Ethnohistoric Adaptations in the Carson Desert

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Marsh and lacustrine food resources are known to have been important to Native Americans of the Great Basin from the archaeological record, oral histories, ethnographic literature, and written accounts of early European explorers. However, few researchers have examined how natural fluctuations coupled with man-made changes in lacustrine and marsh environments affected Native American landscape use in the post-contact period. Native American adaptation to an increasingly restricted water-related resource base no doubt echoed in their social structure and resource selection. Using data from archaeological, ethnographic, and historic contexts in the Carson Desert, these issues are explored using a focused study on the eastern shoreline of South Carson Lake.

Margaret Wheat (1967) and Catherine Fowler (1990, 1992) have compiled the primary ethnographic material for the Carson Desert area in their studies centered on Stillwater Marsh. Wheat and Fowler's principal informants—Alice Steve, Wuzzie George, and Jimmy George—willingly shared techniques for marsh resource collection and processing accumulated while they were growing up during the late nineteenth and early twentieth centuries. These remembrances provide rare glimpses of how housing, shelter, and food were procured from the wetlands in the ethnohistoric period. Using these elder's stories and experiences, we can learn much about what we see in the archaeological record and relocate some of the places in which they visited or lived.

HISTORIC PERIOD IN THE CARSON DESERT

The first documented visits to the Carson Desert by Euro-Americans were Peter Skene Ogden's group of trappers from the Hudson Bay Company in 1830 (Cline 1974; Fowler 1992:16; Hattori and McLane 1980:9; Kelly 1985:32) and Joseph Reddeford Walker's party in 1833. Ogden operated under the Hudson Bay Company's policy to trap-out the desert west in order to make it unprofitable to cross for the American fur companies on their way to the rich northwest (Cline 1974; Kelly 1985; Rusco 1976). These trappers also hunted for their own sustenance and probably severely affected the number of fauna available to the Native Americans along their path.

Settlers followed the trails of explorers and trappers westward to California beginning with the Bartleson-Bidwell party in 1841 (Fowler 1992:16; Hattori and McLane 1980:9; Kelly 1985:32). In 1848, the number of settlers traveling west increased dramatically with the discovery of gold in California, but fortunately for the Northern Paiute living in the Carson Sink and Carson Lake region, the emigrant trails stayed west of the Carson Sink avoiding the rich marsh resources that they relied upon for food and shelter for portions of the year.

The Northern Paiute's response to the first Euro-American intrusions into their foraging territory was friendly—showing the weary travelers where to get water and giving them fish and pinenuts such as they did Bidwell in 1941. But the nervous trappers, explorers, and emigrants were quick to strike fatal blows when they felt threatened by Native Americans. Word soon spread that these "white-eyes" were unpredictable and dangerous. Hiding and/or retreat into the uplands away from transportation corridors such as the Humboldt River, was an adaptive response to these dangerous conditions. This strategy deprived Indians of the fish from the rivers, large game that was also being hunted by Euro-Americans, and grass seeds that

were now being eaten and trampled by livestock. However, with the discovery of gold and silver near Virginia City in 1859, not only did another surge of emigrants come from the east, but they began to settle in the Lahontan Valley as farms and ranches were staked to supply hay and grain for stock, and food for miners laboring to extract the Comstock Lode.

Also in 1859, Captain James Simpson of the Corps of Topographic Engineers mapped a new, more direct route from Salt Lake City that passed just south of Carson Lake (Fowler 1992:18 and Hattori 1980). Northern Paiutes exhibited growing concern as whites continued to come from the east. These concerns and frustrations, coupled with resource shortages and repeated abuse of Native Americans, cumulated in the Pyramid Lake War to the north of the project area in 1860 (Simpson 1876).

The rush of settlers into the Carson Desert region proved to be the fatal blow to the mobile hunting-and-gathering pattern of the Cattail Eaters. Before this time, they were able to essentially avoid Euro-Americans by retreating to the uplands to gather pinenuts, roots, and seeds and hunt game while living in winter habitations near the marshlands. Now white settlers were taking too many of their resources and the uplands were depleted due to overuse and drought conditions. The first homesteaders claimed areas near Carson Lake along the southern branch of the Carson River in 1860 and 1861. A toll bridge was built across the Stillwater Slough in 1860, further facilitating travel through the area (Kelly 2001:20); and small settlements sprang up shortly thereafter at Stillwater, St. Clair, and Redman's Station.

Ranching and farming grew in importance throughout the late nineteenth century. By necessity, Cattail Eaters adapted to their newly limited resource base by becoming laborers for Euro-American settlers.

In 1903, the Newlands Reclamation Project began. This project diverted water from the Truckee and Carson Rivers to reservoirs to be distributed through irrigation canals to the arid lands of Lahontan Valley. This water facilitated further agricultural developments in the Carson Desert and led to the establishment of the town of Fallon. The Newlands Reclamation Project was completed in 1915 (Townley 1977).

These historic events did not happen in a vacuum and natural cycles of drought and flooding continued in the Carson Desert. Tree-ring data and historic records indicate that there were low precipitation years between 1868 to 1890 and 1907 to the mid-1930s (Kelly 2001:23).

Robert Kelly (2001) has suggested that population stress and drought may be incentives to become semi-sedentary. These two conditions were met between 1859 and 1890 in the Carson Desert. The Euro-American expansion taxed the already delicate resource base of most Great Basin's Native American inhabitants. During this time of increasing resource stress and decreasing returns in the uplands brought about by dry conditions and overpopulation, the Cattail Eaters would likely have been drawn to the relatively reliable marsh resources. Euro-Americans, now settled in the lowlands, probably regarded Native Americans as threats when they camped near their settlements; however, their presence presented a solution to a labor shortage on the farms and ranches.

The Cattail Eaters went to work for the Euro-Americans probably not because of the lure of wage labor as some suggest, but because the stress of overpopulation coupled with drought conditions made it one of the few options available. Euro-Americans had control over the relatively reliable wetlands and becoming their employees was one way to gain access to the marsh. Euro-Americans also supplied new drought tolerant foods such as canned goods and livestock. Conversely, the agricultural industry welcomed the seasonal labor of the Indians because they could be let go to "live off the land" in times that they were not needed. By the 1880s, many of the Paiute worked as ranch hands, hunting waterfowl, tending to animals, and performing housework (Fowler 1992; Kelly 1985, 2001; Townley 1977:13; Wheat 1967).

ENVIRONMENT

The archaeological sites that I have examined are all near South Carson Lake located south of Hidden Cave and Grimes Point, and east of the Fallon Naval Station (Figure 1). First accounts of the area highlight the tremendous changes in the natural environment that have occurred in the past 145 years. In 1859, Simpson described the then large South Carson Lake as abundant in fish, waterfowl, and Native American encampments (Simpson 1876:85). To those of us who have seen the now dry desert playa called South Carson Lake, these

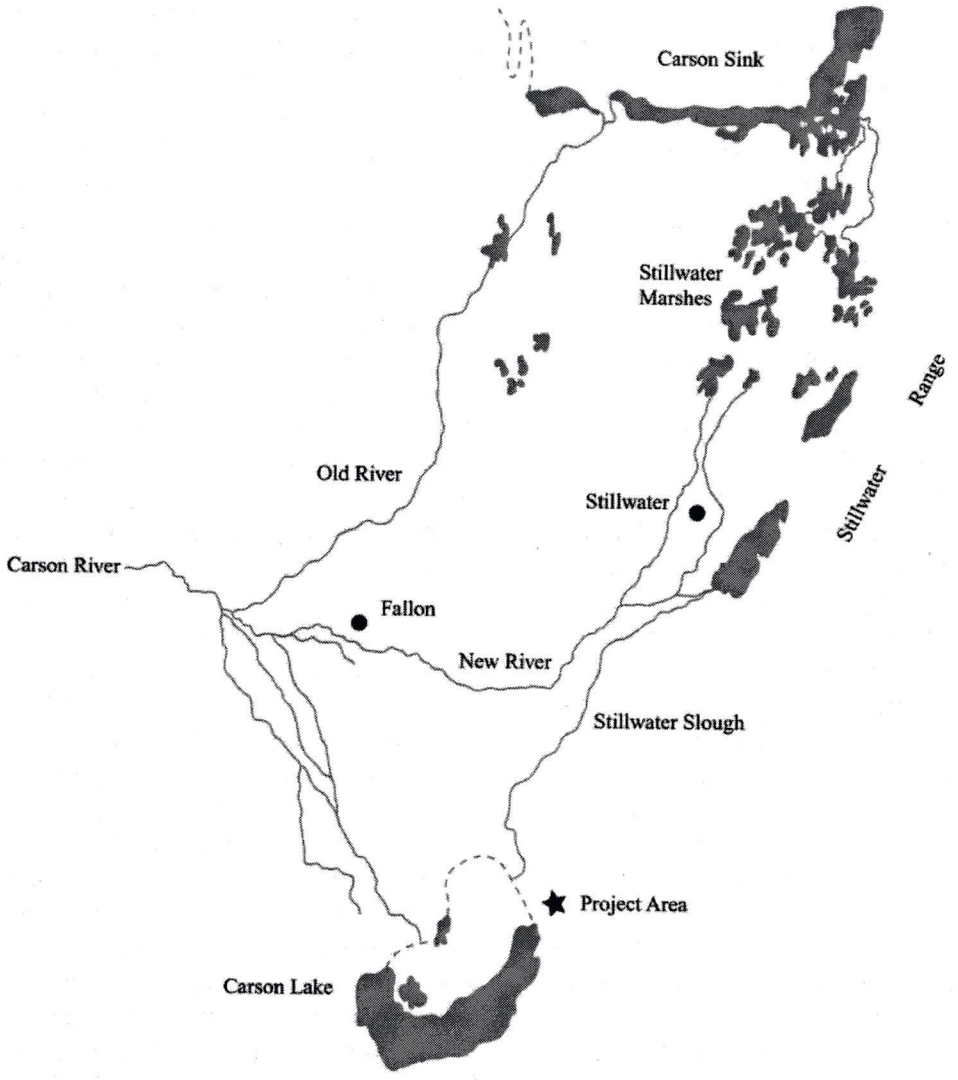

Figure 1. *Hydrographic map of Carson Desert area.*

observations seem unreal. This change is due, at least in part, to channel evolution of the Carson River in response to the combined effect of sediment accumulation and flood events.

In 1885, Russell (1885) described that before 1862 the Carson River had flowed into South Carson Lake and from there through a slough north into the Stillwater Marsh. Simpson, in 1859, described this slough as nearly 50 feet wide and 3 to 4 feet deep with a strong northern current (Simpson 1876). In 1862, a flood event breached the established channel and began flowing northward through a relic riverbed that emptied into the Carson Sink that is named "Old River." Although the southern branch was not entirely abandoned, it soon became only a secondary pathway as the northern branch gained dominance. After 1862, only a small portion of the river flowed over the large delta that led to South Carson Lake, resulting in stagnation of the lake and its slough that were fed only by occasional spring flooding events. A flood in the spring of 1867 or 1869 created a new channel named the "New River" that branched off the northern segment and spread eastward before dumping into the Stillwater Slough and Marsh (Morrison 1964:104–106).

Although the Newlands Reclamation Project has somewhat stabilized the Carson River channel in its current path, the process of hydrologic shifting is ongoing. The natural fluctuations of the Carson River, which is fed by the Sierras and affected by heat and evaporation, reflects regional climatic changes. The hydrologic system continues to adapt

as this sink adjusts to accumulating sediment fill, fault movement that is changing the base level by deepening the Stillwater Marsh, and to cyclical flooding. These cyclical events and hydrologic adaptations of the Carson River change what types of resources are available in the Carson Desert and where, highlighting the need to understand an area's geomorphic history even in historic-period studies.

We know that the current hydrologic regime has been greatly modified by both natural and humanly-induced processes from when it was first described by Simpson and others. By necessity, the Cattail Eaters responded to changing social and environmental conditions by becoming semi-sedentary wage laborers. But now we ask how these changes are reflected in the archaeological record of the ethnohistoric period?

William Wright, a journalist from Virginia City, visited the Carson Desert in the summer of 1861, a year before the flood that would divert the water northward, away from South Carson Lake. He describes how men, women, and children were camped along the eastern shore of South Carson Lake living in semi-circular sunshades made of willow, reeds, and tule mats that were located around half-a-mile from the water's edge to avoid mosquitoes (DeQuille 1963:30–31). According to Wright, even at this early date Native Americans spoke some English and initiated trade for known items such as biscuits, flour, and other material goods (see DeQuille 1963:38–39).

ARCHAEOLOGY

Far Western Anthropological Research Group, Inc. conducted a Class III linear archaeological survey in the area east of Carson Lake during the summer of 2004. These investigations revealed two ethnohistoric sites (CrNV-03-5941 and CrNV-03-5942) on a relic shoreline feature (Young and Wriston 2004). This low terrace overlooks the East Ditch and the irrigated fields below. Upslope, greasewood vegetates the slightly undulating aeolian sheets and coppice dunes interspersed amongst hardpan sediment.

One of the sites is a deflated single component locale consisting of a worked glass bottleneck, a button, metal cable and remnants, lithic debitage, fire-cracked rock clusters, and freshwater clamshell concentrations. This site is located approximately 3/4-mile from the Grimes Slough, and less than 1/2-mile from East Ditch, an irrigation canal in existence since at least 1938.

The other site, found just west of the first, is large and multi-component. It contains at least 21 features, most of which have both fire-affected rock and freshwater clamshells. The shell concentrations generally have a shallow organic layer with anywhere from 20 to several hundred freshwater clamshells averaging around 5 cm in maximum diameter. Artifacts are clustered around these features and consist of probable Late Archaic period projectile point fragments; lithic debitage; flaked tools, ground stone; historic-period glass in aqua, amethyst, green, olive, and white colors; can and metal fragments; and mason jar lids.

Based on the temporally diagnostic types of historic-period artifacts present, both sites' historic components date to between ca. A.D. 1860 and ca. A.D. 1910. These sites were occupied shortly after Simpson and Wright reported Native American encampments along this margin of the lake and possibly coincide with the changing hydrologic conditions of South Carson Lake after its abandonment by the Carson River in 1862.

The larger site has potential for buried cultural remains in the aeolian deposits atop the terrace where most of the historic artifacts are located. Through excavation, we may be able to isolate different components and therefore determine which features are related to the ethnohistoric period, the Late Archaic period, and identify differences in the material culture between these components. In addition, from my small sample, the historic-period features seem transient in nature with smaller concentrations of mollusk shells and less accumulation of lithic debitage. The decrease in the amount of lithic tools and debitage associated with the historic-period features is expected if curated Euro-American metal utensils have replaced their function. The modest features may also result from relatively fewer inhabitants pursuing these traditional resources.

The shell and fire-cracked rock concentrations likely relate to seasonal resource use by relatively small groups of foragers when South Carson Lake was still full of water and the nearby slough still emptied northward, possessing a gentle current that could feed the bottom dwelling mollusks and the fish that they needed to reproduce (Drews 1988; Hambrook and Eberle 2000). When the lake was

too dry to release water through the slough, the mollusks would have moved or died off. Therefore, the presence of mollusk shell concentrations in a site can help us recreate nearby water conditions. Mollusks are not efficient to carry for long distances due to their high volume to weight ratiós, so we should find them relatively close to appropriate water sources.

Margaret Wheat and Catherine Fowler's informant, Wuzzie George, knew little about mollusks beyond that they had been eaten in her grandmother's day (Fowler 1992:72). The fact that Wuzzie George had acquired so much practical knowledge about wetland resource use after her birth (ca. 1880), but did not know about the collection and processing of mollusks, suggests that their use had largely been abandoned by this time. This abandonment may reflect the Carson River's diversion northward that desiccated South Carson Lake and the slough; it may also reflect social change.

Mollusks are relatively high in protein and nutrients and are plentiful when conditions are right. This protein source would have been easily acquired by women and children who were already near the marsh to exploit other resources (see Fowler 1990, 1992; Kelly 2001; Wheat 1967) and may also have been a valuable dietary addition when other game was sparse. Mollusks required no special skill, tools, or knowledge to procure; they were not readily transported like many of the high prestige sources of protein (e.g., meat, pinenuts); did not provide hides for clothing like rabbits and deer; and their availability fluctuated with the water level. Perhaps for these reasons, the collection of freshwater clams never developed the social significance of that relegated to hunting large game, rabbit drives, or pine nut gathering; all of which result in easily transported, nutrient-packed, food sources; and which, in the case of rabbits and larger game, provided valuable hides for winter warmth.

However, freshwater clams may have gained importance in times when other sources of protein became scarce such as when the Hudson Bay Company's trappers scorched the area of game animals or during settler's expanding hunting forays. Nevertheless, because this resource would have disappeared with the lakes during the drought period in the late nineteenth century, it would have only provided a short-term solution to a protein shortage. Conversely, mollusks may have simply dropped from use as both women and men gained access to more reliable protein-rich resources such as cattle, pigs, and chickens. Further explorations of the ethnohistoric archaeology in this region can help determine how mollusk use changed through time and how its record reflects the changing hydrologic regime in the region.

SUMMARY

During the drought period of the late nineteenth century, the Cattail Eaters' lifeways changed from nomadic hunters-and-gatherers to semi-sedentary wage laborers due to Euro-American expansion into the valley and resource restriction of their traditional foraging territory. Food resources changed from marsh-based animals, birds, and plants; and upland roots, seeds, and game; to canned food, beef, pork, and sheep supplemented with occasional traditional foods.

The traditional resources that persist in the Native American diet are generally high prestige goods that are easily transported and relatively high in protein such as pinenuts and wild game. Social gatherings also serve to reinforce these items' importance.

How the Cattail Eaters adapted to Euro-American intrusion into their core territory at a time of drought is recorded in the archaeological data as landscape use and resource choices changed through time. What is exciting about ethnoarchaeological studies is that we have more information available than any time previously about how individuals adapted to stressors and what these stressors were. Through modern Native American interviews, oral histories, ethnographies, and research of the historical record, we can fill gaps in our knowledge concerning traditional prehistoric models (optimal foraging, diet breadth, behavioral ecology, etc.), not necessarily to extrapolate into the past, but to test in the historic period. Historic archaeological theories regarding gender, ethnicity, class systems, and core-periphery relationships could further enhance prehistoric modeling of human behavioral response to restricted resources and environmental change.

However, we need additional data. A limited number of ethnohistoric period sites have been excavated in the Great Basin. This limitation to the refinement of ethnohistoric models has been perpetuated by the difficulty in identifying ethnohistoric sites. However, this difficulty will only be

illuminated by investigating known ethnohistoric sites recorded in oral histories and the historic record. In addition, these site types have been largely ignored by the majority of research designs. Specific questions that may be asked of the ethnohistoric record include:

- What Euro-American goods are found at ethnohistoric sites through time?
- Does the adoption of these goods reflect access or choice?
- Was a product selected and used in its intended manner? For example, is the seeming abundance of lard buckets a reflection of using lard in the cooking process, or does it reflect curation of the container for secondary re-use?
- What readily available Euro-American goods are not found in ethnohistoric sites?
- What prehistoric technologies and resource bases persisted after contact and for how long (e.g., millingstones and pinenut processing)?
- Did these technologies remain in use because there were no Euro-American tools to replace them (e.g., millingstones)?
- What social role(s) do persisting prehistoric technologies and resources play in the culture?
- How does material culture reflect changing social conditions?
- What were the environmental conditions and available resources of sites that exhibit continuous use from the prehistoric to historic period as opposed to the environmental and resource characteristics of sites inhabited for the first time during the historic period?

The ethnohistoric record can address these research questions if we collect the data. In my brief study of two ethnohistoric period sites near the eastern shore of South Carson Lake, I came up with more questions than answers. These questions require substantial data sets that can be gleaned from the archaeological record in areas such as the Carson Desert. Ethnoarchaeological sites are often written off as mixed-component historic/prehistoric sites of little value. In the absence of definitive ethnohistoric artifacts, such as worked glass, their identification is somewhat arbitrary. We need to study documented ethnohistoric sites in the Carson Desert region in order to establish some guidelines for defining ethnohistoric sites in unknown locations. We need to know what types of artifacts characterize different task sites throughout the landscape including wetlands, playa-margins, and uplands, and why.

We have a continuum of culture and cultural change in the ethnoarchaeological record. Cultural adaptation is an issue that we all research, whether our interests are historic-period Chinese encampments or Paleoarchaic adaptations to changing climate.

Research designs for archaeological study are often weak to nonexistent when it comes to the ethnohistoric period. Prehistoric archaeologists assume that it should be included in the realm of historic archaeology while historic archaeologists consider it the prehistoric archaeologists' responsibility. I hope that this article raises awareness and promotes discussion between the varying specialists and land managers so that we can all achieve a better understanding of the unique processes of cultural adaptation in the ethnohistoric-period.

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