

Comparison of raw materials throughout high elevation sites in the Absaroka Mountains, NW Wyoming

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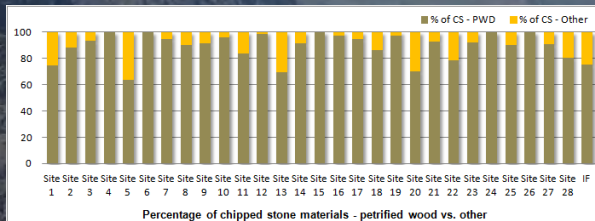


Throughout some regions of the Absaroka Mountain Range, petrified wood can be found in abundance. This availability is reflected in the raw materials of artifacts in sites, which are predominantly represented by the locally available material. The artifacts constructed from petrified wood were excluded from the data recorded from a series of high elevation (3200-3500m) sites, and the concentration of remaining materials including chert, chalcedony, quartzite, obsidian, silicified sediments, and basalt were compared between sites. The removal of the petrified wood allowed for some sites that contained large artifact numbers but little material diversity to become less predominant, and far more diverse sites to become more visible. The removal of the readily available material, petrified wood, provides a modified ranking of importance between the sites in the region, and contributes to the overall understanding of these sites.

INTRODUCTION

Petrified wood is found in abundance throughout some high elevation (3200-3500m) areas of the Absaroka Mountain range in NW Wyoming. The abundance of this raw material can be seen in high elevation sites that are saturated with petrified wood. Although other raw materials including chert, chalcedony, obsidian, quartzite, silicified sediment, irish rock, and phosphoria are found in many of these sites, and the overwhelming amount of petrified wood can mask their significance.

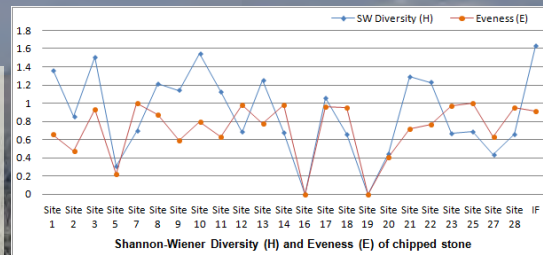
Key for abbreviations	
CS - Chipped stone	QT - Quartzite
IF - Independent flake	BS - Basalt
PWD - Petrified wood	SLS - Silicified sediment
OB - Obsidian	IR - Irish rock
CH - Chert	PH - Phosphoria
CL - Chalcedony	



Site surveying and a collectors pile from Site 11 showing the variety of materials within sites.

METHODS AND RESULTS

In order to evaluate the sites by their less readily available raw materials, the petrified wood was removed for each site from data that was gathered over 3 field seasons (2014-2016). Large totals (N) of chipped stone before the removal did not correlate with large numbers of chipped stone in alternative materials. Some sites were composed entirely of petrified wood, and others fell to insignificant numbers of remaining chipped stone. Larger amounts of remaining chipped stone did not correlate with a higher percentage of alternative materials in relation to the percentage of petrified wood between sites. Similarly, a large amount of chipped stone or a high percentage of non-petrified wood materials did not influence the diversity or evenness of the sites. However, sites that had the highest percentage of non-PWD materials (Site 5, 13, and 20) tend to have a lower total of chipped stone (N). Each analysis performed provides an alternate ranking between sites that may be used in future assessment of site importance in the area.



CONCLUSIONS

When comparing percentages of petrified wood to non-PWD wood materials, sites with a greater percentage of non-PWD chipped stone (5, 10, and 20) tend to have a smaller (N) of chipped stone in total. Site 1 does not fit the trend, but a concentration was placed on recording obsidian in the site in 2015. The trend shows that sites with larger N and more knapping activity over time, tend to have a greater percentage of PWD than smaller sites. Sites with a greater amount of knapping over time are not proportionately selected for knapping less readily available materials in areas with a high density of petrified wood. More evaluation will need to be completed to further explain the trend and to identify possible correlations that may help explain the patterns of diversity and evenness between sites.



	Total CS (N)	Total CS w/o PWD
Site 1	7594	1909
Site 2	767	87
Site 3	610	40
Site 4	25	0
Site 5	375	135
Site 6	17	0
Site 7	76	4
Site 8	84	8
Site 9	3074	252
Site 10	919	36
Site 11	2473	402
Site 12	492	7
Site 13	165	50
Site 14	293	24
Site 15	339	0
Site 16	40	1
Site 17	97	5
Site 18	60	8
Site 19	35	1
Site 20	201	60
Site 21	990	72
Site 22	120	26
Site 23	64	5
Site 24	59	0
Site 25	242	23
Site 26	19	0
Site 27	203	19
Site 28	41	8
IF	49	12

