1897; Holder 1896, 1910). In the 1920s and 1930s, the Heye Foundation was back, as were a number of private Southern California collectors who left portions of their collections at the Southwest and Bower museums (e.g. Murbarger 1947, 1949). The few San Clemente Island residents were also showing an interest in its archaeology as represented by the existence of other museum and private collections (Murphy n.d.; Smull and Cox 1989). For this same period, there is also a written account of the systematic breaking of surface groundstone artifacts by the Mexican sheepherders employed by the island ranchers (Flynn 1942; see Zahniser 1981:1-33 for a more developed discussion of these early investigations). These and subsequent archaeological research at San Clemente Island are summarized in Table 2.1.

The 1939 survey and excavation of Big Dog Cave by Arthur Woodward (n.d., 1941, 1942) for the Los Angeles County Museum of Natural History began a new phase of increasingly systematic archaeological investigations of the archaeology of San Clemente Island (Fig. 2.1). Through the 1950s and 1960s, these included efforts by Spencer Rogers of San Diego State College in 1950 (Noah 1987), Gaylen Sayler (1959) for the San Diego Museum of Man in 1954-55, Marshall McKusick and Claude Warren (1959) for the UCLA Archaeological Survey in 1958, and Bruce Bryan (1962, 1963), Gordon Redfelt (1964) and Charles Rozaire (1962) for the Southwest Museum between 1962 and 1964.

In the 1950s and 1960s, these research activities were conducted with the permission, but not at the solicitation, of the Navy. With the advent of Federal environmental protection and historic preservation legislation, the Navy began slowly to focus on its general resource responsibilities for San Clemente Island. In response to a combination of the requirement for compliance, most especially with the Endangered Species Act and the National Historic Preservation Act, and limited

Table 2.1. Archaeological research at San Clemente Island, 1887 through 1998.

Dates	Principal(s)	Affiliation	Type of investigation	Number sites investigated	References
1875 &1877	Paul Schumacher	Peabody Museum	Collection & Excavation	(?)	Schumacher 1878a, 1878b; Putnam 1879; Carr 1880
1887-88	(?)	U.S. Fish Commission	Collection	(?)	Zahniser, 1981
ca. 1895 & 1910	Charles Holder & J. Neal Plumb	(private)	Collection & Excavation	1(?)	Holder 1896, 1910
1890s	Blanche Trask	(private)	Botany & Collection	(?)	Trask 1897, 1904
ca. 1900	E. L. Doran	(private)	Collection	(?)	Doran 1980
1920s	Ralph Glidden	Museum of the American Indian (Heye)	Collection & Excavation	7(?)	Glidden (n.d.)
1926-1944	Theodore Murphy & others	(private)	Collection & Excavation	Many	Murphy (n.d.)
1935-1936	W. B. & N.Murbarger	(private)	Collection & Excavation	(?)	Murbarger 1947, 1949
1939	Arthur Woodward	L. A. County Museum	Site Survey & Excavation	32	Woodward n.d., 1941, 1942; Meadows 1939
1950	Spencer Rogers	San Diego State College	Site Survey & Excavation	31	Noah 1987
1954	Gaylen Sayler	San Diego Museum of Man	Excavation	3	Sayler 1959
1958	M. B. McKusick & C. Warren	UCLA Arch. Survey	Site Survey & Excavation	120	McKusick & Warren 1959; McKusick 1959; Townsend 1963; Warren 1964
1962	Bruce Bryan & Charles Rozaire	Southwest Museum	Excavation (burial)	1	Bryan 1962, 1963; Rozaire 1962
1964-1965	Gordon Redfelt	Archaeological Survey Association & Southwest Museum	Excavation, Collection & Site Survey	5	Redfelt 1964; Bryan 1964
1975	J. Ericson & others	Various (Navy. UCLA Information Center)	Site Survey	22	Site record files, C. Rozaire
1975-84	Michael Axford	San Diego Mesa College	Site Survey	1,634	Axford 1975-1978, 1984, 1987
1980, 1981	Jack Zahniser, R. Brown, R. Greenwood, & R. Hatheway	Chambers Consultants, Hatheway & Greenwood (Navy CRM contr.)	Site Survey	90	Zahniser 1981
1983-1987	Clement Meighan, D. Armstrong, A. Yatsko	UCLA & NAS North Island Natural Resources Office (NRO)	Excavation	15	Meighan 1983, 1984, 1986b; Armstrong 1985; Foley 1987; Noah 1987; Rechtman 1985; Salls 1988; Titus 1987; et al
1986-present	A. Yatsko, S. & J. Berryman, L. Chiswell	NRO, with TMI Environ. Services; Occidental and Pomona Colleges	Resurveys	>1000	Yatsko, 1989, Berryman & Berryman 1988; Quintero et al 1988; Chiswell 1991
1988-1990	L.M. Raab, A. Yatsko,	Northridge Center for Public Archaeology (NCPA) & NRO	Excavation	5	Raab 1991 a-b; Raab & Yatsko 1990; Howard 1991; Eisentraut 1988; R. Salls et al
1987-present	A. Yatsko, L. M. Raab	NRO, with NCPA	Probablistic Site Survey	1143	Yatsko 1987, 1991a. Smith 1988

Fig. 2.1. Excavations at Big Dog Cave by Los Angeles County Museum of Natural History, 1939.

funding, Navy management began in the early 1970s to use project-oriented faculty/student research teams from regional colleges and universities in its resource management. These cooperative arrangements continue to be a principal strategy for the study and management of San Clemente's protected resources.

In this receptive atmosphere, Michael Axford (1975) submitted a proposal to Navy management to conduct a long-term San Diego Mesa College archaeological field school program on the island. The field program, begun in 1975, was originally outlined as a six-year study phased into periods of survey, excavation, and analysis, but the unanticipated volume of archaeological resources encountered required an almost complete commitment to the survey phase. By 1980 when the program terminated, the survey had covered just the northern two-thirds of the island and recorded 1,634 prehistoric and historic sites or site complexes (Axford 1975-1978, 1984, 1987). At about this same time, in an effort to respond to litigation which questioned the adequacy of the Navy's cultural resource management program on San Clemente Island, the Navy contracted for a sampling survey in the portion of the Island not examined by Axford, and the preparation of an historic overview, accomplished in 1981 (Zahniser 1981; Hatheway and Greenwood 1981). The litigious context surrounding this effort further identified the Navy's need for a comprehensive cultural resources program. In 1984, this culminated in the establishment of the permanent staff archaeologist position I occupy in the Natural Resources Office (NRO) at the Naval Air Station (NAS) North Island.

In 1983, NAS North Island and the UCLA Archaeological Survey expressed a mutual interest in developing a cooperative relationship similar to that which existed with Mesa College. Outlining a five year program of excavation at San Clemente Island, UCLA proposed to conduct research in conjunction with their field training program in archaeology that would use student crews for the field work and develop specific research issues as M.A. and Ph.D. thesis projects (Meighan and Axford 1983). Among the specified research goals were the development of an island chronology; investigations into the chronology and technology of insular maritime adaptation, with inter-island and island-mainland comparisons; human population studies; description and analysis of site distributions; paleo-environmental studies; and historic archaeology. For its part, NAS North Island viewed the joint effort as providing the technical expertise and practical support required to meet some of its historic preservation mandates. UCLA would investigate a range of site types and environmental settings toward a determination of those characteristics which might qualify a site or class of sites to meet the criteria for inclusion in the National Register of Historic Places, as part of compliance with Section

106 of the National Historic Preservation Act. It was also proposed that the research be designed to mitigate the existing or anticipated impacts to archaeological resources. These goals were merged and formalized under a Cooperative Research Agreement (CRA), a no-cost contractual document that NAS North Island was developing coincidental with the initiation of the UCLA program.

During its five field seasons at San Clemente Island, the UCLA program obtained substantial samples from a series of sites spanning 9,700 years of human occupation. This included:

- three seasons' intensive work at the Eel Point Site (SCLI-1178), a deeply stratified, multi-centered site which dates from 9,700 BP (Eel Point B) to about 1,500 years BP (Eel Point C)
- two seasons of excavation at the Ledge Site (SCLI-126), an historically-occupied ceremonial site with numerous offertory pits, including some containing items derived from the mainland missions
- three seasons' testing of the Nursery Site (SCLI-1215), a large, open occupation site with house pit features and an associated cemetery
- investigations of three rock shelters, including the North End Shelter (Xantusia Cave, SCLI-1178), a 6,000 year old shell midden that has produced information on marine-adapted subsistence patterns; and Big Dog Cave (SCLI-126), a damp, sea cliff shelter with a high degree of organic preservation, originally excavated by the Los Angeles County Museum of Natural History in 1939 (Woodward n.d., 1941, 1942)
- salvage excavation of the Old Airfield Site, an early historic period living site with pit features similar to those at the Ledge Site
- limited testing of a few small middens e.g., the Target Site (CA-SCLI-144), Columbus Site (CA-SCLI-1492), and lithic scatters
- sampling of historic sites e.g. sheep ranching activities (SCLI-700) and the Chinese abalone industry (SCLI-1127 (Meighan 1983, 1984, 1986; Armstrong 1985).

This research has thus far produced five M.A. theses (Ghirardelli 1984, Rechtman 1985, Foley 1987, Noah 1987, Titus 1987), two Ph.D. dissertations (Salls 1988, Goldberg 1993a), with others in preparation as well as various papers published or in draft form. Fieldwork by the UCLA program is in hiatus while further analysis and report writing progresses.

During UCLA's program, their research and NRO in-house site surveys developed an increasing understanding that the characteristic archaeology on San Clemente Island is in the small, discrete house mounds encountered island-wide (Meighan 1984; Yatsko, 1989). That these sites may contain important information about island settlement systems through time has made their continued investigation a priority. To that end, NAS North Island developed another CRA with Mark Raab and the California State University Northridge's Center for Public Archaeology for the specific purpose of conducting three seasons of excavation research on a stratified sample of these small sites (Raab and Yatsko 1991; Salls and Hale 1991; Eisentraut 1988). Like the UCLA field schools, these activities have generated ancillary reports and graduate projects, including one M.A. thesis completed (Howard 1991), half-a-dozen thesis projects in progress, and various articles in press (e.g., Yatsko 1990; Raab 1991a-b; Salls and Raab 1991).

Independent of the UCLA and Northridge research, the NAS North Island Natural Resources Office has continued archaeological site surveys on San Clemente Island in support of general cultural resource management requirements. Since 1986, I have conducted resurveys of previous coverage to verify the adequacy of the earlier recorded data, which had been called into question during practical management activities (Yatsko 1989). Resurveys included areas of the island previously surveyed by McKusick

and Warren (1959), Axford (1976-1978, 1984, 1987), and Zahniser (1981). These have been accomplished using a variety of resources, including experienced weekend volunteers, contracted consultants (e.g., Berryman and Berryman 1988), and college field classes (e.g., Quintero et al. 1988; Chiswell 1991). Results confirmed significant errors in the existing record data. In most areas, between 40 per cent and 90 per cent of sites were not found by the earlier surveys, with many recorded sites being inadequately documented or poorly provenanced. In addition, many recorded sites were mislocated or unrelocatable (Yatsko 1989).

In response to these data verification resurveys, I designed a 10 per cent stratified, random cluster sampling survey to investigate areas within San Clemente Island's three, predominant terrains (Yatsko 1987; and Chapter 3 of this issue). The survey was intended not only to evaluate a larger sample of the extant record data, but also to sample previously unsurveyed areas and provide for the development of a representative site inventory for the island. Attempted under contract in 1987-88, the initial survey project developed contractual conflicts, which resulted in it being suspended, unfinished, in late 1988. Insights gained during this initial survey attempt suggested that the 10 per cent sample was too small to adequately investigate variability across San Clemente. The sample was increased to 15 per cent, and a more detailed research design developed (Raab and Yatsko 1990; Yatsko 1991a). New fiscal support came with the establishment by Congress of the Legacy Resource Management Program as part of the 1991 Military Authorization Act. One of 40 Department of Defense data collection projects funded that year, the expanded probabilistic survey was conducted under contract with the North-ridge Center for Public Archaeology. This survey completed fieldwork during Fall 1991, documenting 1,143 sites within 73 twenty-five-hectare sample units. These results extrapolate to an estimated 7,600 archaeological sites island-wide! The survey also tested 27 of these sites for the recovery of datable carbon samples. The samples collected yielded a total of 68 radiocarbon dates (Yatsko and Raab 1997).

In the area of cultural resource management, an accurate knowledge of site characteristics and distributions is essential in planning and directing military use of San Clemente Island. The identification of a significantly higher site density for the Plateau than was previously known changed our perception of its archaeological sensitivity. The increasing understanding that characteristic sites on San Clemente Island are small, discrete house mounds that contain important information about settlement systems through time made their continued investigation an ongoing priority. Fieldwork on San Clemente Island has progressively focused on determining the significance of these smaller cultural resources. Most recently, this management research has further shifted focus to the systematic testing of selected sites for the identification of significance characteristics that would require their preservation under Section 106 review (e.g., Doolittle 1997; Hildebrandt and Jones 1996; York 1997).

Under the sponsorship of the NRO, the research efforts reported in the current volume were designed to meet accepted standards for both quality scientific research and responsible cultural resource management. These goals are not contradictory. Rather, as a complimentary, integrated process, they reflect the Navy's proactive stewardship of its protected cultural resources. The recent joint efforts with California State University at Northridge continue the pattern of highly successful cooperative research begun with UCLA, and establish the precedent for similar agreements into the future. These continue to place the NRO's program at the leading edge of research investigating the cultural ecology of maritime adaptations, providing important insights into the prehistory of San Clemente Island and the other California Channel Island region.