

Tribally Approved  
American Indian Ethnographic Analysis of the Proposed Dry Lake Solar  
Energy Zone

Ethnography and Ethnographic Synthesis  
For  
Solar Programmatic Environmental Impact Statement and Solar Energy Study Areas in Portions  
of Arizona, California, Nevada, and Utah

Participating Tribes

*Moapa Band of Paiute Indians*

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## DRY LAKE

The proposed Dry Lake solar energy zone (SEZ) is approximately 24 square miles and is located in the central area of Clark County, Nevada (see Figure 1). The area of the proposed SEZ sits about 18 miles north of Las Vegas. Moapa Town and Overton are equally close, both sitting east of the proposed Dry Lake SEZ. The proposed SEZ sits between United States Route 93 and Interstate 15, with Interstate 15 running through the bottom southeastern corner of the proposed SEZ. The Dry Lake SEZ is bordered by the Moapa River Indian Reservation, located five and a half miles to the east, and the Desert National Wildlife Refuge, located about four miles to the west. A large portion of the Desert National Wildlife Refuge is overlaid by the Nellis Test and Training Range. This area is already under heavy consideration with other proposals for energy development. 16 solar and nine wind energy development projects are pending. Five of the solar and one of the wind projects border the proposed Dry Lake SEZ.



Figure 1 Google Earth Image of Dry Lake SEZ American Indian Study Area (SEZ is Outlined in Red)

The larger SEZ American Indian study area extends beyond the boundaries of the proposed SEZ because cultural resources extend into the surrounding landscape. Southern Paiute tribal representatives maintain that, in order to understand Southern Paiute connections to the SEZ, it must be placed in context with neighboring places and their associated cultural resources found in the larger SEZ American Indian study area.

## Summary of Significance

The lands under consideration in the Dry Lake SEZ American Indian study area were traditionally occupied, used, aboriginally owned, and historically related to the Numic-speaking peoples of the Great Basin and western Colorado Plateau. The tribe specifically involved in the field consultation for this SEZ American Indian study area is the Moapa Band of Paiute Indians who represent the cultural interests of Southern Paiute peoples. These Numic-speaking peoples have gone on record in past projects and continue to stipulate here that they are the American Indian people responsible for the cultural resources (natural and manmade) in this SEZ American Indian study area because their ancestors were placed here by the Creator. Since time immemorial, they have lived in these lands, maintaining and protecting these places, plants, animals, water sources, and cultural signs of their occupation.



**Figure 2 Dry Lake SEZ with the Arrow Canyon Range in the Background**

These Numic-speaking peoples further stipulate that, because they have lived in these lands since the end of the Pleistocene and throughout the Holocene, a period of approximately 15,000 years, they deeply understand dramatic shifts in climate and ecology that have occurred over these millennia. Indian lifeways were dramatically influenced by these natural shifts, but certain religious and ceremonial practices persisted unchanged. These traditional ecological understandings are carried from generation to generation through the recounting of origin stories occurring in Mythic Times and by strict cultural and natural resource conservation rules. The involved American Indian tribal government and their appointed cultural representatives have participated in this Programmatic Environmental Impact Statement in order to explain the meaning and cultural centrality of the plants, animals, spiritual trails, healing places, and places of historic encounters that exist in these lands.

The Late Pleistocene ecology of the Great Basin region was rich in fauna and flora. Central to this supportive habitat were wet forested uplands, full grasslands, and long wetlands



located along a complex network of streams feeding into medium and large lakes (Grayson 1993). American Indian people lived here and they hunted, gathered, made trails, built communities, and engaged the topographically interesting landscape through ceremonial activities. Large mammals, like mastodons, ranged throughout these habitats from the lowest wetlands up to 8,990 feet where the Huntington Mammoth remains were found – a subalpine environment in the Late Pleistocene (Grayson 1993:165). While contemporary scholars often focus their studies on charismatic species like the mastodons, dozens of medium sized mammals were found including camels, horses, ground sloths, skunks, bears, Saber-tooth cats, American lions, flat headed peccaries, muskoxen, mountain goats, pronghorn antelope and American cheetahs (Grayson 1993:159). A great diversity of smaller mammals was also present. Like their cousins, avian species were abundant and occurred in many sizes. They had a vast size range, the largest being the Incredible Teratorn with a wingspan of 17 feet and the Merriam's Teratorn with a wingspan of 12 feet (both related to the condors and vultures) to the smallest humming birds (Grayson 1993:168). Other birds included flamingos, storks, shelducks, condors, vultures, hawks, eagles, caracaras, lapwings, thick-knees, jays, cowbirds, and blackbirds (Grayson 1993:167). The biodiversity of the land and air was matched by the fish species in the streams and lakes. There were at least 20 species of fish including whitefish, cisco, trout, chum, dace, shiner, sucker, and sculpin (Grayson 1993:187). The fish species traveled widely across the Great Basin through a variety of interconnected lakes and streams. The massive Late Pleistocene Lake Bonneville was but a central portion of this hydrological network supporting fish species, and by implications great biodiversity in flora and fauna.

Grayson concluded his analysis with an ecological assessment of the Late Pleistocene natural conditions in the Great Basin region.

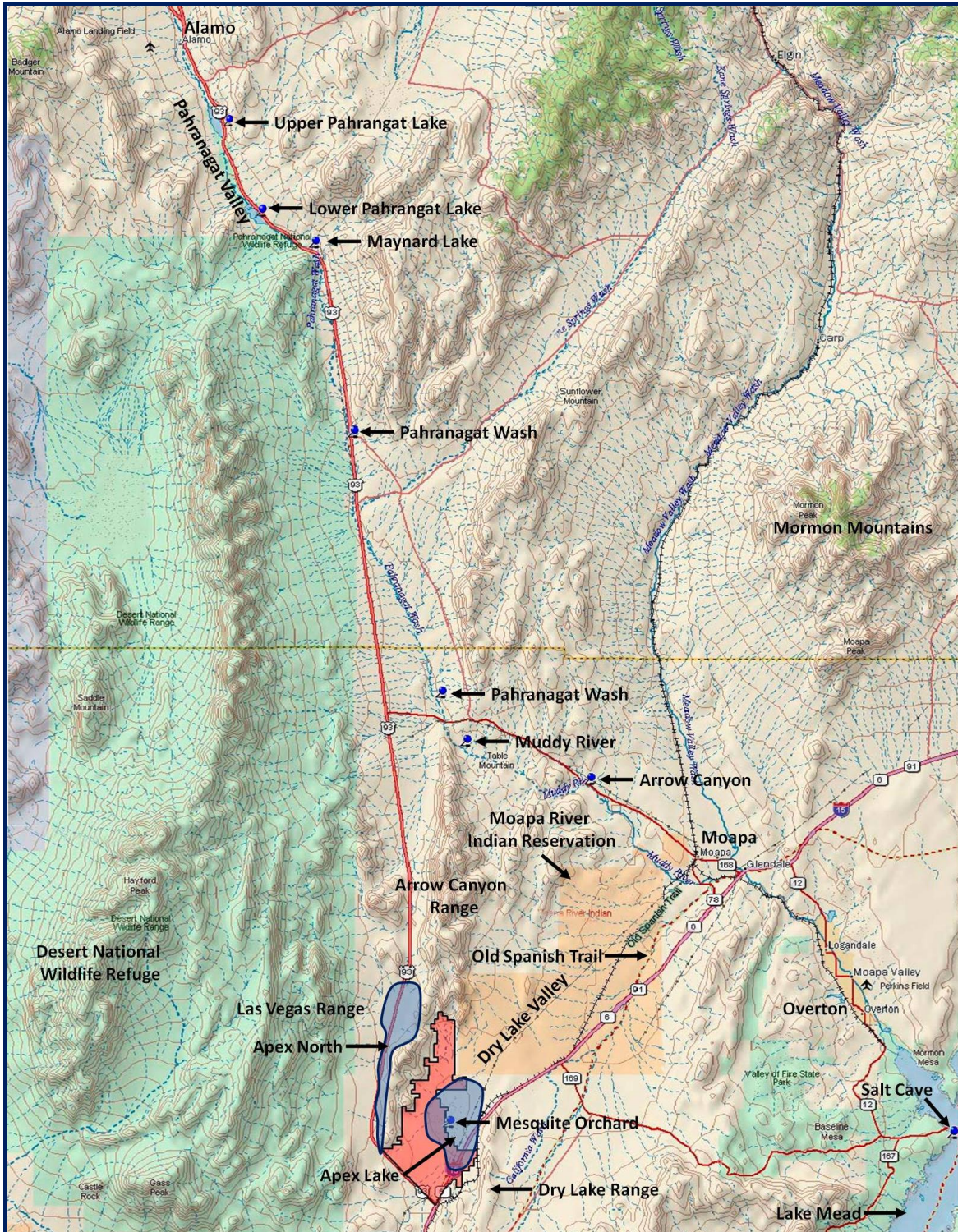
The large number of species of vultures, condors, and teratorns in the Late Pleistocene Great Basin raises a number of interesting ecological questions [...] the fact that there were so many species of these birds here suggests that the mammal fauna of the time was not only rich in species, but also rich in number of individual animals (Grayson 1993:169).

Naturally, the American Indian populations also were well supported by this bounty of nature.

During the Pleistocene epoch, the Dry Lake SEZ American Indian study area differed greatly in climate and ecology compared to its current form. The wetter Pleistocene climate created the Apex Lake (see Map 1), which filled the contemporary playa (see Figure 5) with 215 feet of water at its peak (State of Nevada 1972). The lake covered 25 square miles at its maximum depth. To the northwest, over the Arrow Canyon Range, a second lake called Apex North filled the northern Hidden Valley. Apex North reached a maximum depth of 110 feet and periodically spilled over into Apex, connecting the two bodies of water (State of Nevada 1972). The Pleistocene climate allowed for a very different distribution of plant communities, allowing range boundaries to move hundreds of miles south and hundreds of feet down in elevation. Junipers (*Juniperus osteosperma*) and Joshua trees (*Yucca brevifolia*) illustrate the general trend, as macrofossils of these species were found far below their current elevation limit (Mehring 1965). Pollen from cooler weather trees such as pine (*Pinus*) and fir (*Abies*) indicate their presence in bajada areas, transitioning with sagebrush (*Artemisia*). Cattail (*Typha*) pollen was



found throughout the low-lying areas, indicating fluctuating lake levels. Where moist soil was present around springs, salt grass (*Distichliss*) was found. The presence of cypress (*Cupressus*), grape (*Vitis*), ash (*Fraxinus*), cottonwood (*Populus*), and oak (*Quercus*) illustrate the diversity of flora which was present during this period (Mehring 1965).



Map 1 Hydrology and Pleistocene Lakes of the Dry Lake SEZ American Indian Study Area



The above Pleistocene map (Map 1) was developed by superimposing images of the Delamar Valley Pleistocene hydrological system onto topographical maps of the Dry Lake SEZ American Indian study area by using image-manipulation software. It is important to note that this map is does not present definitive boundaries of the Pleistocene hydrological system, but is designed to geographically contextualize this hydrological system and its role in the Dry Lake SEZ American Indian study area.

Although the environmental setting of the Dry Lake SEZ American Indian study area has changed drastically over the geologic timescales of Southern Paiute use and inhabitation, the Southern Paiute people have thrived and continue to do so. Countless shifts in the plant and animal communities have been met with constant coadaptation. Traditional ecological knowledge is continuously developed and maintained in harmony with the natural setting. Ultimately, the sustainability of the landscape is ensured through the implementation of thoughtful and active management as a part of Southern Paiute sacred ecology.

### **Special Features**

Southern Paiute people have used the Dry Lake SEZ American Indian study area for thousands of years. The SEZ American Indian study area is of great cultural significance to the Southern Paiute people because they believe that the Creator gave these lands to them and that they have a responsibility to maintain cultural connections to the land and its resources. The SEZ American Indian study area contains numerous cultural features that contribute to history and the long-term use of this region by Paiute people (see Table 1). Southern Paiute people have a deeply rooted spiritual connection to the land that weaves stories and songs into the landscape, connecting all elements of the universe. These connections involve water, trails, flora, fauna, geographic structures, and spiritual, historical, and ceremonial events.



**Figure 3 Ephemeral Stream Running Through the Dry Lake SEZ**

The Numic-speaking peoples traditionally associated with Dry Lake Valley have a deep spiritual attachment to the water because water is essential for sustaining healthy human, animal, and plant communities. Pleistocene Apex Lake, the Muddy River (also referred to as the Moapa River), Apex Pleistocene Lake, the Colorado River, and Lake Mead are sources of water culturally connected to the Dry Lake SEZ American Indian study area. The flow of *Puha* (power) follows the flow of water across a given landscape and connects places, people, and other elements. As water drains from the mountains, the water and the *Puha* flow into the valley, connecting these sources to the rest of the watershed (see Figure 3). Water in the SEZ American Indian study area was used to support one of the largest agricultural areas within the Southern Paiute Nation.

The northern portion of the SEZ American Indian study area and the Arrow Canyon Range are directly connected to the Cry Ceremony and the associated Salt Song Trail. When a Southern Paiute person passes away, the Cry Ceremony is performed and specially trained singers perform the Salt Song. This song and associated spiritual trail carry the soul of the deceased along a thousand mile journey through traditional Southern Paiute territory and neighboring Hualapai territory. During this journey, the deceased transitions from this world into the spiritual world or afterlife.

Plants play a large role in many different types of ceremonial and non-ceremonial activities. Southern Paiutes were active plant managers of both domesticated and non-domesticated plants. Tribal representatives believe that the multiple sweet mesquite orchards in the center of the playa are testaments to Paiute plant knowledge and management skills (see Figure 4). This also lends credence to the idea that Southern Paiute people intentionally brought the mesquite trees to this location for multigenerational use.



**Figure 4 Mesquite Orchards Within the Dry Lake SEZ**

The Arrow Canyon Range is associated with Southern Paiute songs, stories, and ceremonies. One story describes how *Shin-au-av* (Coyote) formed the area with a shot of his

arrow. Another story links the Arrow Canyon Range to a Creation Being, Potato Woman (see Figure 6). Potato Woman is responsible for the creation of a variety of *Nah'-gah* (Mountain Sheep, *Ovis spp.*) that live exclusively in the Arrow Canyon Range. The Nah'gah, in turn, have and continue to bring songs, stories, and medicine to Indian people. Impacts on the Arrow Canyon Range directly impact the health of Potato Woman and the creation of the Nah'-gah. Potato Woman is also related to two other Creator beings – the *Po-ni* (skunk) and the *Un-nam-but* (badger). Areas within the Arrow Canyon Range were used for round dances and balancing ceremonies. In 1890, Southern Paiute people went to the Arrow Canyon Range to perform the Ghost Dance in order to restore balance to the world.

The Arrow Canyon Range was the center of a large traditional district composed of what are now the Moapa and Pahranaagat Southern Paiutes prior to colonial disruption (Stoffle and Dobyns 1983:183-186). Full-time agricultural settlements were located within the large hydrological system beginning northeast of Pahranaagat Valley and continuing down along the Muddy, Virgin, and Colorado Rivers. Arrow Canyon Valley was used for hunting, gathering, and traveling between these agricultural settlements. These continual use patterns account for scattered archaeological remains in the Arrow Canyon Range area (Stoffle and Dobyns 1983).

During a field visit, Native American representatives identified 15 traditional use plants and 34 traditional use animals within the Dry Lake SEZ American Indian study area (see Figure 8). Identified plants include those used for ceremonial, medicine, food, and utilitarian functions. The presence of animals in an area contributes to the overall cultural importance of a place to Indian people. In Southern Paiute culture, animals factor significantly in songs, stories, and ceremonies. Animals were also important food sources and their fur, bones, and feathers were used in the construction of various cultural items and tools. One animal that had special meaning for this SEZ American Indian study area was the mountain sheep. Mountain sheep are believed to be spiritual animals and are spirit helpers to shaman.

The Dry Lake SEZ American Indian study area is historically special to the Southern Paiute peoples who occupied these lands since Creation. The Paiute people believe that the Creator placed special features in these lands to support, heal, and protect all humans. The SEZ American Indian study area remained under Paiute control, use, and management during much of the historic period, but their control over these lands greatly diminished due to a number of forces, including explorers, diseases, foreign settlers, and the construction and operation of national transportation systems. In brief, the major historical periods that define this area are: (1) the 1829-1849 travelers along the Old Spanish Trail, (2) the establishment of the Mormon Road, (3) the establishment of the Moapa River Reservation in 1873, (4) Ghost Dance in late 19th century, and (5) the 1899 introduction of the railroad.

Feature Type	Special Features
Source for Water	➤ Apex Pleistocene Lake, Muddy River, Apex Pleistocene Lake, Colorado River, Virgin River
Evidence of Previous Indian Use	➤ Arrow Canyon Range Creation Story, Salt Song Trail, Mesquite Farming
Geological Features	➤ Arrow Canyon Range, Potato Woman



Source for Plants	➤ Plants had ceremonial, medicinal, food, and utilitarian use
Source for Animals	➤ Birds of prey, game birds, migratory birds, predatory mammals, game mammals, small mammals, lizards, snakes, and spiritual animals, especially mountain sheep
Indian History	➤ Old Spanish Trail, Mormon Encroachment, Establishment of the Moapa River Reservation, Ghost Dance, Railroads

**Table 1 Special Features Identified at the Dry Lake SEZ American Indian Study Area**

## Water

Numic-speaking peoples traditionally associated with Dry Lake Valley hold a deep and spiritual attachment to the water of the Dry Lake SEZ American Indian study area. Water is viewed as the most important natural element because water makes life possible for all others. The Muddy River and the Apex Pleistocene Lake represent predominant water sources in the SEZ American Indian study area. The Colorado River and Virgin River are also culturally connected to the Dry Lake SEZ American Indian study area. Water is centrally important for a diversity of functions: hydration, cleaning, medicine, ceremony, agriculture, and ecology. In the SEZ American Indian study area, thoughtful management of water resources enabled Numic-speaking peoples to cultivate dense stands of mesquite for food production and wildlife habitat.

The SEZ American Indian study area is located within the Pleistocene Apex Lake lakebed. Although the lakebed is dry for long periods of time, the playa will fill with water during times of high precipitation. Flooding across the Dry Lake area typically occurs as flash flood events, with rainfall events that have a 0.01 recurrence interval yielding extensive flood areas below one foot of less of water. In playa areas, ponding of water can last for several months (EPA 2002). This water source contributes to the unique ecology and hydrology of the Apex Pleistocene Lake (see Figure 5), which is reflected in the designation of the playa as a wetland area.



**Figure 5 Apex Pleistocene Lake in the Dry Lake SEZ**

The Dry Lake SEZ American Indian study area is part of the California Wash Flow System that is part of the greater regional Colorado River Flow System (Harrill and Prudic 1998). Groundwater flows from the SEZ American Indian study area through Overton and ultimately reaches the Colorado River via a complex network of water flow that includes the Muddy River and Virgin River. Moapa tribal representatives stated that the Muddy River represents an important place for permanent Indian communities. The water from the Muddy River was cited as a source of healing and is connected to Hogan Springs via a trail. The importance of groundwater in the SEZ American Indian study area was emphasized in interviews with Moapa tribal representatives; water found by digging in specific areas is a significant resource.

Rain and snow run-off from the surrounding mountains also flows into the Dry Lake SEZ American Indian study area. It is important from a Southern Paiute perspective to understand the hydrological system in this region. The flow of Puha follows the flow of water across a given landscape and connects places, people, and other elements. As water drains from the mountains, the water and the Puha flow into the valley, connecting these sources to the rest of the watershed, including the Colorado River, the Muddy River, and the Virgin River. Water also holds immense importance in its power to connect near and distant elements. Dry lakes embody this phenomenon by connecting to other dry lakes and all water in the area underground. Water on and below the surface connects water resources in the mountains and connects to the rain. The importance of the water is also highlighted in tribal representatives' discussions of the consequences of overdrawing groundwater. Groundwater is seen as an important, dwindling, resource for the people who are connected to this area and to the mesquite orchards grown in the playa. Without the proper treatment of water resources in the SEZ American Indian study area, these unique communities will perish, as seen in 1902 when the over-drilling of wells caused a dramatic reduction of water tables and the death of ancient mesquite stands along the Gila River (Rea 1997:54).

### **Evidence of Previous Indian Use**

The Dry Lake SEZ American Indian study area has been used since Mythic Time. The Southern Paiute people have a Creation story that explains the formation of the Arrow Canyon Range, reinforcing the idea that Southern Paiute people have lived on and have knowledge of these lands since time immemorial. The Salt Song trail passes through the Dry Lake SEZ and continues to connect Southern Paiute religion and culture to the land. Southern Paiute knowledge of the Dry Lake SEZ American Indian study area is also seen through mesquite management and farming. The stories and traditional farms associated with the SEZ American Indian study area help to connect contemporary Indian people with their ancestors and highlight the persistence of Indian lifeways in these lands.

#### *Arrow Canyon Range*

The Dry Lake SEZ American Indian study area is a Storied Land. There are stories about events that happened here before people came to be in charge of the world. It was a period referred to as Mythic Time; however this term should be used carefully because, in Western Culture, the term "mythic" implies that something is fictional. Here, Mythic Time denotes a real



time when animals could talk and important events occurred. In the Arrow Canyon Range located within the Dry Lake SEZ American Indian study area, great events occurred. Between the 17th and 28th of September 1872, John Wesley Powell traveled to upper Kanab Creek with Stephen Vandiver Jones and two Kaibab Paiutes, Chuarunpeak (Frank) and George (Fowler and Fowler 1971:27). During this time, Powell recorded a Southern Paiute story about the creation of the Arrow Canyon Range:

Originally the surface of the Earth was a smooth plain, but one day Shin-au-av told Kusav to place the latter's quiver at a short distance from where they stood that it might be used as a mark, at which he would shoot. Then Shin-au-av sent an arrow from his bow which struck the quiver, but glanced and plowed its way about the face of the earth in every conceivable direction, digging deep gorges and canons, making valleys, plowing up mountains, hills, and rocks. In this way the water courses were determined and the hills and mountains made and huge broken rocks were scattered about the country.

Previous to this time the nation of people had lived in one community, "they were all brothers and sisters," but with the origin of surface relief, commenced the scattering of the nations, for there was now a great diversity of country and each one chose for himself a special habitat. The eagle admired the crags and peaks and mountain summits and delighted in the fierce wind and roaring storm, and he said to his brethren, "My home shall be in the cliffs." The hawk (Ku-sav) loved the wild rocks, and he said, "There will be my home." And the badger said, "I will make me a warm burrow in the ground." And the wolf said, "I will roam over the plains." And the swallow said, "I will build my nest on the face of the rocks that overhang the waters." And the grizzly bear said, "I will live in caves."

This story is also very long as told by the Indians, for a great many species of animals are introduced, each one choosing his home and giving his reasons.

When the people had thus separated they ceased to speak their ancient language, each one adopting a new one which has been handed down to their own descendants. From this time also they lost their wisdom because of their disagreements, and they slowly degenerated, and were changed to the forms in which they now appear.

By some, this change is said to have been gradual, and very slow, but others have told me that it was instantaneous, and that there was great wonder among the people, each seeing the changes of the other but not seeing his own transformation, and each one supposing that he spoke the original language and that the rest had lost it, and that this transformation was the cause of their separation; while others make the change due to their quarrels and separation.

Sometimes the story is told as if it was a quarrel for the best homes on the new earth, by others this element of contention is not introduced. I have once heard

this story referred to point a moral of an argument for harmony in council (Fowler and Fowler 1971:77).

### *Salt Song Trail*

The Salt Song Trail passes through a portion of the Dry Lake SEZ American Indian study area. When a Southern Paiute person passes away, Paiute people gather to perform the Cry Ceremony. This activity involves singing a series of songs known as the Salt Songs which help aid the deceased's soul as that person transitions to the afterlife. The Salt Songs describe places throughout traditional Southern Paiute and Hualapai territory that are located along a thousand mile spiritual trail (Stoffle et al. 2004).

### *Mesquite Farming*

Traditionally, Southern Paiute people were agriculturalists who built complex irrigation systems and tended to numerous plant species. Southern Paiute farmers often grew and managed crops that were generally not recognized as crops by Euro-Americans. For example, Southern Paiutes planted and managed mesquite trees. Trees were selected and planted in areas based on personal taste and preference. The trees were often planted in riverine oases throughout Southern Paiute territory. In the Dry Lake SEZ American Indian study area, multiple large stands of sweet mesquite were noted by tribal representatives. They believed that these orchards of mesquite trees were planted and maintained by Southern Paiute people in the past and that this area is an important cultural feature. A further discussion of mesquite farming can be found in the Ethnographic Comments that appear later in this section.

## **Geology**

The Dry Lake SEZ is located within the Basin Range province of Nevada. The SEZ American Indian study area abuts the Arrow Canyon Range to the west and north. The surrounding mountains are comprised mostly of limestone, dolomite, and sedimentary volcanic rocks. Over several millennia, these mountains have been eroded and filled the lake bed with the alluvial and aeolian deposits that now occupy the valley floor. The playa lake sediments are residual from the Pleistocene lake that once dominated this landscape.

The Arrow Canyon Range was the center of a large traditional district composed of what are now the Moapa and Pahrangat Southern Paiutes prior to colonial disruption (Stoffle and Dobyns 1983:183-186). Full-time agricultural settlements were located within the large hydrological system beginning northeast of Pahrangat Valley and continuing down along the Muddy, Virgin, and Colorado Rivers. Arrow Canyon Valley was used for hunting, gathering, and traveling between these agricultural settlements. These continual use patterns account for scattered archaeological remains in the Arrow Canyon Range (Stoffle and Dobyns 1983).

Potato Woman (see Figure 6) is a long ridge located northeast of the Dry Lake SEZ American Indian study area. Southern Paiute people associate Potato Woman with Creation. One of her central contributions is the continuing creation of a specific variety of Nah'-gah (Mountain Sheep, *Ovis spp.*) that live exclusively in the Arrow Canyon Range. The Nah'-gah, in turn, have



and continue to bring songs, stories, and medicine to Indian people. Impacts on the Arrow Canyon Range directly impact the health of Potato Woman and the creation of the Nah'-gah. Potato Woman is a Creator Being who, according to a Paiute elder interviewed in 1982 during the Intermountain Power Project (Stoffle and Dobyns 1983), is especially powerful because she is related to two other Creator beings – the Po-ni (skunk, *Spilogale putorius*) and the Un-nam-but (badger, *Taxidea taxus*).



**Figure 6 Potato Woman**

### **Ecology – Plants and Animals**

The Dry Lake SEZ American Indian study area lies within the Mojave Basin and Range level III ecoregion, exhibiting the broad basins and scattered mountains that are characteristic of this region. Generally, most precipitation in the Mojave Desert occurs during the winter and can correspond to a surge in winter annuals in the understory layer (Turner 1994). More specifically, an average annual precipitation of 6.5 in (16.4 cm) was recorded at Valley of Fire State Park. Within the Mojave Basin and Range, the Dry Lake SEZ American Indian study area is part of the Creosote bush-Dominated Basins level IV ecoregion. Lying between scattered Mojave Desert mountain ranges; lower elevation, warmer soil, and higher evapotranspiration define this ecoregion. Sonora-Mojave Creosote Bush-White Bursage Desert Scrub represents the dominant form of land cover in this ecological region. Plants in this cover type are generally sparse to moderate density, and are often small-leaved and adapted to aridity. As demonstrated in the cover type name, creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*) represent the most pervasive species, though other codominating shrubs and cacti can also be found.

During multiple field visits, Native American representatives identified 15 traditional use plants within the Dry Lake SEZ American Indian study area. The following table (Table 2) provides readers with the common, scientific, and Southern Paiute names for each plant identified.

Common Name	Indian Name	Scientific Name
Anderson's wolfberry	u'upwivi	<i>Lycium andersonii</i>
Banana yucca	uusiv, wiisiv	<i>Yucca baccata</i>
Beavertail cactus	manav	<i>Opuntia basilaris</i>
California barrel cactus		<i>Ferocactus cylindraceus</i>
Creosote bush	yah-temp	<i>Larrea tridentata</i>
Desert globemallow	tupwiv	<i>Sphaeralcea ambigua</i>
Desert trumpet	papakurum	<i>Eriogonum inflatum</i>
Golden cholla		<i>Opuntia echinocarpa</i>
Hedgehog cactus	usivwuits, tule	<i>Echinocereus engelmenii</i>
Honey mesquite	o'pimb	<i>Prosopis glandulosa</i>
Indian tea	yatup	<i>Ephedra viridis</i>
Mojave yucca	tachump, u'vimp	<i>Yucca Schidigera</i>
Nevada Indian tea	tu-tupe	<i>Ephedra nevadensis</i>
Spiny chorianthe	sanæv, kamuhurusanuv	<i>Chorizanthe rigida</i>
Western wheatgrass	paxankua	<i>Pascopyrum smithii</i>

**Table 2 Traditional Use Plants Identified in the Dry Lake SEZ American Indian Study Area**

The presence of animals in an area contributes to the overall cultural importance of an area to Indian people. In Southern Paiute culture, animals are significant factors in songs, stories, and ceremonies. Animals were also important food sources and their fur, bones, and feathers were used in the construction of use items. The 34 traditional use animals identified in the following table (Table 3) inhabit the SEZ American Indian study area. These animals may be physically or spiritual present in the Dry Lake SEZ American Indian study area.

Common Name	Indian Name	Scientific Name
<b>Mammals</b>		
Black-Tailed Jack Rabbit	Kaam, Kaamæ, Kamuntsi	<i>Lepus californicus</i>
Bobcat	Tukupæts, Tukupits	<i>Lynx rufus</i>
Cougar	Tukumumutsi, Piaruku, Too-koo-puts, To-ko-mo-muts, Too-koo-mo-munch	<i>Puma concolor</i>
Desert Cottontail	Tavuts	<i>Silvilagus audubonii</i>
Coyote	Yoxovwits, Yoxovætsi, Sænangwavi, Tærasænav, Tærasinav, Sin-nav, Shin-nah-ab, Tærasæna'av, Turahsunav	<i>Canis latrans</i>
Kangaroo Rat	Pi-yu-ah, Tah-we-tat, tom-we-a-tats	<i>Dipodomys sp.</i>
Gray Fox		<i>Urocyon cinereoargenteus</i>



Kit Fox		<i>Vulpes macotis</i>
Mountain Sheep	Nah'-gah	<i>Ovis spp.</i>
Red Fox		<i>Vulpes vulpes</i>
White-tailed antelope squirrel	Tava'atsi, Ta-va-run-quits, Ta-bats, Ta-vats	<i>Spermophilus variegates</i>
Woodrat	Kahts	<i>Neotoma sp.</i>
<b>Birds</b>		
Common Raven	Atapʉts, Atakots, Ha-ta-puits, Ah-tah-pah-ki'p, Tah-kwahts, Ah-tah-pwits	<i>Corvus corax</i>
American kestrel	Kærin'ang kats, Te-ze-nah-kahts, Kwan-an-tsits	<i>Falco sparverius</i>
Cactus wren		<i>Campylorhynchus brunneicapillus</i>
Gambel's quail	Akar	<i>Callipepla gambelii</i>
Golden eagle	Mung, Kwanants	<i>Aquila chrysaetos</i>
Great horned owl	Moopʉts, Moo-oo-put, Mo-o-puts, Moo-e-pwits, Muupʉts	<i>Bubo virginianus</i>
Horned Lark	Tæranwitsi'tsi, Næva witsi'ts, Te-we-wit-se, Te-rah we-cha-its, Ne-vow-we-tsits	<i>Eremophila alpestris</i>
Killdeer	Pantæxʉts, Pahn-tig-wits, Pah-re koo-its, Pa-roo-goo-e'ts	<i>Charadrius vociferus</i>
Lesser nighthawk	Tuwawitsi'ts	<i>Chordeiles acutipennis</i>
Loggerhead shrike	Tah-cho-noint, Tun-dun-nois	<i>Lanius ludovicianus</i>
Roadrunner	Ko cha bo'ki, Oo'ts	<i>Geococcyx sp.</i>
Rock wren	Too-ching-ing, Tæmpikixots,	<i>Salpinctes obsoletus</i>
Say's Phoebe	Chu-huv	<i>Sayornis saya</i>
Mourning dove	Iyov, Ayov	<i>Spermophilus variegates</i>
Northern Mockingbird	Yamp	<i>Mimus polyglottos</i>
Red-tailed hawk	Kwanantsits , Se-kan-na kwahn-ant , Qua-nats-its, Ta-ah kwah-nahts, Kwen-nan-zits, Kæsav, Quinnah	<i>Buteo jamaicensis</i>
Turkey vulture	Wikumpʉtsi, We-koo-puts, Week	<i>Cathartes aura</i>

Western kingbird	Chəxə'uvi, Wahts-koo-its, Too-pe-wats	<i>Tyrannus verticalis</i>
<b>Reptiles</b>		
Desert Horned Lizard		<i>Phrynosoma platyrhinos</i>
Lizards	Pompotsatsi, Moxwia, Səxəpətsi, Tsahng-ahv	Various species
Long-nosed leopard lizard	Too-ar-rah, Neu-mah-zing-ahts	<i>Gambelia wislizenii</i>
Rattlesnake	Toxoavi, Tanakitsi, To-ko-ahv, To-go-av-ve	<i>Crotalus</i> sp.

**Table 3 Traditional Use Animals in the Dry Lake SEZ American Indian Study Area**

One animal that drew particular notice was the mountain sheep. Not only are they prevalent in the mountains that border the Dry Lake SEZ American Indian study area, many mountain sheep stories and songs are also associated with this area. The Mountain Sheep Song, or *Nagahuv iyavi* in Southern Paiute (Laird 1976:110), is describe in ethnographic accounts as, “trails that extend lengthwise from mountain top to mountain top and include the interconnecting valleys” (Ruuska, Kiefer, and Mallow 2011:111). Mountain sheep are believed to be spiritual animals; “their images are interpreted by Indian people as symbolic of the normal spirit helper of the rain shaman” (Stoffle, Toupal, Zedeño 2002). A Paiute man described to ethnographers in the 1980s the importance of mountain sheep, particularly big horn sheep, to shamans:

This animal carries songs and knowledge; when visiting spirit caves, medicine men would become possessed by the spirit of a mountain sheep and would travel to places and receive songs and healing power (Stoffle et al. 1983:82).

Potato Woman, a Southern Paiute Creator Being and geological feature, is located to the northeast of the Dry Lake SEZ American Indian study area. Potato Woman has a permanent responsibility for creating a small variety of Nah’-gah (Mountain Sheep, *Ovis spp.*) that lives exclusively in the Arrow Canyon Mountain Range. The Nah’-gah, in turn, have and continue to bring songs, stories, and medicine to Indian people. Impacts on the Arrow Canyon Range directly impact the health of Potato Woman and the creation of the Nah’-gah.

## **Indian History**

The Dry Lake SEZ American Indian study area is historically special to the Southern Paiute peoples who have occupied these lands since Creation. The Paiute people believe that the Creator placed special features in these lands to support, heal, and protect all humans. The SEZ American Indian study area remained under Paiute control, use, and management during much of the historic period, but their control over these lands greatly diminished due to a number of forces, including explorers, diseases, foreign settlers, and the construction and operation of national transportation systems. A more complete discussion of these factors is provided in the Ethnographic Comments presented later in this analysis. In brief, the major historical periods that define this area are: (1) the 1829 – 1849 travelers along the Old Spanish Trail, (2) the establishment of the Mormon Road, (3) the establishment of the Moapa River Reservation in 1873, (4) Ghost Dance in late 19th century, and (5) the 1899 introduction of the railroad.

## **Native American Comments**

The Dry Lake SEZ American Indian study area was visited once by tribal representatives from the Moapa Band of Paiute Indians during the Solar PEIS Ethnographic Study and once during the 1983 Intermountain Power Project (IPP). The IPP study visit occurred in 1983 with Southern Paiute tribal representatives from the Moapa Band of Paiute Indians and the Kaibab Band of Paiute Indians. Native American interview information from previous IPP ethnographic studies were conducted by members of the current University of Arizona (UofA) research team, who were then located at another university. The Solar PEIS study visit occurred in March 2011. During this field session, nine interviews were conducted.

### **Intermountain Power Project Interviews – 1983**

During the 1983 IPP, Dr. Richard Stoffle spent the 13th to the 15th of January with three representatives from Moapa and one from Kaibab, visiting regions of importance in the Arrow Canyon area. During this study, a Moapa elder explained that this was an important meeting place that continued to be used during her childhood. The Arrow Canyon Valley, located just west of the Arrow Canyon Range, has an obvious centrality. It is located 15 miles from the Colorado River and 23 miles from an Indian oasis at Alamo, Nevada, located in the middle of Pahranaagat Valley. This important meeting place was probably used during the spring, summer, and fall since the Pahranaagat Valley oases were most likely abandoned over the winter months. Goods such as dried antelope meat, late season cultigens, and high zone natural goods from Pahranaagat Valley and early season cultigens, salt from the major cave near Overton, and low altitude ecological zone natural goods from the Muddy River Valley were seasonally traded during these meetings (Stoffle and Dobyns 1983:187).

### **Solar PEIS Interviews**

The Dry Lake SEZ American Indian study area was visited once by tribal representatives from the Moapa Band of Paiute Indians during the Solar PEIS Ethnographic Study. The Solar PEIS study visits occurred in March 2011 (see Figure 7). During the field session, nine interviews were conducted. This total includes three Native American Cultural Resources forms, three Cultural Landscape Forms, and three personal statements from the involved tribal representatives.

#### *Native American Cultural Resources Interviews*

The Dry Lake SEZ American Indian study area was visited in March 2011 by representatives of the Moapa Band of Paiute Indians. The following comments were recorded during interviews with Moapa tribal representatives using the Native American Cultural Resources survey instrument. The following comments reflect the cultural significance of resources associated with the Dry Lake SEZ American Indian study area.



When asked to describe the geography of this area or elements which stand out, the Native American Representatives replied:

- *I like in the beginning when we first made that turn off Highway 93, when we first came in here, because of the big difference in all those little beautiful rocks there were. I like that area. That's a big difference, between up there and here, isn't it? Here it's sandy.*



Figure 7 Moapa Tribal Representatives and UofA Ethnographer in the Dry Lake SEZ

- *The cave stood out to me. The mesquite grove was very interesting too, it really stood out.*
- *In the past, the Moapa people had a large connection to the Arrow Canyon Range. There is a mountain up there called Table Top Mountain where they would do Ghost Dancing. It is a very spiritual place.*

When asked if Indian people would have used this area, the Native American Representatives replied:

- *Yes, they had to because they traveled from Moapa where you met us to go to Las Vegas. So the trail was right through here, because of the highway, they would be coming the back way. It was used probably a lot because we traveled back and forth to both areas. This was a big traveling area.*

When asked why and/or for what purpose Indian people would have used this area, the Native American Representatives replied:

- *I believe they [food plants] were here naturally here before all these power structures were moved in and being travelers and migratory people. You knew they traveled with*

*their own food because they're in the desert. And they didn't think, "We're not going to Las Vegas area because it's winter," because they traveled with their food. Myself, I think they had to, if they were doing a lot of winter traveling and there's not going to be a lot of food in the winter.*

- *I think they mostly traveled through here in the winter when it wasn't so hot, because even now it must be in the 60s. Can you imagine what it's like in another couple months. And if they did have to travel, they would probably travel at night.*
- *People would have farmed here, hunted and traveled through here.*
- *People would have lived here seasonally to tend to the mesquite grove.*

**When asked if this place is connected to others, the Native American Representatives replied:**

- *The one Paiute village, [a tribal representative] mentioned, the one near Arrow Canyon, he said there was a village there, near the cell phone towers. I was kind of anxious to go over there. I've never been in that area. So there had to be. And when you say villages, there were probably a lot of favorite settlement spots, but I don't believe they lived actually here, but I can't honestly say that I know that for sure. But it's too hot to live down in this valley. They'd be closer up to the mountains, in the summer anyway.*
- *Oh yes, there were more permanent communities along the river near Moapa because of the water, the Muddy River, Arrow Canyon too, because there are petroglyphs, writing, rock art, rock writing. So there were settlements up there.*
- *They had to have favorite stuff they planted up there. Sometimes they find little corn cob type stuff. If they didn't they probably traded, but they had to grow something for a little variety in their diet, besides living off the land. And they were hunters and gatherers, and there was a lot of farming. At least past 50 years ago, because older people have said that their families and their ancestors had gardens and they gave away stuff to the people who didn't plant or they horse traded, or whatever, so they did a lot of gardening then. We, now, there's not that many that do their own gardening.*
- *In this area, when we were talking about going closer to the edge of those hills, we wanted to go that direction because of the caves that were there and the one that we saw on Highway 93. We spoke about them—if they did have an abundance of maybe crops grown in the Moapa area then moving toward Las Vegas, maybe they brought their families, or brought it over to trade, or maybe they left it there because that's what caves are used for: storage, shelter, that kind of thing. And again, I don't think they lived here a great length of time, but that's my thought. It just seems far from water.*
- *This is an area that many people passed through on their way to somewhere else.*

When asked if Indian people would have used water from the SEZ American Indian study area, the Native American Representatives replied:

- *Who knows what's over here, where the closest water source would be. There could be springs over there but I really don't know. There is a place where the cell phone lines are that's closer to Moapa, it's called Hogan Springs. I don't know if it is a pure type water now—I'll have to ask [another tribal representative]. The range on the other side, near Las Vegas, like the Sheep Mountain Range, I used to work as a community health service person in Moapa and I was traveling with a lady one time who said, "Oh when I was a little girl, I went up in these mountains and there were redwood trees and it was beautiful up there." And she wasn't pointing towards Mount Charleston, where there are a few sequoias. They're not as big as redwoods from California, but she said up in that area. So an article in the newspaper came out maybe last fall where they were showing old cabins that were built in the 1800s I believe, and they said that in the area where she was telling me, there is a forest up there. She said her father or mother or somebody took her up there. So there probably are springs up there, because of the association with Pahrnagat Valley. Wild mountain sheep are in that range back there and so Pahrnagat Valley is about 70 miles from Moapa, going towards Delamar Valley. And there are a lot of hot springs up there and places where you can swim, so you know that there has to be some in those mountains. It just seems like there would be; I was never told that myself, besides that story the lady had told me or being a little girl, and seeing the article in the newspaper.*
- *There certain areas where you can find water by digging down in to the dirt and find water.*
- *People would use the water here for drinking and cooking, maybe ceremonies but I don't know.*
- *People would have pack water for the Muddy River to this area.*
- *Some people use the Muddy River as healing water.*

When asked to evaluate the condition of water from the SEZ American Indian study area, the Native American Representatives replied:

- *The water here is okay right now, but if it continues in this way or gets worse, in the future, this won't be okay.*
- *The Muddy River is checked for contamination on a regular basis.*
- *There are pulling a lot of the tamarix (salt cedar) out of the river, I am not sure if that is a good thing or a bad thing.*



When asked if there was anything affecting the condition of water from the SEZ American Indian study area, the Native American Representatives replied:

- *They are taking so much water from around here that it is really going to affect the aquifers that are underground here.*
- *The solar panels are going to affect the water in this area.*

When asked if Indian people would have used the plants at the SEZ American Indian study area, the Native American Representatives replied:

- *Yatump [Indian tea] right here, one of the main uses I've heard about was if you had bad body odor, like feet or whatever, you would boil it and take a bath in it, or soak your feet in it. For sores, it's a healing thing. If you had a sore you would have it boil on the back burner, and when you need to use it three times a day, it's used that way. It's a medicine. Indian tea is drunk as a tea, and probably is for a certain ailment that you have, but I wouldn't put my finger on it.*
- *Most plants have a use, so any plant you would see would have been used.*
- *Creosote is used for a lot of things like medicine for colds, sores/wounds, and the sap is used for eye medicine. The yucca plant was used for shampoo. Indian tea is good for a cold too.*

When asked if anything is affecting the condition of the plants, the Native American Representatives replied:

- *Maybe, exhaust from the freeway traffic, in time. Since this is a valley, they must breathe some of that exhaust. Do you think the electricity running in the lines running through here would affect plants? Well they give off something don't they – some kind of energy? It's not positive right? Besides through the wires or what they're supposed to do, so it gives off heat or some kind of energy that's not used in a positive way. Besides, when they build these poles and stuff, it affects some.*
- *They would have to dig up the creosote and the other plants because they would have to smooth everything over. So you wouldn't have that many here and specific plants that other Indian people, the plant experts that know and go here in certain areas, would be gone. It would affect every living thing because just like with that gas line, smooth as a highway, but with wear and tear it's naturally going back to what it looked like before. So when they do the solar panels, they wouldn't want them to grow underneath them, or around them, because if they have to work on them it's going to affect them, so they take them out in the beginning right? Or anything else that's growing here.*
- *When you get closer to the road, the plants don't grow as healthy. So if they added roads for the solar project it would probably hurt the plants.*

When asked if Indian people would have used the animals at the SEZ American Indian study area, the Native American Representatives replied:

- *Animals would have grazed in this area and there would have been foxes, coyotes, turtles, rabbits... these are all the animals that I see dead on that freeway over there. But there would also be lizards, snakes, spiders (tarantulas) scorpions...the red racer is good luck, my grandpa used to wear the skin around his waist.*
- *They would use the turtle shell for a rattle. Some animals would be used in medicine and ceremony. Rabbits were used to make clothing and for food. Lots of animals were used for lots of different things.*

When asked to evaluate the condition of these animals and their habitat, the Native American Representatives replied:

- *All the animals are here, they only come out when they want you to see them. It may look empty, but there is a lot of life here.*

When asked if anything is affecting the condition of the animals or habitat, the Native American Representatives replied:

- *The highway is the main thing affecting the animals here. I get so angry because people come out here with their ATVs and they chase the animals and they run them onto the highway. I heard of two big horn sheep getting hit on the highway.*
- *The ATVs rip up the desert around this area.*
- *A grinding stone was found in the Arrow Canyon Range.*

When asked to evaluate and if anything was affecting the condition of the SEZ American Indian study area, the Native American Representatives replied:

- *If the solar panels destroyed the old Paiute trail that came here, we couldn't really point it out to any of our grandchildren or anyone else. It's not used anymore so it's probably not mentioned anymore, but whatever is left there won't be there anymore. It's going to affect everything that's here. It's not spoken about that much, but it seems like common sense that this would be the only way to get to Las Vegas besides that trail from Pahrump, going towards Las Vegas, Pahranaagat Valley, Alamo behind this range. And that was the highway that was going out straight that way. That's another trail going from the Utah area, probably, towards Las Vegas, where this one would be straight across. It makes sense, right, from the people that came from lower in Utah, across this way.*

- *If Moapa people ever had to go over to Pahrump they would use the quickest and the fastest. [Would they head down towards Vegas, then up over the Spring Mountains?] It seems like that would be this one.*
- *It looks healthy because it's not used. It doesn't look used besides before they put the gas line in. With the three power plants out here they have their own roads to them, but driving through here we didn't see that many off road trails that were used in that way. It looks fairly well, untouched, besides these roads that were here all the time. I don't know how often they're used.*

When asked for recommendations for protecting water sources on the SEZ American Indian study area, the Native American Representatives replied:

- *To stop taking the water and let it refill. Southern Nevada Water District is draining it. It's like a story where one family takes in another because they have no food and nowhere to go and then the outside family eats all the food until there is nothing left and then both families end up dying.*

When asked for recommendations for protecting plant sources on the study area, the Native American Representatives replied:

- *The plants need protecting because they are food for the animals, if you take these plants away then the animals are gone.*
- *They would have to not grate the area down and the area where they do put the solar panels; I would want them to move the plants into a different area.*

When asked for recommendations for protecting animals on the study area, the Native American Representatives replied:

- *Protect the plants to protect the area.*
- *They should fence off the highway.*

When asked for recommendations for protecting traditional use features on the study area, the Native American Representatives replied:

- *The Southern Nevada Water Authority is affecting the features of this place.*

When asked for their recommendation for protecting this place, the Native American Representatives replied:

- *I'm not saying it shouldn't be protected, but not being an expert, and not coming over here myself personally, or knowing of people that use it. Maybe at the end out of two or three days the earth will let me know what to reveal. Because right now if you don't see it*



*used, I can't give an answer on that. But I know there are things out here that other people might know a lot more. They might have places out here they come once a month, every season because their families know and they were brought here as children, that they go and pay their respects to. I don't know this. I don't know how often our people – myself, I don't come out here that much. But there should be some kind of, I don't know if there are turtles or tortoises or what.*

- *I would like to visit an existing solar site and see firsthand what it is we're discussing. How much destruction will it cause? What should we expect from it? I think that it would be really helpful.*

When asked if Indian people would want to have access to this place, the Native American Representatives replied:

- *Yes, especially if people say, "Well my family used to go there, but I've never heard of anybody using it in this day and age, now." That could honestly come from our older generation which we don't have. We don't have that many elders in our community. We have less than 300 or 400 people on our tribal role. Of that 300 or 400 people on the role, some of them don't even live on the reservation; they live off the reservation. We've had 55 seniors that I ask our senior cook, and she would know how many people are right there. We've changed so much with who we are. Like I said, it's not something you talk about, saying "I do go there and this is what I do." When people follow that old Indian way it's not spoke about. It's something that they just do. I hope that won't hinder whatever they plan on doing here. But not knowing, it's hard to give an answer. Since it's not traveled that much because you have a car and things are different, it's hard to know what they did then.*
- *Other people would want access to this area for food.*

When asked there are any special conditions that must be met for Indian people to use this place, the Native American Representatives replied:

- *I think if we took the ATVs off this land it would help it a lot. They are the main thing that is tearing up this land.*
- *They should stop people from coming out here and shooting; it messes up the place.*

### *Cultural Landscape Form*

The following comments were recorded during interviews with Moapa tribal representatives using the Native American Cultural Landscape survey instrument. The following comments reflect the cultural significance of resources associated with the Dry Lake SEZ American Indian study area.

When asked if there were Native American villages in relation to the area, the Native American Representatives replied:

- *Yes. They would have used this area.*
- *Hogan Springs, over by Arrow Canyon, there probably were settlements there and at Warm Springs above the reservation.*
- *There are probably other villages in this area. They would have been connected to other villages because there was a lot of bartering. I would compare it in similarity to Pahrnatag area. There is a lot coming from Utah and Arizona areas that come through this way. You would have to pass through this area if you wanted to go either direction.*

When asked if these villages were connected to villages elsewhere and, if so, how, the Native American Representatives replied:

- *This area is between Moapa and Las Vegas, which are connected.*
- *Las Vegas is connected to this area.*
- *Alamo, Pahrnatag Valley, Arrow Canyon are all connected to here. Even down towards Red Rock because the Muddy River runs through the reservation and empties into Lake Mead.*
- *The settlements by St. Thomas were connected to here too.*

When asked if there were seasonal Indian camps in relation to this area, the Native American Representatives replied:

- *Yes, people would have used this area seasonally.*
- *Yes, think of this as the main highway, towards Las Vegas and points beyond. I would not make sense for them to go from St. Thomas to the Moapa area or up the Colorado River by going up towards Alamo, which is 71 miles away, and then going across, unless there was family over that way. It would just be more natural to come this way. There were camps along here.*
- *I would say the rain would have been the big thing of whether or not people would stay in this area. The mesquites would be in a good area (playa) because like Calvin was saying, they live off a lot of water. And that area floods. There would be seasonal camps here for the mesquite groves.*
- *There were migratory animals through this area that would have been hunted here. Especially because of the mesquite groves over there and the matates they found in this area; they would have had to hunt here.*

When asked if these camps were connected to camps elsewhere, and if so how, the Native American Representatives replied:

- *These camps are connected because they are on a trail from Moapa to Las Vegas. Water that is here in the playa, streams and springs, especially in the past when it was wetter here and there was more water, would have been valuable for people. People would have also come in to use the mesquite; they may have even brought the mesquite in themselves. They would have brought in mesquite that they favored because it would have had a better taste.*

When asked what Native Americans would have done in this area, the Native American Representatives replied:

- *They would have used this area for farming the mesquite stand, gathering plants like mesquite, tea, creosote, other medicinal plants, and fire wood. They would have hunted here. They might have used it for gambling, ceremonies and political meetings but we would have had to walk over the land to find such places. I know there are some nearby.*
- *People would travel through here and picking herbs or plants that they knew about. Certain things grow in certain areas.*
- *They would have gotten the pine nuts from Kyle Canyon, or people from that area would have bought the pine nuts down here to barter with.*



Figure 8 Moapa Tribal Representative and UofA Ethnographer Discussing Plants in the Dry Lake SEZ

- *Every plant in this area would have been used. Based on what I was taught as a child, all plants had a use. Coming through the desert there would be vegetation that is useful. We have the spinach, tea, cacti, and things like that.*



- *They would have done ceremonies here and played games or gambled. Like this game they had called bones – that was a popular one. I never played, just watched and listened because they would sing while they played.*
- *I would say yes because there are always healings going on. Politics would be conducted because it's human nature – if people are gathered politics are discussed.*

When asked if there were any songs associated with the SEZ American Indian study area, the Native American Representatives replied:

- *Maybe for recreation they stop and sang round dance songs, bear songs, or whatever. Or songs different spirits came to different people because they wanted them to carry on those songs. Songs come to you in dreams. The animals bring you the songs because they want you to be the carrier of those songs and that's a special thing, of course.*
- *When you're traveling on different places and different lands, since Indian people believe in a keeper of those mountains and such, this Dry Lake, maybe those mountains over there, those spirits that take care of those places take a liking to you. As long as you respect them and show them respect in the beginning they might like you and maybe they'll favor you with a song or maybe they'll favor you with showing you something. It's such a special thing. When that happens to you, you carry that, and it's such a gift that they give you. Maybe you tell your family, but it's nothing that you make a big deal about because it's just between you and them. So you come up to this area and you always go to that place that showed you and you show it some respect and thankfulness for what that place revealed to you. That could happen a lot of times and you would never know because people don't talk about it a lot. Some people do, but it's not a good to discuss it, being so personal.*
- *The Salt Song went from California, Arizona, Utah, and Nevada. It sung to help the spirits get to where the spirits need to go.*

When asked if there were any ceremonies associated with the SEZ American Indian study area, the Native American Representatives replied:

- *Healing ceremonies would be done when people get sick. There is bad and good and sometimes there can be a lot of bad that can get into a person and you need to get it out. Some people can witch you and you would need healing to get that out.*
- *There might be pine nut ceremonies here. You can do those before, during and after you go to collect pine nuts.*
- *Round dances would have been done; it's a friendship dance.*
- *Some ceremonies, like for healing could depend on where a person was. Maybe the ceremony was held here, but it depends on where you got sick. It depends on what kind of*

*sickness you had and if you could be patched up to be taken to a doctor; you just did what you could.*

When asked if this was a creation place of their people, the Native American Representatives replied:

- *The Muddy River is the place where are people were. We originally can for Overton area but we were chased out by settlers and conquistadors. There was a war at Battle Mountain in between Logandale and Moapa with the Spaniards.*

When asked if this they knew of any other creation places of their people and if yes, where, the Native American Representatives replied:

- *Coyote's Jaw which is a mountain in Pahrangat Valley is a creation place.*
- *Mount Charleston is the beginning and the ending of Creation. It's sung in our songs. The Salt Song is part of a very special ceremony that the Southern Paiute do when our loved ones pass away. It's over 300 songs that we sing from when the sun sets to the sunrise. And they sing about Mount Charleston.*
- *This area is between Las Vegas and Moapa where I was created.*
- *The Pahrangat area is a creation place. And over in the Overton Area. The St. Thomas area too.*

When asked if there were any historical events associated with the SEZ American Indian study area, the Native American Representatives replied:

- *My dad walked for three days from Moapa to Las Vegas. They would camp near water. This area is along that trail. It is important because it is part of who I am. What people have done before you shows you how to survive in nature. There are a lot of things out here that help you survive. I wish that I was able to go where he went because it would help me walk a better path culturally speaking and because I believe my culture would help me live a better life as a human being. That is why this place is so important.*
- *The closet area that I can think of is when Wovoka, from the middle of the state of Nevada, came down here and there's an area above Arrow Canyon where he had a ghost dance. The area wasn't pointed out very much, or talked about because the government didn't want him to practice it. I just learned about that about 15 or 20 years ago. So that is above Arrow Canyon, up that way, getting towards Alamo Way. Historically, that area plus Mount Charleston and Gypsum Cave. Those are the only three that I know about.*
- *Battle Mountain war is a historical event that I can think of. And the Warm Springs area used to belong to the Moapa Band of Paiute people but it was taken away by the*

*Mormons. By Overton back then, Moapa wasn't even a tribe yet. It was more just an area of Paiutes.*

When asked if there were any connections between the SEZ American Indian study area and the surrounding mountains, the Native American Representatives replied:

- *This area is connected to the surrounding mountains. The Dry Lake Range is an area that has strong medicine. There are red earth deposits there for ompi.*
- *I believe that the bigger game came from the Arrow Canyon Range and they would go there to hunt when they lived here in Dry Lake Valley for a food source.*
- *This area would have been connected to the mountains around here, the entire Arrow Canyon Range. And those mountains have the Honeymoon Trail going through them. The cotton tails and the jack rabbits and the turtles. Up in the mountains you have the mountain sheep, pine nuts, resources like that.*

When asked if there were any connections between the SEZ American Indian study area and the surrounding rivers, creeks, springs and washes and if so which ones and how, the Native American Representatives replied:

- *This area is linked to Hogan Springs. People would travel back and forth between the Muddy River and Hogan Spring. People moved between places where there was water so it is there that the trails would lead you.*
- *The dry lakes are all connected and the water in this area is all connected underground. I see water here in this area. It comes from the rain and the mountains. It would be connected to the Muddy River because the water is connected underground.*

When asked if there were any Indian trails connected to SEZ American Indian study area, the Native American Representatives replied:

- *The Salt Song trail is connected to this area.*
- *There were all different kinds of tribes in this area. It would have been a passage way to go through to Las Vegas.*
- *Yes, this area is linked to the trail between Las Vegas and Moapa.*

### **Ethnographic Comments**

Throughout traditional Southern Paiute territory, places are connected through songs, oral history, human relations, ceremony, and trails (physical and spiritual). These connections create synergistic relationships between people, places, and objects. In the Dry Lake SEZ American Indian study area, Southern Paiute places used for medicine, power acquisition, and residence are



linked together through interconnected trail networks and by the distribution of Puha flow through the SEZ American Indian study area.

### **Arrow Canyon Range**

In the early 1930s, Moapa informants explained to Isabel Kelly that “Pahranagat was derived from the same name as the Moapits used for themselves; Paranayi, which is said to mean ‘those who stick their feet in the water’ (Kelly 1934:544 *In* Stoffle and Dobyns 1983:183).” These two groups (Moapa and Pahranagat) formed a traditional subtribe that split during the colonial period, during which time the two groups leaned towards different means of employment. One group focused on mining and mill wages near Hiko, Nevada and the other held onto the remaining farms on the Muddy River Reservation. This means that the Arrow Canyon Valley (see Figure 9) was the center of this Paiute subtribe (which may have been called Paranayi) prior to Colonial disruption (Stoffle and Dobyns 1983:183-186). Full time agricultural settlements were located along the Muddy River and summer agricultural camps were located in Pahranagat Valley, so the Arrow Canyon Valley was used for hunting, gathering, and traveling between these two camps. These periodic use patterns account for scattered archaeological remains in the Arrow Canyon area (Stoffle and Dobyns 1983).



**Figure 9 View of the Arrow Canyon Range From the Dry Lake SEZ**

### **Mesquite Farming**

Agriculture was central to traditional Southern Paiute lifeways. Paiute farmers developed sophisticated irrigation systems and grew a variety of crops. Reconstruction of the pre-colonization Southern Paiute agricultural economy depends on relatively scant details reported by a few travelers across tribal territory. Although available information is scarce, historical documents do however make it clear that Southern Paiutes raised food crops under irrigation at apparently all of the oases within their territory. The importance of agricultural food products in the Southern Paiute food economy was, perhaps, reflected in a primary settlement in riverine

oases. Pre-colonization travelers' accounts describe Southern Paiute villages in or near the irrigated fields along the streams, from which foraging parties traveled at appropriate seasons to supplement agricultural produce by collecting wild plant foods. Hunters also moved out of the riverine oasis where rabbit, quail, dove, and waterfowl were hunted to seek big game such as antelope in the valleys and deer and mountain sheep at higher elevations in the mountains.

These geographical movements in seasonal patterns meant that Southern Paiutes were transhumant like other tribesmen in the Rancherian Culture Area such as Pimas and Yaquis (Steward 1938:234). They traveled a well-defined seasonal round from their relatively sedentary riverine oasis villages to supplement their cultivated foods and the abundant fish they caught in the streams and some lakes. Southern Paiutes did not depend entirely on the bounty of uncultivated nature and moved in a completely transhumant way of life, like some of their close linguistic relatives to the north and northwest. Riverine, creek, and spring-flow oases provided the fish and irrigation water foundations of the Southern Paiute food economy. These resources made the Virgin River-Muddy River, Santa Clara Creek-Beaver Dam Wash stream complex the most important single ribbon oasis within tribal territory.

The very importance of oases in the pre-contact Southern Paiute food economy made that economy especially vulnerable to Euro-American colonization. Euro-American resource exploitation technology depended upon oases in many of the same ways and reasons as Southern Paiute watersheds. Consequently, Euro-American colonization concentrated in the Virgin River watershed. It constituted a military-biological invasion and the conquest and occupation of Southern Paiute core territory that dispossessed the aboriginal inhabitants and forever terminated their pre-contact food economy.



**Figure 10 Mesquite Orchards in the Dry Lake SEZ**

Two species of mesquite (*Prosopis*) trees grow in the Lower Sonoran vegetational zone of Southern Paiute territory. The pith in the pods of both species is a nutritious carbohydrate food with a somewhat sweetish flavor. The *P. juliflora* yields a pod-weight equal to that of any domesticated, irrigated food crop grown on an equivalent surface area and soil quality. The tree

is, in other words, a very efficient carbohydrate-maker. The natural habitat of the mesquite tree appears to be the riverine flood plains where the tree's very long tap root reaches the subterranean water table under sand bars and other alluvial fill. Thus, the mesquite tree constituted an important component of riverine oasis vegetation in the core Virgin River watershed. Because alluvium was spottily deposited along the streams, mesquite also grew spottily rather than in continuous thickets.

Mesquite is discussed in this section because historic documents make clear that it grew in pre-colonization times in several spring oases separated from the riverine habitats by considerable stretches of very arid desert (see Figure 10). Indian farmers, like the Southern Paiutes and O'odham peoples in the Southwest planted mesquite trees in and around their fields because mesquites have nitrogen fixing properties. When plants such as corn deplete the nitrogen in the soils, Indian people would rotate the crop and plant mesquite trees to replenish the nitrogen levels.

Human beings faced comparatively little competition for mesquite pods from New World game animals. Once introduced to Sonoran Desert ranges, Old World cattle and horses have markedly spread mesquite trees by consuming the pods. The hard-shelled seeds pass through the digestive tracts of these domestic animals. Deposited in rich manure, the seeds are given a propitious start when precipitation or ground water provides moisture for germination. This mechanism did not operate prior to colonization, so people rather than animals carried mesquite seeds to spring oases like Las Vegas, Nevada. The Las Vegas spring oasis is about 28 miles from the nearest portion of the Lower Colorado River (Jensen 1926:138). The adjacent stretch of river was barren of vegetation in the mid-19th century, so the mesquite growth at Las Vegas may well have resulted from deliberate pre-Columbian human transport of seeds to diversify the food resources of the Las Vegas spring oasis.

The mesquite tree possesses a long taproot, a distinct advantage as a spring oasis food producer. As Mormon missionaries discovered in 1856, maize seedlings were vulnerable to voracious "worms" that consumed the tender shoots right up to surface levels (Jensen 1926:231). Mesquite seedlings were hardier because their pods were not subjected to blackbird depredation like green corn (Jensen 1926:162). Once mesquite seedlings grew roots down to the subsurface water, they were not killed by the high concentration of minerals and salts on the soil surface. Euro-Americans attempting to raise domesticated plants in areas like the Las Vegas spring oasis discovered that the extensive irrigable tracts were impregnated with mineral salts and food plants died before maturing (Jensen 1926:140).

Like other Native American agriculturalists in the Rancherian Culture Area, Southern Paiutes were (and still are) careful observers of plant characteristics. Astute gardeners would have recognized in pre-Columbian times the superiority of mesquite over maize, beans, squash, and other annual plants as an edible food producer in spring oases. The springs that created such oases typically carried a large load of dissolved minerals that crystallized into salts when the water evaporated on or near the surface of soils moistened by it.

Southern Paiute people have a long complex history involving the management of mesquite trees. During an earlier study (Stoffle, Evans, and Halmo 1989), an ethnographic

research team was taken to the main artesian spring at Ash Meadows, Nevada. Located around the spring were dozens of deep mesquite grinding and pounding holes that provided evidence that this was a major food preparation area. During this visit, Indian women from the Pahrump Paiute Tribe explained how Southern Paiutes acquired their traditional knowledge of various plants, including mesquite. They pointed out a grove of screw bean mesquite, which had ripe beans at the time. When consumed, the beans were so sweet they were difficult to eat without being diluted with water. The Indian women explained that the especially sweet beans had been brought to Ash Meadows by their great grandmother (possibly before) from trees where they used to live and farm on Cottonwood Island, in the Colorado River. They relocated these specially selected screw bean mesquite trees to be closer to their homes in Ash Meadows and Pahrump and to improve local stock of mesquite. The movement of preferred seeds to new habitat locations is a hallmark of Southern Paiute agriculture.

It is believed that the multiple mesquite orchards in Dry Lake SEZ American Indian study area were managed in a similar fashion to those in Ash Meadows. The Dry Lake orchards were probably larger prior to the encroachment of non-Indian activity into the valley. The mesquite trees provided Southern Paiute people with a valuable desert food source and provided them with shade as they traveled along trails through this area.

The Akimel O'odham, also known as the Pima Indians, who lived along the Gila River in what is now Arizona, viewed the Velvet Mesquite as the tree of life (Rea 1997:183-192). They recognized at least five stages in the annual cycle of this tree. The annual cycle of the Mesquite and the cultural ecology of the Pima were in synch with each other. The Akimel O'odham selectively harvested pods from those Mesquite trees that produced the high-quality fruits: the best trees yielded thick, sweet pods. The Mesquite figured in almost every aspect of their lives from home and tool construction to basic foods and medicines.

The Akimel O'odham of central Arizona were similar to Southern Paiute people in that the Akimel O'odham maintained large mesquite orchards throughout their traditional homeland. They depended upon mesquite as an important food source and a key element in maintaining healthy soils in their agricultural fields. Trees were planted along the Gila River to provide O'odham farmers and community members with much needed shade from the hot desert sun. By the late 1800s and early 1900s, environmental and social issues forced the Akimel O'odham to cut down their mesquite orchards. During this period, much of the Southwest was impacted by a ten-year drought. The lack of rain greatly diminished the flow of the Gila River, thus limiting the amount of water available for irrigated agriculture. Farming practices had to be halted or reduced. In order to survive, O'odham people cut down their mesquite orchards to sell the wood for construction or fuel sources so that they could obtain enough money to acquire goods and food to survive (Dobyns 1989). These issues were compounded when the O'odham people were forced into reservation life and lost access to the Gila River and their agricultural fields (including their mesquite orchards).

## **Indian History**

Indian history has largely been carried down through time via oral accounts. This is so because those who controlled writing and publication for much of this time dominated the



narration of events. Indian history can be considered to begin as soon as impacts of Europeans arrived in Indian Country. For the people of Utah, this began with Virgin Soil Epidemics (Stoffle, Jones, and Dobyms 1995) that probably first occurred by 1600s, but was certain by the mid to late 1700s.

Southern Paiute peoples in the Dry Lake SEZ American Indian study area were subjected to encroachment pressures beginning with the start of the historic period. The first European documents recording the presence of Indian people in the Great Basin region and western Colorado Plateau were in 1776 as a consequence of the Domínguez and Escalante expedition. Indian history continues to be produced today as events of cultural importance occur to Indian lands, resources, and the people themselves (Stoffle et al. 2008).

#### *Travelers Along the Old Spanish Trail 1829-1848*

More than a half a century following the Domínguez and Escalante expedition, a major period of encroachment began in traditional Southern Paiute territory. Between 1829 and 1848, the Old Spanish Trail was the primary land route between the two provincial outposts of Santa Fe, New Mexico and Los Angeles, California. During these years, it was used extensively by Mexican and American traders who traded New Mexico woolen goods for California-bred horses and mules (Stoffle et al. 2008). In return trips from Los Angeles to Santa Fe, Old Spanish Trail travelers moved large herds of up to 4,000 Old World pack animals across the trail. The trading caravans traveling in each direction on the trail contained a large number of workers. The eastern portion of the Dry Lake SEZ American Indian study area includes portions of the Old Spanish Trail.

The opening of the Old Spanish Trail had major and lasting impacts on Southern Paiute communities. The mass movement of people back and forth on this trail network caused major disruptions to the daily lives of Southern Paiute people. The movement of animals decimated Southern Paiute agricultural areas located on or near the trail and water sources were polluted and, in some cases, destroyed. Old Spanish Trail travelers also brought with them Old World pathogens. These diseases spread rapidly through Southern Paiute and other Native American communities along the trail and beyond, which led up to a population loss of almost 90%. Southern Paiute communities along the trail were also impacted by slave trading in Mexican territory. Southern Paiute children were caught and sold into slavery by both Indian and Euro-American travelers along the trail (Stoffle et al. 2008:265).

#### *Euro-American Encroachment*

In 1844, John Fremont made one of the first officially recorded journeys to California by way of the Las Vegas Valley. He partially followed the Old Spanish Trail, but often left it for more favorable terrain and other Indian trails. He made this journey a total of three times, varying the route slightly and passing directly through the Dry Lake SEZ American Indian study area. In 1845, Fremont published his notes and maps that became the basis for wagon expeditions that followed. It is because of these notes that route through the Dry Lake SEZ American Indian study area and along the California Wash became a well-established part of the Mormon Road.

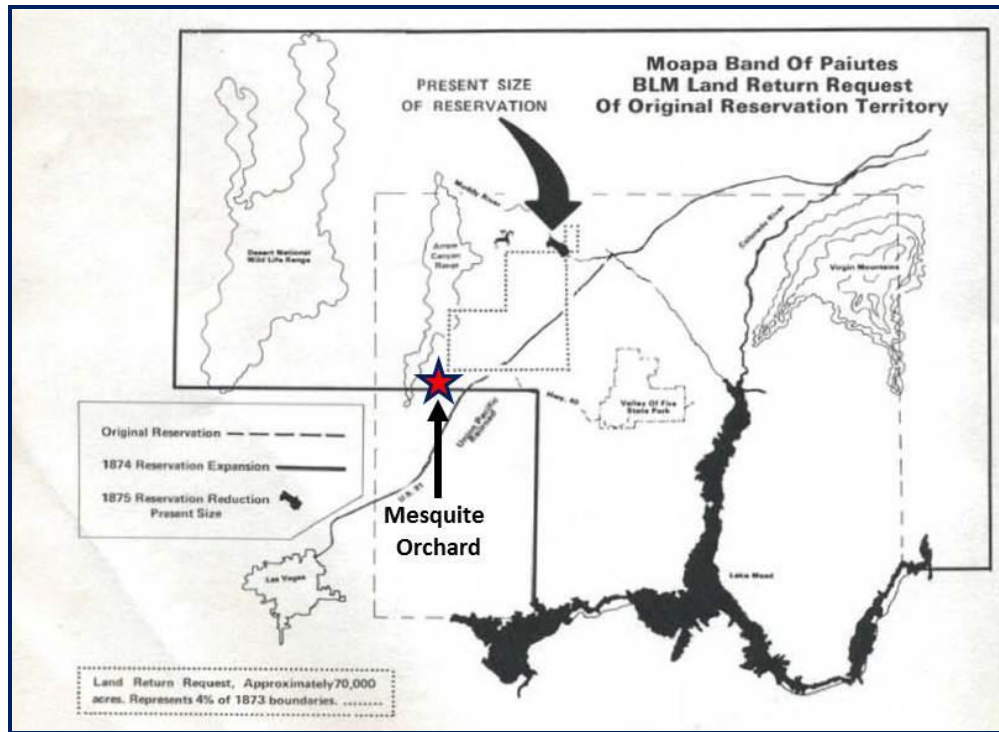
The Jefferson Hunt party of 1849 depended greatly on Fremont's reports. This party was led by a captain of the Mormon Battalion, Jefferson Hunt. The isolation of the Great Basin created a major issue for the Church of Latter Day Saints in their attempt to found Zion in the Utah Territory. The closest trading post where year round supplies could be accessed was in California. Because of Fremont's writings, Brigham Young knew that it was possible to access California from Salt Lake City, even in the winter when the Sierra Nevada Mountains became impassable.

At Young's request, Jefferson Hunt and his caravan traveled from Salt Lake City, Utah to San Bernardino, California and back in order to prove that yearly trade between the California and the Utah territories was possible (Steiner 1999). One of the wagon members, Addison Pratt, kept a detailed journal of the Jefferson Hunt Wagon train. His notes show that on November 18<sup>th</sup>, the party crossed through the present day Moapa Indian Reservation and cut over through the Dry Lake SEZ American Indian study area. There, they encountered Indians whom they call the *Panvances*. The Pavances stated that they were in Paiute country. Brother Rich of the Flake-Rich Company wagon train, a group whom the Jefferson Hunt party encountered in this area, said that the streams in this area were heavily irrigated and provided fine fields of wheat, corn, and beans for the Indian people in the area (Hafen and Hafen 1998:89). Members of the Flake-Rich Company documented stopping for the evening in the Dry Lake area, where grass and water from previous rains were abundant for their animals (Hafen and Hafen 1998:165, 212). It is important to note that at the time of direct encroachment, despite having already been affected by disease and depopulation, the Southern Paiute people in this area still practiced irrigated agriculture.

These expeditions, especially the Jefferson Hunt expedition, inaugurated the Mormon Wagon road between Salt Lake and California. After this establishment, the road was extensively used, freighting scores of wagons across the Great Basin year round (Steiner 1999).

#### *Establishment of the Moapa River Reservation – 1873*

In 1872, Indian Agent G.W. Ingalls was appointed to the Southeast Nevada Indian Agency and agreed that the *Nuwuvi* (Southern Paiutes) needed to be gathered on a reservation. The most likely spot for this reservation was around the Moapa Valley of the Muddy River. On March 12<sup>th</sup> of 1873, President Grant issued an Executive Mansion that established an Indian reservation in southeastern Nevada that was about 2,496,000 acres in size. In the later part of 1873, John Wesley Powell and Ingalls recommended that the reservation boundaries be expanded to the east and west to provide more farmland and increase access to timber. On February 12<sup>th</sup> of 1874, President Grant issued a new executive order that pushed the reservation boundaries eight miles east and 20 miles to the west. A little over a year later, Congress reduced the reservation size to 1,000 acres (Inter-Tribal Council of Nevada 1976:93-95). The size reduction of the Moapa Reservation is illustrated below, in Figure 11.



**Figure 11 Historical Map Illustrating the Reduction of the Moapa River Indian Reservation**

*Ghost Dance – Late 1800s*

After the establishment of the Moapa Reservation in 1873, Southern Paiutes struggled to cope with changing lifeways as they became increasingly incorporated into the Euro-American wage labor economy. The Ghost Dance was a culturally significant event that, when manifested in a particular place and space, reaffirmed the identity of a people. Southern Paiute people were able to become a part of a pan-Indian movement by transcending aboriginal boundaries defined by language, society, and politics. The Ghost Dance performance provides a foundation for identifying sacred places in a contemporary setting. The Ghost Dance movements of 1870 and 1889-1890 sought to “restore dead animals, destroyed botanical landscapes, and dead ancestors to their aboriginal condition and to shift power from Euro-Americans (who were expected to not survive the event) back to Indian peoples” (Stoffle et al. 2000). This ceremony was conducted in response to Euro-American encroachment on Indian holy lands as well as stress from disease-caused depopulation, disruption of animal and native plant areas, removal from springs, rivers, and farming areas, social disruption, and the inability of traditional religions to explain or deal with encroachment ailments. Arrow Canyon rests in a location that allowed Ghost Dancers from Moapa, along the Virgin and Santa Clara Rivers, within the Las Vegas community, and participants on Cottonwood Island on the Colorado River to attend.

Alex Carroll (2007) explains that the late 19th century Ghost Dance ceremony was performed in Arrow Canyon. Southern Paiute cultural representative from Carroll’s 1890s Ghost Dance Study stated:

*I came to Arrow Canyon at night with some friends. We were just out driving around and having a good time. Once we got to Table Mountain, I felt something. Things felt*

*different. I could hear people singing. When I looked up on top of Table Mountain I could see the Ghost Dancers moving around in a circle. I had not been told anything about this place, but knew what it was about one I was here.*

*It was a good experience to come to Arrow Canyon. It cleared my mind. I know those Ghost Dances when on here before. I could hear a drum beating and I hear people talking in Indian. I tried to listen hard. It was so peaceful. I didn't think about anything but that place. The animals were chasing each other and the lizard was running after something. It brought peace to me and it also made me mournful so I prayed. You hear things when you are in tune. This place is alive with spirits there. They communicate that to you. There is also a quietness of the canyon that is very special (Carroll 2007:192).*

### *Railroad – 1905*

The water supply and fertile growing grounds of Las Vegas Valley made this area an oasis for travelers along the Old Spanish Trail in the mid-1850s. By 1900, about 30 people lived in the valley. William A. Clark, a Montana Senator, wanted to ship ore from his copper mines out west. Edward H. Harriman, Clark's competitor, wanted to expand Salt Lake City's already established railroad. In 1899, Harriman's Union Pacific Railroad sent short rail line to Cedar City, Utah. Clark bought a short rail line called the Los Angeles Terminal Railroad in 1900. Clark and Harriman were trying to lay claim to the rights-of-way for their rail line in court and began contracting grades for the railroad in 1901 (Burbank 2009).

The competition between Clark and Harriman continued as they both built rail lines west of Utah. These two railways meet at Meadow Valley Ranch, located just north of Las Vegas, and both Clark and Harriman claimed the right to build in the valley. After much negotiation, Clark was allowed to operate the San Pedro, Los Angeles and Salt Lake Railroad (SPLA and SL) and Union Pacific was given a 50% share in the railroad. On January 30, 1905, the SPLA & SL was completed, establishing a benchmark in the history of Las Vegas, Nevada (Burbank 2009; Strack 2011).

After the completion of the railroad, tourism increased in the southwest and Las Vegas became a major outlet for Southern Paiute basketry (Stoffle and Dobyns 1983:141). Southern Paiute women made coiled baskets made from willow splints and Devil's Claw seedpod skids, creating wonderful light-dark designs. These baskets were purchased by Euro-Americans to be used or displayed in their homes. The railroad also had a negative effect on Native American populations. The Moapa Paiute population suffered from an increase in morbidity and higher death rate because of the development of the SPLA & SL. The railroad construction workers and an influx of new colonists brought more diseases, killing local Southern Paiutes (Stoffle and Dobyns 1983:156).



## **Potential SEZ American Indian Study Area Impacts – Tribal Recommendations**

During the March 2011 field visits, Moapa tribal representatives expressed concerns pertaining to the current environmental and cultural conditions of the Dry Lake SEZ American Indian study area. During interviews, they provided management recommendations for Native American resources and for potential solar energy development.

### **Solar Recommendations**

- Tribal representatives believe that solar energy development in the Dry Lake SEZ American Indian study area will adversely impact the identified special features (see Table 1).
- Tribal representatives consider the cultural resources in the Dry Lake SEZ American Indian study area to be important for understanding their past, their present, and their future. They stipulate that these resources will always be culturally important to Southern Paiute people.
- Tribal representatives believe that the culturally significant places mentioned in the above text should be considered for tribal declarations as Sacred Sites (Executive Order 13007) and nominations as Traditional Cultural Properties (Bulletin 38) to the National Register of Historic Places.

### **Bureau of Land Management Recommendations**

The consulting tribe believes that the Dry Lake SEZ should be managed as a spiritual cultural landscape. To accomplish this goal, Southern Paiute tribal representatives should be brought together with Bureau of Land Management (BLM) to work out an integrated cultural landscape management plan.

- The BLM should restrict ATV access and prevent the use of this area as a shooting range in order to protect the cultural and spiritual importance of the Dry Lake SEZ American Indian study area.
- Tribal representatives stated that they would like to be involved in a co-management relationship with the BLM in order to harvest and traditionally manage the mesquite orchards and other important traditional use plants in the proposed Dry Lake SEZ and the Dry Lake SEZ American Indian study area.
- Tribal representatives believe that the culturally significant places mentioned in the above text should be considered for tribal declarations as Sacred Sites (Executive Order 13007) and nominations as Traditional Cultural Properties (Bulletin 38) to the National Register of Historic Places.

- The consulting tribes desire to be formally contacted on a government to government basis whenever projects or proposed land management actions occur on and/or near the following topographic areas:
  - Muddy River,
  - Virgin River,
  - Colorado River,
  - Arrow Canyon Range,
  - Potato Woman,
  - Apex Pleistocene Lake