

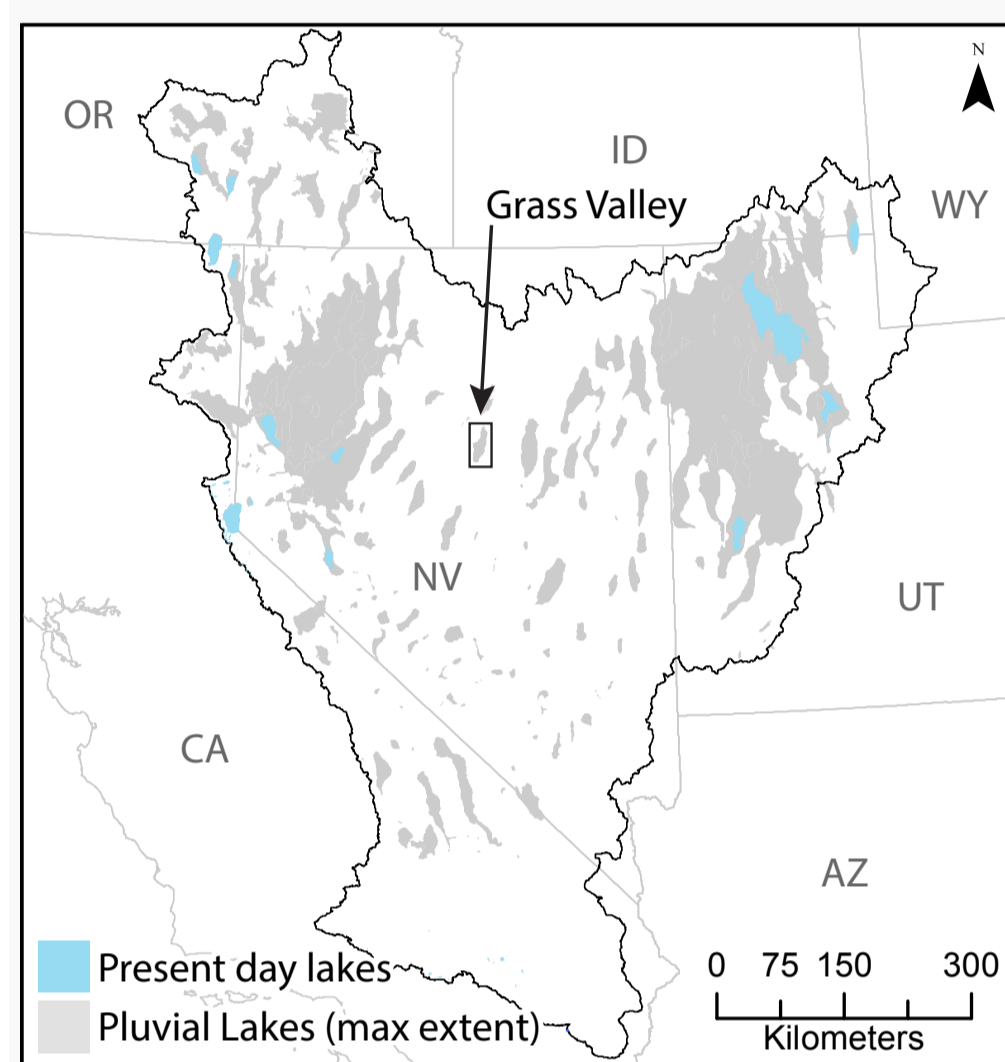
Prearchaic Adaptations in the Central Great Basin: Preliminary Findings from a Stratified Open-Air Site in Grass Valley, Nevada

Brian F. Coddling,¹ David W. Zeanah,² D. Craig Young,³ Joan Brenner Coltrain,¹ Erik P. Martin¹ & Robert G. Elston⁴

(1) Department of Anthropology & Archaeological Center, University of Utah, (2) Department of Anthropology, Sacramento State University, (3) Far Western Anthropological Research Group, (4) Department of Anthropology, University of Nevada, Reno

Introduction

Early Holocene occupants of the Great Basin preferentially occupied highly productive habitats surrounding pluvial lakes (pictured below). While growing evidence details the adaptations of these Prearchaic foragers in the Eastern (e.g., Madsen et al. 2015) and Western Great Basin (e.g., Jenkins et al. 2012), our understanding of the Central Great Basin remains impoverished, largely due to the limited number of stratified archaeological sites containing well preserved material suitable for faunal analysis and radiocarbon dating.



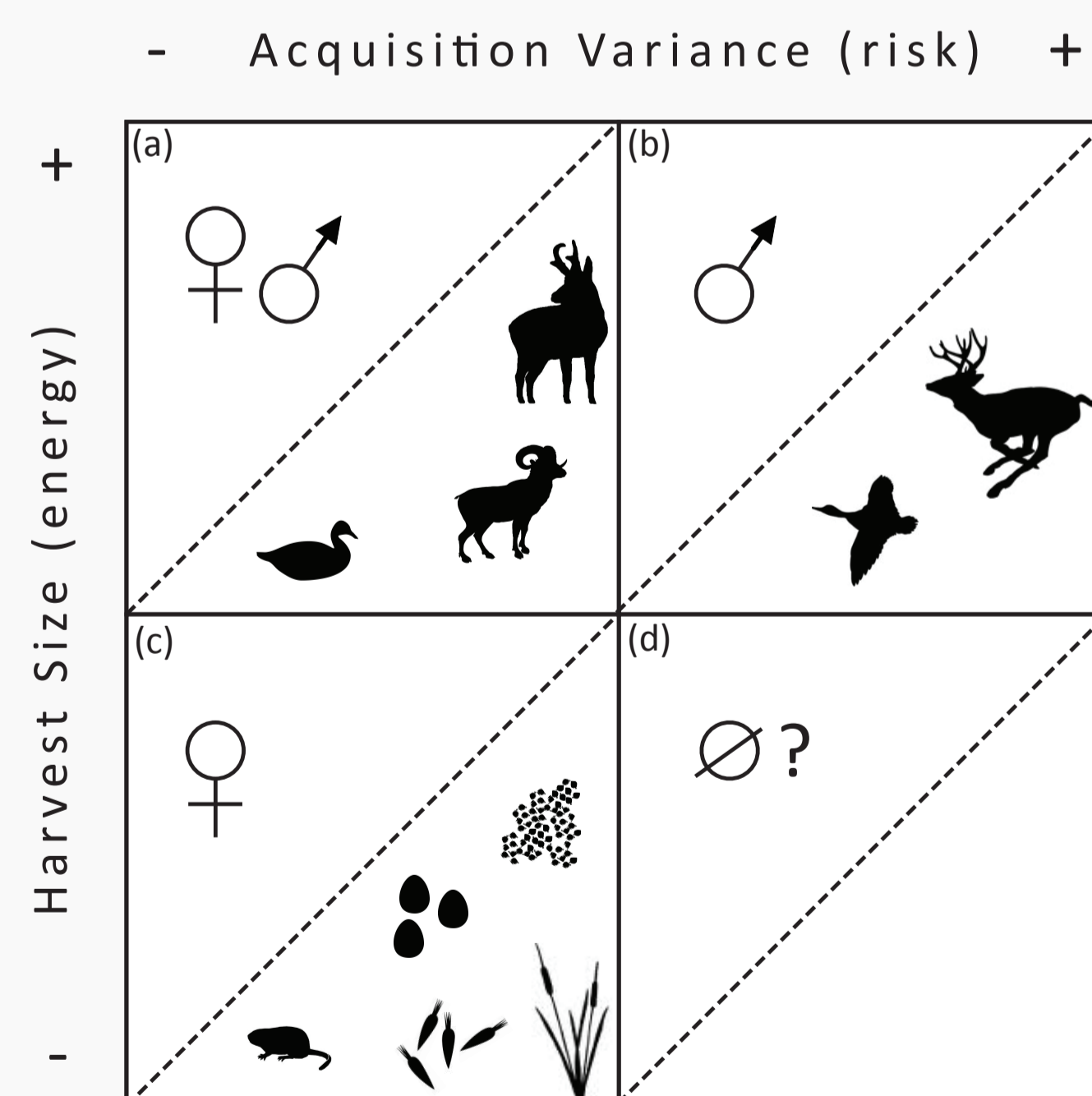
Recent investigations of an open-air site (26La4434) along the northern shore of Pleistocene Lake Gilbert in Grass Valley, Nevada (left) revealed a buried deposit with preserved organic material and Prearchaic technology. Here we report preliminary analyses examining the stratigraphy, chronology, artifacts and faunal remains recovered from the site. We offer preliminary interpretations of these findings based on theoretically informed predictions from behavioral ecology (Elston et al. 2014).

The Problem

As expected by predictions from foraging theory, Prearchaic people were highly mobile and acquired highly profitable prey. But, contrary to predictions, they also exploited diverse low-ranking resources. Reconciling this mismatch requires understanding how the abundance and distribution of resources effects women's and men's subsistence decisions (Elston et al. 2014).

Behavioral Ecology & Sex-Specific Foraging Strategies

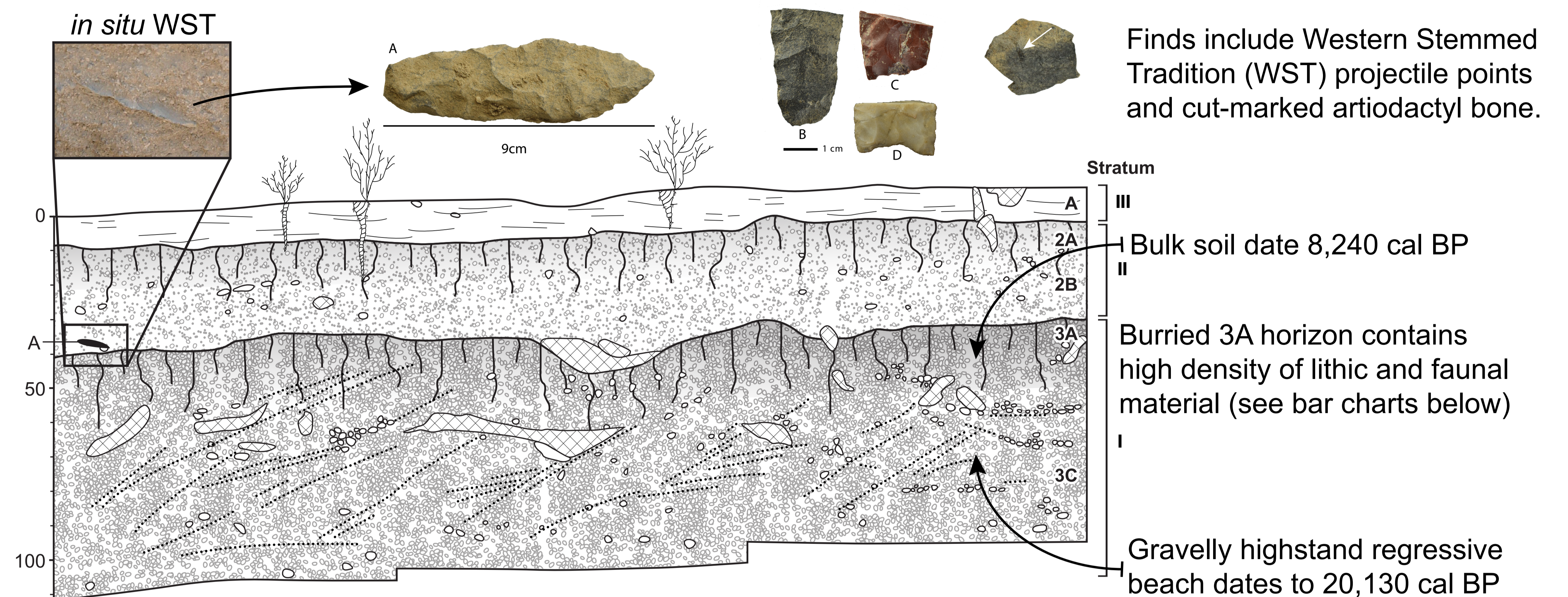
As shown on the right, the division of labor should vary as a function of resource acquisition risk and harvest size (note, though represented as discrete, these should vary continuously). When available resources provide high-energy returns with low risk (e.g., waterfowl or artiodactyls near the marsh), men's and women's prey sets should converge; when high energy resources are associated with greater acquisition risk, the targets of men's and women's foraging should diverge with women focusing on lower-energy reliable resources (e.g., eggs, cattail pollen, muskrats, tubers and seeds) while men continue to focus on high-energy packages but at higher risk of failure (Coddling et al 2011).



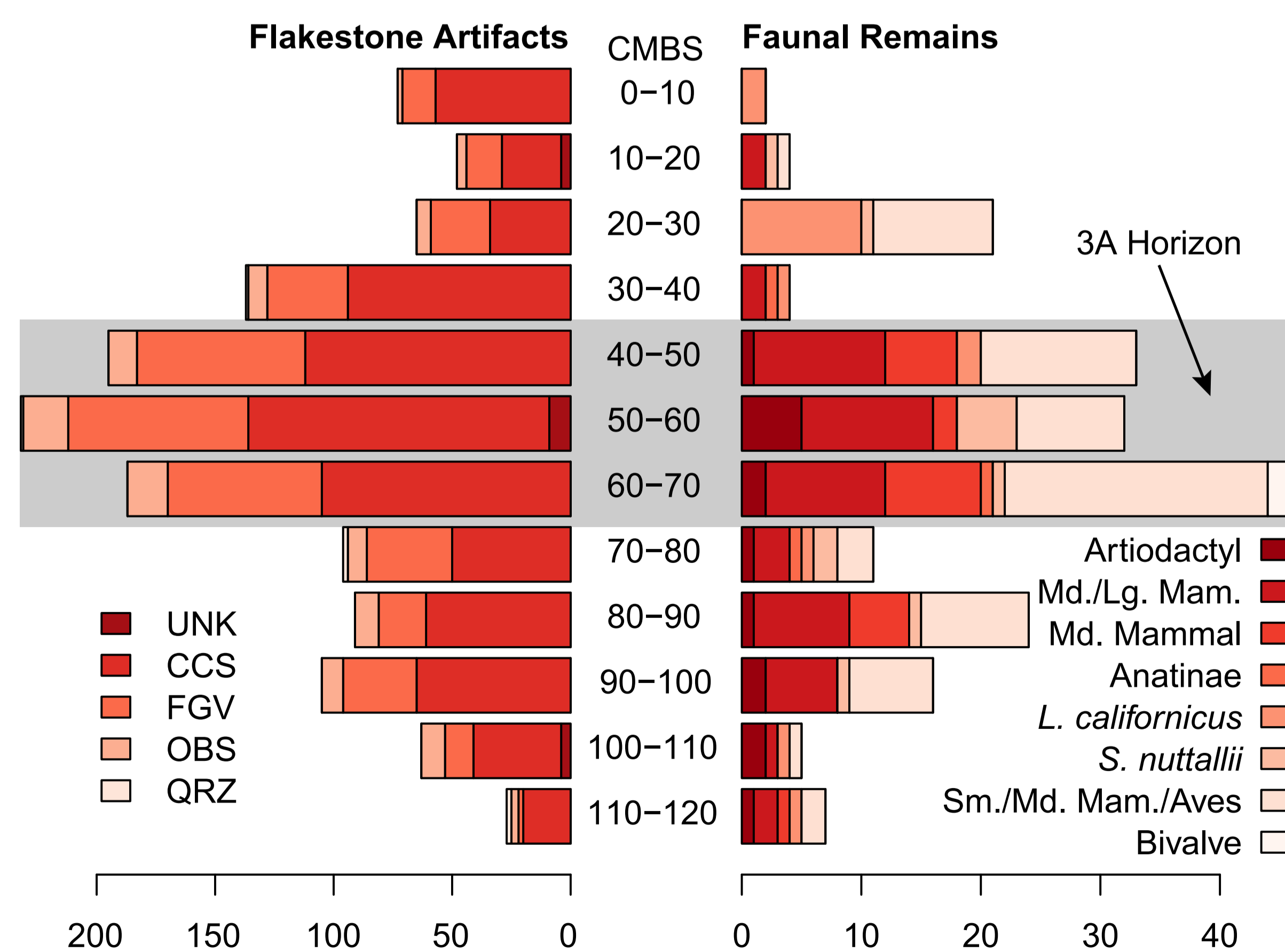
Predictions

If this model explains Prearchaic foraging strategies, then the archaeological findings from Grass Valley should reveal remains left by highly mobile foragers targeting a mix of highly profitable animals, such as artiodactyls and waterfowl, and low profitability, smaller prey representing the aggregate of convergent and divergent sexual divisions of labor.

Summary of Findings



South wall profile of three contiguous 1-x-1-m excavation units (G7-9). Stratum I is a gravelly high-stand regressive beach reworked from an older beach dating to 20,130 cal BP (artiodactyl float, D-AMS 014938). The organic-rich 3A paleosol formed on these gravel bar deposits dates to at least 8,240 cal BP (bulk soil date, Beta-419328), during which time the soil was forming on a regionally stable surface. Mazama tephra (ca. 7,700 cal BP) rests on or above local correlates of 3A. Stratum II is a post-Mazama accretionary deposit of loess, alluvium, and turbated bar sand and gravel upon which the 2A paleosol formed. Stratum III is a loess cap. As illustrated by the artifact and bone counts, buried PA components are preserved on and in Stratum I and the 3A paleosol. The profile is turbated (filled burrows are cross-hatched) but intact horizons and stratigraphic contacts are well-preserved as evidenced by in situ artifacts.



Artifact and faunal counts illustrate a concentration of Prearchaic material around the 3A horizon that has been vertically displaced over time. Faunal remains are dominated by unidentifiable small to medium sized mammals or birds, but identifiable elements illustrate that Prearchaic foragers also acquired artiodactyls and waterfowl as predicted by our model (left).

Conclusions

Stratigraphic and technological analysis confirm that 26La4434 represents a single Prearchaic component. Faunal remains show that Prearchaic foragers in Grass Valley targeted highly profitable prey, including artiodactyls and waterfowl (representing a convergent division of labor) and lower ranked prey (representing a divergent division of labor). These results support our predictions (Elston et al. 2014) and provide new insights into the adaptations of the first hunter-gatherers in the central Great Basin.

Acknowledgment

This project is funded by grants from the National Science Foundation (BCS-1632521, -1632522, -1632526), the University of Utah Research Foundation and Sacramento State University. Thanks to our collaborators Nathan Stevens, George T. Jones and David Rhode, and to Erika Johnson and Robert McQueen from Summit Environments. This work would have been impossible without support from Jon Wilker at the Gund Ranch, Kim Wolf at Barrick, and the dedication of Paul Allgaier, Ryan Brady, Chris Jazwa, Martijn Kupers, Chris Parker, Erick Robinson, Blake Vernon, and especially Ryan Bradshaw, Kate Magargal, and Ashley Parker.



References

Coddling, B. F., R. Bliege Bird, and D.W. Bird. 2011. Provisioning offspring and others: risk-energy trade-offs and gender differences in hunter-gatherer foraging strategies. *Proceedings of the Royal Society, B*, 278:2502-2509.

Elston, R.G., D.W. Zeanah and B.F. Coddling. 2014. Living outside the box: an updated perspective on diet breadth and sexual division of labor in the Prearchaic Great Basin. *Quaternary International* 352:200-211.

Jenkins, D.L., et al. 2012. Clovis Age Western Stemmed projectile points and human coprolites at Paisley Caves. *Science* 337.

Johnson, E. and R. McQueen. 2012. Mitigation of Cortez Gold Mines Cortez Hills Expansion Project, Lander and Eureka Counties, Nevada. Prepared by Summit Environments for Cortez Gold Mines, Crescent Valley, Nevada.

Madsen, D.B., D.N. Schmitt, and D. Page. 2015. The Paleoarchaic Occupation of the Old River Bed Delta. *University of Utah Anthropological Papers* 128.