AN ARCHAEOLOGICAL RECONNAISSANCE OF CLARKS PASS, JOSHUA TREE NATIONAL PARK

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ABSTRACT

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Clarks Pass features prehistoric and historical resources that shape the cultural landscape along the Mojave and Colorado deserts. This reconnaissance is driven by Joshua Tree National Parks cultural resource management needs for protection of sensitive resources and their formal recordation. Cultural resources are finite but provide significant data potential of prehistoric lifeways and histories that followed. These resources represent resiliency from natural and human impacts which echo the resiliency of the descendant communities which imbue them with cultural meaning. In this technical report, over 300 artifacts/features, ten archaeological sites, various natural resources, and significant impacts are formally recorded. Strategies towards preservation, future research potential, and stewardship are explored within this report.

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INTRODUCTION

Clarks Pass, located in Joshua Tree National Park (JTNP), features a dry lakebed (playa) with a backdrop of cultural resources that is believed to be some of the earliest artifacts and features found within the park. A report from Richard Ervin in 1985's Survey and Excavations in Joshua Tree National Monument, postulates that the primary presence of lithic materials at a site devoid of ceramic assemblages, presence of specific lithic material types, and their presence on desert pavement/playas are representative of early archaic park habitation but that these features would require further study (Ervin 1985). A previous inventory report of Clarks Pass dry lakebed suggested a Pinto or Lake Mojave complex of lithics were present, and also indicative of Early Archaic habitation (Schneider 1998).

However, little inventory or report has been made of this area except for two surveys that focused on the prehistoric and historic use of the pass (Schneider 1998; Parsons 2010). Little knowledge of this area stems from a lack of formal archaeological reconnaissance since the park's expansion in 1994. The expansion, in conjunction with the parks restructuring from a national monument to a national park, would include the Eagle Mountains, Coxcomb Mountains, Little San Bernardino Mountains, and the Cottonwood Mountains. Reports focused on park management and minor academic projects have since been conducted for the expanded areas, but no extensive formal recordation efforts have been made for the Clarks Pass region (Hardesty 2009).

STATEMENT OF OBJECTIVES AND RESEARCH QUESTIONS

This research was guided by the following questions:

What does the Cultural backdrop of Clarks Pass look like?

Are there significant natural features that relate to certain prehistoric practices?

Does evidence support prehistoric usage over a given period of time?

What is the extent of impacts (natural, historical, and visitor incurred) within Clarks Pass?

The objective of this research was to gain an understanding of the lifeways of past peoples and the artifacts, sites, and features related to the environments like that of the Mojave and Colorado Desert, while specifically targeting and surveying Clarks Lake and its vicinity. It was presumed that a greater number of artifacts found would be lithic related (tool production/use) and that they would be located upon the terraces/desert pavement outside of the playa. It is also my hope that future studies will be able to incorporate this data in conjunction with further surveys and use this information in future analysis of prehistoric lifeways within Clarks Pass. A secondary objective was to establish a baseline data set of prehistoric artifacts and features for the Clarks Lake area and to use this information for addressing the first objective. This survey did require approval on behalf of the JTNP research coordinator and cultural resources staff.

In this report, I will analyze previous data, research, reported finds, and the data I recorded between May to July 2022. The analysis of the data recorded contributed towards the interpretation of the meaning of the cultural resources found within the Clarks Pass area, how the data represents potential for entry into the National Registrar of Historical Places, and management recommendations/future study of this region of

the park. This thesis was written in the form of a technical report, to model that of documents written at Joshua Tree National Parks cultural resource program.

BACKGROUND

Joshua Tree National Park sits upon 792,623 acres of desert landscape with a backdrop of various natural, botanical, and cultural features (USGS 2022). Formal survey of the cultural resources within the park boundary falls below four percent, with many areas requiring additional attention, condition assessment, and resurvey (Newland, 2013: 228). The Clarks Pass area of JTNP has only been five percent surveyed (317 out of 6300 acres) and will require a further study of the known backdrop of cultural resources recorded (Newland 2013: 244).

The preservation and study of the cultural resources found in the park are under the direction of cultural resource managers of the National Park Service, contemporary Indigenous communities like that of the Twentynine Palms Band of Mission Indians, and the efforts of independent researchers. This work is important for the preservation and stewardship of cultural heritage by shared the federally recognized tribes of Serrano, Chemehuevi, Cahuilla, and Mojave and others who claim heritage to this region Newland 2013: 56-58). The resilience of the sites, features, and artifacts in the harsh desert landscape is reflected by the resilience of the Indigenous communities that share heritage to those resources. It is important that a strong baseline of data be established for Cultural Resource Managers, researchers, and Indigenous community members in unknown areas of the park to aid in the preservation and stewardship of finite heritage resources.

ENVIRONMENTAL SETTING

Clarks Pass is located at the southern end of the Sheep Hole Mountain range and northeast of the Pinto Mountains. The pass is divided today by the Twentynine Palms Highway route 62, which also acts as the boundary between Joshua Tree National Park to the south and the Needles Bureau of Land Management Branch to the north. This area of the park was added during the 1994 reclassification of Joshua Tree as a National Park from a National Monument (Hardesty 2009).

Figure 1 Clarks Pass, atop southern playa terraces looking North towards Clarks Lake and Sheep Hole Mountain Range, Volunteer in foreground (2022)

The playa known as Clarks Pass Dry Lake, measures approximately one square kilometer (NW-SE) by 300 meters wide. Washes from the northern side of the pass flow through the dry lakebed towards the Pinto Basin in the south. The natural surroundings of the playa features hills with three well-established terraces overlooking the area located to the south. As reported by Schneider and Warren, it is believed these terraces once were the shorelines of a much larger lake in the past (Schneider 1998).

Composed of granite and granodiorite, the nearby mountain ranges that border the Clarks Pass western and eastern limits stand above the pluvial bed of the pass. It was previously established that these ranges are from the late cretaceous period and are formed by monsoon, wind, and what could have been a much larger lake in prehistory (USGS JOTR 2023).

The Faunal backdrop of Clarks Pass is multifaceted. The Park Service reports that 57 species of mammals, 46 species of reptiles, 250 species of bird, and two species of amphibians currently reside within its boundaries (NPS 2023). The earliest known fauna of the park has been reported south of Clarks Pass within the Pinto Basin. The Pinto Basin features fauna previously reported from the Pleistocene fluvio-lacustrine “Pinto Formation” including *Equussp. cf. E. conversidens* (extinct small horse), *Equus sp.* (extinct large horse), *Camelops hesternus* (extinct large llama-like camel), *Hemiauchenia sp.* (extinct North American llama), and *Ovis sp*. (sheep) (SBCM 2013: 4).

Figure 2 Sediments of the “Pinto Formation” and exposed fan deposits from the Coxcomb Mountains, South of Clarks Pass (SBCM 2013)

In historical reports, most notable that from prospector William McHaney, many species have been observed in the park: “wolves, coyotes, foxes, swifts, racoons, skunks, badgers, lynx, and wildcats" amongst populations of bighorn sheep and deer being the predominant mammals of the era as reported by Walker in 1931. In regards to the wet seasons, “water filled the dry lake beds, ducks and geese came” (Schneider 2023: 17-18).

During the survey of the pass, jackrabbits, rattlesnakes, chuckawalla, quail, and other assorted bird species, were observed. The remains of desert tortoise at various

stages of decomposition were found throughout the playa bed and its margins. The remains of bighorn sheep were also observed within the Sheephole Valley Mountains.

The botanical backdrop of the region is varied being that the park lies between the Colorado and Mojave deserts. As a whole, the park is made up of the Joshua Tree Series of the Mojave Desert Scrub community, the Great Basin Conifer Woodland community, and the Creosote Bush Series of the Mojave Desert Scrub (Newland 2013: 15). The Clarks Pass area, based on the Vegetation zones created by Claude Warren and Joan Schneider, was given a class H designation for its backdrop of the Playa Margin botanical community. This community is composed mostly of grasses like that of Indian ricegrass (*Oryzopsis hymenoides*) but has not been fully investigated (Newland 2013: 120). Other communities of vegetation are present within the Clarks Pass area and how they are recorded within the park's ethnography will be discussed later in this report.

CULTURAL HISTORY

Four federally recognized tribes claim heritage to the landscape that lies within the boundaries of Joshua Tree National Park. The Chemehuevi, Serrano, Mojave, and Cahuilla tribes have been recognized by their ethnographic boundaries as seen in Figure 4, but overall make up the cultural landscape of interconnected lifeways that culminate at the Serrano village of Mara or modern day Twenty-Nine Palms, CA. The village of Mara, also known as the Oasis of Mara, served as a spiritual and economic center where the regions Indigenous peoples would gather to exchange goods and ideas. This Oasis also served as a bridge between the early communities of the California coastline and the Colorado river. These lifeways represent past peoples'

resilience to the challenges of the Mojave and Colorado Desert, as well as the resilience against European arrival to the southern Californian area around 1769 (Bean 2002).

Figure 3 Oasis of Mara and Queen Mountain, Joan Schneider (2022)

Origin stories of the Indigenous communities of JTNP are explored in the following section. However, the following text does not represent the clearest and complete account of these communities' origins. The following section has been written to familiarize the reader with the Indigenous communities found within the park and their representation within the literature of the National Park Service.

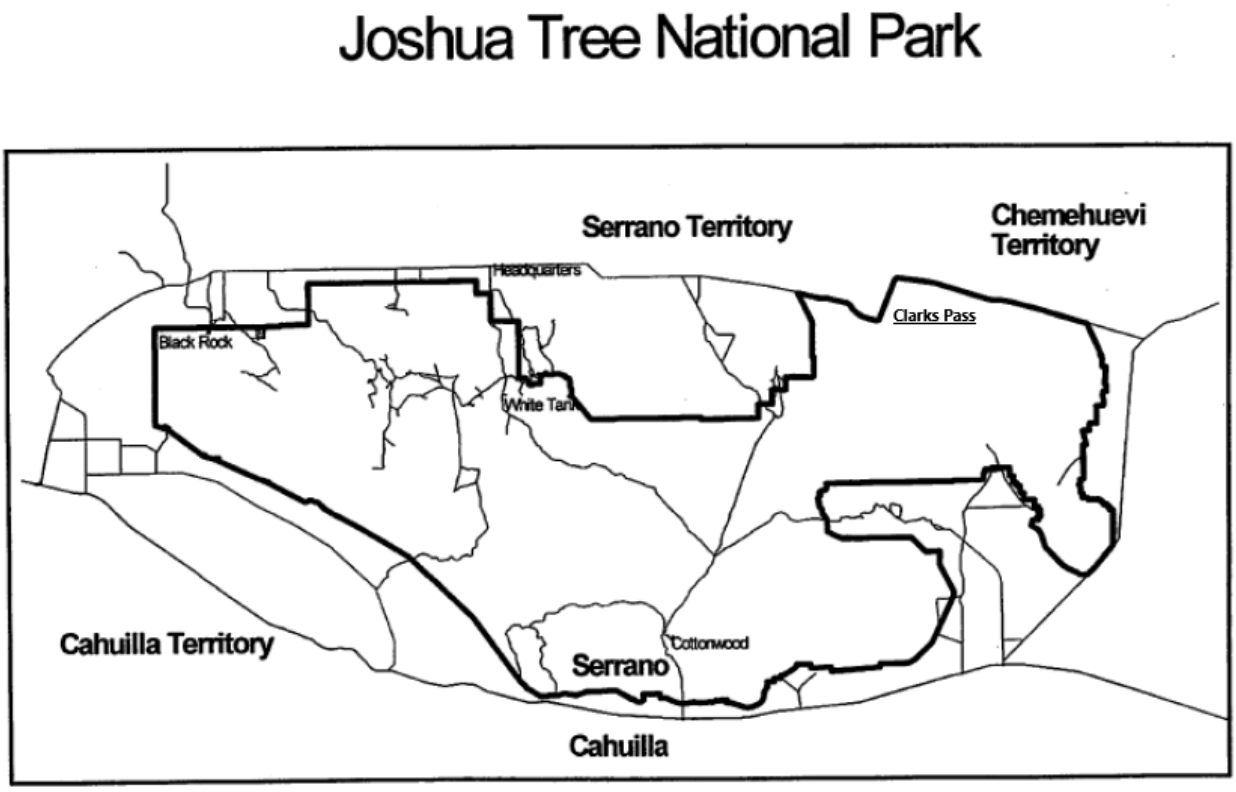

Figure 4 Bean and Vanes Cultural Territories Map, Clarks Pass Later Included

CHEMEHUEVI

Early traditional lands of the Chemehuevi can be traced back to the region between the Colorado River, modern day Las Vegas, NV, and the San Bernardino Mountains. The Chemehuevi are a subgroup of the Southern Paiute people who were "part of the larger Numic-language-group of Shoshonean stock of the Uto-Aztecan language family" (Schneider 2019: 42). Based on their creation story, the Chemehuevi came to the region of the Mojave Desert carried via a basket by Coyote, the oldest coyote told by Chemehuevi community member George Laird (Bean 2002).

The Chemehuevi share a close relationship to their neighbors along the Colorado River, the Mojave. The two groups relied on each other for trade and exchange (Bean

2002). From the Mojave, the Chemehuevi adopted “flood-plain cultivation of beans, melons, squash, and corn to their lifeways” (Schneider 2019: 42). This type of exchange was accomplished through the runners that were able to cover great distances to relay messages to other groups, exchange in commerce, and attend ceremonies (Schneider 2019). Materials from this group are predominantly ephemeral for the materials left behind often aren’t lasting due to natural termination of materials and lack of hardened structures. An archaeological signature is difficult to track since later groups, to quote Bean, “did not make pottery themselves, but appropriated that left in caves by their predecessors.” and used other resources within their proximity (Bean 2002: 3).

Chemehuevi people were first known to come to the Joshua Tree region prior to the middle 1800’s living amongst the Serrano at the Oasis of Mara. The group’s “use of the park in traditional times was probably seasonal and transitory, as was the use of areas of the park in areas distant from the oasis of Mara.” (Bean 2002: 3) It would be later reported by the Serrano returning to the region that the Chemehuevi still lived at the Oasis of Mara in 1867. The oasis would be an ideal location for the Chemehuevi to settle for its remote location away from European conflict along the Colorado River and American western expansion, which allowed the group to maintain a traditional way of life (Bean 2002).

MOJAVE

Traditionally, the Mojave nation has been recognized as a people who are the northern-most Yuman language speaking groups of the Region. The traditional lifeways of the Mojave inhabit areas along both banks of the Colorado River from the Grand Canyon to the south towards the Bill Williams River. Prior to European contact, the

Mojave were a decentralized people living within the floodplains of the Colorado River and were socially divided by family ties only to unite through warfare (Schneider 2019).

The Mojave would establish early ties to groups within the inland deserts of California and the Oasis of Mara towards maintaining trade routes, communication with other groups of the region, and for hunting expeditions. Part of the exchange that is believed to have been established by the Mojave is the trade of dried fish for baskets from the Serrano living at the Oasis. Like the Chemehuevi, the Mohave were very mobile and would have relied on exchange of goods and the gathering of resources from the Joshua Tree area seasonally. Travel from the Colorado River to the western coastline would include the Oasis of Mara as a halfway point (Bean 2002). It is understood that two trails running east and west were established by the prehistoric Mojave, on what is now Interstate 10 and Interstate 40. Trails were also established throughout the region connecting the high and low deserts from north to south (Schneider 2019).

The archaeological backdrop found within Joshua Tree that relates to Mojave presence is represented by the works of Elizabeth and William Campbells. During the early 1900s, the Campbells excavated cremations that were determined Mojave in origin based on materials and features wound within the sites. The remains of those who were excavated would later be repatriated back to modern Mojave peoples. Contemporary Mojave communities continue to work closely with park officials (Schneider 2019).

SERRANO

The Serrano people, as told from their creation story by elder Dorothy Ramon, depicted the earliest people (The Mamaytam Serrano) deriving from their earthy ancestral home of the Oasis of Mara. It is recounted within the ethnohistory that Serranos first came to earth brought by their Lord from a previous “old planet” that had to be left behind due to overpopulation and killings (Bean 2002: 7). Stewardship of the Oasis of Mara persisted with many independent Serrano since the beginning of their oral history, even after a portion of the coastal Serrano groups were forced into Mission San Gabriel in 1811. After this period, Mara and Maringa Serrano would frequent the Oasis seasonally to harvest plants and animals throughout the region. In the 1870s, the Serrano would be forced out under the pressures of disease and American settlement of the Twentynine Palms area. Today, Morongo and San Manuel Indian Reservations are occupied by members of the Serrano who work to devote resources to recovery of their histories (Bean 2002)

In the archaeological record, traces of Serrano material culture include throwing sticks, traps, sinew-backed bows, woven basketry, pottery, mortar and pestle, manos and metates, and hammerstones, and lithic tools. Homes were also built by the Serrano, in the form of circular dome structures with other buildings used as ceremonial centers, granaries, and sweathouses often placed near natural water sources (Bean 2002). Exchange is present in early Serrano, showing favor in “Material goods, shells, (and) sacred regalia (feathers and the like)” (Bean 2002: 14). Like that of the Chemehuevi, “These last inhabitants did not make pottery themselves, but appropriated

that left in caves by their predecessors.” often found within caches throughout the park (Bean 2002: 3)

CAHUILLA

The ancestral homelands of the Cahuilla are interpreted to have been loaced within the northern areas of contemporary Coachella Valley, towards Salton Sea (the prehistoric Lake Cahuilla). Prehistoric ties between the Joshua Tree region are well established both in prehistory and post European contact as told by Cahuilla member Sean Milanovich and historical accounts made by William Keys (Schneider 2019). For the Campbells in their early investigations of the park, it was clear that early Cahuilla Indigenous communities would come to the Oasis of Mara, but their encampments were primarily situated south of the traditional village oasis (Bean 2002).

The Cahuilla were situated within the geographical center of the Southern California region. This position within the region allowed the group to establish themselves as trading partners and allies to “Mohave, Serrano, Kumeyaay, Lusieño, Gabrielino, and others” of the region (Schneider 2019: 52).

Today, many contemporary Cahuilla community members work closely with the Twenty-nine Palms Band of Mission Indians and share the Cabazon and Morongo Reservations. They still work closely with National Park personnel (Bean 2002).

MINING/HOMESTEADING

In Hardesty’s (2009) report, prospectors moved into the area of Joshua Tree during 1859 upon discovery of gold-bearing gravels around the San Bernardino mountains. The early historical element of the park comprises various mining districts,

the most successful of these mining operations were from the Lost Horse Mine and The Desert Queen Mine. Homesteaders also rushed into the area for the pursuit of gold but to also make up the infrastructure of neighboring towns like that of Twentynine Palms (Hardesty 2009).

The Clarks Pass area neighbors the Virginia Dale Mining District which was established in 1883. The Virginia Dale Mining District accounts for 185,000 ounces of gold produced from the region, and remained in operation until the early 1940s. No known mining operations have been recorded within the playa area of Clarks Pass. It should be noted that Condor No. 5 is a mining claim established on October 15, 1961 located on the western side of the Sheephole Valley mountain range but no operation had been identified during a 1994 survey conducted by Joshua Tree National Park Staff (Hardesty 2009).

DESERT TRAINING CENTER

In the early stages of the Second World War, a need for troop training in harsh desert environments both in combat and logistical maneuvers was required for an invasion of Axis controlled Africa. From this need the Desert Training Center was established in the deserts of south-central California and western Arizona. This training center was under the command of General George S. Patton of the 3rd Armored Corps (BLM 1985).

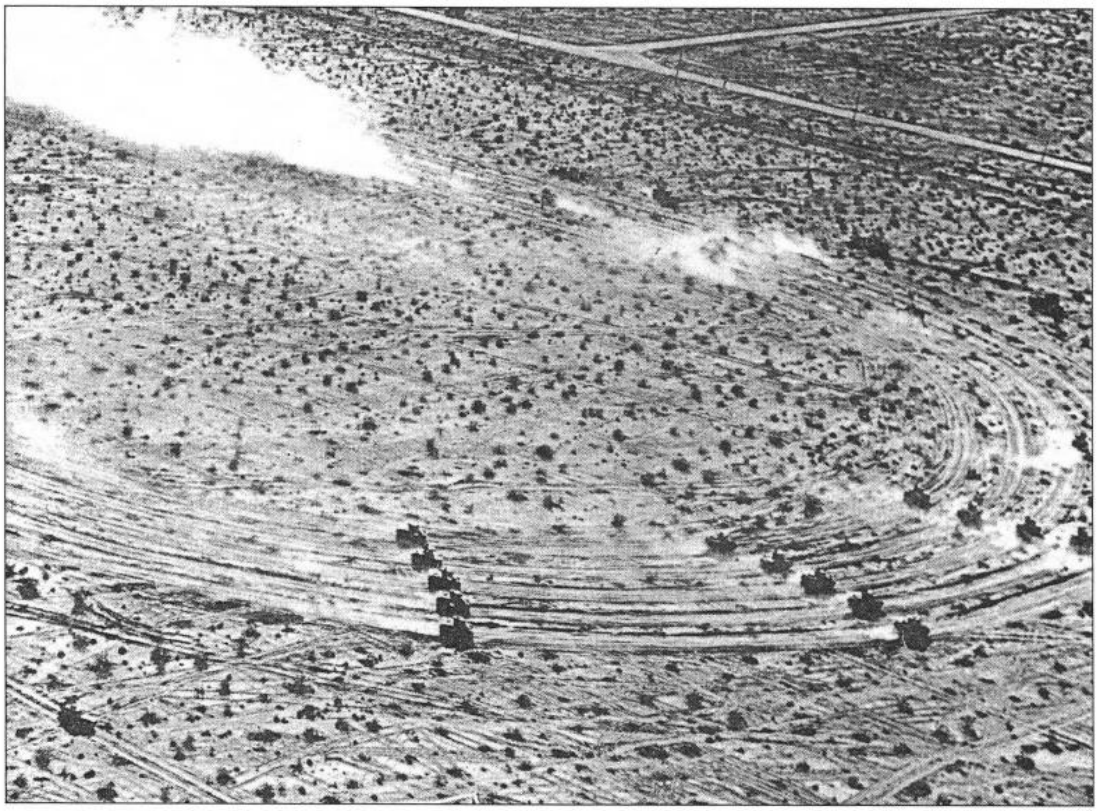

Figure 5 Vehicles of the 6th Armored Division on maneuvers in the DTC (Bischoff 2000)

The first and largest camp of the training center would be named after Lieutenant General S.B.M. Young who had fought within the region. Camp Young, near modern day Chiriaco Summit, was one of two camps that was established within the boundary of Joshua Tree National Park. The second being Camp Coxcomb, located east of the Coxcomb Mountain Range and west of Rice Rd., state route 177. Throughout the eastern section of the park, a range of different training, maneuvers, firing ranges, minefields, crash sites, bombing targets and encampments are known and have been recorded by the National Park Service (Bischoff 2000). The extent of use for training is unknown in many sections of the park, and munitions/unexploded ordinance (UXO) are still encountered today.

Notably, the area of Clarks Pass was used during the Second World War for aerial combat maneuvers and bombing runs. The Clarks Pass Dry Lake is a site which has been evaluated under the FUDDS report to have been used as a designated bombing target for air to ground engagements. The extent and duration for this type of training is unknown within the area of the pass (Parsons 2010).

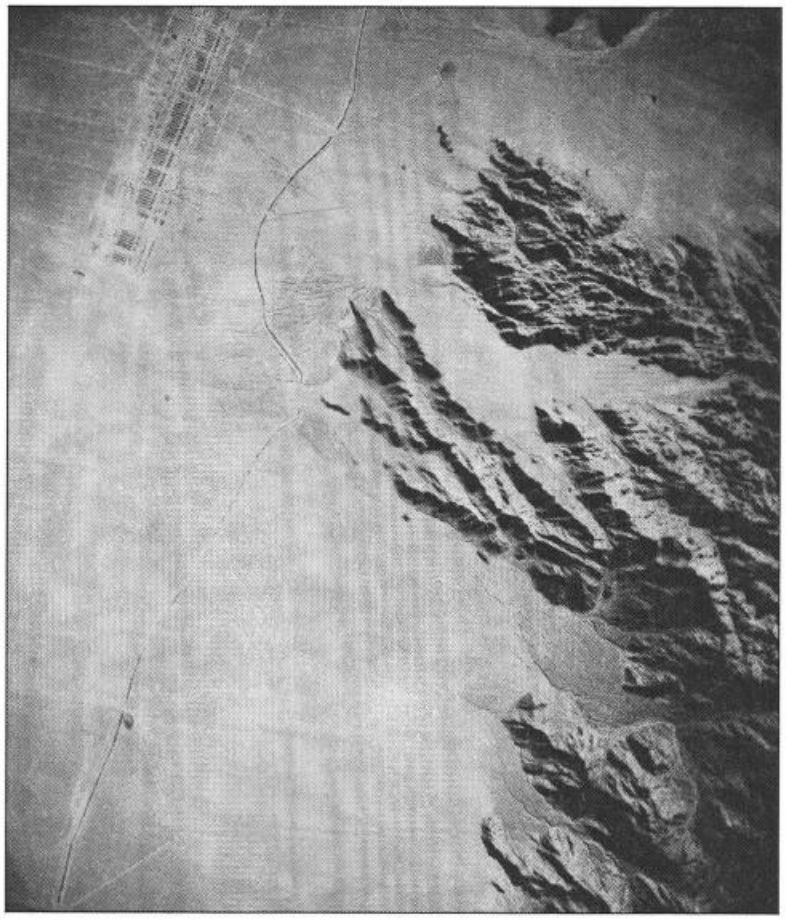

Figure 6 Aerial photography of Camp Coxcomb 1943 (Bischoff 2000)

Recently, during the Summer of 2021, a search and rescue for an individual took place within the area of Clarks Pass. During the search and rescue, a 100 lb. unexploded training bomb (M38A2 or AN-M47A2) was located and reported to park officials. A joint effort between Marine Corps Base Twentynine Palms EOD, Joshua

Tree National Park Law Enforcement, and Joshua Tree's Cultural Resources Program evaluated the integrity and potential removal of the device. It was determined in the field that the UXO still maintained an explosive charge that could potentially inflict mortal or bodily harm. The device was then destroyed in the field.

Figure 7 Reported UXO discovered within Clarks Pass, North of designated bombing area (2021)

Figure 8 MCAGCC EOD and NPS Personnel at Clarks Pass for UXO Evaluation (2021)

PREVIOUS RESEARCH

1998 WARREN AND SCHNEIDER

Figure 9 Clarks Pass Lake, view of terraces in background, (Schneider, 1998)

In 1998, Joan Shneider and Claude Warren of the University of Nevada, Las Vegas (UNLV) in conjunction with JTNP, conducted an archaeological survey of the Clarks Pass playa. The survey consisted of an intensive pedestrian survey at 10-meter intervals over three days to locate archaeological features and artifacts within the playa and its shorelines. A further intuitive survey also extended into the terraces located southeast overlooking the playa. From UNLV's survey, seven sites and four features were located with seven artifacts collected. These sites mainly consisted of both intact and scattered prehistoric hearth features, burnt tortoise bone scatter, milling stations,

and lithic production sites (Schneider 1998). The date range of prehistoric use of the playa has been determined based on the presence of fine-grained volcanic lithics, a single projectile point, and potsherds to be between Pinto/Lake Mohave and late period prehistoric peoples. This period establishment has been inferred by the projectile point fragment (Clrkpass #5) which has been described as a Rhyolite fragment with an expanded base, and basally notched point with broken stem, as a “broken/reworked Pinto point or an Elko point with both shoulders and stem reworked” (Schneider 1998: 6). It should be noted that all artifacts collected for the 1998 report were not found in the collections of Joshua Tree National Park and it is currently unknown where these artifacts are stored.

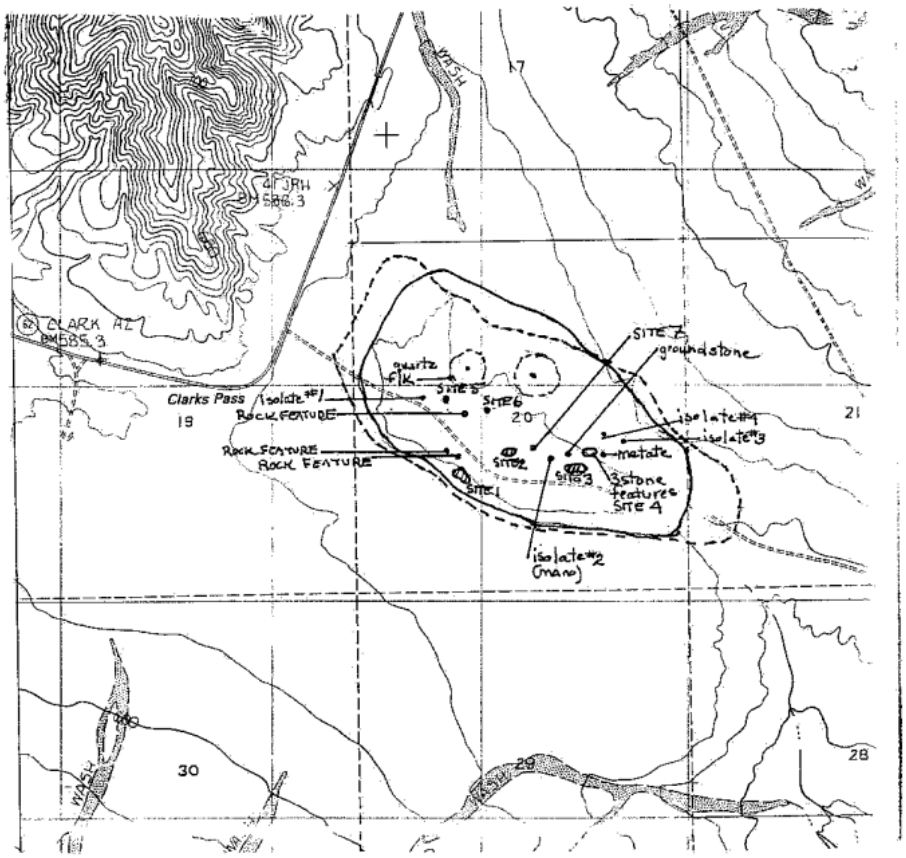

Figure 10 Schneider and Warren Clarks Dry lakebed site map, 1998

FUDDS REPORT 2010

In 2010, the United States Army Corps of Engineers performed a site inspection of Clarks Dry Lakebed. This inspection was to determine the extent of potential life-threatening elements from the ground soil resulting from military training during the Second World War and any other impacts of that training. During the site inspection, a large amount of residual munition fragments (shell casings, bomb remnants, spotting charges), two tactical targets, and small amounts of prehistoric lithic artifacts were documented. Thirtseen surface level soil tests were also conducted, and it was determined that no significant life-threatening contaminations to human and animal communities were identified (PARSONS 2010).

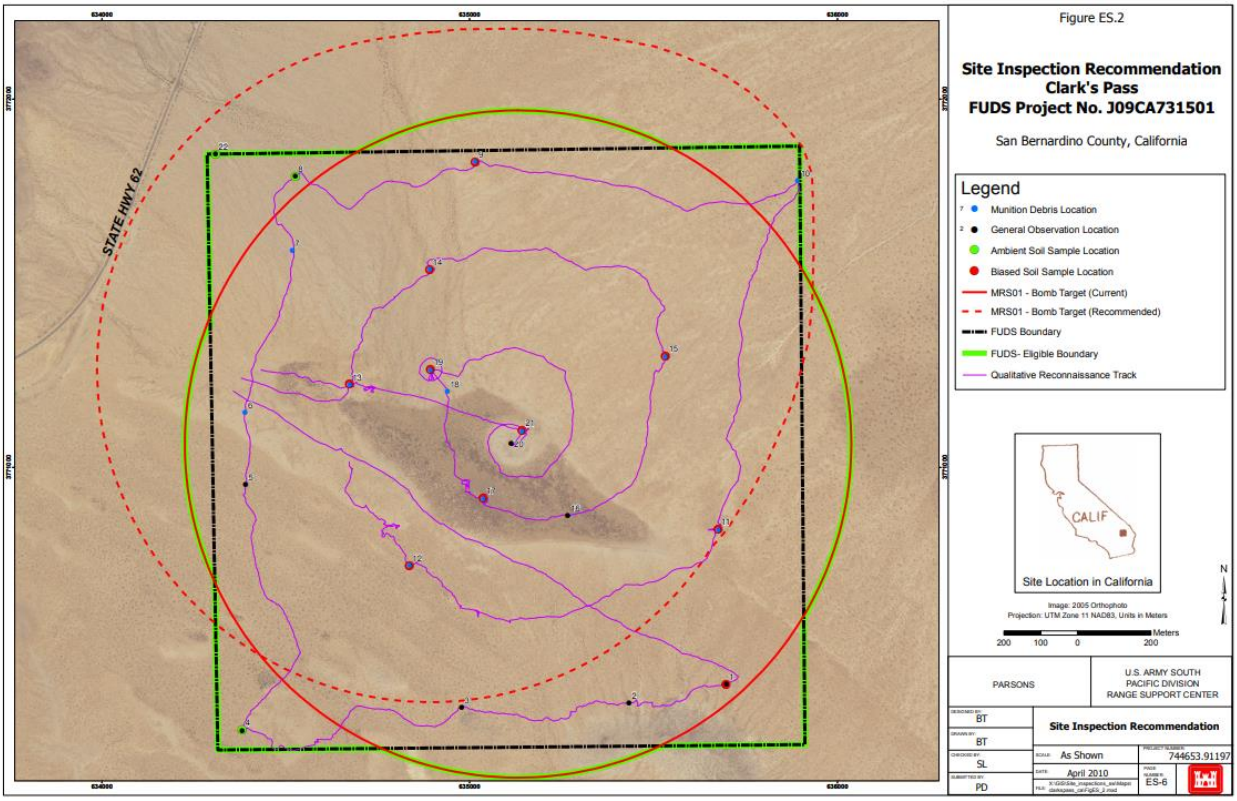

Figure 11 Parsons (2010) Survey Map of Clarks Dry Lakebed 2010

SBR-11442

Recorded in December 2003, this site is located at the northernmost end of Clarks Pass within the boundary of the national park. The site features two petroglyph elements on a large quartz monzonite boulder, one quartz monzonite metate 45cm x 36cm (10cm) in height, and one polished potsherd. The first element of the petroglyph panel is of three interconnected circles and the second element is a standalone circle. The host boulder for feature one is heavily exfoliated and suffers visitor related incursions (shooting and camping) (Hinton 2003). The site in its original recording was given a fair condition rating but has since been heavily impacted by visitor use. A revisitation to this site during this reconnaissance found elements of coyote melon (*Cucurbita californica*) growth among the boulder outcrops within the site boundary, and appeared to be fully ripened and freshly consumed potentially by local wildlife.

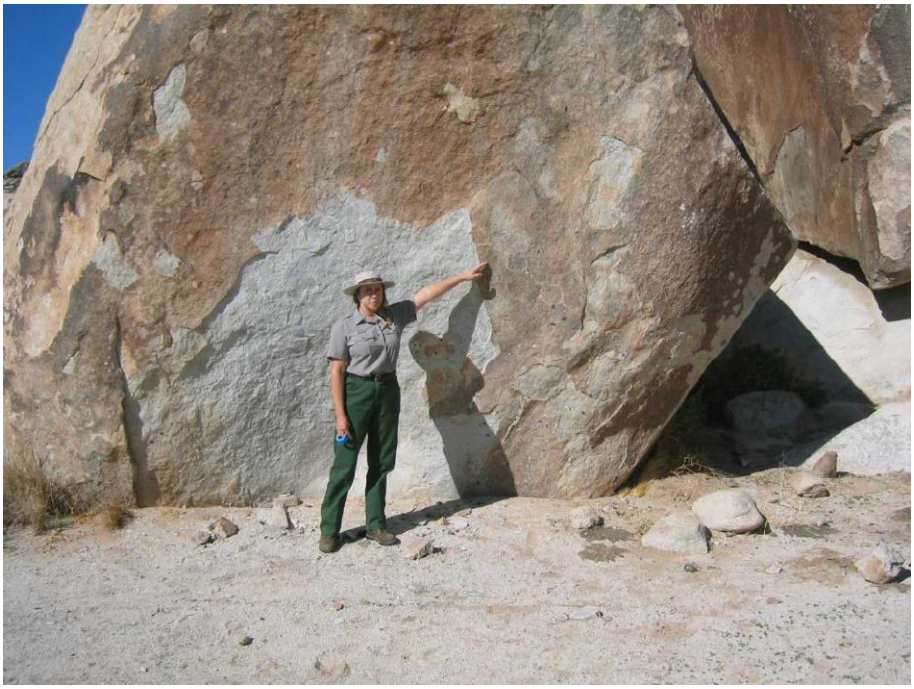

Figure 12 SBR-11442 petroglyph panel with NPS tech, NPS

SBR-11428

Recorded in November 2003, this site is located northeast of the Clarks Pass area. This site is made up of two standalone features containing a 6 x 3 meter quartz monzonite boulder outcrop with three mill slicks (feature 1) and a second 2 x 1.7 meter quartz monzonite boulder outcrop with three mill slicks (feature 2) (Hinton 2003). In a condition assessment made in May 2017, additional prehistoric artifacts were observed such as a lithic scatter of 10 quartz crystal flakes, one edge modified quartz flake, one piece of potentially knapped glass, and one metate measuring 14 cm x 14 cm x 5 cm. Other historical artifacts were also observed during the condition assessment, where five different glass bottle fragments were noted (Oster 2017). This site has been impacted by visitor incursions such as camping and shooting sport, and has undergone treatment for impacts. This treatment included the removal of a firepit from the site by cultural resource managers by dispersing the rock ring and ash present (Henley 2008).

Other sites like that of SBR-11284, SBR-11283, and SBR-7194 make up the known cultural landscape nearest to Clarks Pass. These sites feature food processing stations, encampment, lithic production, and rock art elements. Many reported finds interconnect these sites with different prehistoric artifacts such as lithic scatters, ceramic sherds, and ground stone. Artifacts observed during the research were recorded in the geo-database of the present project (NPS 2023).

Reported Finds

In the vicinity of Clarks Pass, two notable instances of visitor reporting had been made in regard to cultural elements being observed. The first is a metate, 4.5 km

southwest from the Playa lakebed, was found within an alluvial wash bed. The second being a rock art panel featuring red ochre elements that had faded but would be later analyzed through Dstretch to reveal nine plus motifs from the photos made by the reporting party. As of this documentation, no investigation has been made to relocate and confirm these reports. A photo from the original reporting does not match the location based on my own observations in the field and appears to be located elsewhere (possibly observed within the vicinity of 11S 644612 3771532 UTM). A detailed follow-up investigation should be made to confirm these reports (Lolkema email 2019).

No cultural resources were reported or recorded north/northwest of the Twentynine Palms Highway. Confirmed through an interview with the Needles office for the Bureau of Land Management, no cultural resources have been identified within boundaries of the BLM jurisdiction.

METHODS

My research from May to July of 2022 was to continue the formal recordation of prehistoric resources found within the Clarks Pass Dry Lake and its terraces. The goal of this report is to fill the gaps of knowledge of the playa since no formal geo-positional data has been established in Clarks Pass. The establishment of a baseline geo-positional dataset was towards the efforts of assisting cultural resource management needs. The positional data in early reports was not recoverable, or accurate thereby necessitating the re-survey and re-recording of artifacts and features.

The survey of the playa and its shorelines were my primary objective while the terraces and nearby mountains were secondary objectives based on intuitive survey of desert pavements and other natural features. Data was collected by conducting a systematic non-invasive intensive transient survey in 5-10 meter transects. All prehistoric artifacts and features were recorded via Arrow Geo Positional Data System with sub-meter accuracy. The intuitive survey was based on targeting rock shelters, desert pavement, and points of interest from the ground level. No disturbance of subsurface materials or collection of artifacts were made for this study.

By the end of the survey, the entirety of the playa and its shorelines were archaeologically surveyed for prehistoric artifacts as well as limited intuitive surveys conducted on the terraces and the nearby mountain east of the playa (approximately 105 acres). The terraces and mountain side will require later survey since the timeline for this study came to an end before a total 100 percent survey could be attained.

This report features a primary data set collected by the author on behalf of Joshua Tree National Park. Four volunteers, Emma Yeager, Keith Allen Voisine Jr., Caleb Carpenter, and Kenneth Dobbs also assisted the author with the present survey and data collection. The timeline for data collection was during the summer months of May through July of 2022. The survey was time-sensitive since the temperature for the days often would reach well over 100 degrees Fahrenheit in the late hours of morning.

It was determined that between sunrise (approximately 5:00AM) and mid-day (12:00PM) were the ideal timeframe for the survey so long as equipment did not fail, and surveyors were fit for duty. A systematic pedestrian survey was conducted primarily within the Playa lakebed and its shorelines as the primary focus of this research.

Secondary objectives were established if natural features like that of desert pavement, terraces, inselbergs, rock shelters, and peaks were located within the vicinity of the lakebed. This research was cross-sectional in nature in order to obtain a snapshot of a point in time and observe patterns of different potential populations or uses of the playa in prehistory. This research took a holistic approach to describing many uses of the playa.

Challenges encountered during this research include the heat sensitivity of our electronic devices. Often these electronics would only sustain approximately an hour of use before having to be exchanged with new batteries or recording devices to continue in the data collection process. In addition, the dryness of the area did require a constant need for rest, nourishment, and hydration of survey crews. Human limitations were among the most important challenges that required careful monitoring in order to avoid potential casualties.

Proper archaeological investigations are informed by what is left behind by previous human activities. The remains of these activities are detected by the surveyors, and then interpreted based on provenience and signatures of human activity (Newland 2013). But these remains and features can be removed from their original provenience or destroyed due to natural and human impacts.

Often in Clarks Pass, natural erosion, potential looting, and vandalism were observed, which will be later detailed in the discussion section of this report. This research is but a snapshot of what has remained despite time, nature, and human interference. The survey primarily focused on prehistoric artifacts (pre-contact) and features identified on the surface of the ground and those that were partially subsurface

(Lithic fragments, ceramics). Artifacts were assigned a location, size, body type (primary, secondary, tertiary, rim, body), material type, condition, time period, and artifact type. Features (hearths, milling stations) were assigned according to the same range of conditions like the artifacts. Diagnostic historical artifacts, historical features, and unexploded ordinance were considered necessary for recordation so follow up surveys or investigations by historians and park personnel could be conducted.

The instruments for data collection were the EOS Positioning Systems device called Arrow Gold in conjunction with an Apple Ipad. When data was recorded, the Ipad would save all data within the device until it could be uploaded later at Joshua Tree National Park headquarters and then saved in ArcGIS and ESRI ArcGIS online. It is here where data would be stored and cleaned up for spelling errors and misidentification of resources when determined so. All recorded sensitive materials will be stored at Joshua Tree National Parks Cultural Resource branch.

SURVEY RESULTS

The results of the approximately 105-acre survey comprise of one historical land feature (HLF), one historical site, two isolated occurrences (IO's), and six prehistoric sites. A total of four historic features, six historic artifacts, seven prehistoric features, and 272 prehistoric artifacts were formally recorded. Visitor impacts, fauna, and vegetation were also noted throughout and are recounted later in this report.

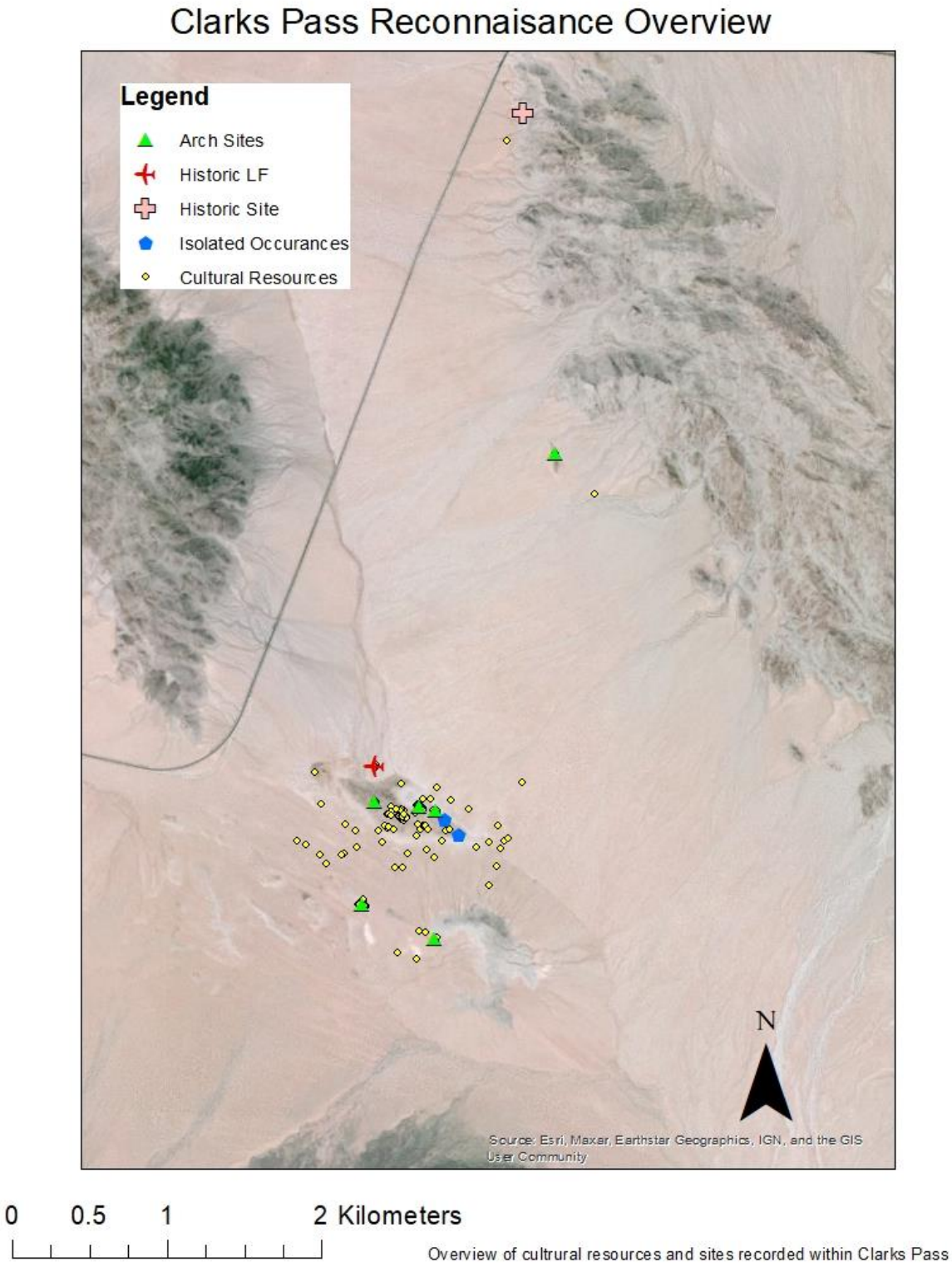

Figure 13 Clarks Pass Reconnaissance Overview, GCSS

CPNAU2022-001(11S 635178 3771005 UTM)

Located between the shoreline and the playa lakebed, this site features a prehistoric rock ring (feature 1) of grounded gabro and quartz monzonite material with other elements of lithic reduction and food processing. One mano (gabro), five felsite flakes, two chalcedony flakes, two quartz flakes, one grounded aplite, and 13 grounded gabro elements were found within the site boundary. The vegetation layer of the site shows a Mojave-Sonoran Semi-Desert Scrub and White Bursage Desert Scrub. A backdrop of Creosote (*Larrea tridentata) and stunted Smoketree (Psorothamnus spinosus*) are present within the boundaries of the site. The geological backdrop of the site features young playa deposits from the Holocene era.

Figure 14 CPNAU2022-001, Site Overview, NE

CPNAU2022-002(11S 635273 3770975 UTM)

Located between the shoreline and the playa lake bed, we recorded a feature of what appears to be a dispersed prehistoric camp with a backdrop of potentially burnt desert tortoise bones (faunal). The locus measures (insert) and (include language of the type of bone and fragment sizes). Subsurface deposits of bone are likely but will need testing for confirmation. Included within the scatter are two pieces of fire affected rock, one aplite ground stone, nine gabro ground stones, and one felsite flake were also observed within the boundary of the site. The vegetation backdrop consists of Mojave-Sonoran Semi-Desert Scrub and White Bursage Desert Scrub. A backdrop of Creosote (*Larrea tridentata)* was present within the boundaries of the site. The geological composition of the site is made up of young playa deposits from the Holocene era.

Figure 15 CPNAU2022-002, Site Overview, SE

CPNAU2022-003 ISOLATED OCCURRENCE (11S 635340 3770916 UTM)

Between the shoreline and playa lake bed, we observed a prehistoric quartz monzonite metate, previously mentioned in Schneider's 1998 report, propped up vertically against a Creosote bush with the grounded side facing towards the ground. The metate measures 67cm x 39 cm x 11cm with a 50% grounded surface. The vegetation of the area consists of Mojave-Sonoran Semi-Desert Scrub and White Bursage Desert Scrub. This IO has a backdrop of Creosote (*Larrea tridentata)* and stunted Smoke tree (*Psorothamnus spinosus*) nearby. The geological composition of the site is made up of young playa deposits from the Holocene era.

Figure 16 CPNAU2022-003, Overview Photo, W

CPNAU2022-004 ISOLATED OCCURRENCE (11S 635441 3770821 UTM)

This IO is located at the easternmost edge of the playa lakebed found within the playa chips (dry lakebed soil) consisting of a backdrop of prehistoric ceramic buff ware sherds. A total of nine buff ware sherds were observed both on and partially subsurface to the ground floor. It is possible that other sherds were also present within the playa chips for when the ground would be disturbed, sherds would be dislodged from the subsurface. As recognized by JTNP current site definition standards, this observation is to be treated as an Isolated Occurrence (IO). The vegetation of the area consists of Mojave-Sonoran Semi-Desert Scrub and White Bursage Desert Scrub. A backdrop of Creosote (*Larrea tridentata)* and stunted Smoke tree (*Psorothamnus spinosus*) are present within the vicinity of this IO. The geological composition of the site is made up of young playa deposits from the Holocene era.

CPNAU2022-005 Historic Land Feature (11S 634904 3771261 UTM)

Located northwest of the playa lakebed, a historical World War Two training tactical shape (feature 1) was observed with a large backdrop of debris from aerial ordnance munitions found within and outside the site boundary. It would be later identified through satellite imagery that two rings (features 2-3) surround the tactical shape (feature 1). Feature 1 consists of four wooden post markers separated 8 to 9 meters apart while measuring between 8 to 12.5 inches in height above the surface creating a rectangular shape. Feature 2 is the first tactical ring on the surface of the site with an approximate diameter of 61 meters. Feature 3 is the second tactical ring with a diameter of approximately 123 meters. This feature was identified within the FUDDS report to be consistent with other features found within General George S. Patton's

Desert Training Center. The vegetation of the area consists of Mojave-Sonoran Semi-Desert Scrub and White Bursage Desert Scrub. This HLF has a backdrop Creosote (*Larrea tridentata)*, stunted Smoketree (*Psorothamnus spinosus*), and other mixed desert scrubs. The geological backdrop of the HLF consists of young alluvium and light-sourced piedmont apron, upon a valley-floor drainage away from the Holocene. No whole or complete pieces of unexploded ordinance were observed within the vicinity of this HLF.

Figure 17 CPNAU2022-005 Historic Land Feature Overview, SE

CPNAU-2022-006 (11S 634902 3771016 UTM)

This site, located within the central area of the playa lakebed appears to be a small dispersed prehistoric camp. Within the site boundary, one felsite flake, three pieces of grounded gabro, and two grounded fragments of rhyolite were observed.

Other artifacts were also observed but do not fall within the boundaries of the site. The vegetation of the area consists of Mojave-Sonoran Semi-Desert Scrub and White Bursage Desert Scrub. This site also features a backdrop of Creosote (*Larrea tridentata)* and stunted Smoke tree (*Psorothamnus spinosus*). The geological composition of the site is made up of young playa deposits from the Holocene era.

Figure 18 CPNAU2022-006, Site Overview, N

CPNAU-2022-007 (11S 635190 3770186 UTM)

Located atop the terraces, a small deposit of subsurface olla fragments, sherds, and a projectile point were observed. The olla fragments consisted of two large sherds (one rim and one body fragment) of a buff ware type. One of the olla fragments appeared to be subsurface and was not disturbed. A third buff ware sherd was also observed near the olla deposit. One quartz projectile point body was also observed

measuring 3.5 cm x 2.5 cm x .5 cm with a notched base and no point. The vegetation of the area consists of Mojave-Sonoran Semi-Desert Scrub and White Bursage Desert Scrub. A backdrop of Mojave yucca (*Yucca schidigera*), Creosote (*Larrea tridentata)* and mixed desert scrubs were identified within the presence of the site. The geological background of the site consists of old Eolian deposits from the Pleistocene era.

Figure 19 CPNAU2022-007, Site Overview, NE

CPNAU-2022-008(11S 634813 3770381 UTM)

Located atop a terrace overlooking the playa lakebed, we observed a large lithic procurement site of approximately 147 various prehistoric artifacts. Due to limitations of time and the readiness of equipment, no formal site boundary could be established. It should also be noted that the full extent of artifacts and features could not be determined for the reasons previously mentioned. Observed at the site were

approximately 68 pieces of micro debitage of various material types, 14 felsite flakes, 10 quartz flakes, 10 chalcedony flakes, 23 jasper flakes, seven basalt flakes, nine grounded gabro, one exhausted chert core (5 cm x 4 cm x 2.5 cm) one purple felsite tool (5 cm x 3.5 cm x 2 cm), one purple felsite projectile point body (2.5 cm x 2cm x 1 cm), and one quartz projectile point body/base (3 cm x 2 cm x 1 cm). Three elements of purple felsite (porphyritic rhyolite tuff) have been noted at this site and are considered potentially diagnostic to date an Early Archaic occupation (NPS Staff; Ervin 1985). The vegetation of the area consists of Mojave-Sonoran Semi-Desert Scrub and White Bursage Desert Scrub. A backdrop of Mojave yucca (*Yucca schidigera*), Creosote (*Larrea tridentata)* and mixed desert scrubs were identified within the presence of the site. The geological background of the site consists of old eolian deposits from the Pleistocene era. A re-visitation for a complete formal recording with proper equipment should be considered for this site.

Figure 20 CPNAU2022-008, Site Overview, E

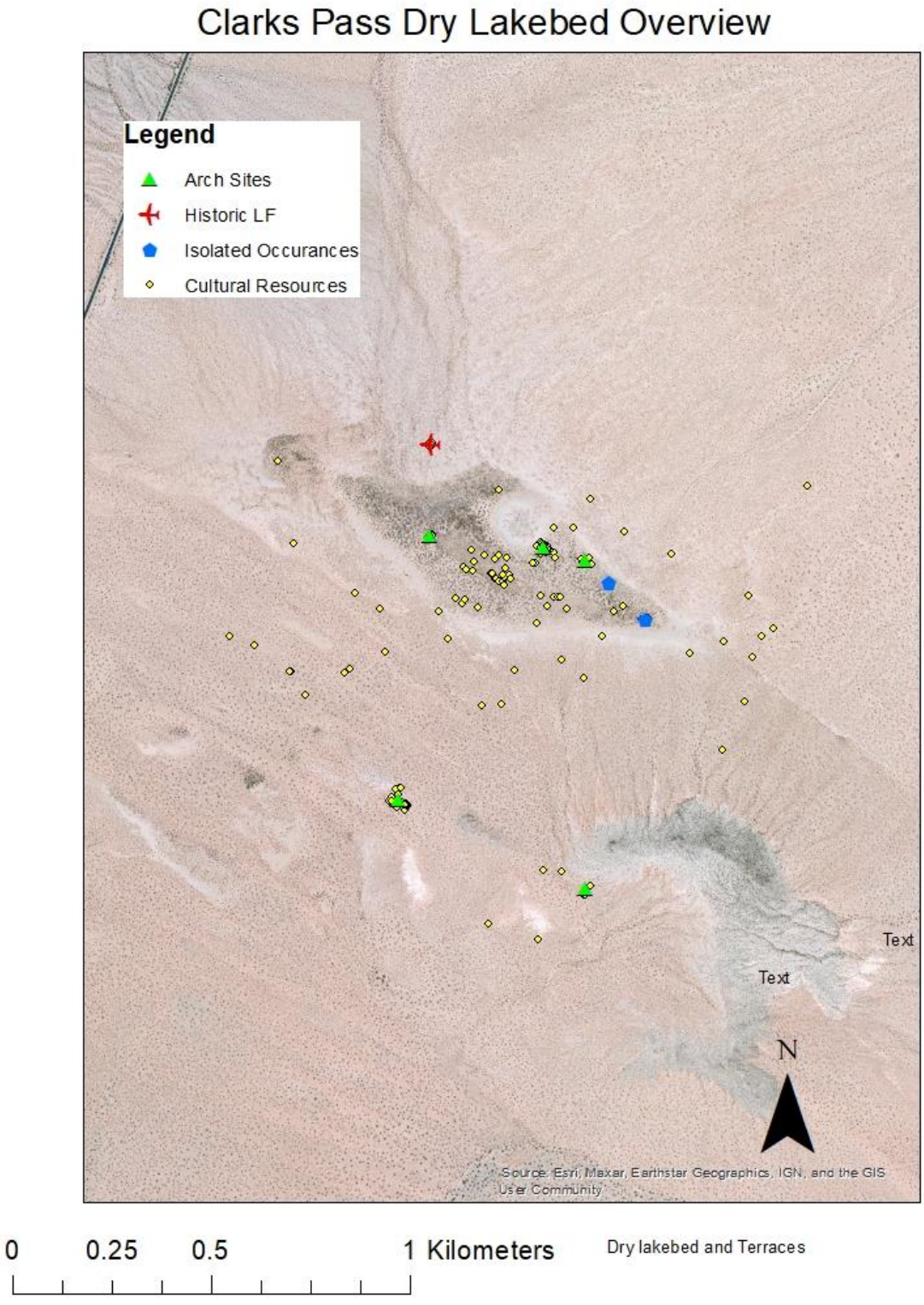

Figure 21 Clarks Pass Dry Lakebed Overview, GCSS

CPNAU-2022-009 (11S 636049 3773280 UTM)

Located within a boulder outcrop (measure) a distance from the playa lakebed, a prehistoric milling station was observed. This milling station (feature 1) consisted of three mill slicks measuring 31 cm x 18 cm (MS1), 31 cm x 21 cm (MS2), and 22 cm x 17 cm (MS3). The milling station host rock is of quartz monzonite material with heavy exfoliation on the edges of the boulder from both natural and visitor impacts. This site is heavily disturbed with a large backdrop of broken glass, clay pigeon fragments, shell casings, bullets, bullet scarring of the quartz monzonite boulders, and two instances of modern defamation carvings located within meters of the milling station.

Figure 22 False petroglyph panel, SW

These carvings were not determined to be prehistoric due to the lack of patination of the carved surface, inconsistency of the carving pattern, and lack of

evidence supporting other examples of the motifs within the region. No other artifacts or features were identified within proximity of Feature 1. The vegetation of the area consists of Mojave-Sonoran Semi-Desert Scrub and White Bursage Desert Scrub. A backdrop of mixed desert scrubs was located around the boulder outcrop. The geological background of the site consists of granite, granodiorite, and porphyritic determined to be of the late cretaceous period.

Figure 23 CPNAU2022-009, Site Overview, SW

CPNAU-2022-010 (11S 635879 3775456 UTM)

Located within the rocky outcrop of the mountain, a historic prospect pit (feature 1) measuring approximately 1 meter deep was observed. Located nearby, a backdrop of various unidentifiable cans was also found between rocks and dispersed within the washes of the mountain side. The vegetation of the area consists of Mojave-Sonoran

Semi-Desert Scrub, Brittlebush, and White Bursage Desert Scrub. A backdrop of Creosote (*Larrea tridentata*) and Milkweed (*Asclepias albicans*) were observed within proximity of the prospect pit. It should be noted that at coordinates (11S 635740 3775295 UTM) a historic post possibly to designate a claim was also observed. The geological background of the site consists of granite, granodiorite, and porphyritic determined to be of the late cretaceous period.

VISITOR RELATED INCURSIONS

In the Clarks Pass area, accessibility from the general public to the wilderness is possible via the Twentynine palms highway. In many instances, visitor related activities like that of shooting sports, camping, off-highway vehicular movements, and defamation of natural features have been observed. The Clarks Lake area is at a high-risk area for OHV inclusions, as seen in other impacted areas of the park containing dry lake beds. While it is unknown if any resources have been looted or collected by treasure hunters in the past, the pass is at a high risk for such activities due to the historical significance of the area. It is noted within other documents of treasure hunting for World War Two remains being a large target by treasure seekers (Haresty 2009).

Figure 24 OHV incursion and Graffiti on Inselbergs, near SBR-11442 (2022)

Looting has been confirmed within the vicinity of the pass located east of Clarks Pass, with screening implements and dugouts discovered with no stabilization efforts made as of this document. It is also observed that graffiti is present within the vicinity of SBR-11442 and restoration efforts should be made to protect the natural integrity of the landscape and nearby sites.

Figure 25 Looter site, dispersed artifacts and chicken wire in foreground (2022)

DISCUSSION

The sites recorded by this survey indicate that there is a greater emphasis on tool production or use as opposed to food procurement or other activities. These site definitions stem from the site types as defined in Newlands 2013 archaeological overview of Joshua Tree. As of this report, Clarks Pass contains four open air complex feature/artifact assemblage sites, two open air simple artifact assemblages, and one open air simple flaked-stone assemblage site (Newland 2013).

CPNAU-2022-001, CPNAU-2022-002, CPNAU-2022-006, and CPNAU-2022-009 are defined as open air complex/feature artifact assemblages. These site types take on the form of either intensive occupation (base camps, villages, or habitation sites) or a

site suggesting habitation or a focused processing for specific resources. This is suggested from the general utility implements (points, flakes, tools), milling, fire affected rock, and pottery found within the aforementioned sites (Newland 2013).

CPNAU-2022-007 is defined as an open-air simple artifact assemblage. This site is defined by the artifact scatter that is multifaceted in its artifact distribution found within the defined boundaries. These site types suggest short-term usage from smaller groups, localized productivity, or for seasonal movement of past Indigenous communities (Newland 2013).

CPNAU-2022-008 is defined as an open air simple flaked-stone assemblage site as of this recordation. This site designation is given by artifact types (flakes, tools, cores, points) found most predominantly within the site. This site shows a potential limited functional range of hunting, butchering, or other resource procurement activities. This site is interpreted as short-term usage area operated by small groups away from more permanent settlements (Newland 2013).

This supports the possible assumption that most artifacts found within the Clarks Pass area can be related to the activity of lithic procurement or usage. These assumptions were expected since, in previous reports, the same phenomenon was observed by UNLV. In 1998, archaeologists recovered mostly projectile points and lithic material for use in the typology of Clarks Pass. It is postulated that, while food production and camping appeared to be a few of the primary uses of the playa, there is strong supporting evidence towards lithic production and usage based on artifacts observed on the surface (Schneider 1998).

These findings should not be assumed as the primary activities of prehistoric peoples that were in the Clarks Pass area or JTNP at large. Artifacts and features are a finite resource when it comes to archaeological inventory, and many activities can be lost or buried leaving only what physically remains on the surface. These leftovers are the remaining representations of activities of past peoples. A greater sample size, requiring a near 100 percent survey of the pass and the greater JTNP area will be required to gain a more complete picture of the lifeways of past Indigenous communities. Moreover, not only a complete inventory of resources should be attained, but multi-faced approaches from other sub-disciplines like that of historians and Indigenous anthropologists will be needed for greater interpretations of these prehistoric lifeways.

NOTABLE NATURAL RESOURCES OBSERVED

ETHNOBOTANY

During the survey, a large range of various desert plant life was observed. What follows are the notable examples of different plant species observed, the location they were observed, and the ethnobotanical usage from these resources. This breakdown is useful for gleaning a greater complex meaning to the landscape of Clarks Pass and how it relates to the communities that have access to these resources. The natural resources found within the pass are imbued with cultural significance which give the landscape a more complex meaning.

Figure 26 Smoke trees within the playa margins, ground stone in foreground (2022)

The following section has been informed by ethnographic accounts curated at Joshua Tree National Park. The following is not to be construed as only applicable to groups mentioned here since these resources take on complex meaning and use by many different cultures. The names for the following species of plants by the traditional groups that use them exist but are not restated here.

Mojave Yucca (*Yucca schidigera*), during the survey, a single instance of Mojave Yucca was observed atop the terraces overlooking the playa, near CPNAU-2022-007. This resource was utilized by Chemehuevi and the Mojave for soap for self-hygiene,

basketry (crafting, cleaning, preserving), rope, and sandals. The fruits of the Mojave Yucca were collected then eaten or stored for winter and early spring seasons for sustainment during the off months (Bean 1997: 14-15).

Milkweed (*Asclepias subulata*), found within the eastern mountains and washes of Clarks Pass, served as a multifunctional resource to different communities. Chemehuevi are reported to use the resource as cordage, snares, and as a curative (toothaches, kidney infection, skin burns). Other communities would use Milkweed for the same purpose; however, the Serrano would also use milkweed in conjunction with tobacco (Bean 1997: 26-28).

Silver Cholla (*O. echinocarpa*) was observed in heavy concentrations around the western/southwestern end of Clarks Lake playa margin and below the terraces overlooking the playa. It is reported that the fruits of the silver cholla were collected to be eaten or stored for later usage by multiple groups (Bean 1997: 61).

Barrel Cactus (*Ferocactus cylindraceus*) was observed within the rocky slopes of the mountains of Sheephole Valley east of Clarks Lake. This resource would be used for the consumption of the buds, flowers, and fruits by many of the park's Indigenous communities. Chemehuevi are also reported to have removed the seeds from the cactus, roasted the seeds then ground them into a food that resembled peanut butter. The Cahuilla are reported to have removed the spikes from the cactus to use the body of the plant as a vessel or to squeeze the pulp of the cactus for water (Bean 1997: 58-59).

Coyote Melon (*Cucurbita palmata*) was observed within and outside of the site boundary of CA-SBR-11442. The desert gourd in a broad sense has been reported to have been used for consumption and utility. The gourd would have to undergo an extensive boiling process in order to be properly consumed. The hard shell of the outside would also be used as a container, ornament, rattler, or as a musical instrument (Cutler 1961: 474).

Creosote Bush (*Larrea tridentata*) was observed throughout the lakebed, shorelines, and vicinity of Clarks Lake. Creosote would be utilized for medicinal purposes for ailments, and wounds. This is accomplished by either boiling for use in tea or by crushing the leaves for application on wounds. Chemehuevi and Mojave groups were also reported to utilize the sap from creosote bushes as a pitch for sealing baskets or attaching projectile points to arrow shafts (Bean 1997: 198-200).

Smoke Tree (*Psorothamnus***)** was observed within the playa margins of Clarks Lake and appeared to have stunted growth as reported by park vegetation specialists. Smoke Trees were utilized for medicinal purposes, basketry, and as a coloring dye amongst Serrano and Cahuilla communities but as of this source, no data had been collected for Chemehuevi or Mojave use (Bean 1997: 95).

DESERT TORTOISE

As recorded within CPNAU-2022-002, a burnt tortoise (Desert Tortoise (*Gopherus agassizii*)) bone scatter was observed during this survey. The distinguishable fragments of bone appear to be the carapace of the tortoise shell. Taking taphonomy into account, the process of fossilization, many factors such as

erosion, UV-radiation, and aeolian impacts must be recognized. Weathering of bone materials where a change from when the animal has died, to the in-situ remains left behind, and then the breakdown/flaking of what is left behind will be based on the size of the animal over time. These processes can be slowed or heightened by fluctuation of man-made and natural occurrences and can bias conclusions of what remains (Behrensmeyer, 1978). Definitive study on the tortoise remains found within Clarks Pass to confirm archaeological context with methods in taphonomy must be considered.

The following are the ethnographic materials from Joan Schneider, Lowell Bean and Sylvia Vane. This information is a mix of privileged information to the National Park Service and published reports. Further study in regards to the cultural relationship of the Desert Tortoise and Indigenous communities of Joshua Tree National Park must be considered. It is also recommended that these further studies be informed by contemporary Indigenous communities.

Figure 27 Desert Tortoise Carapace, Clarks Dry Lakebed (2022)

In ethnographic research conducted by Joan Schneider, the importance of desert tortoise was multifaceted to early Indigenous communities. As a food resource, the reptile would be eaten by various groups but an aversion to its consumption has been notably established by the Mojave. It is also mentioned within the text by Bean and Vane that Heinrich Baldwin Molhausen: “found the shells of desert tortoises wherever there was water, indicating that the meat of tortoise was an important part of the Indian diet of the desert” in 1858 (Bean 2002: 24). Desert tortoise shell has also been used for medicinal purposes when grounded into a powder, notably by the Yavapai. The shell of the desert tortoise would also be used in a utilitarian facet as a spoon, scoop, or as a tool for pottery. Ceremonial use of the Desert Tortoise has also been previously

recorded with one instance by the Cahuilla using the shell as a rattle. This object is currently curated at the Palm Springs Desert Museum collections (Schneider 1996).

FUTURE RESEARCH

The primary objective of this project was to gain a 100 percent survey of prehistoric assemblages within the shorelines of Clarks Lake. This has been accomplished and formal recordation with Californian DPR forms and entry into the CRIS management system should be applied. It is likely that other sites outside of Clarks Lake are present within the pass and a complete archaeological survey and inventory should be conducted. A re-visitation of the terraces overlooking the playa and the surrounding areas of Clarks Lake should be considered in future research/survey. Historical archaeologists should also be present for future survey to record resources pertaining to the areas historical use.

Future research into the Clarks Pass area should consider the identification of sites within the playa and its terraces and how it relates to other playas found within the park. Collected materials from the 1998 survey should be relocated and inventoried within Joshua Tree National Parks cultural resources collections. An extensive analysis of lithic materials found within the playa, in conjunction with collected materials from 1998 should also be considered. Also, subsurface testing should also be considered within sites found in the playa and its terraces for determining the chronology of prehistoric usage, as well as providing greater complex meanings to the cultural background of Clarks Lake. Collaboration with Indigenous stakeholders should be made before subsurface testing is to be conducted.

With the presence of a unique lithic material type, stated in this document as purple felsite (porphyritic rhyolite tuff), it has been postulated that its presence within sites that are predominantly lithic based are potentially Early Archaic or later in its context. This has been postulated by NPS staff for this assertion relates to the work conducted by Richard Ervin's 1985 site descriptions of Early Archaic peoples in the Joshua Tree area and the presence of the material type located within these sites. Ervin notes that no substantial stratigraphic evidence is present (at the time) that confirms this theory but future researchers could potentially investigate this claim by analyzing assemblages found in lakes that measure different periods of occupation (Ervin 1985). Evidence to support this theory can be achieved within the Clarks Lake area for its lack of substantial disturbance to its terraces and shorelines can provide reliable data; thus, an investigation into the material typology of purple felsite can be further explored.

It should be noted that even with a 100 percent survey of the Clarks Pass area of the park accomplished, only half of the landscape will be recorded. A close working relationship with the Needles office of the Bureau of Land Management towards efforts of surveying and recordation of cultural resources of Clarks Pass should be considered. The most likely achievement of this goal will be accomplished by independent researchers or by inter-agency needs towards stewardship and preservation.

NRHP EVALUATION

A combination of these research inquiries will provide greater understanding in regards to Clarks Lake and potentially other sites when located throughout the pass will meet a D criterion for National Register of Historic Places under information potential. Clarks Lake potentially recounts periods between the Lake Mojave complex of lithics, as

noted by Claude Warren and Joan Schneider, to potential post contact Indigenous usage by contemporary Indigenous communities of the park. This large expanse of time can be confirmed by further study, analysis of artifacts compared to other neighboring playas/sites, and subsurface testing that could provide strong evidence to this period of use and stewardship by prehistoric communities.

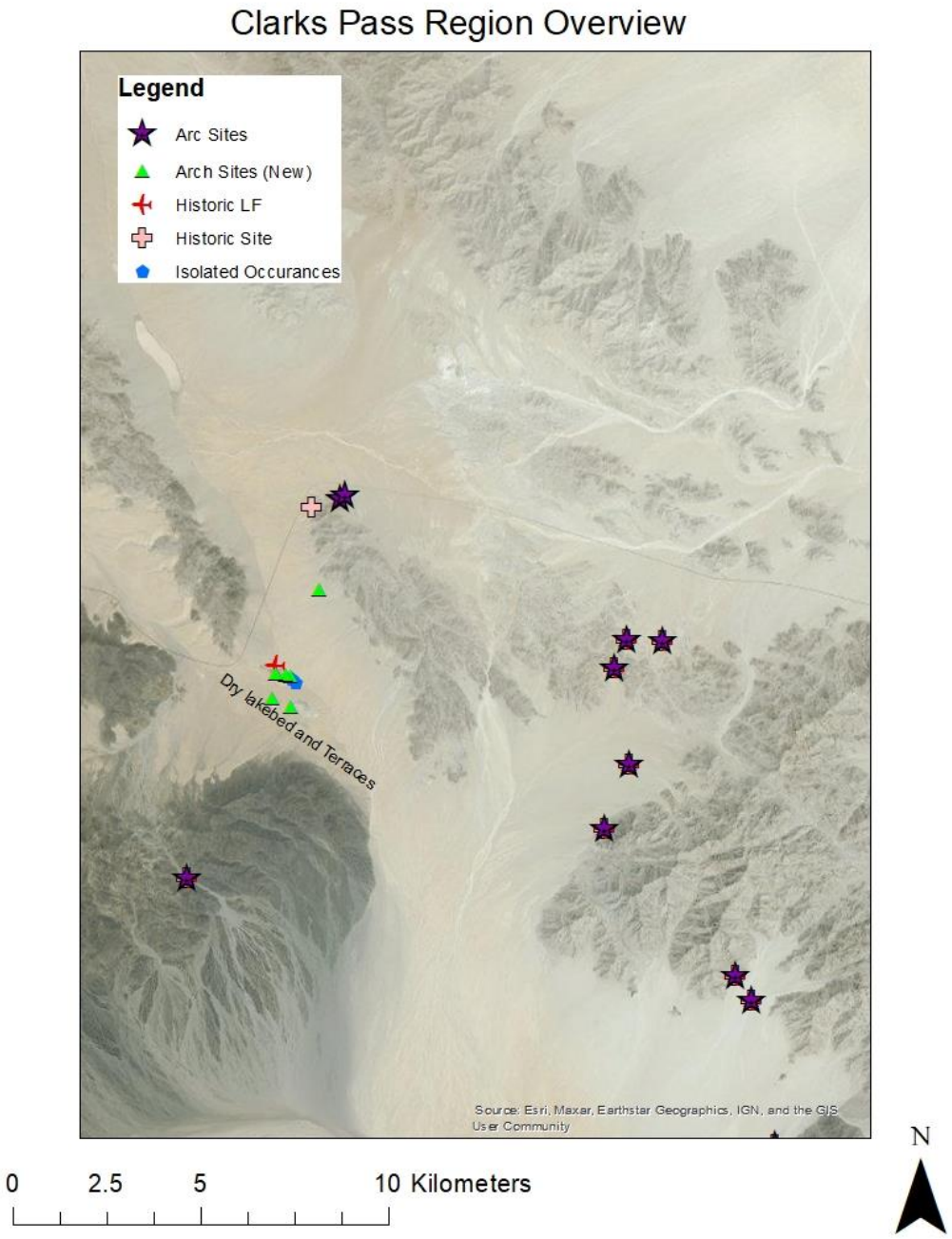

Figure 28 Clarks Pass Region Overview, GCSS

Management of the Clarks Pass should require consistent monitoring of the cultural and historical resources documented within the pass. Many of these sites are at risk of destruction due to off-highway visitor movement, destruction, and looting within sites of the pass. Natural resources are also at risk because of these incursions as determined from the presence of Desert Tortoise communities and botanical destruction of sensitive vegetation that were observed during the survey.

Law enforcement and cultural resources staff should work closely in monitoring these areas towards preservation and stewardship of these resources. Formal recordation of visitor impacts, graffiti, poaching, looting, and illegal camping/off-highway vehicle traffic should be a priority for law enforcement officials monitoring Clarks Pass. A continuing effort towards the survey, recording, and dismantling of unexploded ordinances should also be considered.

Figure 29 Illegal campfire north of Clarks Pass, NPS (2022)

Clarks Dry lakebed features a natural and longstanding habitat for the Desert Tortoise, a critically endangered species. The species is subjected to illegal hunting, habitat degradation, disease, drought, and off-highway vehicular traffic incursions. Measures to protect not only the cultural resources but the finite populations of the Desert Tortoise must be considered and strategies towards preservation must be explored. The Desert Tortoise is imbued with significant cultural meaning, which relates to the relationship between past communities and the species, thus informing the cultural landscape of Clarks Pass.

Figure 30 Desert Tortoise carapace, Clarks Lakebed vicinity (2022)

Closely working with contemporary Indigenous communities should always be considered. Based on work done by the Native American Land Conservancy at the Old

Woman Mountain Preserve, the idea of a landscape and the healing of past trauma inflicted on Indigenous communities and stewardship of landscapes should be the primary mindset of resource managers. This relationship is seen at the preserve for it takes the form of promoting the interrelationship between tangible and intangible worlds, interdependence between past and future, a balance with nature, the restorative power of nature, and sacred knowledge. Achievement of these relationships promotes a sense of identity for Indigenous communities, strengthens family ties, promotes communication with the lands and its resources, as well as acknowledges past traumas inflicted upon these communities. This does not have to be an Indigenous only endeavor towards stewardship, for even outside communities can interconnect stewardship and responsibility towards a means of protection and education of finite resources (Russo 2005).

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