CHAPTER 4
RESEARCH ORIENTATION

Introduction

Mitigative investigations at the East Plum Creek site are likely to yield important information addressing a variety of research themes for which data are lacking from eastern Colorado. The most recent research context documents for the Platte River and Arkansas River basins were created, in part, to provide direction for regional archaeological investigations (Gilmore et al. 1999; Zier and Kalasz 1999). The research context documents include specific as well as more generalized research topics of a synthetic nature for all of the major culture taxa described above in Chapter 3. Research topics cited in the context documents that are particularly relevant for the current investigations at the East Plum Creek site include chronology, cultural affiliation and interregional relationships; settlement-subsistence systems; technology; and paleoenvironment and geomorphology.

Chronology, Cultural Affiliation, and Interregional Relationships

Background Information and Data Needs

More precise chronological information is required to confirm the temporal/cultural affiliation of site components. Absolute age assessments and temporally diagnostic artifacts recovered from the various excavated levels are required for dating the respective occupational layers. The size and form of projectile points recovered near the site surface suggests the presence of an upper component affiliated with the Late Prehistoric stage. However, interpretations derived from a few relatively dated artifacts must be considered tenuous at best. Furthermore, the artifacts recovered from underlying levels may be considerably older given the presence of McKean complex points. Such points are typically associated with Middle Archaic period occupations in eastern Colorado. Additional diagnostic artifacts and buried, radiocarbon-dated features permit the definition of temporally distinct components that are critical for chronology building and addressing other interrelated research concerns. Such data enable examination of technological trends and, additionally, changes (or the lack thereof) in the prehistoric settlement and subsistence strategies employed in the region.

Data recovered from Colorado Front Range-Piedmont sites are particularly useful for addressing research questions about post-Archaic cultural affiliation. Late Prehistoric stage occupations in the Castle Rock vicinity, specifically those of the Early Ceramic period (Gilmore 1999), are often termed "Woodland" or "Plains Woodland." They are, however, potentially assignable to an even more confusing array of poorly defined, highly localized culture taxa, e.g., Graneros focus, Parker focus/phase, Franktown focus/phase, and Hogback focus/phase. The shortcomings of these Late Prehistoric stage taxa, which overlap considerably in terms of their temporal, spatial, and material culture parameters, have been well-summarized previously (Butler 1988; Kalasz et al. 1999a:56-72). There are no well-established, archaeologically recognizable distinctions available to separate further the Early Ceramic period taxa in eastern Colorado (Eighmy 1994:232; Kalasz et al. 1999a:57). A trend for increased projectile point edge serration is posited for the Hogback phase, but the cultural significance of this attribute has not been confirmed (Gilmore 1999:272; Kalasz and Shields 1997:45). Unfortunately, Late Prehistoric sites tend to be placed

within these unsupported taxa strictly on the basis of their location, e.g., an Early Ceramic period component near Parker, Colorado may simply be placed within the Parker focus regardless of its similarities with other Front Range components. Such distinctions may inhibit regional synthetic studies.

> ...the continued indiscriminate application of these taxonomies may have masked more valid comparison and contrast among the larger sample of sites along the Front Range. If one discards much of the taxonomic baggage that has accrued over the last 50 years, trends possibly reflective of more widespread cultural processes may be discerned. Further, site type variability may at last be considered in light of functional differences within a common settlement-subsistence pattern rather than causes related to dissimilar cultural influences (Kalasz et al. 1999a:68).

Archaic culture taxa defined for eastern Colorado are conceptually more straightforward than those associated with post-Archaic frameworks. The stage/period scheme presented in the recently published research contexts for eastern Colorado are in essential agreement (Gilmore et al. 1999; Zier and Kalasz 1999; see Table 1, this volume). However, the proximity of the Rocky Mountain foothills to the East Plum Creek site requires the introduction of research issues pertaining to the Mountain tradition (Black 1991, 1997). The Mountain tradition refers to a long-standing hunter-gatherer adaptive strategy geared toward year-round occupation of montane settings, including foothill environments along the base of the Southern Rocky Mountains. A widespread Mountain tradition population blanketing the Southern and Middle Rocky Mountains in the latter portion of the Paleoindian stage and the Early Archaic period is believed to have originated in the Great Basin. The Mountain tradition is thought to be restricted to the Southern Rocky Mountains after 4500 B.P. because of an expansion of McKean complex populations during the Middle Archaic period. Diagnostic artifacts attributed to the McKean complex are commonly found along the Front Range, but are thought to be generally associated with plains and marginal foothill settings (Zier 1999:101). Black (1991, 1997) believes that Mountain tradition occupations are distinguishable from those associated with lowland "Plains Archaic" or McKean complex bands; he also acknowledges that lowland groups sometimes utilized mountain environs and that Mountain tradition settlement may have intermittently encompassed foothill-plains locales. There is thus the potential for the Middle Archaic period camp at the East Plum Creek site, tentatively identified as McKean, to be affiliated with either lowland or mountain populations. Alternatively, the Mountain tradition is not currently recognized as an established culture taxon. The presence of competing lowland- and upland-adapted bands in the Front Range vicinity has yet to be confirmed.

Additional chronological and artifact assemblage data provide at least a tentative basis for comparing and contrasting the East Plum Creek site components with those exhibiting similar age ranges. These data facilitate addressing matters pertaining to more specific assessments of cultural affiliation and interregional relationships. Regarding the latter, the presence of "exotic" artifacts such as shell ornamentation and, additionally, determinations of local versus non-local stone tool material types, may provide evidence of local settlement patterns, trade networks, and interregional relationships.

Related Research Questions

How many temporally distinct components are present at the East Plum Creek site and what are the associated age range(s)?

Is a Late Prehistoric stage component present at the site and how does the associated assemblage compare with Front Range camps exhibiting a similar age range?

Is a Middle Archaic occupation present at the East Plum Creek site and does it exhibit evidence of an affiliation with the Mountain tradition (Black 1991). Alternatively, are these camps more likely affixed to lowland settlement patterns related to Plains Archaic manifestations such as the McKean complex?

What is the evidence for trade and/or interregional relationships among the respective site components?

Settlement and Subsistence

Background Information and Data Needs

The placement of prehistoric components of any age within even the most generalized settlement/subsistence models has rarely been attempted in the Front Range vicinity. There are, however, a few notable exceptions (Benedict 1992). An Early Archaic period manifestation, termed the Mount Albion complex, is thought to exhiibt an "up-down" settlement pattern. Hunter-gatherers moved laterally between lower-elevation, winter base camps in the foothills and summer hunting camps located in montane settings directly to the west (Benedict 1992:12). Late Prehistoric sites assigned to the Hogback phase are believed to be restricted to foothills settings west of Denver. Benedict (1992) theorizes that such sites are part of a larger settlement pattern often termed the rotary model or "Grand Circuit." Benedict's rotary model emphasizes the use of foothill settings for winter base camps. The Hogback hunter-gatherers are postulated to have left their base camps in the spring and embarked on a long seasonal foray through North Park and Middle Park. The mountain portion of this seasonal round continued through the summer and much of the fall.

Although Benedict's models feature a number of valid settlement interpretations, e.g., the importance of montane procurement locales for Front Range hunter-gatherers, it does not account for the plethora of related Piedmont sites with a distribution sometimes extending to the edge of the High Plains escarpment (Kalasz et al. 1996; Kalasz et al. 2002, 2003a). Rather than focusing strictly on mountain settings, it is certainly possible that hunter-gatherers using foothills base camps also exploited plains resources at locales such as the Bayou Gulch and the East Plum Creek sites. There is no unequivocal evidence of separate lowland and mountain-adapted populations east of the Continental Divide prior to Protohistoric times. Prehistoric demographic issues may be addressed through a variety of site data including those derived from diagnostic artifacts and lithic material sourcing.

Although the East Plum Creek site is situated in the Piedmont, its Palmer Divide location along a major drainage system issuing from the nearby Rocky Mountains provides easy access to

foothill and montane settings. A fuller assemblage recovered through mitigation enables a more valid assessment of the site's role within local settlement-subsistence systems. A substantial and varied artifact inventory may be indicative of intensive field camp or residential occupations where a number of domestic tasks were completed. Furthermore, the presence of thermal features, ground stone, and flaked stone tools is suggestive of longer-term campsites that incorporate formally-constructed cooking facilities. The identification and excavation of such features provide radiocarbon and flotation samples that facilitate regional chronology building and refine the variability in functional site types. Macrobotanical and faunal remains recovered from hearths or related features may provide much-needed subsistence/environmental data that will address research related to prehistoric economy, seasonality, and, perhaps, paleoclimatic conditions. Finally, the spatial distribution of cultural debris in a large block excavation may aid in ascertaining activity patterns within prehistoric camps. For example, it is important to determine whether the debris in contemporaneous feature vicinities varies significantly according to their respective locations. Any resulting functional differences suggested by these data are important for gaining a more complete understanding of community organization and the role of particular site types within a larger settlement pattern.

Related Research Questions

Is the East Plum Creek site part of a settlement-subsistence system that incorporates montane, foothill, and plains settings, or do the remains suggest a more plains-oriented pattern of transhumance?

Are the stone tool material types present at the site entirely representative of local sources? What is the evidence for lithic procurement activities related to more distant plains and mountain quarries?

Are there sufficient density and diversity of artifacts and formally-constructed features to suggest that the East Plum Creek is representative of a residential base or intensive field camp operation? Alternatively, do the remains suggest that the site represents a series of seasonal, limited-activity forager locations?

Does the site represent a mixture of functional roles, i.e., does site function correspond with temporal variability?

What seasonality and subsistence information do the faunal assemblage and ancillary samples (e.g., fatty acid residue and macrobotanical) provide?

Technology

Background Information and Data Needs

The recovery of additional lithic, shell, and/or bone artifacts may provide considerable data that enable a general assessment of site function(s) and technological emphases. For example, the recovery of ground stone concentrations in the vicinity of thermal features suggests that plant processing was emphasized in a particular portion of the site. Furthermore, the recovery of additional debitage and flaked stone tools will confirm whether the site was a locale emphasizing

tool maintenance and final production or, alternatively, a location where a variety of implements were manufactured and subsequently used for a range of different tasks.

The distinction between a manufacture strategy geared toward biface production and one emphasizing split cobbles and micro-tools is, in part, used to distinguish lowland Plains Archaic technology from that of the Mountain tradition (Black 1991). A pronounced trend toward projectile point blade edge serration is also offered as a Mountain tradition characteristic. A rigorous analysis of a large sample of debitage and tools provides a foundation for assessing the general technological emphasis of the East Plum Creek site occupants. Comparison of the flaked stone data set with that presented in other Front Range studies facilitates the discernment of technological distinctions that perhaps reflect cultural and/or functional differences.

Related Research Questions

Is the overall artifact assemblage composed solely of tools and related waste debris, or is there evidence of ornamentation (e.g., bone beads, shell pendants) and recreational items (e.g., bone "gaming" pieces) as well?

Does the overall lithic assemblage composition suggest that a variety of tasks was completed at the East Plum Creek site?

Does the flaked stone assemblage show evidence of technological emphasis on biface production or, alternatively, heavy-duty split cobbles and micro-tools?

Does the projectile point collection exhibit significantly higher incidences of blade edge serration?

Paleoenvironment and Geomorphology

Background Information and Data Needs

Detailed stratigraphic studies completed by a geomorphologist are necessary for reconstructing past processes of soil formation and landscape development. These data also have implications for assessments of changing paleoclimatic conditions. Such studies entail the profiling of selected excavation unit walls and description of selected drainage cut localities in the site vicinity.

Related Research Questions

What it the depositional context of the site, i.e., under what conditions were site sediments deposited and what are the implications for determining local paleoclimatic conditions?

Are paleoclimatic data derived from geomorphic studies at the site consistent with other lines of evidence, particularly macrobotanical and faunal analyses?