Excavations at Kathy’s Rockshelter (CA-BUT-301) recovered a diverse assemblage of utilitarian tools, including artifacts of modified wood, modified bone, groundstone, and flaked stone. Three approaches are used to investigate possible changes in site use based on utilitarian tools.

First, the technological organization of groups changes in relation to their settlement patterns. The polarity between expedient and curated tools, while somewhat arbitrary, can be useful for interpreting artifact assemblages (e.g., Binford 1979). Expedient tools are manufactured on site for quick use and are typically made from locally available sources with minimal investment in time and energy, thus making it more efficient to make a new tool than to make repairs. Conversely, curated tools require specific materials and a significant investment in time and energy to manufacture. They are made for long-term use and are repaired when damaged. A technological organization based on curated tools indicates a logistically structured settlement pattern with people transporting the entire tool kit. Expedient tools are used for brief procurement forays.

Second, comparing the frequencies of subsistence related tools, artifacts related to the manufacture and repair of tools, and less profane objects (e.g., ornamental and ritual), may reveal changes in site usage over time. More permanent occupations are expected to deposit greater frequencies of the latter two categories than seasonal visits focused on subsistence procurement.

Third, the richness and diversity of artifact assemblages changes in response to shifts in residential patterns and logistical organization (Delacorte and Basgall 2006). Highly mobile groups exhibit less tool diversity than logistically oriented and sedentary systems.

We compared the relative frequencies of curated and expedient tools in the assemblage to look for changes caused by settlement patterns. Artifacts assigned as curated include projectile points, shaped bone artifacts (e.g., awls), and shaped groundstone (e.g., milling slabs) (Figure 1). Expedient tools included unshaped groundstone (e.g., cobbles/tools, battered stones), informal flaked stone tools, and bone and antler projectile flackers. The relative frequency of curated to expedient tools is fairly uniform over time, with sample size issues in levels deeper than 50 cm (Figure 2; $\chi^2 = 13.0, p > .05$).

### Hypothesis

We hypothesize that the use of Kathy’s Rockshelter shifted from a short term seasonal procurement and processing site in the Prehistoric period to a refugelocale used by the Konkow Maidu during the Historic Period. The latter use is based on ethnographic accounts whereby the Konkow used mountain hideouts as a refuge after the gold rush (Hurtado 1988). Assuming that the earlier site function was primarily used by small family groups on a seasonal basis for hunting, gathering, and processing animal and plant resources, we expect to see activities reflected in the earlier tool assemblages. These may include ground stone implements, projectile points, and flaked stone implements associated with plant and animal processing. If the rockshelter use shifted to function as a refuge, we should see a shift in the proportions of curated and expedient tools, reflecting the change in the group’s technological organization. Additionally, we would expect to see an increase in the diversity of tool types with a greater representation of non-utilitarian artifacts. Finally, we expect to see greater diversity in the assemblage structure if the rockshelter was used as a residence after the gold rush.

Three statistical measures were used to determine if there were significant changes within the assemblage over time. Since the chronology for most excavation units at Kathy’s Rockshelter remains tentative, ten centimeter excavation levels were used.

### Assemblage Diversity

Assemblage diversity was evaluated using the reciprocal of Simpson’s D (1/D) as a measure of evenness, and count of artifact types as a measure of richness. Simpson’s D is particularly sensitive to the dominance of an artifact type in an assemblage. The reciprocal of Simpson’s D provides similar values across all levels with the exception of deeper levels that have smaller sample sizes (Figure 4). There is an increase of richness through time; however this may not be meaningful since there is a significant log-log relationship between richness and artifact sample size ($r^2 = .80, p < .001$).

### Discussion

The results from the analysis did not support the hypothesis that Kathy’s Rockshelter was used as a refuge. Based on this dataset, the lack of change in the relative frequencies of tool classes, expedient and curated tools, and artifact diversity indicate that the function of the shelter remained stable through time, even after historical disturbances to native lifeways.

Modified wood specimens, found primarily in the upper-most levels, were not included in this analysis. Since the modified wood is perishable, the lack of wooden artifacts in deeper levels may be a reflection of preservation rather than real difference in the way the site was used. In addition, the function of most modified wood specimens is largely speculative. Although the function of some of the modified wood artifacts is clear, such as the arrow shaft fragment (Figure 5), most are of undetermined function. Therefore sorting all of the wooden artifacts into classes would have been too arbitrary. Nonetheless, the lack of diachronic change seen at Kathy’s Rockshelter seems to suggest that the presence of modified wood tools is a function of preservation in the uppermost levels rather than a representation of shifting use. Future work on this artifact class may help elucidate exactly what kinds of activities took place in the rockshelter that are not represented by other tool classes.

Future research should include a larger sample of sites in the area to determine where Kathy’s Rockshelter fits into the larger settlement pattern of the native inhabitants.

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### Selected References


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