2024 Kelso Conference: Order of Presentations

Organized by: Edward Knell

Foundations: "Where We Sit"

1. Mark Q. Sutton, Joan S. Schneider, and G. Dicken Everson: *A Sweet Bite of Zzyzx History*

Early Period

2. Edward J. Knell and Daron Duke: *The Mojave Desert Western Stemmed Tradition: More than Just Lake Mohave and Silver Lake Points*

3. Alexandra Jonassen: *The Conveyance of Paleoindian Toolstone to Pluvial Lake Mojave, California*

4. Stephen Uthoff and Edward J. Knell: *Opal Lake: An Introduction*

Late Period

5. Binning, Jeanne Day and Alan P. Garfinkel: *Extended Temporal Overlaps of Atlatl and Bow Technologies in the Great Basin and Other Parts of North America: A View from the Mojave Desert*

6. Loukas Barton and Micah Hale**:** *Pottery Production in the Lower Reaches of the Mojave River*

7. Melanie P. Saldaña: *West of Goldstone: Goat Cave (CA-SBR-2859), a rock shelter on the South Range of NAWS China Lake*

8. Helen Wells: *West of Goldstone: A Rock Shelter Complex on the South Range of NAWS China Lake*

9. Kara Jones: *Ivanpah Dry Lake, CA: A Review of Past and Ongoing Work*

10. Barbara J. Roth and Kara Jones: *Reconstructing Landscape Use in the Pahrump Valley*

11. Sarah Bertman**:** *Geochemical Sourcing of Rhyolite Artifacts from Three Late Holocene Village Sites in the Antelope Valley*

12. Bruce Love: *A two-part presentation; (1) Photography as a Research Tool: the Edwards Air Force Base and Maturango Museum Crescent Collections and (2) New findings Regarding Ancient Lake Cahuilla Fish Procurement*

Future Directions

13. Amy Girado: *Navigating National NAGPRA in California*

2024 Kelso Conference: Title, Authors, and Abstracts
(Alphabetical order by last name)

Pottery Production in the Lower Reaches of the Mojave River

Loukas Barton and Micah Hale

Recent data recovery along the distal margins of a dry lake basin on the lower reaches of the Mojave River drainage reveals well-preserved cultural deposits buried underneath eolian sand dunes stabilized by modern construction. The buried cultural component consists of well-preserved, charcoal-rich, occasionally rubified thermal features of various sizes and shapes, very little fire affected rock, almost no lithics, an abundance of thin-walled, low-fired, undecorated ceramic fragments, and a large quantity of small burned and unburned bone from a single taxon: the Mohave tui chub. Current research in collaboration with several Tribes attempts to characterize the timing and nature of the activities in this location, with specific emphasis on ceramic analysis, compositional analysis, multiple methods of chronological dating, and archaeobotanical analysis. Our working hypothesis is that this is a locus of short term but recurrent pottery production, and that this is among the few places anywhere in the Mojave and surrounding areas where such activities can be dated directly and analyzed quantitatively. Here at Kelso we'll be looking forward to discussions of similar contexts, relevant datasets, interpretation, and insights on the methods of production.

Geochemical Sourcing of Rhyolite Artifacts from Three Late Holocene Village Sites in the Antelope Valley

Sarah Bertman

For 50 years, the Antelope Valley College (AVC) orphaned archaeological collections have remained underutilized and underreported—an oversight in Mojave Desert archaeological investigations. This research serves as a geochemical provenance study of rhyolite artifacts from three western Mojave village sites excavated by AVC and forming part of the AVC Archaeological Repository (AVCAR). Cottonwood Creek (CA-KER-303), Skelton Ranch (CA-LAN-488), and Totem Pole Ranch (No Trinomial) were seasonally occupied during the Late Holocene (4,300 BP- Present). Sourcing western Mojave rhyolite can elucidate interaction spheres and the nature of relationships between hunter-gatherer communities. A previous geochemical study of rhyolite from the Antelope Valley suggested cultural affiliations and patterns of interaction between different ethnic groups dictated access and procurement of rhyolite from the two known local formations—Rosamond Hills, located in Rosamond, CA, and Fairmont Butte in Lancaster, CA. By using LA-ICP-MS to source the groundmass of rhyolite debitage, conveyance strategies that reflect the technically useful features of rhyolite and patterns of local-regional intergroup exchange are investigated. The results of this study indicate that the long-term use of rhyolite from the Fairmont Butte formation was more important than the use of Rosamond Hills. These data challenge

previous archaeological findings and reinforce the sustainable use of flexible territorial boundaries to maintain cultural affiliations by local groups.

Extended Temporal Overlaps of Atlatl and Bow Technologies in the Great Basin and Other Parts of North America: A View from the Mojave Desert

Jeanne Day Binning and Alan P. Garfinkel

There is a large literature that discusses the prehistoric introduction of the bow and arrow into the various regions of North America. The dates of the introduction vary greatly. Erroneously, it is sometimes assumed that this “technological innovation” quickly replaced the atlatl and dart. However, there is a growing corpus of data that indicate, in some locations, it took 1,500 years or more before the atlatl and dart were totally replaced by the bow and arrow. In most areas, the introduction of the new technology did not result in any immediate changes in technological tradition or economic practice. An examination of this transition in the Mojave Desert provides insights into the factors that may have influenced the adoption of the bow and arrow.

Navigating National NAGPRA in California

Amy Girado

The December 2023 Final Rule for the Native American Graves Protection and Repatriation Act provides new guidance for a decades old law, addressing a lack of consistency, transparency and dignity in managing federal museum collections. With the new changes also come new opportunities for meaningful consultation, respect and repatriation. How the larger anthropological community embraces these changes to NAGPRA impacts us all.

The Conveyance of Paleoindian Toolstone to Pluvial Lake Mojave, California

Alexandra Jonassen

This study uses pXRF technology to delineate the conveyance of terminal Pleistocene-Early Holocene obsidian and fine-grained volcanic (FGV) toolstone and artifacts to pluvial Lake Mojave, California. Prior preliminary research indicates Paleoindians conveyed nonlocal Coso Volcanic Field (CVF) obsidian and Goldstone dacite to Lake Mojave from the northwest as well as nonlocal Shoshone Mountain obsidian from the north. Our study uses a substantially larger database of geochemically sourced artifacts (n=722) than the prior study, and includes tools, projectile points, and debitage from field and lab-based collections. Results support the prior conclusion that CFV and Shoshone Mountain obsidian and

Goldstone dacite are most common; however, the larger sample now reveals that artifacts from several additional nonlocal obsidian and FGV sources were conveyed to Lake Mojave from source areas in California and Nevada. Nonlocal toolstone was thus conveyed south through the Owens Valley and southwest across Fort Irwin to Lake Mojave, as well as south along a likely corridor east of Death Valley. The local Soda Mountains felsite also saw substantial use. Ultimately, this study reveals that the Paleoindian lithic conveyance, land use, and technological strategies employed at Lake Mojave were considerably more complex than previously recognized.

Ivanpah Dry Lake, CA: A Review of Past and Ongoing Work

Kara Jones

Ivanpah Dry Lake is a Holocene dry lake located in the Mojave Desert along the California-Nevada border along I-15. Ivanpah Dry Lake is well studied in small parcel segments through gray literature but has had little work done in the accessible realm of academic literature. The aim of this thesis is to create a synthetic document regarding the archaeology of Ivanpah Dry Lake, focusing on toolstone use and procurement strategies employed by those who lived along the shores and on the playa of this lake. Recent research by Spaulding and Sims (2018) has revealed two new Holocene lakestands at Ivanpah Dry Lake as well as one additional Terminal Pleistocene/ Early Holocene lakestand, contrary to the existing notion of lake desiccation around 9,000 years ago. Reexamination of past Cultural Resource Management (CRM) reports and synthesis of existing site records has revealed how these new lakestands and subsequent lacustrine environments may have impacted mobility and subsistence strategies of those who occupied or passed through the area. These factors can be investigated through lithic procurement strategies including factors of material choice and the use of differing tool technologies in response to a changing climate. GIS is employed to examine how site distributions may have changed during these varying lake level periods. This research continues as the author's current dissertation work focuses on the development of lacustrine resource adaptations and the utilization of Ivanpah Dry Lake as a persistent place of cultural memory at the confluence of two sacred song trails. Ultimately, the entirety of the Ivanpah Dry Lake area is culturally sensitive and warrants protection from further invasive development.

The Mojave Desert Western Stemmed Tradition: More than Just Lake Mohave and Silver Lake Points

Edward J. Knell and Daron Duke

Archaeologists recognize at least nine different Western Stemmed Tradition (WST) projectile point types in the Great Basin. Each of these types is widely used north of the Mojave Desert, but only the Lake Mohave and Silver Lake types are usually applied in the Mojave Desert. The Mojave Desert is where these types were first defined by the Campbells and associates in the 1930s. No new meaningful comparative analyses have been undertaken to assess whether the Lake Mohave and Silver Lake only pattern in the Mojave Desert remains valid. New results from flatbed scanning and typological analysis

(using a working WST typology applicable to all Great Basin regions) of 336 WST points from Mojave Desert military installations and curation facilities reveal more WST type variability than has previously been appreciated. Recognizable WST point types in our sample, besides Lake Mohave and Silver Lake (a recent landmark-based geometric morphometric analysis reveals what criteria analysts should use to better distinguish non-prototypical Lake Mohave and Silver Lake points), include Haskett, Cougar Mountain, Parman, and Bonneville. This variety of WST types in Mojave Desert assemblages generally mirrors other parts of the Great Basin. Recognizing this variability is a valuable first step towards correcting WST type assignments in the Mojave Desert, as well as improving Mojave Desert intraregional and interregional typological comparative analyses.

A two-part presentation; (1) Photography as a Research Tool: the Edwards Air Force Base and Maturango Museum Crescent Collections and (2) New findings Regarding Ancient Lake Cahuilla Fish Procurement.

Bruce Love

Part 1 – Specialized photographic techniques of chipped stone artifacts have the potential to aid lithic analysis. The collections of crescents at Edward Air Force Base and at the Maturango Museum were photographed in the dark with hand "painted" light to make the flake scars stand out to be easily counted, measured, and analyzed. Part 2 – A fish roasting site along the north shore of Ancient Lake Cahuilla was excavated in 2002 and the results are summarized here. In addition, in 2021, a set of some 22 previously unrecorded fish traps was recorded close to the known National Register set of fish traps near the Torres Martinez Desert Cahuilla reservation in Thermal, California, adding important new data to the growing body of work surrounding Ancient Lake Cahuilla.

Reconstructing Landscape Use in the Pahrump Valley

Barbara J. Roth and Kara Jones

This paper reports on our on-going work at the Stump Springs Site (26CK301/4169) in the Pahrump Valley of southern Nevada. Fieldwork was done by a UNLV archaeological field class in the spring of 2022. We recorded a large number of intact thermal features associated with groundstone, stone tools, and debitage, along with an extensive scatter of fire-cracked rock. The goals of this project were to examine hunter-gatherer landscape use in this portion of the Mojave Desert. Stump Springs was used repeatedly for similar resource procurement and processing activities from the Middle Archaic through the Late Prehistoric periods. We discuss insights we have gained into the use of the site through time and how it fits into a larger pattern of land use. We also highlight the importance of springs and trails within this desert environment. This paper is an idea gathering and data sharing presentation with the goal of connecting Eastern Mojave sites and cosmology into the broader Mojave Desert.

West of Goldstone: Goat Cave (CA-SBR-2859), a rock shelter on the South Range of NAWS China Lake

Melanie P. Saldaña

In 2008, our field project investigated three rock shelters West of Goldstone on the South Range of NAWS China Lake. Goat Cave, which is set apart from the other two by elevation, appears to have been used differently than the others due to its artifact assemblage, evidence of activity and level of difficulty to access. This paper will discuss our investigation of Goat Cave and thoughts as we develop a synthesis of our work West of Goldstone.

A Sweet Bite of Zzyzx History

Mark Q. Sutton, Joan S. Schneider, and G. Dicken Everson

Our perpetual research has revealed a new (we think) aspect of Zzyzx history, as will be explained and experienced here.

Opal Lake: An Introduction

Stephen Uthoff and Edward J. Knell

During Summer field sessions in 2023 and 2024, Dr. Knell and his team of CSUF graduate and undergraduate students surveyed and analyzed the shorelines surrounding Opal Lake, a tiny playa lake in the Black Mountain area north of Barstow. Diagnostics include Silver Lake and Pinto projectile points, suggesting Opal Lake was inhabited from the Early to Middle Holocene. Several sites were identified or reidentified around Opal Lake, including CA-SBR-99 that will be focus of today's presentation. Using a 25% sampling strategy and analyzing a small portion of the site, Knell and students analyzed 1,501 chipped stone artifacts including projectile points, bifaces, flake tools, cores, hammer stones, and debitage. Though more fieldwork is planned for next summer, we present these preliminary data to introduce the site and document some of the technological strategies undertaken by the Early to Middle Holocene inhabitants.

West of Goldstone: A Rock Shelter Complex on the South Range of NAWS China Lake

Helen Wells

We have been revisiting our South Range data as we prepare our final synthesis of nine seasons of CalStateLA field class investigations. The 2008 field class tested several sites in the area we refer to as

West of Goldstone, located near the boundary between NAWS and Fort Irwin. Two of the rock shelters, which are connected by a trail segment, are situated ca. 150 m apart and at the same elevation. The assemblages from the two shelters represent a somewhat different range of activities, and temporal indicators suggest that they may have been occupied during different time periods.
