Most authors agree that below the mountain zones in the Mojave Desert various species of perennial shrubs serve as good indicators, and most have named their vegetative units based on these. Most also note that the region in general is characterized by a low density of various life forms, including perennial and annual plants as well as large to medium-sized animals. The most characteristic vegetative cover in the region is one dominated by creosote bush (Larrea tridentata), or creosote with another common species, such as burro-bush (Ambrosia dumosa) [see DeDecker (1984) for common names of plants and authorities]. The Mojave Desert is the northernmost extension of the range of creosote, and its presence is common on valley floors and alluvial slopes (Jaeger 1957:125) which make up the most common land form in the region. Mammals found in this zone include the black-tailed jackrabbit (Lepus californicus), desert cottontail (Sylvilagus audubonii), desert woodrat (Neotoma lepida), desert kangaroo rat (Dipodomys deserti), round-tailed ground squirrel (Spermophilus tereticaudus), and pocket mice (Perognathus spp.) [see Honacki, Kinman and Koepel (1982) for common names and authorities for mammals and Ryser (1984) for birds]. Most usually shelter in mesquite (Prosopis glandulosa) thickets that are found in better watered areas of valley floors or along washes (Figure 3). Several reptiles, such as desert tortoise (Gopherus agassizi), and various species of lizards, skinks and snakes are found here [see Rowlands et al. (1980:152-3) for Death Valley list].

Figure 3. Mesquite thicket near Furnace Creek, with Panamint Range in background. March, 1993.

In more salty situations, such as near alkali sinks in the bottom of valleys, a saltbush scrub vegetation occurs. This is dominated by different species depending on the water table, with salt bush species such as shadscale (Atriplex confertifolia), fourwing salt bush (A. canescens), desert holly (A. hymenelytra), and allscale (A. polycarpa) being found where there is less available water, and pickleweed (Allenrolfea occidentalis), alkali pink (Nitrophylla occidentalis), seepweeds (Suaeda spp.) and big greasewood (Sarcobatus vermiculatus) being found where there is more (Vasek and Barbour 1977:850-51). Mammals and reptiles in these zones are the same as in creosote or burro-bush areas, although often fewer in number.

Most of the playas throughout the Mojave Desert are salt encrusted, and thus support few to no plants. However, once above this zone--and it may take only a few inches--the more salt and water tolerant forms then occur (pickleweeds, seepweeds, etc.), while above them are found the shadscales and desert holly, and above them, the creosote and burro-bush. But these patterns occur less as broad bands correlated to elevation, and more according to the availability of water and the chemistry of the soils. Thus, a complex of factors is responsible for the distribution of any particular vegetative mosaic in any particular valley bottom, with some being by far more common than others. Although some of these shrubs provided food and medicines to the Timbisha people, they more often visited the zones in which they occurred for seed-producing annuals or for small game animals. These zones were also all important for winter village sites (see Ethnographic Overview).

The slopes of hills and mountains and also steep alluvial fans with rocky pediments often support a shadscale scrub community composed of such species as shadscale and bud sage (Artemisia spinescens). This may intergrade into or be replaced by a blackbush scrub community that can begin around 3,600 ft. in elevation and continue up to roughly 6,000 ft. Its principal components are blackbush (Coleogyne ramosissima), and depending on area, Mojave yucca (Yucca schidigera), hop-sage (Grayia spinosa), winter fat (Ceratoides lanata), fourwing saltbush, bud sage, ephedra (Ephedra spp.), wolfberry (Lycium andersonii, L. spp.), cottonthorn (Tetradymia axillaris), etc. (see Rowlands et al. 1980). Although blackbush is listed as the characteristic species, again as with other forms, it may not always be present in the community or may not be its dominant component (Vasek and Barbour 1977:856). In some areas, this community may include another species peculiar to the Mojave Desert, the Joshua tree (Yucca brevifolia). Mammals here increase in number, and some new species are added. The major addition to the reptiles is the chuckwalla (Sauromalus obesus), a very important food source to the Timbisha and other Panamint people.

Joshua trees often create a dominant overstory suggestive of a woodland. They are found throughout the Mojave Desert, but prefer a slightly different soil type than the blackbrush scrub and shadscale scrub communities. This preference is for sandy, loamy soils, or ones characterized by fine gravels rather than heavier rocks. They are more often found on gentle slopes or in low swales between hills at elevations from 3,400 to 8,000 ft. (DeDecker 1984:4). At lower elevations they may be correlated with creosote bush and

associated species; at higher, they may be found with single-leaf pinyon (Pinus monophylla) and/or Utah juniper (Juniperus osteosperma; Vasek and Thorne 1977:808-10). Joshua tree forests were important to Timbisha and Panamint people as the Joshua itself produced food in the form of buds and fruits and also fiber for basketry. These areas were often locations for temporary camps.

The pinyon-juniper woodland, characteristic of mountain areas in the Mojave Desert from roughly 5,500 ft. to 9,000 ft., was one of the most important of all vegetative communities to the Timbisha and other Panamint people. This woodland often occurs in broad bands in the higher ranges (such as the Panamint, Inyo, Koso, New York, Providence, and Spring), and it was a zone important not only for plants but for animals used for subsistence. Single-leaf pinyon produces one of the two plant staples of the region, an edible seed or nut. This product was widely collected and stored. The understory in this woodland was also a principal source of edible roots and bulbs, including sego lilies (Calochortus bruneanis, C. kennedyi), onions (Allium spp.), and biscuitroots (Lomatium nevadense, L. mohavense). Several berries, such as wolfberry, service berry (Amelanchier utahensis), and gooseberries (Ribes spp.) are also found here. And numerous medicinal plants can be collected (see Traditional Land Use, to follow). Most of the large game animals, such as bighorn sheep (Ovis canadensis nelsoni) and mule deer (Odocoileus hemionus), and a number of small game animals such as black-tailed jackrabbits, chipmunks (Eutamias spp.), and ground squirrels (Spermophilus spp., Citellus spp.) were also found here. Birds of many varieties were present. This zone was a favorite for summer residence to escape the heat of the floors of the Mojave's low-lying valleys.

Above the pinyon-juniper woodland in some isolated areas is a zone with white fir (Abies concolor), limber pine (Pinus flexilis), and more rarely, bristlecone pine (P. longaeva). In Timbisha territory, this zone occurs only in the Panamint Range, and it was visited for berries, bighorn sheep and deer.

Riparian or stream-side communities, and also those around desert springs and marshes, were a very important component of Timbisha land use patterns. Most important, because they produced a second vegetable staple food, were the areas in valley bottoms and along lower washes and alluvial fans that had mesquite thickets (Figure 4) and also screwbeans (Prosopis pubescens). The mesquites around Furnace Creek are of particular significance to the Timbisha people, but their neighbors in other valleys also depended on the fruit of these trees for a storable crop. Many mammals and birds are tethered to these thickets, making them excellent places to hunt and trap. Washes might have patches of willow (Salix lasiandra, S. exigua, Chilopsis linearis), arrowweed (Pluchea sericea), and other plants useful for a variety of manufactured items.

The distribution of springs and marshes is largely related to geology, with faulting often allowing ground water to emerge or surface water to accumulate. Most springs and marshes of the region are named by the people and their locations widely known, as the distribution of potable water is probably the most important factor in human distribution in

Figure 4. Mesquite trees on lower toe of Furnace Creek alluvial fan. March, 1993.

the region (see Place Names). The vegetation and animals supported at these water sources are equally significant and include such forms as bulrushes (Scirpus spp.), cattail (Typha angustifolia, T. domingensis), rushes (Juncus spp.), spike rushes (Eleocharis spp.), willows, occasionally cottonwoods (Populus fremontii), and various mammals, migratory and resident birds and waterfowl [see Norris and Schreier (1982) for checklist of the latter].

The environmental features just described have probably been characteristic of the Mojave Desert throughout most of the last 10,000 years, although some variation has undoubtedly occurred. The archaeological record of the region has often been tied to various features of the environment and to some of the suggested changes that may reflect climatic change. Although a thorough review of the archaeological record is not our task for this study, something of that record and the long history of human use of the region is important as background material. However, for the purpose of this discussion, the focus of inquiry will be narrowed to Death Valley National Park and its immediate vicinity.

ARCHAEOLOGICAL OVERVIEW

Death Valley National Park is the terminal sink of the Amargosa River, one of the four river drainages that comprise the Southwestern Area of the Great Basin (Warren and Crabtree 1986:186). Major attempts to summarize and review archaeological research in this area in the last decade are by Claude N. Warren and Robert H. Crabtree (1986; Warren 1984) and Margaret M. Lyneis (1982). The most comprehensive review of archaeological studies within the Death Valley National Monument is William J. Wallace's (1977) archaeological overview. This work was written after a series of intensive archaeological surveys of selected parts of the Valley and the excavation of several sites by the author and various colleagues over 25 years of cooperative agreements between the National Park Service and the University of Southern California. Over 1400 prehistoric and historic sites had been found and recorded by 1977 (Wallace 1977:106), and a chronological sequence -- Death Valley I through IV -- was developed (Wallace 1958; Hunt 1960). The most recent studies have been driven by requirements of environmental impact studies and the Monument's and Park's need to assess historical sites (Teague and Shenk 1977; Wallace 1977:108-9; Yohe and Valdez 1993).

Warren's (1984; Warren and Crabtree 1986) chronological sequence of prehistoric periods is useful as a general regional context for the sequence developed by Wallace (1977:110-143). Differences between the two sequences are attributable to chronological data not available to Wallace when he wrote his overview of Death Valley, as well as varying interpretations of the radiocarbon, tree-ring and stratigraphic data available on projectile points, shell beads and ceramics. The most recent chronology must be regarded as the more reliable of the two. In addition to slightly different chronologies, the two sequences differ in their point of view regarding the existence and duration of a postulated drought-related hiatus in the occupation of Death Valley (Wallace 1977:115; Warren and Crabtree 1986:185; Lyneis 1982). Table 1 correlates the two sequences.

Recent discussions with members of the Timbisha Shoshone Tribe make it clear that tribal members recognize all of the prehistoric and protohistoric archaeological artifacts and locales within their traditional territory as part of their tribal heritage. Only for the more recent (protohistoric; some historic), however, do they have direct knowledge beyond having observed the remains. For this reason, after a brief discussion of the earlier periods, major findings about the latest period, most clearly attributable to the most recent ancestors of the Timbisha Shoshone, will be summarized to provide a more specific background for the review of Timbisha ethnography.

Death Valley I: Nevares Spring/Mojave Period

Relatively few manifestations of the earliest (Nevares Spring/Mojave) period are known in Death Valley. Most of these are along the western flank of the Funeral Mountains where Lake Mojave, Silver Lake, and Black Rock Concave Base point types have been found

Table 1. Chronological Sequences for the Southwestern Great Basin and Death Valley

Southwestern Great Basin (Warren and Crabtree 1986; Warren 1984)	Death Valley Sequence (Wallace 1977)
Lake Mojave Period 10,000 - 5000 B.C.	Death Valley I Nevares Spring Culture 7000 - 5000 B.C.
Pinto Period 5000 - 2000 B.C.	Hiatus in Occupation due to "long interval of diminished rainfall" 5000 - 3000 B.C.
	Death Valley II Mesquite Flat Culture 3000 B.C. - A.D. 1
Gypsum Period 2000 B.C. - A.D. 500	
	Death Valley III Saratoga Springs Culture A.D. 1 - 1000
Saratoga Springs Period A.D. 500 - 1200	
	Death Valley IV Panamint (Shoshone) Culture A.D. 1000 - 1870
Shoshonean Period A.D. 1200 - Contact	

associated with a small number of other artifacts generally agreed to have been left by small, mobile groups of hunters and gatherers.

Assuming a period of inhospitable climatic conditions following the Nevares Spring period, the Mesquite Flat/Pinto period occupations, Wallace asserts must have involved new migrants into the Valley. Others have speculated that the technology and subsistence patterns

present during the Nevares/Lake Mojave period may indicate an ancestral relationship to the following Pinto period. Clearly even a lengthy hiatus in the human occupation of Death Valley does not rule out the cultural or even genetic relationship between the populations that left the archaeological remains of the two periods.

Death Valley II: Mesquite Flat/Pinto and Gypsum Periods

Wallace recognizes two phases during the Mesquite Flat period, which he dates from 3000 B.C. to A.D. 1. The early phase is marked by the presence of Pinto points and the later by the addition of Elko series and Gypsum points. Warren divides this time span into two periods, the Pinto (5000 to 2000 B.C.) and the Gypsum (2000 B.C. - A.D. 500).

One of the most controversial interpretations of the Mesquite Flat (early phase)/Pinto period is that it marks the beginning of seed processing in the region. Seed processing has been inferred from the presence in Pinto sites of relatively small polished flat slabs that have been variously interpreted to have been used for seed processing (Warren and Crabtree 1986:187) or for scraping fibrous vegetation or animal hides (Rogers 1939:52-53). Wallace (1977:117) reports the presence of milling stones and manos at one Mesquite Flat (early phase) site, but suggests they were "left behind by later visitors." Warren notes, however, that milling stones "with well-developed circular basins" are present at the Stahl site, a large Pinto period site in the Owens Valley excavated by Harrington (Warren and Crabtree 1986:187). There is general agreement that compared to later sites in the region, seed processing was not a major economic activity regardless of how the use of the enigmatic polished slabs is explained.

Warren's Gypsum period is roughly equivalent to Wallace's late phase, both marked by the introduction of new projectile point styles (Elko series and Gypsum points). Wallace (1977:120) does not mention milling equipment at his late phase Mesquite Flat sites, but these implements are well known for Gypsum period sites elsewhere in the southwest Great Basin (Warren and Crabtree (1986:189). If not introduced during this period, milling equipment became well established at this time.

Death Valley III: Saratoga Springs Period

The definitive technological change during this time was the introduction of the bow and arrows tipped with smaller, finely made points. There appears to be general agreement that there is a technological relationship between the small Rose Spring and Eastgate series points and the earlier Elko series in the Great Basin. Wallace (1977:122) speculates that the changes that characterize the Saratoga Springs period were "not ushered in by the appearance of an alien population...Rather, a new way of life emerged from...additions of new features from outside sources."

Sites during this period in Death Valley are present in greater number than before and in all parts of the Valley and its surrounding mountain slopes and valleys. Sites occur near most springs and other water sources, with circular clearings on the gravel fans -- often rimmed by boulders -- apparently representing shelters. Milling equipment is present in greater numbers and varieties and contacts with populations of the Southwest and along the California coast are indicated by Puebloan ceramics and marine shell beads.

Several stone mounds were excavated in 1956 by Wallace and Alice P. Hunt in order to determine the function of these features, which occur commonly in Death Valley (Hunt 1960:115-124). Most of the excavated mounds mark the presence of burials assignable to the Saratoga Springs period or later (Wallace, Hunt and Redwine 1959); only one appears to belong to the Mesquite Flat period. Artifacts and human bone fragments on the surface near other mounds indicate a similar function (Hunt 1960:115).

Large rock alignments, usually enclosing a series of roughly circular to rectangular areas, may be dated to the Saratoga Springs period (Hunt 1960:147-9). In Death Valley they are "locally called 'Indian maps'" (Wallace 1977:127). Wallace also assigns the earliest rock art sites in the Valley (consisting of pecked curvilinear or rectilinear designs) to this period.

The Saratoga Springs "culture" as defined by Wallace was based on a complex of artifacts and features that are widespread in the Southwest Great Basin during this period, and Warren has used this name for the period in his regional synthesis. Except for the relatively slight difference in beginning and ending dates, Wallace's conclusions are consistent with more recent discussions (Lyneis 1982; Warren and Crabtree 1986).

Death Valley IV: Panamint/Shoshonean Period

This period begins with the introduction of small triangular points (Desert Side-notched and Cottonwood Triangular series) and "various poorly defined types of brownware pottery including Owens Valley Brownware" (Warren and Crabtree 1986:191). Wallace (1977:129) attributes the archaeological remains of this period to "the direct ancestors of the Panamint (Shoshone) Indians of historic times...[equipped] with a mode of existence already well attuned to desert living." He refers to the Lamb (1958) hypothesis that Numic-speaking populations in the Great Basin are the descendants of an ancestral population that dispersed from "the Death Valley region[,]" but finds no support for this in the archaeology of Death Valley. Instead Wallace concludes that "the findings seem to indicate an intrusion into the Death Valley area, out of the Great Basin" (Wallace 1977:141).

Warren (1984; Warren and Crabtree 1986:192) recognizes cultural continuity of Saratoga Springs and Shoshonean assemblages in Owens Valley and the Coso Mountains and suggests that this continuity together with the restriction of this assemblage to the area north of the Mojave River indicates an origin for the hypothesized Numic-speaking carriers of the assemblage in that area. He then postulates that the "Shoshonean period assemblage in the

northern Mojave [including Death Valley] may be identified with the expansion of the Numic speakers across the eastern Mojave" [Warren and Crabtree (1986:192), citing Fowler (1972)]. There is no reason to suggest that a new projectile point series and the introduction of ceramics indicates an immigration as opposed to the spread of new technologies. The question thus remains open.

Wallace (1977) notes a shift in settlement location as well as house types from the Saratoga to the Panamint pattern. Winter campsites are present "amongst the mesquite-covered sand dunes, usually some distance from springs or other water sources...[with summer and fall camps] in the higher country...usually near springs, or in rockshelters" (Wallace 1977:129-30). Housing types at least towards the end of this period include "substantial mesquite log frameworks of conical and gabled houses,...circular, unroofed structures of poles and brush...[and] semicircular windbreaks" all of which continued in use into the historic period (Wallace 1977:132-3). Five such sites were recorded by Hunt (1960:174-176).

One commonly occurring site type is the rock or gravel rimmed circular clearing (Hunt 1960:177). Some of these rimmed clearings have a pit at the approximate center. Two pits excavated by Hunt were found to contain mesquite beans and pods, and a third contained a broken mesquite wood mortar and stone pestle. The front axle of a wagon was located near the pit, suggesting its use in post-contact times.

Three of the rock mounds excavated by Hunt (1960:191) are assignable to the Panamint/Shoshone period; two of these are burials. In addition two open sites on the Furnace Creek fan may be the remains of cremated burials that date to this period. On one, fractured (presumably burned) beads and other ornaments litter the surface; on the other, burned bone fragments, two of which were identifiable as human were present on the surface. Tribal members point out that the first case where no bone was observed may represent ceremonial burning of property rather than a cremation.

Hunt (1960:190-1) recorded 29 sites with rock hunting blinds, apparently associated with hunting bighorn sheep. They are located from "5 to 25 ft. from old game trails leading to upland springs, on eminences overlooking upland springs, and on benches overlooking washes leading to upland springs..." (Hunt 1960:190). All of the ones she mapped are on the east side of the Valley except for one site near Quartzite Spring on the west side. The largest number of hunting blind sites are in the Nevares Spring area, but numerous others were found in the vicinity of Navel Spring and the Texas-Travertine Springs area.

Several other archaeological studies conducted in Death Valley by Wallace and others offer an opportunity to explore further the direct relationship of Panamint period sites to the living Shoshone people in Death Valley. For example, a small cache of unfired clay figurines, tule matting, a horn spoon, and glass and shell beads were excavated by Wallace (1965). This rare post-contact assemblage was found near Stovepipe Wells where several Shoshone families resided seasonally until the 1920s [PE;[4] Bureau of Indian Affairs (1930)].

It is of great importance to tribal historians. Several members of the Timbisha Shoshone Tribe and related people who lived in Beatty can trace their direct descent to this earlier Stovepipe Wells population.

The use of upland rockshelters during the Saratoga Springs and Panamint periods is shown by the Coville Rockshelter, excavated in 1951 by a party from the University of California at Berkeley (Meighan 1953). The main period of occupation was apparently during the latter period. Two house pits (shallow floors) were excavated inside the shelter and 366 artifacts were recovered. Five small, nearby shelters were also completely excavated by the same party and all were inferred to represent Panamint period occupations.

An open site near Saratoga Springs was tested by the excavation of two trenches through the deepest and least disturbed parts of the deposit. Artifact assemblages recovered were attributable to Saratoga Springs and Panamint period occupations (Wallace and Taylor 1959). These assemblages may yield information that would clarify the question of continuity vs. discontinuity between the peoples who occupied Death Valley during the two periods.

Through the years, several burials have been excavated on Monument lands, representing various periods. Some were excavated by Hunt and Wallace in the 1950s (Wallace, Hunt and Redwine 1959), and others by various other archaeologists either before or after that time (Wallace 1977: Appendix C). Three of the reported burials were in rockshelters, two in one near Hole-in-the-Rock Spring. The other rockshelter from which a burial was excavated is south of Ubehebe Crater. An isolated historic Shoshone grave, also in a small rockshelter, was found south of Navel Spring (Tagg 1984:62). At the request of the Tribe, a concrete vault was installed by Monument staff over this grave to protect it from vandalism. Burials are an extremely sensitive issue for the Tribe. They are concerned with all burials, not just the ones from most recent times.

Oral tradition and various written sources indicate the importance of several historic sites to the Timbisha people (see especially III, below). Apart from historic sites that are associated with traditional ethnographic resources, other types should be kept in mind for the potential they may have for Native occupation. In particular, mining and construction sites within Death Valley and surrounding areas often had Timbisha workers who usually lived apart from the other miners. What was probably an older, traditional winter village site was located near the Eagle Borax Mine. It is possible that its location shifted in relationship to the activity at this mine (see III, #3). The Bonnie Claire mine northeast of Grapevine Canyon and outside the present Monument boundary, but within the traditional territory of the Timbisha Tribe, had an Indian resident population [PE, EE, GG; Bureau of Indian Affairs (1930)]. The construction site at Scotty's Castle also had a large Indian camp in association for several years in the late 1920s and early 1930s (see III, #12). Further archaeological study of mining and other activities in the historic period in Death Valley may fill some gaps in the ethnohistory of the Tribe, while oral history of the post-contact period may well inform the historic archaeology.

Members of the Timbisha Shoshone Tribe have been involved in three archaeological investigations in more recent years. One was a survey of a 200 acre area surrounding Timbisha Village to determine the archaeological resources present. The survey was initiated as the result of tribal federal recognition, with the intent of planning for land use alternatives (village alterations, establishment of a reservation, enlargement of the original fenced village site, etc., as reviewed in Beal et al. 1984). At this time, members of the Tribe were asked about the sites in the area, and they also expressed their feelings about others of more immediate concern: a bedrock mortar site in the Furnace Creek Inn parking lot, the tribal cemetery, and a dance ground near Mustard Canyon. The two archaeologists from the Western Archeological and Conservation Center who visited these areas talked with a tribal member about them (Tagg 1984). This consultation, as well as previous interest on the part of the Tribe in the latter three locations (see Herron 1981:75), resulted in Monument efforts to protect the cemetery (see III, #16) and the bedrock mortar (see below and III, #15). The dance ground could not be located with certainty (see III, #17). Additional archaeological investigation or mitigation was suggested for a large archaeological site found east of Timbisha Village should the boundaries of the village be expanded (Tagg 1984:66).

In 1989, members of the Tribe were involved in mitigation efforts for the bedrock mortar site (DVA 84A-1) located in the Furnace Creek Inn parking lot. This feature, on private property, is recalled by tribal members as the site of a traditional ceremony conducted upon completion of the annual mesquite bean harvest and at the time of the trek to the mountain campsites for the summer (see III, #15 for discussion of its cultural significance). As a result of perceived damage to this ethnographic resource, Monument staff negotiated with the owners for partial excavation of the site with the intent of fencing it to protect it. Excavations were undertaken as a cooperative effort between the Monument, the Tribe and the management of Furnace Creek Inn. Tribal members participated in the excavation. Unfortunately, funds were not found for fencing the site, and thus it was backfilled as a protective measure. A portion is still visible in the parking lot.

Most recently (1992), when the remains of storage pits were discovered eroding due to flooding from rockshelters in Breakfast Canyon, the Tribe was contacted by the Monument staff and invited to visit the site, which a representative did. The Monument contracted with the Cultural Resources Facility at California State University at Bakersfield for testing and preliminary mitigation. Members of the Tribe subsequently visited the site while it was being excavated, and the archaeologist brought some of the materials recovered to Timbisha Village for viewing (Robert Yohe, personal communication, February, 1995). The final report on the site has appeared (Yohe and Valdez 1993), but the Tribe has not yet received a copy (Richard Boland, personal communication, February, 1995).

In compliance with the Native American Graves Protection and Repatriation Act of 1990, the Western Regional Office of the National Park Service initiated consultation and reporting in 1991 on burials and associated grave goods previously found within the Monument. In 1993, a copy of a special report prepared on the topic (Haldeman 1992) was given to the Tribe for review and recommendations. Consideration of this very sensitive

topic is still ongoing as of February, 1995 (Richard Boland, personal communication; Roger Kelly, personal communication).

Conclusion

The experience of the authors of the present report, as well as of those who have consulted tribal members in the past (e.g., Tagg 1984; Yohe and Valdez 1993) shows the value of collaboration between anthropologists and tribal elders in the study of land-use and other cultural patterns. It is just this kind of collaboration that could result in new and better data whenever archaeological projects are undertaken within the Monument. The value to all interested parties is at least three-fold:

1. Information from the oral tradition of the elders can assist archaeologists in the process of recovering and explaining archaeological data;

2. Monument management plans can be supplemented with new data on the location and extensiveness of sites within the region and their significance; and

3. Interpretation of prehistoric and historic sites to visitors will gain an added dimension not possible through archaeological method alone.

ETHNOGRAPHIC OVERVIEW, CA. 1840

Introduction

The ethnography of the Timbisha and Panamint or Koso Shoshone peoples (of which the Timbisha are considered a subgroup) prior to or immediately after extensive contact and disruption of their lifeways by Anglo emigration and settlement has received little attention from scholars through the years. In 1891, three members of the Death Valley Expedition of the U.S. Biological Survey (Frederick V. Coville, B.H. Dutcher, and E.W. Nelson) made some brief observations on subsistence practices and camp locations of the people, one of the first attempts at formal description (Coville 1892; Dutcher 1893; Nelson 1891). Notes by another member of the expedition, C.H. Merriam, who also made some subsequent visits to different areas within Panamint territory, have remained largely unpublished (but see Grosscup 1977; and Heizer 1979). In 1925, a short sketch of Panamint territory, manufactures and subsistence was provided by A.L. Kroeber (1925:589-92) as part of his compilation on the Indian tribes of California. And he had made some brief observations on the language prior to that time (Kroeber 1907), sufficient to correctly place it within what is now called the Central sub-branch of the Numic branch of Uto-Aztecan languages.

But it was not until the 1930s that work with any measure of detail was undertaken among the people. In 1935, as part of the Culture Element Distribution Survey conducted

under the direction of A.L. Kroeber through the University of California, Berkeley, Harold Driver interviewed four individuals from Death Valley, Saline Valley, and the Koso district (Bob Thompson, Joe Kennedy Tom Joaquin, George Gregory), filling in data on a questionnaire of over 2000 items (Driver 1937). In that same year and in connection with the same project, Julian H. Steward interviewed two additional Death Valley individuals (George Hanson, Bill Dock) using a similar, but slightly longer list (Steward 1941). Steward (1938) also published separately additional valuable data on the whole of Panamint territory, including its subgroups, camps and place names, social and political organization and marriage and kinship linkages. And he also made available a collection of traditional tales of Western Shoshone people, some of which were from Death Valley, Panamint Valley and Saline Valley (Steward 1943). Some additional notes made in the 1930s by botanist Mark Kerr on the Saline Valley and Koso area people came to light in 1980 (Irwin 1980). However, little was done after the 1930s to collect primary data, except valuable material on the language (Dayley 1989a; 1989b; McLaughlin 1987; Miller, Tanner and Foley 1971), and some notes on basketry and historical topics (Kirk 1952; Sennett-Graham 1989). Documents of limited distribution, but providing useful summaries of previous work and also containing some new data, were prepared by Wallace (1977) and Knack (1980) as parts of land management overviews, by Herron (1981) as part of a Monument management plan, by Roth (1982), as a result of the Timbisha Tribe's petition for federal recognition, and by Hamby (1988) in connection with a proposed high-level nuclear waste program at Yucca Mountain in Nevada. The overview by Roth (1982) is particularly useful, as it constitutes the only ethnohistory of the Timbisha group between the period of the establishment of the Monument and 1980. It is based primarily on archival sources.

But despite the lack of thorough studies, at least the outline of Timbisha and the wider Panamint cultures are generally known. The following sketch summarizes data from published sources as an "ethnographic assessment," and also provides a background toward the aspects of Timbisha land use patterns described later in this report (see later sections for additional information or corrections). Those areas of culture most directly related to land use are: territory, subsistence, material culture, and aspects of religion. Those least involved are social and political organization and additional aspects of religion such as certain ceremonies. Although all areas of culture are in part related to environment (see Steward 1938), and Timbisha Shoshone people do not see cultural aspects as separated one from another, those chosen here are where land use correlations are most obvious: territory and camping places; plants, animals and raw materials taken for food and manufactures; and general approaches to the land and its resources through religion. As will be seen, much more could and should be done on these topics than was done in the past, or was possible as part of this brief study, as they clearly are important toward a thorough understanding of the Tribe's former and present relationships to its lands and resources.

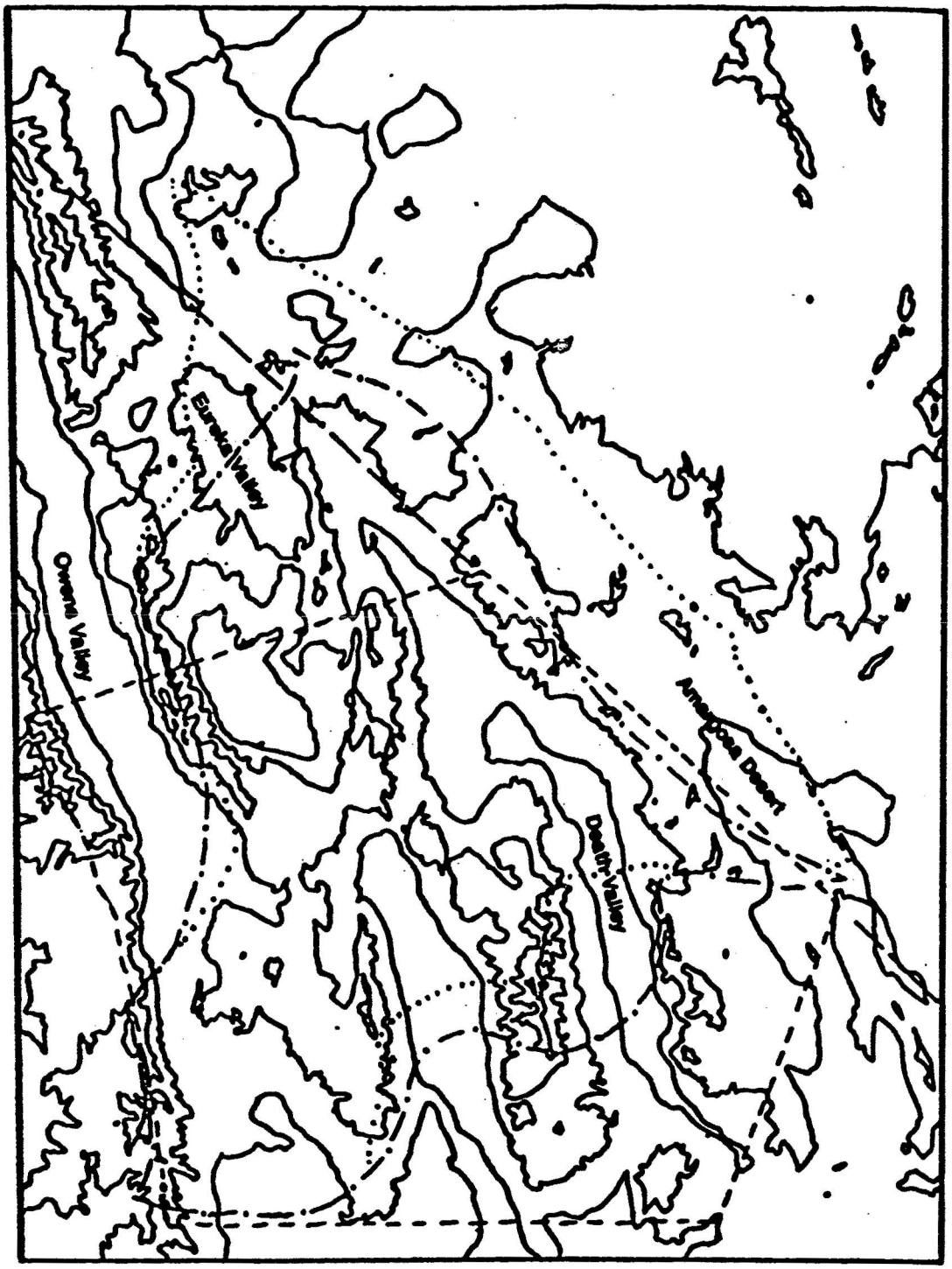
Territory

Boundaries. Map 1 outlines the territory claimed by the Panamint Shoshone people (including the Timbisha subgroup) at roughly 1850, as seen by Kroeber, Steward and Merriam (Grosscup 1977). The boundaries each suggests are based on interviews with persons who recalled, or whose parents recalled, former winter village locations and other camp and resource areas, as well as on some reading of the historical literature. But all lines are at least in part arbitrary. As Kroeber (1925:590) states:

> The fact is that this region was habitable only in spots, in oases, if we can so call a spring or a short trickle down a rocky canyon. Between these minute patches in or at the foot of mountains were wide stretches of stony ranges, equally barren valleys, and alkaline flats. All through California it is the inhabited sites that are significant in the life of the Indians, rather than the territories; and boundaries are of the least consequence of all. In the unchanging desert this condition applies with ten fold force; but ignorance prevents a distributional description that would be adequate.

Thus, through his admitted ignorance, Kroeber (1925) chose to draw some rather straight lines, but emphasized that these enclosed several significant oases in mountain ranges and valleys held by the people, among them the Coso, Argus, Panamint and Funeral mountains, and Saline, Coso, Panamint, Eureka and Death valleys. All authors seem to agree as well that the people occupied the southern and eastern area of Owens Valley and Owens Lake, including Koso Hot Springs, as well as the area around Little Lake (Steward 1938:74; Driver 1937:58). Steward (1938) further documents the connections of people in northern Death Valley to the Lida and Beatty, Nevada, areas, thus including within his map the Grapevine and Gold Mountain districts. He refers to Ash Meadows, the area immediately to the east of the Funeral and Black mountains, as jointly held with the Southern Paiute, and the southern part of Death Valley (south of Furnace Creek) as jointly held with the Kawaiisu and Southern Paiute (Steward 1938:92). It seems clear from the data he provides, as well as from the impressions of people still living, that persons from both of these regions were of mixed Shoshone - Southern Paiute - Kawaiisu ancestry. The situation was probably as Kroeber (1925:590) describes it: boundaries are difficult to draw, and in some cases were probably of little overall significance. It was particular sites and resource areas that were more important, and some of these were used jointly by adjacent groups.

Adjoining Timbisha and wider Panamint territory on all but its southwestern side where those of linguistic kinsmen: Owens Valley Paiute to the northwest, Kawaiisu to the south, Southern Paiute to the east, and Western Shoshone to the north. All of these groups speak different but related Numic languages, with the Western Shoshone language being the closest in affiliation--in some areas showing more a dialect than a language difference (Miller 1986). Relationships with all of these groups were usually friendly, with some evidence of intermarriage and bilingualism. People also traded back and forth, and visited each others' camps on occasion. Contacts were particularly frequent in the direction of Western



0 30

Miles

Map 1: Panamint Shoshone Territory According to:

---- Kroeber (1925)
····· Steward (1933; 1938)
-·-·- Merriam, etc. (Grosscup 1977)

Shoshone people, and several marriages solidified these bonds. The people who adjoined greater Panamint territory on the southwest were the Tubatulabal, more distantly related linguistically than all of the rest, but with whom contacts also occurred. The Tubatulabal were sometimes the middlemen in trans-Sierran trade linking the people of the Mojave Desert with coastal California (Heizer 1978).

Districts. Steward (1938:70f) suggests that subdivisions of overall Panamint territory can be made based on the habitual participation in joint activities of persons from certain winter villages. Joint activities included rabbit drives, antelope hunts, and fall festivals, all of which tended to bring together neighbors over limited distances. Such activities linked villages within Saline/Eureka valleys, Little Lake/Koso Mountains, Panamint Valley, northern Death Valley, central/southern Death Valley, Lida/Gold Mountain, and Beatty/Belted Range. Each of these entities Steward terms a "district," and further notes that some "approached true band organizations," having chiefs or headmen and collective names. As can be noted as well, each tends to correspond to a large valley with intervening mountains, being perhaps also a natural subsistence-habitation area. Within these, the central/southern Death Valley district is what is defined as the original Timbisha area, but due to historic circumstances, families from the northern Death Valley and Panamint Valley districts became particularly closely linked.

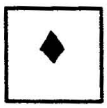
Winter Villages. Within the larger territory and districts, people had several areas where winter villages were located, as well as more numerous places where seasonal camps were often established. These, and the regions surrounding them, were the primary focus for food collecting activities. Both Steward (1938) and Merriam (Grosscup 1977) provide data on these, as well as on their native names, and the resources surrounding them. Grosscup (1977) attempted to correlate data from both Steward and Merriam, generally finding a good match. Both Steward and Merriam collected extensive place names for winter camp and temporary camp areas, and also for surrounding mountains, springs, and other geographic features. Their more complete data are included in Appendix A of this report. The winter village areas listed below are taken largely from Steward (1938), with most of the names corrected to reflect modern transcriptions. The ones listed separately are the ones either in the northern and central/southern (Timbisha) districts or with whose residents Timbisha people had most connections.

Beginning in northern Death Valley, important sites for winter villages included the following, according to Steward (1938:85-93; see Map 2):

1. Maahunu. Grapevine Canyon and Grapevine Springs. The name probably refers to both areas, which contain several springs. Steward (1938:87) gives a census for the area ca. 1870, listing the principal families as those of Grapevine Doc, Cold Mountain Jack, and Tule George. Members of these families were in turn related to people from the Lida and Beatty, NV, areas and also to Saline Valley people from Cottonwood Canyon north of Hunter Mountain and people from Surveyor's Well. They hunted and gathered foods on the Valley floor near the springs, but also went to the Grapevine Mountains and Sarcobatus Flats

Map 2: Major Winter Sites in Northern and Central Death Valley

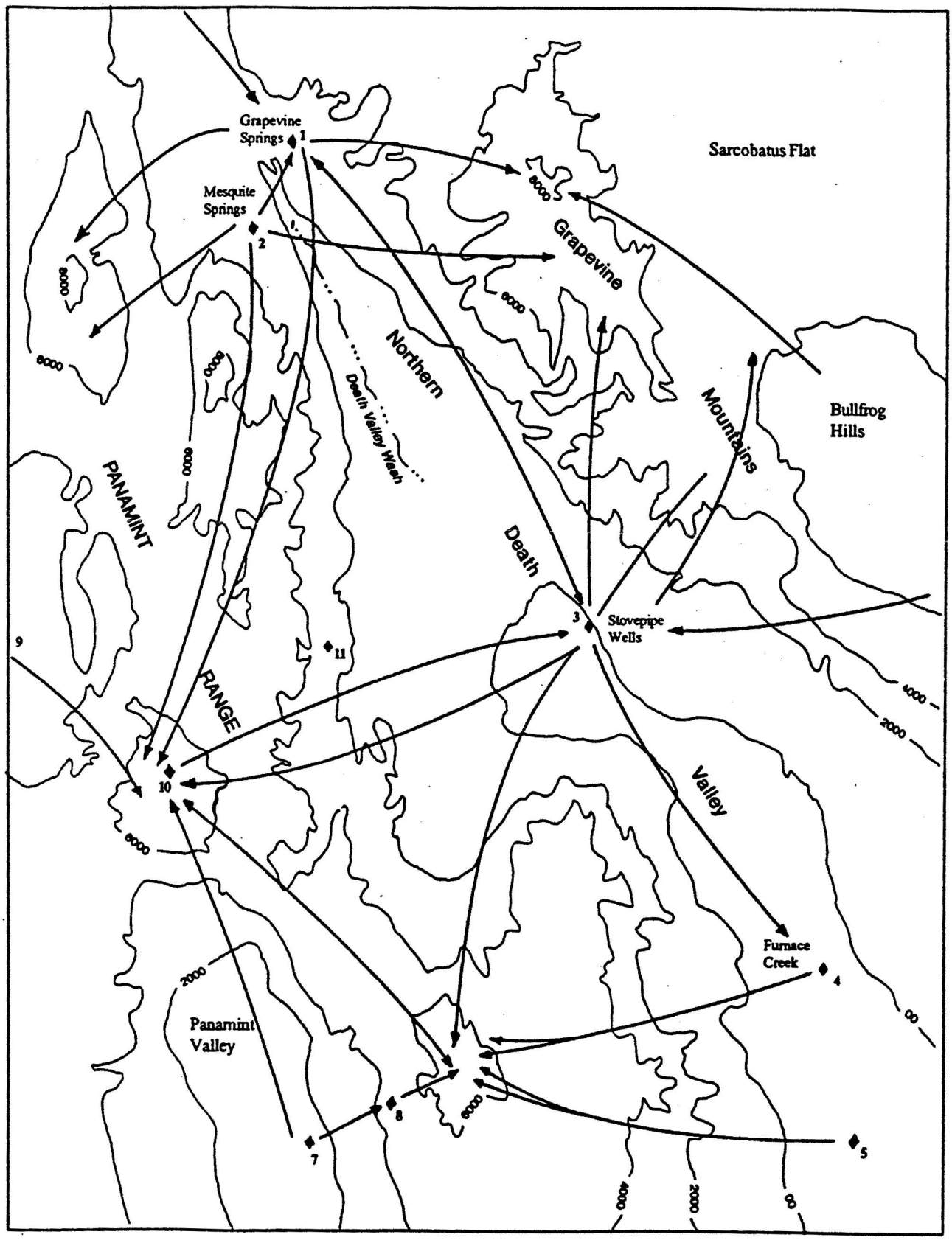
Intermittent Stream



Site

Seasonal movement

Contour Interval = 2000 feet
Magnetic Declination: 15° East


Grapevine Springs
1
Mesquite Springs
2
Sarcobatus Flat
Grapevine
Mountains
Northern
Death Valley Wash
Bullfrog Hills
PANAMINT
RANGE
Death
Valley
Stovepipe Wells
3
9
11
10
Furnace Creek
4
Panamint Valley
8
7
5
8000
6000
4000
2000
00

to the east, and to Tin and Dry mountains to the north and west. They frequently joined with families at Mesquite Springs and Surveyor's Well for communal activities such as rabbit drives and harvest festivals. By 1870, if not before, they were growing agricultural crops with irrigation in Grapevine Canyon and probably also at the springs. Bill Dock recalled more than 50 acres under cultivation when he was a small boy (Steward 1938:89). A miner named George Miller (1919:62) noted that in 1866 the Indian people had dammed the creek and created a large pond at which they were shooting waterfowl from tule blinds.

2. Paniga. Mesquite Springs, south of Grapevine Springs. This site on the Valley floor was well watered, and, according to Steward (1938:88), served as a winter village site on occasion for the families of Cold Mountain Jack and Doc, both of whom had ranches there after the introduction of farming. As with the Grapevine sites, people from Saline Valley (via Cottonwood Canyon) often visited here as well, coming for the mesquite as well as other Valley resources.

3. Ohyi. Mesquite flats near Surveyor's or Stovepipe Wells. This site is located some 30 mi. south of Mesquite Springs, with the people drawing water from wells that had to be dug out on the edge of the flat [Tugummutu, 'sandy point;' (Dayley 1989a)]. Mesquite groves were important here, although the trees do not bear fruit as sweet as those at Furnace Creek. Steward (1938:87) gives two fairly large camps in this area, one that of Ike Shaw's father from Grapevine Canyon (his wife from Ohyi), and the other Tule George's father-in-law from Telescope Peak (whose wife was also local). The latter camp included as well the families of Cottonwood Frank and Joe Button, both sons of the senior man, as well as several of his daughters and their families. These families were also related to people from Saline Valley as well as to the south. Thus, as this was a transitional site within Death Valley, these families often went to the Grapevine Mountains and Hunter Mountain, but also to the Wildrose area in the Panamint range to hunt and gather. They often joined the people from the northern two camps for rabbit drives, pine nut harvesting, and celebrations.

4. Timbisa. 'red ochre (place),' Furnace Creek (Figure 5). There was probably always a winter village in this district, although its exact history was somewhat cloudy in the 1930s when Steward (1938:92) interviewed about it and remains so today. Steward (1938:92) was told by Tom Stewart of Beatty that an old man named Paatsanatsi ('Bat') was headman here and that the camp included several of his children and their families as well as others. This group spoke Shoshone, Southern Paiute and Kawaiisu. Bill Dock, however, told Stewart that Bill Boland ("Bill Bullen") was the first man here, coming with the opening of the borax works. His wife was from Darwin and Hunter Mountain, but there is nothing recorded as to where Bill Boland came from. Today, descendants of Bill Boland are quite sure that he was local, having heard their elders speak of a time when they lived here before they had horses. They also acknowledge that he had kinship ties with Southern Paiute and Kawaiisu people to the south and east. Some descendants thought that it was likely that Bat was Bill Boland's father, although they could not be certain.[5]

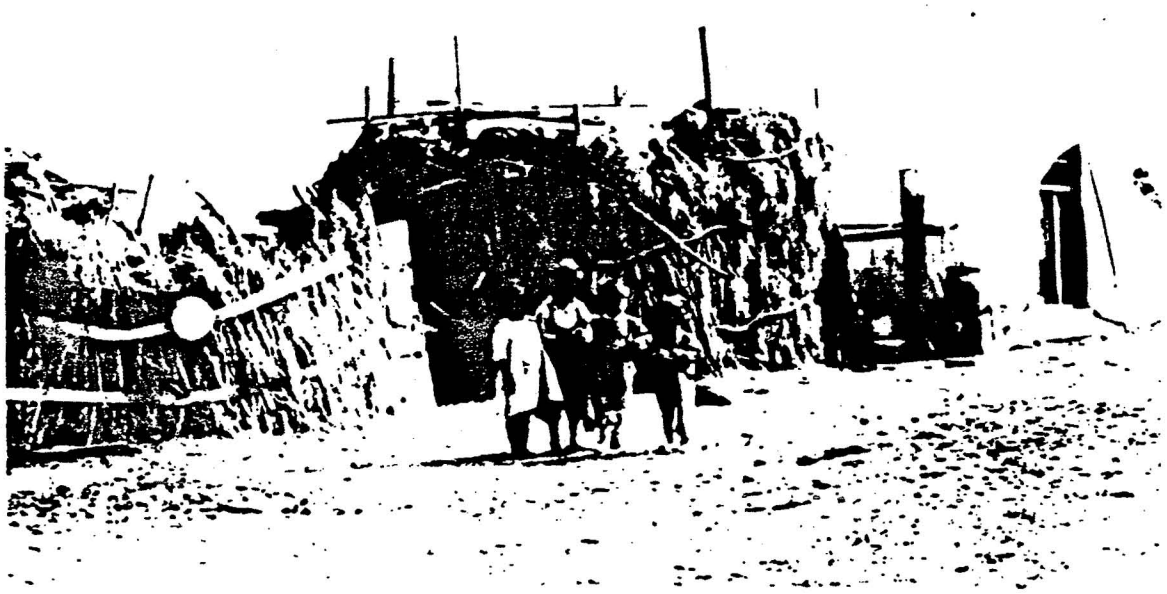


Figure 5. Camp at Furnace Creek, with summer shelters in background; children appear to be Pauline Esteves, Charlie Shoshone, Andy Shoshone, and Ed Esteves; ca. 1928-30 (PE). DEVA 4759 (Photograph by Burton Frasher © Frashers Fotos - Pomona, California.)

People in the Furnace Creek district had access to highly productive mesquite groves on the Valley floor. They also hunted in the surrounding mountains, especially in the direction of the Black Mountains and Telescope Peak. They summered at several springs in the Panamint Range, including in the Wildrose district, usually remaining through fall for the pine nut harvest. Here they met and often camped with people from Panamint and Saline valleys.

5. Tugumbusi, 'sky water,' Bennetts Well. This is a site about 15 mi. southwest of Furnace Creek, across the Valley bottom. Steward (1938:92-3) was told by Tom Stewart that three families lived here, but he was uncertain as to the age of this site or its status as a winter village prior to Anglo contact (ca. 1850), largely because of an uncertain water supply. Within historic memory it was the home of Tom Wilson and his family who also camped a few miles to the north at Eagle Borax (see III, #3 Traditional Sites). His wife was