Prehistory of Nevada's Northern Tier: Archaeological Investigations along the Ruby Pipeline

William Hildebrandt, Kelley McGuire, Jerome King, Allika Ruby, and D. Craig Young, with contributions by David Rhode, Jeffrey Rosenthal, Pat Barker, Kaelly Colligan, William Bloomer, Albert Garner, Nathan Stevens, Andrew Ugan, Kimberley Carpenter, Laura Brink, Sharon Waechter, Richard Hughes, Tom Origer, Sharlyn Street, and Wendy Pierce.

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Reviewed by Kenneth C. Reid
Idaho State Historical Society
Boise, Idaho 83702

Archaeological survey reports of linear corridors sometimes leave the reader's attention as scattered as the lithics under discussion. This impressive report offers a highly instructive alternative and one hopes it will find many imitators. The Ruby Pipeline project included a 100% survey of a 360-mile corridor running across northern Utah and Nevada from Opal, Wyoming to Malin, Oregon. From east to west, the surveyors hiked four ecological regions: Thousand Springs Valley, the Upper Humboldt Plains, the Upper Lahontan Basin, and the High Rock Country. They recorded 566 prehistoric sites and focused their attention on 399 single-component areas within the project corridor.

The monograph includes 17 chapters by five authors and fifteen contributors. Hildebrandt's brief introduction sets the stage. In the comprehensive second chapter, D. Craig Young and David Rhode describe the geomorphology, the modern climate and vegetation, animal and plant foods, and the paleoenvironmental record from 14,500–150 cal B.P. Rhode's review of the economic plants is especially helpful for the nutritional comparisons of the several species of geophytes encountered across the corridor.

Chapter 3 by Kelly McGuire and William Hildebrandt arranges the cultural context in seven temporal units: Paleoindian, Paleoarchaic, post-Mazama, Early, Middle, and Late Archaic, and Terminal Prehistoric. Paleoindian includes both pre-Clovis and Clovis, with the latter dated to between 13,400 and 12,800 cal B.P. Various large stemmed points distinguish the Paleoarchaic (12,800–7,800 cal B.P.) from the mid-Holocene post-Mazama (7,800–5,700 cal B.P.) and Early Archaic (5,700–3,800 cal B.P.) periods, when the regional population doubled. Perhaps the most notable Paleoarchaic discovery was a 4 m. in diameter, 10 cm. thick, circular compacted fill zone dated to 11,180 cal B.P., described as the "oldest radiocarbon date on a living surface ever recorded in the Great Basin." The Middle (3,800–1,300 cal B.P.) and Late (1,500–600 cal B.P.) Archaic periods are better represented in the two western regions. The last 600 years mark the Terminal Prehistoric period when ancestral Northern Paiute and Western Shoshone arrived along the western and eastern sections of the corridor, respectively.

Field and analytical methods are discussed in Chapter 4 and chronological controls in Chapter 5, both by Jerome King. Chronological controls included radiocarbon dates, obsidian hydration, and time-sensitive artifacts including projectile points, ceramics, and beads.

The next four chapters summarize the findings for each of the four ecological regions: Allika Ruby for the High Rock Country, Kelly McGuire for the Upper Lahontan and Upper Humboldt basins, and Albert Garner for Thousand Springs Valley. The High Rock Country had the longest record of human occupation along the corridor and exhibits some of the greatest internal diversity. The lower shoreline and deltaic landforms of the Upper Lahontan basin witnessed increased evidence of wetland adaptations in the Middle and Late Archaic periods. Evidence of earlier periods is lacking for both the Upper Humboldt Plains and Thousand Springs Valley regions, neither of which seems to have attracted a resident population until the Terminal Prehistoric period.

Chapter 10 by William Hildebrandt and Allika Ruby appraises the colonization of northern Nevada in terms of habitat variability, 69 radiocarbon dates, land-use indicators such as projectile points and ground stone, and component variability. Ideal free distribution models grounded in these data sets identify the game- and root-rich High Rock Country as the earliest of the four regions to support higher population densities.

Chapter 11 by William Hildebrandt, Kaely Colligan, and William Bloomer examines flaked stone production

patterns in terms of lithic landscapes, production intensity across eight obsidian sources, and flaked stone technology. Trans-Holocene changes in subsistence and settlement across northern Nevada reflected in changes in population, settlement, and assemblage structure are reviewed in Chapter 12 by Kelly McGuire, Andrew Ugan, Kimberly Carpenter, and Laura Brink.

The next four chapters examine geophyte (Kelly McGuire and Nathan Stevens) and pronghorn (Allika Ruby) procurement, obsidian conveyance patterns (Jerome King), and differences between the late prehistoric Northern Paiute and Western Shoshone surges to the north and east.

The beginning of geophyte intensification in northwestern Nevada is placed at 5,700 years ago, an estimate that compares well with a recent date for camas-caused caries in west central Idaho (Pavesic et al. 2016:217). The peak of intensification is dated about 2,000 years later, approximately in line with the same pattern on the Canadian plateau and the Calispell and Willamette valleys. Formed flake tools necessary for making digging sticks were found only in the rich root meadows of the Barrel Springs uplands of the High Rock Country. One wonders whether more than toolkits and cooking technology are implicated in opening this rich carbohydrate niche. Perhaps an allele selected for insulin-tolerance in an early-mid Holocene population conferred access to readily harvestable but previously indigestible plants such as camas, balsamroot and agave? Demographic consequences might compare to the European dairying revolution, when lactase-persistence alleles underwrote the expansion of pastoralism.

A series of radiocarbon dates on juniper pronghorn traps recorded near the Utah-Nevada border in the Thousand Springs Valley region include an early cluster between A.D. 1490–1660, and a later one between A.D. 1680 and the contact era. These Terminal Prehistoric enclosures represent considerable communal labor and are almost completely lacking in projectile points and lithics. Ruby proposes that pronghorn herds were driven into these enclosures and clubbed by relatively unskilled crowds of temporary collaborators rather than by career bowmen or hunting specialists.

William Hildebrandt summarizes and highlights project findings in the short final chapter. The references are current to the date of publication. In explaining pattern recognition over time, Hildebrandt moves from Darwinian, transhistorical generalization ("ideal free distribution") for the Paleoarchaic through the Late Archaic periods, to a conjunctive, historical/ecological explanation for differential distribution of pottery and the abrupt distance increases between obsidian artifacts and their sources in the Terminal Prehistoric period. He attributes the latter pattern to horse mobility. Growing reliance on seeds led to increased use of pottery by the Northern Paiute in the High Rock Country, while a continued dependence on bulky roots, more efficiently steamed in rock-layered pits than simmered in ceramic vessels, characterized the Western Shoshone.

Both scenarios are plausible and prompt good questions. Here I wish comparative discussions of findings had crossed more state lines. The brownware pottery absent in northwestern Nevada is present a little further north in southeastern Oregon, and sourcing studies of pottery temper and associated sandstone abraders suggest both artifact classes were made in and carried from Idaho's Owyhee Mountains (Lyons and Cummings 2002). In the Owyhee Mountains the pots are linked—implausibly, I think—to root rather than seed harvesting, while still further north along the Middle Snake River the same brownwares cooked fish (Root and Cummings 2015). Probably the patchwork distribution of Terminal Prehistoric pottery between the Humboldt and Snake rivers reflects some yet-to-be-worked-out mix of resource patterning and historical contingency.

The volume is sturdy and attractive, with double columned text and good maps. I noticed a few minor typos ("course-grained nature…"), dropped articles and conjunctions in the text, and a few cited but missing references. The color photos that show the natural setting so well are less helpful for the chipped stone artifacts, where flake scars would be more easily discerned with good line drawings. On the other hand, the photos do show toolstone raw materials nicely. One significant confusion concerns the Buhl burial near Kanaka Rapids on the Snake River in Idaho. This young woman with a single radiocarbon age of 10,675±95 was salvaged during road quarry operations on state land in 1989 (Green et al. 1998). The recently revised Idaho code allowed for a comprehensive analysis of her physical remains and associated artifacts, but required the return of both to the tribe that claimed to represent the descendent

community, in this case the Shoshone-Bannock Tribes of Fort Hall. Contrary to McGuire and Hildebrandt, no DNA analysis was done on the Buhl remains. However, such minor comments do little to diminish the strengths of this fine monograph. The authors and their collaborators deserve our thanks for presenting so much new, well-grounded information and so many fresh and testable hypotheses concerning this understudied region.

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