

ARCHAEOLOGICAL BACKGROUND AND CULTURAL SEQUENCE FOR THE SAN JOAQUIN VALLEY, CENTRAL CALIFORNIA

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Francis Riddell chronicled the relatively recent status of the archaeology of the San Joaquin Valley in Central California (Riddell 2002). He suggested that up to 90% of all the archaeological sites – including many of the most significant and important village sites – have largely been destroyed. Nevertheless, a huge body of literature exists covering the prehistory of the San Joaquin Valley. Much of that recent material, encompassing hundreds of reports, has not been thoroughly synthesized and is mostly unpublished. This “gray literature” has been completed for compliance with State and Federal historic preservation laws.

Archaeological study has, in general, been more limited in the San Joaquin Valley than in many other regions of California. Scientific investigations have concentrated in the vicinity of the lakes on the valley floor rather than in the surrounding foothills. Syntheses of the regional prehistory can be found in several regional summaries that are available in the works of Hartzell (1992), Jackson et al. (1999), McGuire (1995), Moratto (1984), Schiffman and Garfinkel (1981) and Siefkin (1999). The most recent overview of Central Valley archaeology is a rather brief reflection and synthesis produced by Jeff Rosenthal, Greg White, and Mark Sutton (2007). That overview was produced for a volume on California prehistory edited by Terry Jones and Kathryn Klar and this book was developed in cooperation with the Society for California Archaeology (Jones and Klar 2007).

Published literature on San Joaquin Valley prehistory began with the pioneering work conducted by a University of California, Berkeley expedition that in 1899 investigated the Tulare Lake and Buena Vista/Kern Lake regions (Gifford and Schenk 1926). Following this study, important research was completed at Buena Vista Lake by Waldo Wedel for the Works Progress Administration (WPA) during the Great Depression in the 1930's (Wedel 1941). Warren and McKusick's (1959) early efforts in the Tulare Lake region allowed them to develop the first mortuary pattern sequence for the San Joaquin Valley. That early research was later augmented by the studies of Fredrickson and Grossman (1977) and the Ph.D. dissertation research of Hartzell (1992) at Buena Vista Lake.

Walker revisited a Yokuts cemetery at Buena Vista Lake providing some general material (Walker 1947). Riddell (1951) gleaned information from private collections and reported on his studies. Recently, PAI (1991, 1992) and Jackson et al. (1999) have conducted research in the Elk Hills just northwest of Buena Vista Lake.

In 1965 William Wallace and Francis Riddell created an informal consortium of researchers known as the Tulare Lake Archaeological Research Group (TULARG) that spawned a newsletter and a series of monographs (Wallace and Riddell 1991, 1993). That series continues to the present day and provides a wealth of new information on the

prehistory of the Southern San Joaquin Valley especially as it pertains to the area of Tulare Lake in the vicinity of the town of Hanford.

Excavations and systematic collections on the southwest shore of Tulare Lake revealed late Pleistocene and early Holocene projectile points, stone tools, and faunal remains. The Tulare Lake area is recognized as one of the richest Paleoindian localities in all of California (Fenenga 1991, 1993; Garfinkel et al. 2008; Hopkins 2008; Hopkins and Garfinkel 2008.; Riddell and Olsen 1969; Wallace and Riddell 1988). The latter research from TULARG includes some notable studies relating to the age and character of the Western Fluted tradition and Western Stemmed Series points as well as additional recent contributions on prismatic blade/core technology and the age and character of the Wide Stem point traditions.

Over the last few decades California State University, Bakersfield, Bakersfield Community College, and the Kern County Archaeological Society have sponsored a variety of archaeological and historical studies in the San Joaquin Valley area. Notably all three organizations developed publication series that disseminate the results of their efforts (i.e. Dieckman 1977; Estep 1993; Fenenga 1994; Schiffman and Garfinkel 1981; Siefkin et al. 1996; and many others).

In the far southern Sierra Nevada in the Isabella Basin (near the Lake Isabella Reservoir) several notable studies have been conducted (Fenenga 1948; Garfinkel 2007; Glassow and Moore 1978; Meighan et al. 1984; Sutton et al. 1994). Archaeological investigations have also been conducted on Poso Creek (Shapiro and Jackson 1998) and at CA-KER-5622 along Highway 178 (Baker 2001).

Prehistoric Cultural Sequence and Chronological Framework

The archaeological sites and materials identified over the years in the San Joaquin Valley have yet to be integrated into a single cultural-historical framework (cf. Rosenthal et al. 2007). The exact timing and the nature of cultural succession are poorly defined. Local sequences that have been developed but these lack adequate chronometric precision as they are based on early studies completed before the advent of radiocarbon dating (cf. Lillard et al. 1939).

The earliest cultural sequences were largely based on seriation of shell bead and ornament types associated with burial lots, differences in burial positions, and the pattern of grave offerings (Bennyhoff and Hughes 1987). Although thorough for their time, they also relied heavily on the cross-dating of artifacts from outside their immediate regions and the notable changes in burial posture. With the development of more respectful and sensitive interactions with Native Californians and the enactment of new and more stringent laws protecting Native American Graves (Native American Graves and Protection Act), excavation of individual graves and cemeteries no longer routinely occurs for research purposes and in general is not encouraged. Graves and cemeteries are avoided and protected. When graves are inadvertently discovered, the remains are often quickly re-interred without extensive scientific study. Hence we have little contemporary data to compare with earlier burial studies.

Few researchers have attempted to update the early chronologies for the San Joaquin Valley. Significantly the age determinations for many temporally diagnostic artifacts have been considerably revised (e.g., shell beads and ornaments and chronologically sensitive projectile point series) (cf. Bennyhoff and Hughes 1987; Groza 2002). Moratto's (1984) landmark synthesis of California archaeology based this integrative work on the then largely unpublished taxonomic frameworks developed by James Bennyhoff and David Fredrickson (Elsasser 1978; Fredrickson 1973, 1974). Hughes (1994) later assembled these materials and made them more widely available for scientific researchers.

Following Rosenthal et al. 2007 synthesis we present a simple classification here, largely based on Fredrickson's (1973, 1974) adaptation of the Willey and Phillips' (1958) period and stage integrative theme. This framework has been revised slightly in light of more recently available radiocarbon determinations and the calibration of these radiocarbon dates into calendar ages (cf. Groza 2002; Meyer and Rosenthal 1997).

Paleo-Indian Period (11,550-8,550 cal B.C.)

Uranium-thorium dates obtained on human skeletal remains from the Witt locality at Tulare Lake provide some of the earliest directly dated human skeletal materials in North America and exhibit uncalibrated dates of 11,379, 11,380, and 15,802 years before present (West et al. 1991). Uranium dates on extinct fauna have also been reported that span the same general chronological period and date to 10,788, 15,696, and 17,745 years before present (b.p.). Hopkins (2008) has recently attempted to characterize the archaeological artifact assemblage purportedly dating to this time span giving greater attention to the full expression of these important early cultural materials. Unfortunately most all of these artifacts are surface finds and hence it is most difficult to correlate them with the early human remains, extinct fauna, projectile points, or diagnostic stone tool forms.

Hartzell (1992) and others have suggested that initial occupation in the southern San Joaquin Valley is represented by fluted projectile points, associated stone tools, and crescents that may represent a subsistence focus on the hunting of extinct megafauna and the procurement of lacustrine resources.

Jackson et al. (1999) and Siefkin (1999) disagree and question many elements of Hartzell's reconstructions. However, her early and tentative studies provide a set of working hypotheses and testable models for further evaluation and consideration.

There is ample evidence of human use of the San Joaquin Valley dating to the latest Pleistocene and early Holocene eras. Ancient archaeological materials are found around the shores of Tulare Lake – near the town of Hanford at the Witt Site (CA-KIN-32) (Fenenga 1994; Moratto 1984; West et al. 1991). This material includes fluted (Western Fluted) and un-fluted, basally-thinned points, concave base points (Great Basin Concave Base or Black Rock Concave Base), crescents, leaf-shaped knives, ovate domed

and elongate keeled scrapers (limaces), engraving implements, with only a minimal compliment of milling tools.

Recent research (Jones et al. 2003) suggests that during this period hunters and gatherers traversed very large subsistence areas with extensive foraging ranges. Obsidian tracing and dating studies on unfluted, basally thinned (Concave Base) and Western Fluted obsidian points from the Witt Site support that reconstruction (Garfinkel et al. 2008). Researchers discovered that obsidian toolstone was represented from a diverse array of sources associated with this very early time period. This may indicate that very wide ranging forays took place to distant areas for trade or direct acquisition of volcanic glass as represented by the distant obsidian sources from northern California in Napa Valley and those obsidian sources nearer Tulare Lake but still representing rather lengthy forays east of the Sierra Nevada. The latter represent the obsidian sources located in the western Great Basin at Casa Diablo, Coso, Mount Hicks, and Mono Glass Mountain. All those volcanic glass sources, in both northern and eastern California, are located at distances of over a hundred miles from Tulare Lake.

Aboriginal foragers, at this early date, appear to have operated in small groups with very low population densities. These groups had little competition for resources and made only brief residential stays. They migrated, on their annual rounds, between resource-rich patches that were rapidly depleted. Aboriginal societies may have been a largely meat-based subsistence economy at this early time (cf. Haynes 2002). The latter reconstruction is simply due to the fact that the preferred prey animals of aboriginal foragers were widely and easily available in sufficient quantities to meet or exceed caloric needs. The density of human populations and the abundance of large game animals apparently allowed early aboriginal populations to acquire ample amounts of such foods. Alternatively, at this early data, a diversified subsistence base may have been represented with a wide variety of animal and plant resources having been exploited.

Lower Archaic (8,550-5,550 cal B.C.)

Climate change at the end of the Pleistocene created a significantly different environment from that previously characterizing the area and facilitated the production of alluvial fans and flood plains. Geomorphologic processes buried many Late Pleistocene landforms and most of the ancient archaeological manifestations dating to the prior period. At the end of the Lower Archaic and the beginning of the Middle Archaic a second cycle of widespread deposition buried even more archaeological deposits dating to the former period.

Lower Archaic occupation sites are rarely represented in the archaeological record of the Southern San Joaquin Valley and most cultural remains dating to this time are isolated finds. Western Stemmed Series points (cf. Lake Mojave and Silver Lake forms), flaked stone crescents, and distinctive, formalized, flaked stone implements form some of the key elements of the typical archaeological assemblages dating to this era. Such materials are represented from the deeply buried stratum (275 to 350 cm below ground

level) at the Buena Vista Lake Site (Fredrickson and Grossman 1977; Hartzell 1992) and on the ancient shorelines of Tulare Lake at the Witt Site (CA-KIN-32).

Radiocarbon dates on freshwater shell from the Buena Vista Lake site (CA-KER-116) provide ages ranging from 7175 to 6450 cal B.C. (Fredrickson and Grossman 1977). Recovered from salvage excavations were a meager assemblage that included three (3) chipped stone crescent fragments, a stemmed projectile point fragment, a carved stone atlatl spur, a few small chipped stone artifacts, and a human skull fragment. Additionally the deposit contained a limited, yet diverse, archaeofaunal assemblage that included freshwater fish, waterfowl, freshwater mussels, and artiodactyl bones.

At the Witt Site on Tulare Lake numerous stemmed points, crescents, and formalized stone tools have been identified. Thick hydration bands identified on artifacts of Coso and Casa Diablo obsidian - specifically Western Stemmed points (Lake Mojave and Silver Lake-like forms) attest to subsistence activities associated with the bountiful lacustrine resources represented there. Coso obsidian hydration rims, and associated radiocarbon dates of 6360 and 5650 cal B.C. on Pismo clam (*Tivela stultorum*) shell beads from CA-KER-3168 indicate that aboriginal occupation also occurred in the Elk Hills, just west of Buena Vista Lake (Jackson et al. 1998).

Middle Archaic (5,550 – 550 cal B.C.)

Hartzell (1992) asserts that there is a hiatus in cultural activity in the Buena Vista Lake region between 5000 and 2000 cal B.C. Other studies indicate that mortar and pestle use began by 4050 cal B.C. The beginning of the Middle Archaic saw a substantial shift in climate with the advent of warmer and drier conditions. Tulare Lake diminished in area and this period of desiccation saw many other Central Valley lakes dramatically reduce in size and ultimately vanish. Contemporaneous with the onset of more xeric conditions rising sea level changes created new wetland environments throughout the region.

Sites dating to this time period are routinely found on buried land surfaces. During the early part of the Middle Archaic (5550 – 2050 cal B.C.), the classic Windmill Pattern burial mounds occur. These are the deepest occupation sites that have been recognized. One such site, CA-SJO-68 in the northern San Joaquin Valley, provides a minimum age of 3050 cal B.C. (Lillard et al. 1939; Ragir 1972). Windmill settlements represent a riverine adaptation with what were apparently permanent, year round, habitation sites and a complex, sophisticated material culture. Associated cemeteries featured a unique expression of westerly oriented, extended burials. Paleobotanical studies document the early use of acorn and pine nut crops. Archaeofaunal assemblages reflect intense exploitation of marshes, grasslands, and riverine forests including the representation of elk, deer, pronghorn, cottontail rabbit, jack rabbit (hare), waterfowl, small and large fish, and small rodents as subsistence resources.

Baked clay impressions of basketry and cordage, bone awls, stone plummets, bone tubes, *Olivella baplicata* and abalone (*Haliotis* spp.) shell beads and ornaments,

charmstones, gorge hooks, bone hooks, and heavy-stemmed dart points have all been recognized in the archaeological assemblages dating to this time period. Trade in volcanic glass (obsidian) begins in earnest during this time and obsidian from the eastern side of the Sierra – most importantly the Coso and Casa Diablo sources is significantly represented within the projectile point inventory.

Upper Archaic (550 cal B.C. – cal A.D. 1000)

With the onset of the late Holocene period environmental conditions became cooler and a more mesic climate reigned. Little is known concerning the cultures of the San Joaquin Valley during this period (Siefkin 1999). Hartzell (1992) reports year-round villages at Buena Vista Lake at CA-KER-116 and -39. These sites incorporate a diverse array of architectural features including house floors and significant deposits of refuse materials representing both land and water associated subsistence activities. Cultural materials include temporally diagnostic forms of beads and ornaments manufactured from *Haliotis* and *Olivella* shells. Spindle-shaped charmstones, cobble mortars, chisel-ended pestles, and heavy dart points are also identified. An extensive inventory of bone tools including awls, fish spears, saws, and flakers are also diagnostic. Preferred burial positions during this time period shift to supine semi-flexed and mortuary artifacts are present including bifacial obsidian knives (possibly “luxury” bifaces known as Sierra Concave Base points) of Coso and Casa Diablo volcanic glass.

Emergent (cal A.D. 1000 – Historic)

The archaeological record for this period is the most complete and diverse. Intensification of plant procurement and a decrease in hunting marks this most recent cultural period. The bow and arrow is introduced and replaces the former dart and atlatl. Cottonwood style arrow points, similar to those found to the east in the Great Basin, are recognized by about 700 years ago (ca. AD 1300) and cultural traditions ancestral to those recorded ethnographically are readily identifiable.

Stone beads and cylinders, clamshell disks, tubular smoking pipes, arrow-shaft straighteners, flat-bottomed mortars, cylindrical pestles, and small side-notched arrow points mark the cultural inventory of typical archaeological sites from this era. Burial posture is tightly flexed on the side or supine with a moderate amount of associated mortuary related offerings. Protohistoric and historic era sites contain Euroamerican trade items, such as glass beads, brass buttons, and other introduced non-native artifacts.

Specialized sites of local shell bead manufacturing are now recognized in the Southern San Joaquin Valley Region as indicated by the presence of bead blanks and manufacturing debris (Hartzell 1992). This pattern of bead production has been interpreted as part of the introduction of monetized systems of exchange (King 1981).

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