OBSERVATIONS ON SETTLEMENT AND SUBSISTENCE DURING THE LATE LA JOLLA COMPLEX - PRECERAMIC INTERFACE AS EVIDENCED AT SITE CA-SDI-11,767, LOWER SAN DIEGO RIVER VALLEY SAN DIEGO COUNTY, CALIFORNIA.

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ABSTRACT

Recently, Ogden Environmental and Energy Services Company contracted with the Metropolitan Transit District Board (MTDB) to conduct a limited data recovery program, for a portion of archeological site CA-SDI-11,767, as part of the Mission Valley Light Rail project. The site is located along the Lower San Diego River Valley, in San Diego County, California. Results indicated that the site represents prehistoric occupation during a short period of time ranging between 180 B.C. and A.D. 505, based on five calibrated radiocarbon dates. The site provides an important comparative example of a late La Jolla complex occupation with some possible indications of a limited early Yuman occupation. The presence, for example, of *Olivella dama* beads associated with an inhumation in a La Jolla complex assemblage context may indicate early La Jollan/Preceramic Yuman interaction. A focus on locally available maritime resources such as cobble lithics, marine fish and shellfish, but with a significant terrestrial faunal component as well, allowed for the comparison of subsistence practices at this site to other contemporary maritime focused La Jolla complex occupations along the San Diego coastline during this period of proposed environmental and cultural transition.

Beginning approximately 3,500 years ago, it has been hypothesized, the density of the La Jolla complex population, living along the central San Diego County coast was declining. This portion of the coast contains a series of estuaries and lagoons, that up until circa 3,500 to 3,000 years ago, were highly productive ecosystems which could provide human populations with substantial quantities of easily accessible food. During this time period, according to several researchers, a major La Jollan population decline and site abandonment is evident in these estuaries/lagoons to the north of San Diego Bay, which during the latter stages of the La Jollan times had become largely silted in due to sea level rise (Warren et al. 1961; Warren and Pavesic 1963; Gallegos 1985, 1987). This proposed abandonment pattern apparently does not occur south of the Peñasquitos Canyon area, just north of La Jolla, and particularly does not include the unique large bay environment of San Diego Bay and the Mission Bay estuary. Examples of major La Jollan population decline and site abandonment during this time period include Torrey Pines Park, the Batiquitos Lagoon region (Crabtree et al. 1963), and Sierra Del Mar (Smith and Moriarty 1985), all abandoned circa 3,500 and 2,000 years B.P. Recently, archaeological investigations in the Camp Pendleton area, north of the central County coastal estuaries have indicated increased usage in those areas, circa 1,500 to 1,000 years B.P., of coastal resources such as *Donax gouldii* (Byrd ed. 1996). This hypothetical site abandonment and population shift in San Diego County during late Archaic times has continued through the years to be an intriguing question in San Diego archaeology.

Also occurring in the archaeological record of coastal San Diego County, between approximately 2,500 and 1,500 years ago, is the incipient intrusion into the County area of Late Period characteristics such as bow and arrow hunting technology and cremation interment instead of inhumation burial. Also occurring, but not simultaneous with the arrival of these traits, was ceramic technology This appears to be an important time of transition, therefore, between one archaeological complex, the "La Jolla complex" that occupied San Diego County for over 6,000 years, and the arrival of the Late Period complexes of the Yumans and Shoshoneans.

Work in the last 10 years at several sites in or near San Diego Bay and Mission Bay has produced some interesting results which may

shed additional light on what was here during this period of apparent shift in the coastal La Jollan population. A portion of one of these sites, CA-SDI-11,767, was investigated in 1995 as part of a limited data recovery program conducted during the Metropolitan Transit Development Board (MTDB), Mission Valley West Light Rail Transit project in the City of San Diego (Cooley and Mitchell 1996). The site was previously found eligible for listing in the National Register of Historic Places, and important as well under the California Environmental Quality Act (CEQA) because of a high level of research potential and integrity (Pigniolo 1994a, 1994b; Pigniolo and Huey 1991).

Site CA-SDI-11,767 is a shell midden located on an upper elevation terrace along the lower San Diego River, 10 kilometers from the coast. The limited data recovery program at the site included the non-random excavation of 23.5 square meters or a total of 12.97 cubic meters of soil, from which were recovered chipped stone artifacts such as cores, scraper planes, chopping tools, hammerstones, scrapers, biface fragments, worked/retouched flake scrapers, utilized flakes or chunks, and 1,877 pieces of chipped stone tool working debitage. Ground stone artifacts recovered included metate fragments, manos and mano fragments, a rubbing stone, stone beads, bone tool fragments, whole shell beads and bead fragments, 45,621.6 grams of shell, 4,380 bone fragments including 6 otoliths, and over 1,004 kilograms of fire-affected rocks. In addition, a rock feature and flexed inhumation burial were discovered and excavated. Natural and cultural site stratigraphy suggested strongly that little horizontal and vertical cultural stratigraphy were present at the site. Chronological placement of the site occupation was documented to have been during a short period of time ranging between 180 B.C. and A.D. 505, based on five calibrated radiocarbon dates (Cooley and Mitchell 1996).

Another interesting find from the site was the recovery of what probably represented a single necklace of 32 *Olivella dama* shell beads. While the context was less than excellent, it appeared likely that these beads were associated with the burial, by proximity if nothing else. This occurrence is interesting, therefore, in that the burial was almost certainly La Jollan by configuration and context, and yet it was apparently buried with a necklace made from Gulf of California shell beads. If so, this could represent evidence of early interaction between the people of the La Jolla complex and the earliest Yumans.

Initially, the temporal placement of the site circa 2,000 years B.P, based on testing data, was important in establishing research goals for the data recovery program. The site appeared to provide an opportunity for comparison and examination of change during an important transitional period in local prehistory. This opportunity was seen as enhanced by previous data recovery results from two other nearby La Jolla complex sites located adjacent to San Diego Bay on Point Loma to the west of site CA-SDI-11,767-CA-SDI-48 analyzed by Gallegos and Kyle (1988), and CA-SDI-10,945, by Pigniolo et al. (1991).

Each of these sites manifested a substantially La Jolla complex assemblage with a paucity of Late Period Yuman traits represented. Late Period artifacts recovered consisted of two ceramics and a single small but possibly arrow-size leaf-shaped biface from site CA-SDI-11,767, and a single small piece of possibly cremated human bone from site CA-SDI-10,945. La Jolla complex associated traits included exclusively Coso sourced obsidian present at each site; consistently apparent seasonal occupation - late spring, summer, early fall - April through November (principally June through September), based on otoliths at each site; primarily maritime focused cobble based technology at each site; and the presence at site CA-SDI-11,767 of the flexed inhumation burial. A suite of radiocarbon dates at each site also verified the period of occupation as principally, if not exclusively, 1,500 years or older. The presence at these sites of temporally overlapping contemporary components, as well as an earlier La Jolla complex component at CA-SDI-48 extending back to 6,000 years, appeared to provide an opportunity to examine this important transitional period at several sites with large recently acquired archaeological samples, in a single but also somewhat geographically varied ecological setting.

The data, then, from site CA-SDI-11,767, enhanced by additional results from the two contemporary nearby sites was examined in the pursuit of a better understanding of changes in the La Jollan settlement pattern and system during late La Jollan times, as people apparently abandoned and depopulated the drying unproductive lagoons of central San Diego

County. Also, with the time period of examination from 2,500 to 1,500 years B.P., the documentation of early Yuman habitation was considered to be a possibility with, perhaps, an important opportunity to address the concept of the preceramic and definition of La Jolla complex-Late Period transition.

Results from these three sites, augmented by data from several others, appear to document a population increase in and around San Diego Bay and the mouth of the San Diego River during the period circa 2500 to 1500 years ago. At site CA-SDI-48, with an archaeological record stretching back more than 6,000 years, the size of the site increased in area dramatically during this time. An entirely new adjacent locus came into existence, as well as an increase in the size of the original site. Sites CA-SDI-10,945 and CA-SDI-11,767 both come into existence at the time. It now appears that in addition to these sites many new sites first appear in this area during this time period (cf. Gallegos 1995). At another site, CA-SDI-4,675 (also known as the Brown Site), located to the southwest across, but along the river from CA-SDI-11,767, seven out of a suite of eight radiocarbon dates (all uncorrected) fall between circa 1,960 and 2,750 years B.P., with the other date older at circa 4,080 years B.P. (Smith 1986). An increased population living along the southern coast would have required more space in which to live, and, consequently, would not only have utilized the previously settled, more favored locations such as the first site areas of CA-SDI-48 and the Brown Site, but would have expanded into new areas not previously inhabited, such as adjacent areas at sites CA-SDI-48 and the Brown Site, the upper elevation areas of Point Loma such as at CA-SDI-10,945, and the river banks up the river a short distance from the coast at sites such as CA-SDI-11,767.

Analysis of the faunal remains from sites CA-SDI-48, CA-SDI-10,945 and CA-SDI-11,767 also strongly suggests the utilization of food resources not previously exploited. In some instances, it appears that resources requiring more labor to acquire were now being exploited. Rocky shore areas, for example, harder to reach and probably containing a lesser quantity of food to exploit were now being used extensively for food gathering.

At site CA-SDI-11,767, the faunal assemblage showed diversity indicative of the exploitation of several food producing environments, including open bay, estuary/lagoon, and riverine. The location of the site, 10 km from the coast but only 3 to 6 km from the inner shore areas of San Diego Bay and the Mission Bay estuary, made each of these locales basically nearby and easily accessible. The faunal remains from the site not surprisingly, reflect significant quantities of food acquired from each of these environments. At site CA-SDI-10,945, situated at the upper elevation of the narrow ridge that forms Point Loma, the faunal assemblage showed little diversity, with the exploitation primarily of one food producing environment evident, the rocky coastal shore. This site location would have afforded it quicker access to both the inner bay resources of San Diego Bay and the rocky shore of the open coast on the outside of the point, an area apparently previously not as extensively exploited.

Site CA-SDI-48 was situated on a prime location on the inner coastline along San Diego Bay at the base of Point Loma. Data from the site indicated that shellfish collecting habits and resource procurement activities changed somewhat through time, as evidenced by comparative data from the older levels. The types of shellfish in the remains at the older Locus B of site CA-SDI-48 showed changes through time from the earliest period, circa 6,600 years B.P., to the latest period of occupation, circa 600 years B.P. These changes, from the older levels to the more recent ones, included: a 50 percent reduction in species diversity; alteration in the littoral habitat exploited from no preference to preference for rocky shore species; schedule change from indifferent collecting to upper tide collecting; and an increase in the selection of epifauna over infauna. While it appears that these changes occurred, for the most part, gradually through time and not abruptly, a somewhat abrupt change did occur between the level which dated from circa 3,800 to 2,000 to years ago (Level III), and the level which dated from circa 2,000 to 1,000 years ago (Level II). A sharp drop-off of 75 percent of the counts of the Minimum Number of Individuals (MNI) occurs from Level III to Level II.

Five possible reasons for an overall decrease in shellfish exploitation at CA-SDI-48 were proposed by the authors: (1) was a shift in subsistence requiring less exploitation of shellfish due to an increasing dependence upon other food resources; (2) a shift in procurement methods and scheduling that allowed for a higher meat mass return for less effort; (3) a shift in activity

areas; (4) an overall decrease of procurement activities at this locus due to population decrease, assimilation impacts, or change to a more seasonally based site use; and (5) a shift in environmental conditions limiting the availability of shellfish or certain species of shellfish (Cerretos 1988).

An alternative to 4, however, could be an increasing demand on bay resources made by an increasing human population utilizing the local resources. This would have gradually reduced the available littoral resources and would also have made exploitation of other, perhaps less desirable or harder to harvest, species necessary. This scenario would be consistent with the hypothesis of a southward migration of people to the bay from lagoons and estuaries to the north that had gradually become less productive through time. While the decline in the northern lagoon/estuary productivity undoubtedly occurred gradually, it seems likely that sometime towards the end (i.e., circa 2,500 to 1,500 years ago), there may have been a quickening or finalization of the process. It is postulated here, then, that the changes perceived at CA-SDI-48 are most likely due to increased rather than decreased populations exploiting the bay and other local coastal environs at this time.

The increase in the areas of older sites and in the number of site locations not previously occupied at this time can be interpreted to indicate an increase in usage of this south coastal area and more extensive resource utilization. Results from the three focus sites, as well as similar results from other sites in the same area, appear to suggest an increase in marine and other resource gathering activity in the San Diego Bay and Mission Bay/estuary area during this time. The faunal assemblages from sites CA-SDI-11,767, CA-SDI-10,945 and CA-SDI-48, principally the invertebrate assemblages, from the same time period, are dissimilar in content. At CA-SDI-11,767, for example, estuarine resource procurement predominated over rocky shore exploitation and terrestrial faunal resources predominated over marine, but at sites CA-SDI-10,945 and CA-SDI-48 the opposite was true. These differences, however, are not inconsistent with the idea of an increased population exploiting the area. On the contrary, while they are perceived as most likely site/resource proximity related, rather than availability related (cf. McHenry 1995), this occurrence was by design. Data from these sites reflect temporary, geographically-specific campsites where resource exploitation included a variety of habitats encompassing sandy beaches; the sand and mudflats of estuaries and/or bays; rocky shore and reef areas, and riverine and terrestrial resources. The additional utilization of terrestrial and riverine faunal resources, as well as coastal marine resources, provided more diet diversity and most important, an expanded and, therefore, more reliable resource base for an increased population to exploit.

It is postulated here, then, that the expansion of the living area seen at CA-SDI-48, as well as the beginning of occupation of sites such as CA-SDI-10,945 and CA-SDI-11,767, beginning circa 2,500 years B.P. are due to increased rather than decreased populations exploiting the bay and other local coastal environs. The scenario envisioned, based on the greater diversity displayed in the faunal assemblages at the sites, is that this increased population attempted to exploit a greater range of the food resources present. This resulted in the utilization of more environments, some of which required more labor and time to be successful. This pressure would also, undoubtedly, have increased the need for more successful food acquisition strategies. Certainly, a tool such as the bow and arrow would have been a major technological advance of considerable use in such a situation. If, as indicated earlier, new people may also have begun to enter the area from the east towards the end of this period, this could have resulted in increased population pressure. While this could be the case, it may have also been helpful in that these new people may have introduced new technologies such as the bow and arrow and ceramics that would have been useful in increased food procurement and storage capabilities. The additional utilization of terrestrial faunal resources, as well as coastal marine resources, together could have provided more diet diversity and an expanded and, therefore, more reliable resource base for an increased population.

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