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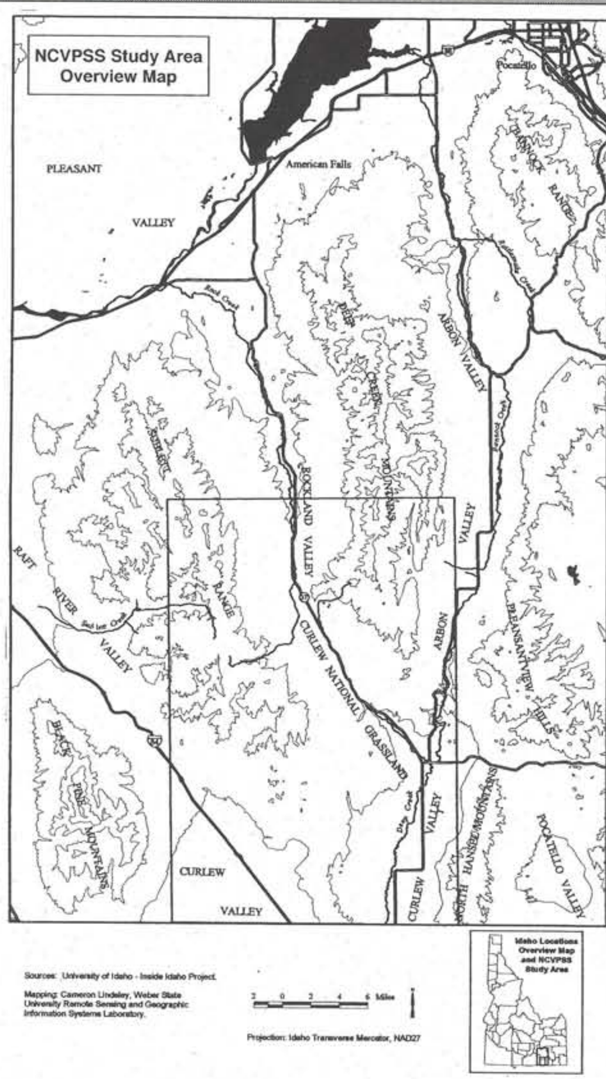

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Cover Photo: Map showing location of the northern Curlew Valley/Curlew National Grassland study area in relation to the greater Pocatello/Rockland Valley region of southeastern Idaho.

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ARTICLES AND REPORTS

PREHISTORIC SETTLEMENT SYSTEMS IN SOUTHEASTERN IDAHO: A VIEW FROM THE CURLEW VALLEY

Brooke S. Arkush

One of the more challenging aspects of studying prehistoric hunter-gatherer societies in western North America is reconstructing the generalized settlement systems of these often highly mobile peoples. In some parts of this vast region, urbanization and large-scale modification of rural landscapes have either precluded or complicated our ability to determine how Native groups moved across the landscape and the ways in which ancient land use practices changed through time. On the other hand, there are a number of areas in the west where development has been minimal and extensive tracts of ecologically diverse public land are readily accessible for archaeological study. The latter scenario presents ample opportunities for investigating aboriginal settlement systems, and is especially true of the northern Bonneville Basin, where successive valley and upland ecosystems provide an ideal setting for such studies.

This paper is based on a very generalized site location analysis project focusing on the northern Curlew Valley of southeastern Idaho, which forms part of the northernmost Bonneville Basin (Fig. 1). The first half of this article describes the nature of the project's data base, as well as the ecological associations of survey areas and archaeological sites. Subsequent sections address the problems associated with using small, biased samples in settlement studies, the logical implications of the coarse-grained working model that has resulted from this initial study, and practical ways of conducting future research to test and refine the current model. The Northern Curlew Valley Settlement System project is an outgrowth of nearly ten years of selective excavation and small-scale surface survey on the Curlew National Grassland by the Weber State University Archaeological Field School, which began working there in 1994. The Curlew National Grassland is a 47,600-acre multiple use federal reserve that was established in 1960, and is administered by the Caribou-Targhee National Forest (USDA Forest Service 2002).

As with many archaeological site distribution studies, the northern Curlew Valley locational analysis project stems from one person's curiosity about the general land use patterns of a given area. After excavating several sites in the upper Rock Creek Drainage northwest of Holbrook, Idaho, it became apparent that a diversity of prehistoric site types existed in a relatively confined valley/foothill transition area. This realization led me to consider the potentially high number and variability of prehistoric sites in adjacent ecozones and the general aboriginal settlement strategy that had predominated this area for the last 4,500 years or so (i.e., during the Late Holocene). Basically, I wanted to know if certain landforms and/or ecozones contained higher numbers and types of sites than others, and whether or not repeatedly occupied residential sites tended to occur in ecological transition areas (especially in the lower part of the Upper Sonoran zone), as suggested by ethnographic data (e.g., Steward 1938:17). It seemed to me that if existing site location and survey data were plotted on a Geographic Information Systems-based map that controlled for major ecological zones and critical "tethering" resources such as fresh water, then some basic aspects of prehistoric land use practices in the northern Curlew Valley might be revealed.

Although this notion proved to be true in a superficial sense, after viewing the "big picture" provided by the GIS map and site inventory data, it became quite evident that our study was plagued by a number of interpretive problems including small sample sizes for both surveys and sites, minimal excavation data (and therefore a poor understanding of site component ages and functions), ecologically biased survey coverage, and significant variation in the professional qualifications of survey personnel who conducted those inventories. Based upon these shortcomings, it is impossible at this time to make any conclusive statements about how prehistoric Native peoples used the study area during the course of a typical annual cycle of settlement and subsistence activities after about 2500 B.C. (For the purpose of this paper, it is assumed that the surface and near-surface assemblages at most sites in this sample date to Late Holocene times.) However, given the information presented below, it is possible to generate a number of testable propositions about Late Holocene land use practices in the northern Curlew Valley. When one considers the minimal amount of archaeological data that is presently available for this part of southeastern Idaho, developing these propositions may be the most practical short-term goal of this study. For the most part, this paper is meant to serve a heuristic role; it is largely philosophical in nature and does not offer any definitive interpretations of aboriginal settlement systems within the study area.

ASSEMBLING THE DATA BASE

In order to establish a relatively large and ecologically diverse universe from which to draw the site location and survey coverage sample, a rectangular-shaped study area measuring approximately 20 miles east/west x 30 miles north/south was arbitrarily selected. This area ranges in elevation from 4,500 to 7,500 ft. a.s.l., and includes valley (the northern Curlew and southern Rockland valleys), foothill, and upland (the southern Sublett and Deep Creek mountains) ecozones (Fig. 2). The upper Rock Creek drainage where we had previously conducted both excavation and survey work occurs in the northcentral portion of this study area, which contains extensive tracts of public lands administered by the Bureau of Land Management and U. S. Forest Service. Given the occurrence of so much federal land within the study area, it seemed likely that a number of archaeological sites already had been documented there and that various archaeological surveys had been conducted there as well.

Once the study area had been defined, I began to acquire information regarding the known prehistoric sites and survey areas therein. This was accomplished by conducting record searches at the Idaho State Historical Society in Boise, the Bureau of Land Management office in Burley, the Caribou-Targhee National Forest office in Pocatello, and the Sawtooth National Forest office in Twin Falls. Copies of all previously recorded prehistoric sites within the study area were obtained, and both site and survey location data were plotted on the twelve contiguous USGS 7.5′ quadrangles that are associated with the study area. When all readily available site and survey information had been compiled, it was apparent that the sample sizes for both data sets were inadequate for detecting any clear patterns of ancient land usage. Only 99 recorded prehistoric sites occur within the study area, and of the nearly 390,000 acres that comprise this area, only 20,440 acres (~5.25%) had been inventoried. To make matters worse, some of the survey areas portrayed in Figure 2 had been inspected by various "para professionals," most of whom had little or no academic background in archaeology and a minimal amount of field experience. Therefore, the negative findings for some of these projects (especially the larger ones) are suspect. Another complicating factor regarding these surveys was the biased coverage that the foothills had received (which amounted to 55.57% of the total survey coverage within the study area). This ecozone occurs between 5,000 and 6,000 ft. a.s.l., is characterized by upper sagebrush-grassland and lower desert woodland biotic communities, and seems to be the dominant area where compliance-based inventories have been carried out. A modest amount of coverage had occurred in the lowland zone between 4,500 and 5,000 ft. a.s.l., but relatively little inventory had been done in upland areas 6,000 and 7,500 ft. a.s.l. (Fig. 2). Once all available site location and survey coverage data had been obtained and plotted on the appropriate USGS 7.5′ topographic maps, a high-quality scanner was used to convert this information into a digitized GIS format. These data were then geo-referenced using a combination of ArcView 3.2 and ArcInfo Workstation, and large format color GIS maps of the project area were produced.

SITE CLASSIFICATIONS AND DISTRIBUTIONS

All prehistoric sites in the sample were assigned to one of six classifications based upon topographic location and proximity to permanent or seasonal water sources (Fig. 3). The general elevations and plant communities associated with the three different ecological settings are as follows: lowlands – 4,500 to 5,000 ft. a.s.l. (lower sagebrush and grassland); foothills – 5,000 to 6,000 ft. a.s.l. (upper sagebrush and grassland/lower desert woodland); and uplands – 6,000 to 7,500 ft. a.s.l. (upper desert woodland/lower montane shrubland and forest) (cf. Schultz and Schultz 1984). Within the study area, predominant native plants in lowland and foothill zones include big sagebrush (*Artemisia tridentata*), black sagebrush (*Artemisia nova*), rabbitbrush (*Chrysothamnus* sp.), willow (*Salix sp.*), Indian ricegrass (*Oryzopsis hymenoides*), Great Basin wild rye (*Elymus cinereus*), bluebunch wheatgrass (*Agropyron spicata*), Sandberg bluegrass (*Poa secunda*), Indian paintbrush (*Castilleja* sp.), and arrowleaf balsamroot (*Balsamorhiza sagittata*). Upland areas contain various overstory plants such as Utah juniper (*Juniperus utahensis*), quaking aspen (*Populus tremuloides*), mountain mahogany (*Cercocarpus ledifolius*), Douglas fir (*Pseudotsuga menziesii*), and big-tooth maple (*Acer grandidentatum*), as well as some of the above-listed shrubs, grasses, and forbs. Single-leaf pinyon (*Pinus monophylla*) does not occur within the upland portions of this study area, and to the best of my knowledge, the closest substantial pinyon groves occur in the Black Pine Mountains located some 22 miles west of Holbrook.

Of the 99 sites within this modest sample, 30 (30.30%) occur in a lowland setting with 15 located near water and 15 occurring away from water. (If a site occurs within 1/8 mi. of a permanent or seasonal modern water source, then it is classified as being near water.) Most known sites (n = 57; 57.58%) occur in the foothills, with 26 located near water and 31 situated away from water. Upland areas contain the fewest number of recorded sites (n = 12; 12.12%), with 7 sites located near water and 5 sites located away from water. This relatively small number of known upland sites clearly reflects the fact that areas above 6,000 ft. have received much less survey coverage than lower elevation areas. Table 1 below provides information on the acreage and survey coverage associated with each of the three ecozones in the project area.

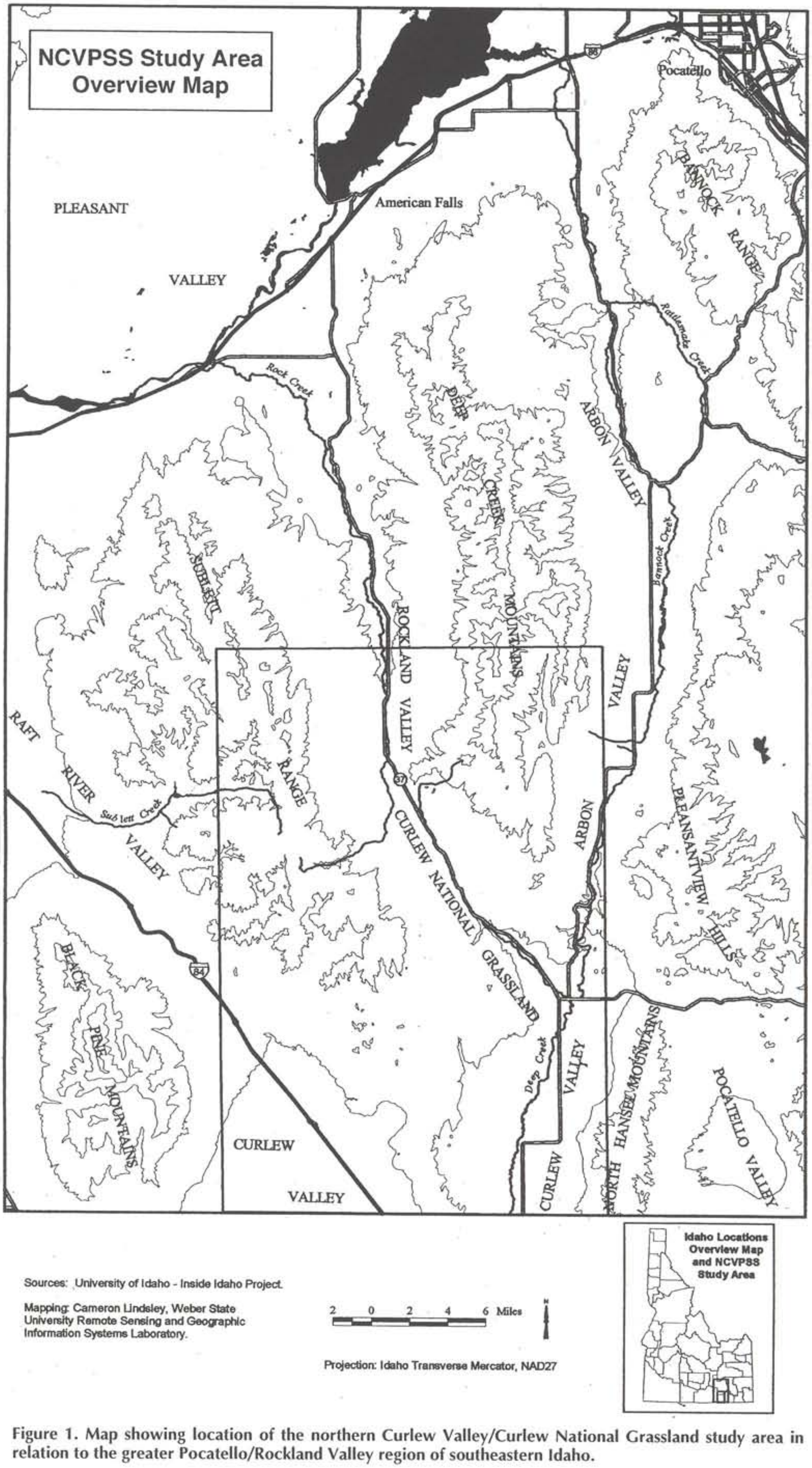

Figure 1. Map showing location of the northern Curlew Valley/Curlew National Grassland study area in relation to the greater Pocatello/Rockland Valley region of southeastern Idaho.

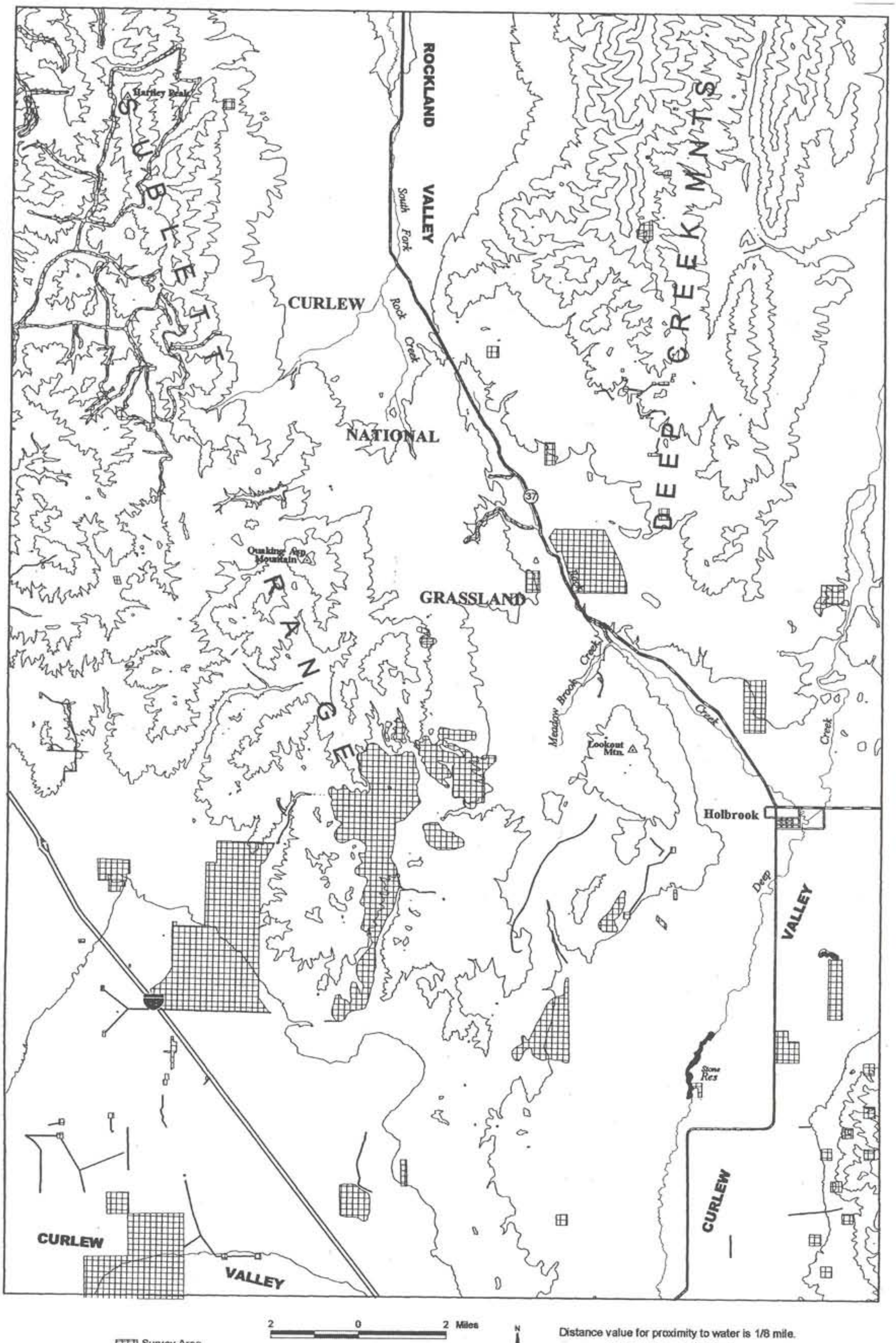

Figure 2. Map showing archaeological survey coverage within the project area. The most extensive linear survey is poorly depicted on this map, and covered the right-of-way associated with State Route 37, which spans the entire figure.

TABLE 1

ECOZONE-SPECIFIC ACREAGE AND SURVEY COVERAGE WITHIN THE NORTHERN CURLEW VALLEY STUDY AREA					
	Total Acreage	Survey Acreage	Percent of Zone Coverage	Percent of Study Area Coverage	Percent of Total Survey Acreage
Lowlands	104,284	7,436	7.13%	1.91%	36.38%
Foothills	197,816	11,358	5.74%	2.92%	55.57%
Uplands	87,261	1,646	1.89%	0.42%	8.05%
Totals	389,361	20,440	N/A	5.25%	100.00%

SITES OF KNOWN FUNCTION

Only three of the 99 sites in the present sample have been excavated, a somewhat frustrating situation that prevents us from understanding the variety of site types in lowland, foothill, and upland areas. Each of these sites (10-OA-210, -255, and -272) occur in the foothill zone of the Rock Creek Drainage and are plotted with their respective trinomials on Figure 3. The function of a fourth, but unexcavated, site (10-OA-275) just northeast of 10-OA-210 is readily discernible and therefore its location is also accompanied by its trinomial designation on Figure 3. Together, these four sites represent the only ones within the study area whose functions have been documented, and are described below.

ROCK SPRINGS

The area immediately east of Rock Springs contains a small-scale bison kill site and minor habitation camp (10-OA-210) that was discovered in the spring of 1994 and thoroughly excavated over the course of four field seasons (some 110 cubic meters of soil were hand excavated there). This site contains at least six distinct bone beds within 1.2 m of alluvial soils and 11 radiocarbon dates indicate that the cultural deposits were formed primarily between A.D. 1050 and 1750 (Arkush 2002). Two basalt finger ridges just west of the site apparently served as a natural funnel into which small groups of bison (and possibly pronghorn) were driven. This land form and associated creek bed greatly reduced the mobility of the animals and made them relatively easy targets for hunters armed with spears, darts, and arrows.

A substantial and diverse array of artifacts were collected from Rock Springs, including arrow, dart, and spear points, point preforms, bifaces, drills, cores, scrapers, flake tools, Fremont and Shoshone style ceramics, hammers, anvils, and a few ground stone implements. The paucity of ground stone objects suggests that seed processing was not a focus of cultural activities during most occupational episodes, but the recovery of several incompletely worked bone ornaments attests to the short-term residential nature of some site occupations.

Bison and pronghorn were the primary prey species at 10-OA-210, with a minimum of 19 bison represented by 983 elements and 14 pronghorn represented by 153 elements in the recovered faunal assemblage (Walker 2002). Primary small game animals consisted of rabbit (MNI = 11), hare (MNI = 6), and marmot (MNI = 11). Although a number of soil samples were collected for flotation, no compelling plant subsistence data was extracted from them. For the most part, cooking features were rare with the exception of three casual hearths and one cobble-lined roasting pit. The occurrence of several fetal bison and pronghorn elements in three different bone beds indicates that about half of the site's occupational episodes transpired during late winter/early spring.

TWIN SPRINGS

Twin Springs (10-OA-255) was test excavated during the summer of 2000 with eight dispersed 1 x 2 m units after the site area was systematically augered to determine its approximate subsurface boundaries. Our investigations there revealed the presence of cultural deposits with a maximum depth of about 90 cm from which we recovered a small artifact/ecofact assemblage and exposed one casual hearth at a depth of about 25 cm (Arkush 2001). This feature yielded a calibrated radiocarbon date ranging between A.D. 400 and 530. It seems likely that Twin Springs functioned primarily as a field camp and extractive site throughout its use life and dates somewhere between about 1500 or 1000 B.C. and A.D. 1800.

The recovered formed artifact assemblage is small and typologically narrow – consisting of 11 complete or fragmentary projectile points, a few bifaces and unifaces and 12 pieces of ground stone, most of which were metate fragments. No pottery was recovered from Twin Springs, another indicator that Native use of the site was non-intensive in nature. This is somewhat surprising, given the fact that Twin Springs is one of the main fresh water sources in the area.

A small amount of faunal material was recovered from Twin Springs, with a minimum of one bison, one pronghorn, and two rabbits being represented there (Miller 2001). The highest number of identifiable remains were assigned to the medium/large artiodactyl category, and consisted of some 30 long bone fragments which most likely represent bison and pronghorn. Several burnt seeds were floated from the 14 soil samples that we collected, and were identified as knotweed and curly dock (Heath 2001), both of which were used as food by a number of historically known Great Basin Native peoples (e.g., Fowler 1986:Table1). For the most

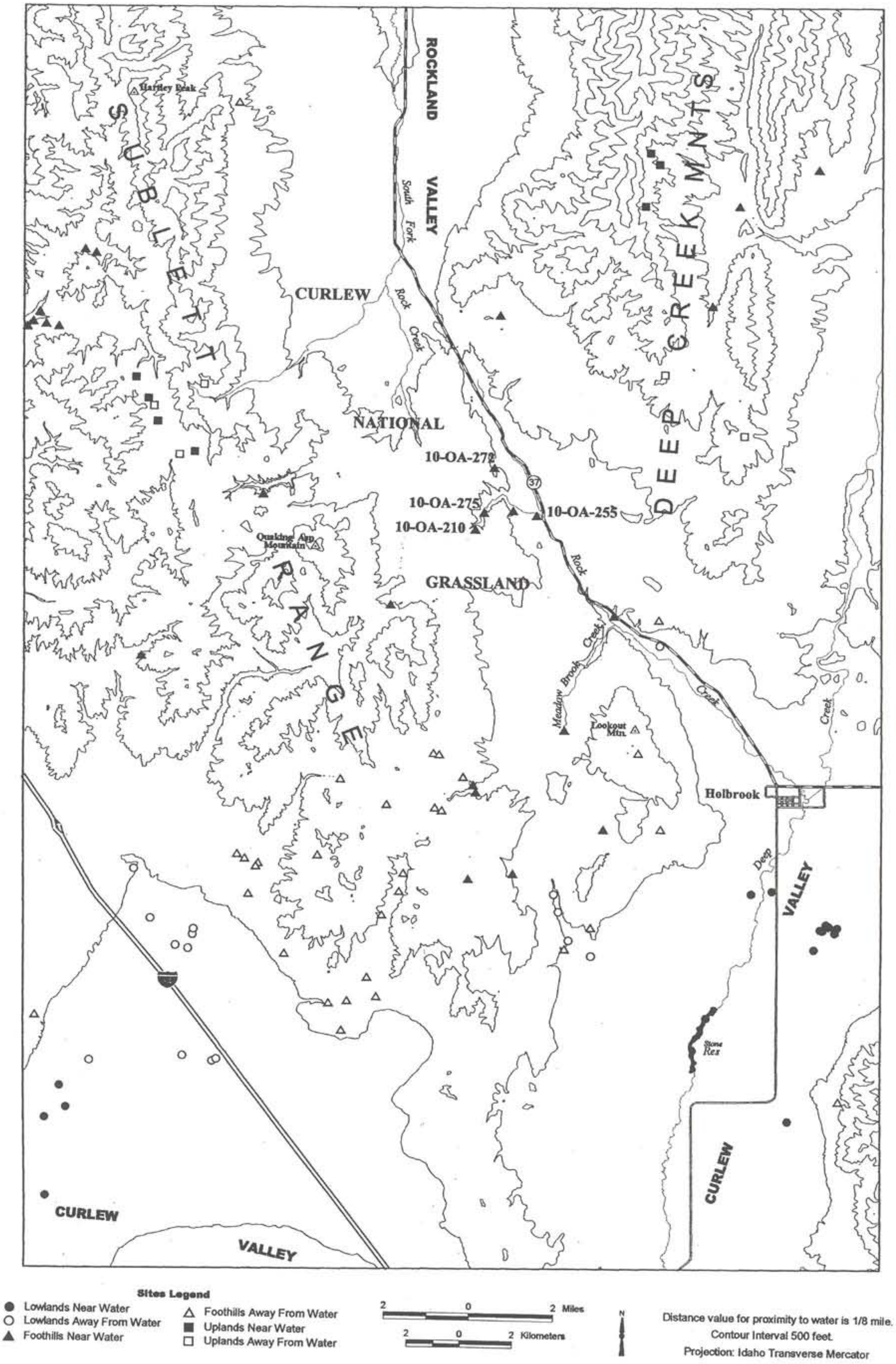

Figure 3. Map showing locations of all formally recorded prehistoric sites within the project area. The functions of four sites located northwest of Holbrook (listed by their respective trinomials) are reasonably well-documented.

part, curly dock was harvested from May through August, whereas ripe knotweed seeds were available from September through October. Therefore, some of the middle deposits at Twin Springs may be associated with spring-through-summer occupations, with some of the upper site deposits being affiliated with a summer-to-early-fall occupational pattern.

PETERSON SPRING

Peterson Spring (10-OA-272) was thoroughly test excavated in 2001 and 2002 with 15 dispersed 1 x 2 m units, one 1 x 6 m trench, and one 2 x 4 m block after augering delineated the primary site boundaries. This work indicated that cultural deposits at the site extended to about 1.8 m below the surface and resulted in recovery of a diverse array of artifacts and ecofacts as well as the documentation of at least three or four major living surfaces (Arkush 2003). Chipped stone tools included dart and arrow points, bifaces, drills, unifaces, and edge-modified flakes. The presence of ceramic sherds, ground stone implements, a stone disc bead, and a bone flesher indicate that for much of its occupational history, Peterson Spring functioned as a seasonal base camp. Two charcoal-based radiocarbon dates from different hearth features in the upper site deposits range from A.D. 610 to 1170, whereas a bone-based radiocarbon date on a bison metatarsal from the lower third of the site yielded a calendar age range of 1420 to 1260 B.C. Additional undated cultural deposits beneath the level from which the bison metatarsal was recovered suggest that initial human use and occupation of the spring may date back to approximately 2000 or 2500 B.C.

Site fauna included the processed remains of birds, rodents, lagomorphs, medium-sized mammals such as fox and canids, and large game such as deer, pronghorn, and bison. Not surprisingly, the latter large game taxa were a focus of subsistence-related activities by site inhabitants – at least 16 pronghorn (including two to four immature individuals), six bison (including one to two immature individuals), and three mule deer (including one immature individual) are represented at Peterson Spring (Miller 2003). Of the immature pronghorn remains, some are those of fetal and/or newborn animals, indicating that some site occupations occurred during early spring. A modest array of botanical remains was recovered from 16 bulk soil samples that were collected from three different areas of the site.

Of the nine identified plant taxa present within this seed assemblage, three of them came from hearths in both burned and unburned condition. Bulrush, bee plant, and curly dock comprise this group (Heath 2003), all of which were used as food by Western and Northern Shoshone groups in this region during protohistoric and early historic times (e.g., Fowler 1986:Table 1). These three plants flower between May and September, and if their edible parts were consumed shortly after being harvested, then it seems likely that the occupational episodes associated with these species occurred during late spring or summer. Based upon the sample of cultural materials that was recovered from Peterson Spring, it is quite clear that this location played an important role in local Native settlement systems during Late Holocene times, and other freshwater springs in the northern Curlew Valley undoubtedly contain a similar record of occupational intensity.

10-OA-275

This site occurs along the west fork of Rock Creek and although it has not yet been excavated, contains a fairly diverse surface assemblage of stone tools, including one large basalt block metate and a well-made andesite pestle (Arkush 2000). During the site's recordation, six bison-sized artiodactyl long bone fragments were observed protruding from the cutbank in the main site area between about 30 and 40 cm below the surface. Therefore, it seems quite likely that 10-OA-275 served as a seasonal big-game and plant processing camp and has a great deal of research potential for improving our understanding of the local archaeological record.

SITE POSITIONING

Based upon this small sample of sites whose functions are known (n = 4), it appears that the greater Twin Springs area contains at least four prehistoric site types – seasonal base camps, field camps, big-game kill and processing sites, and extractive sites where small groups and individuals obtained plant and animal foods or non-food resources. If the archaeological record of this locality is representative of the greater northern Curlew Valley, then it appears that fresh water sources located in lower foothill areas may have been the preferred settings for the some of the more intensively occupied sites in this region. Perhaps this was due to such locations providing relatively easy access to subsistence resources in two distinct biotic communities – the sagebrush and grassland ecozone and the desert woodland ecozone. Such a site positioning strategy would have significantly increased the chances of foraging success during any given occupational episode of the several habitation sites described above, all of which occur in minor canyons between 5,200 and 5,500 ft. a.s.l. (Upper courses of drainages in foothill areas also may have been preferred settings for residential sites because they provided superior protection from the elements as well as downslope cold air flow.) If fresh water sources situated in sheltered lower foothill settings were the preferred locations for residential camps within this region during Late Holocene times, then one would expect to find the more intensively occupied sites near the heads of drainages at elevations from about 5,000 to 5,500 ft. Establishing residential hubs within this elevational range clearly would have allowed people to efficiently acquire resources in valley margin, foothill, and lower upland areas during relatively short foraging trips. Such a settlement strategy may be associated primarily with pedestrian hunting and gathering groups living in environments where the distribution of foods is "patchy" and whose subsistence systems necessarily revolved around a core foraging radius of less than about six miles (ten kilometers), a distance that could be covered within several hours by the average healthy adult (e.g., Lee 1968:35; Binford 1980:10).

INTERPRETING SURFICIAL SITE DATA AND LOCATIONAL PATTERNS

The following section attempts to broadly interpret the surface archaeological record of the northern Curlew Valley study area by comparing its site location patterns and proposed site functions with those of several other regional settlement studies. By doing so, I hope to provide a more holistic and meaningful view of this project by placing it in a regional context.

PREVIOUS GREAT BASIN SETTLEMENT STUDIES

Since the late 1960s, various Great Basin researchers have conducted large-scale, ecologically-stratified surveys in order to characterize ancient settlement patterns. Two of the better known early projects took place in the Reese River and Monitor Valleys of central Nevada (Thomas 1973, 1988). The Reese River Valley Project began in 1969 and focused upon an ecologically-variable section of land consisting of about 300 square miles located some 30 miles south of Austin, Nevada (Thomas 1973:167). Three distinct vegetational zones (the lower sagebrush-grass community, the pinyon-juniper belt, and the upper sagebrush-grass community) were used to define the sampling strata, and a 10% (8,750 acres) random stratified sample survey of the project area was conducted (Thomas 1973:168). This pedestrian survey identified two basic settlement types that seem to have prevailed in this area for the last 4,500 years or so. The "Shoreline Settlement" consists of habitation sites associated with permanent water sources in lowland zones where grass seeds and root crops could be harvested from late spring to early summer, and small game could be acquired in the nearby sagebrush and grass-covered flats (Thomas 1973:173). The other major residential site type, the "Pinyon Ecotone Settlement," occurs on relatively low, flat ridges in the lower pinyon-juniper belt and corresponds to the preferred locations for Western Shoshone winter camps that were documented by Julian Steward (1938:17).

Positioning fall-winter camps in the ecological transition area between the valleys and foothills allowed people to exploit food resources in two distinct ecozones as well as to have ready access to firewood and nearby pinyon caches. Following the pinyon harvest in late summer or early fall, this major plant food could then be supplemented by big-game, especially mule deer and pronghorn as they began to migrate into lower elevation areas before the onset of winter. In addition to these major habitation sites, ancillary special-purpose sites such as field camps and locations were scattered about the landscape, and are thought to reflect the resource acquisition and processing activities of special-purpose task groups. This basic Late Holocene settlement pattern for central Nevada was then corroborated with additional surface survey work in Reese River Valley (Thomas and Bettinger 1976) and the nearby Monitor Valley (Thomas 1988).

Thomas' central Great Basin work apparently inspired Robert Bettinger to conduct similar investigations along the western margin of the Great Basin in east central California during the early 1970s, where he carried out ecologically stratified surveys in the Owens Valley (Bettinger 1977a) and Long Valley Caldera (Bettinger 1977b). In the Long Valley case, a 6.8% sample of 30,000 acres consisting of three distinct ecozones (sagebrush, pinyon-juniper woodland, and jeffrey pine forest zones) was surveyed and resulted in documentation of 64 sites, all of which were thought to post-date 4000 B.C. (Bettinger 1977b:21, 44). Of these, eight sites exhibited characteristics associated with intensive occupation such as diverse artifact assemblages and the remains of domestic structures (i.e., rock rings). Four "occupation sites" occurred in lowland settings near water sources and four "pinyon camps" were located in the pinyon-juniper zone above the valley floor. The most common site type documented in the Long Valley Caldera was the "temporary camp," of which forty-one were found. Most of the sites classified within this latter functional category seem to be associated with resource extraction or short-term habitation activities, occurred either in the mid elevation pinyon-juniper zone (n = 18) or the low elevation sagebrush zone (n = 17), and probably correspond to Thomas' "field camp" and "location" site types.

One of the first substantial stratified sample survey projects to be conducted in the eastern Great Basin centered on the Grouse Creek and Raft River mountains region in extreme northwestern Utah and northeastern Nevada during the early 1970s (Wylie 1972). This work was accomplished by the University of Utah between 1969 and 1973, and included the excavation of a number of sites in this region, most notably Swallow Shelter (Dalley 1976). The Grouse Creek-Goose Creek Survey Project is especially notable in the context of this paper because it occurs less than 60 miles southwest of the northern Curlew Valley. Both areas are ecologically similar (the main exception being that the Curlew Valley study area does not contain pinyon trees), and it seems probable that the general Late Holocene land use practices of the Grouse Creek-Goose Creek area were similar to those of the Rock Creek area.

The Grouse Creek-Goose Creek project area from which the mostly intuitively selected survey sample was drawn is quite large, consisting of over 2,400 square miles (Dalley 1976:Fig. 1). In order to identify the basic aboriginal settlement patterns of the area, it was divided into three ecozones defined by elevational associations: areas below 5,000 feet; areas between 5,000 and 7,000 feet; and areas above 7,000 feet (Wylie 1972:3). In general, native plants associated with these three different zones are as follows: below 5000 feet – greasewood, shadscale, and sagebrush communities; between 5,000 and 7,000 feet – sagebrush, rabbitbrush, bunchgrasses, and pinyon-juniper communities; above 7,000 feet – sagebrush, Douglas fir, aspen, and pine communities as well as various alpine species. Although neither Wylie nor Dalley indicated how many acres were inspected within each of the three elevational zones, Wylie

(1972:Fig. 2) did report that 27% of the total project area was below 5,000 feet, 64% of the area was between 5,000 and 7,000 feet, and 8% of the area was above 7,000 feet. Unlike the Thomas and Bettinger surveys, the University of Utah project used no formal sampling system to determine which areas were to be inspected. Instead, crews did their best to inspect representative samples of each ecozone, and often relied on major drainages "for controlling area coverage" (Dalley 1976:6).

A total of 204 prehistoric sites was found, with 22 (11%) occurring below 5,000 feet, 170 (83%) occurring between 5,000 and 7,000 feet, and 12 (6%) occurring above 7,000 feet (Dalley 1976:Table 1). From these data, Wylie (1972:8) proposed that areas below 5,000 feet and above 7,000 feet experienced relatively non-intensive seasonal use, with lowlands providing mostly late spring and early summer seed crops and uplands being used mostly for summer big-game hunting. Not surprisingly, areas between 5,000 and 7,000 feet experienced heavy and diverse human use and experienced the greatest amount of occupational intensity. The occurrence of pinyon groves in portions of the Grouse Creek and Goose Creek Mountains made this zone especially attractive for late summer and early fall foraging and habitation. In fact, Steward (1938:Fig. 12) reported that Shoshone groups from as far away as Bannock Creek and Cache Valley traveled to this area to harvest pine nuts. Another critical controlling factor that drew people to this ecozone was the abundance of fresh water sources there. Along with twelve major creek systems, this middle zone contains nearly 90% of the natural springs in the entire project area. Clearly, the availability of abundant subsistence resources in a fairly compressed altitudinal range made the pinyon-juniper belt of the Grouse Creek-Goose Creek area an ideal place for establishing seasonal base camps.

The final example of an ecologically stratified sample survey presented here is also from the eastern Great Basin, and concerns the southeastern Deep Creek Mountains in western Utah. This investigation (which included test excavation of four sites) was conducted in 1977 by the Utah Division of State History's Antiquities Section and was supervised by David Madsen, La Mar Lindsay, and Kay Sargent (Lindsay and Sargent 1979). A sample of just under 10% (3,740 acres) was drawn from a project area consisting of 150 square kilometers, with twenty-two 170-acre sampling quadrats more or less evenly distributed among four distinct plant communities – shadscale, sagebrush, pinyon-juniper, and montane zones. The Deep Creek Mountains project area contained an impressive elevational range, beginning with a minimum elevation of just over 5,000 feet in the western Snake Valley and ending with a maximum elevation of 11,715 feet below Haystack Peak (Lindsay and Sargent 1979:Fig. 8).

Surface survey work resulted in the documentation of 38 prehistoric sites – 13 lithic scatters, 18 campsites, and 7 caves/rockshelters. The lithic scatters consisted only of formed chipped stone tools, worked flakes, and debitage, and therefore probably did not function as bonafide residential locations. Most sites classified as campsites and caves/rockshelters contained lithic tools and debris, ground stone implements, ceramics, and midden soils, and were used primarily as seasonal habitations. Ten campsites occurred in the shadscale zone and all of them were associated with lower Trout Creek; their low elevation setting and riparian affiliation reflect Thomas' "Shoreline Settlement" habitation site type. Six of the campsites were located within the sagebrush zone, whereas two of them occurred in the pinyon/juniper zone. Of the cave/rockshelter sites, five were situated in the pinyon/juniper belt, and the other two were found in the adjacent sagebrush zone. Partial excavation of four cave/rockshelter sites indicated that three of them had experienced moderate seasonal occupation between approximately 2000 B.C. and A.D. 1500 (Lindsay and Sargent 1979:37), a temporal range that basically corresponds to the Late Archaic and Fremont periods in the eastern Great Basin.

POSSIBLE SITE FUNCTIONS

Assuming that the functional interpretations of ecozone-specific site locations in the large-scale regional surveys mentioned above are essentially correct, one might expect to find the following patterns associated with the northern Curlew Valley data set:

1) Lowland sites near fresh water sources essentially correspond to Thomas' (1973) "Shoreline Settlement" or riparian site type and should have served as habitation camps mostly during spring and early summer when seed-bearing grasses, rodents, lagomorphs and perhaps big-game animals such as bison and pronghorn were the focus of subsistence activities in this ecozone. Such locations probably also functioned as field camps in the late summer and fall when the foothill zone was a focus for residential sites and various plant (e.g., goosefoot) and animal (e.g., pronghorn) resources were available in the lowlands.

2) Lowland sites removed from fresh water sources should have functioned primarily as resource acquisition, game monitoring, and retooling locations; possibly with an emphasis on spring, early summer, and fall seasonality.

3) Foothill zone sites near springs and streams might reflect high occupational intensity during summer and fall, with perhaps some of the more protected sites in the lower foothills having functioned as winter camps. In general, such locations may equate with Thomas' (1973) "Pinyon Ecotone" or valley/foothill ecological transition area site type, from which people could easily exploit two major life zones. However, because of the lack of pinyon groves in this area, it could very well be that not many people lived there from late fall through winter, opting to travel west to the Grouse Creek and Goose Creek areas, north to Bannock Creek or the Snake and Portneuf Rivers, south to the Kelton area, or east to Bear River and Bear Lake where fall/winter staple foods were more plentiful (e.g., Steward 1938:217; Murphy and Murphy 1960:324).

Based upon a small amount of seasonally specific excavation data, we do know that some water sources in the foothills above the Curlew Valley experienced short-term habitation during the later winter/early spring and late spring/early summer (Arkush 2002; 2003). Such seasonal usage might reflect occupation by task groups as they harvested plants (e.g., seeds, bulbs, and roots) mammals (e.g., artiodactyls, lagomorphs, and rodents) and birds (e.g., sage grouse) in the area. Therefore, foothill springs and stream terraces may have been favored for field camps during these times of the year.

4) As with their lowland counterparts, many foothill sites situated away from potable water sources most likely represent resource specific foraging and initial food processing events, as well as expedient tool production and tool repair activities that transpired during the course of acquiring both food and non-food resources. Given their "in the middle" elevational range, most sites in the foothill zone that lacked water probably were used for non-residential purposes during spring, summer, and fall.

5) Sites at upland water sources probably served mostly as summer and fall field camps for hunting parties pursuing big-game animals such as elk and mule deer. Although such locations may have functioned as bonafide residential bases at times, I am not aware of any major plant foods (with the exception of some bunch grasses and bulbs) that may have occurred in this ecozone prehistorically. Clearly, if one were to find ground stone implements at a number of these sites, it would suggest that one or more critical plant resources were acquired and processed in this ecozone on a regular basis. However, the common presence of family groups at these localities for extended periods of time seems somewhat unlikely.

The inferred lack of plant food processing at most upland locations is supported by limited survey data from the northern Sublett Range, part of which derives from the northwestern portion of the present study area (Fig. 3). Kenneth Reid and James Gallison (1995) inspected a number of valley, ridge top, and side slope locations in this area via linear survey transects, and encountered a total of 18 prehistoric lithic scatters. All of these sites were located beside permanent water sources and contained "obsidian and chert flaking debris with occasional complete or fragmentary tools, preforms, and cores. Ground stone artifacts suitable for processing plants were conspicuously absent, and fire-cracked rock was scarce and never concentrated" (Reid and Gallison 1995:23). Based upon this relatively small number of upland surface assemblages, it seems that this ecozone was most often frequented by small hunting parties whose range of activities were narrow in scope and whose occupational durations were typically brief.

6) Upland sites situated away from fresh water most likely reflect a relatively narrow range of behaviors and seasons, such as big-game monitoring, acquisition, and butchering during the summer and fall. In fact, given our understanding of prehistoric and protohistoric human utilization of upland areas in this part of the Great Basin, one might expect to encounter the lowest frequency of sites with reasonable levels of archaeological visibility in higher elevations where permanent or seasonal water sources are either scarce or non-existent.

DISCUSSION

The following discussion considers the interpretive challenges that stem from working with surface assemblages, the logical test implications of the current settlement model, and what we might be able to learn from small, biased archaeological samples.

INTERPRETIVE PROBLEMS WITH THE CURRENT DATA BASE

The fact that our understanding of the archaeological record in the northern Curlew Valley area is based primarily upon surficial data presents a number of vexing interpretive problems, not the least of which is a lack of chronological control for nearly the entire sample of 99 sites. Although it may be somewhat safe to assume that many of the surface manifestations at these sites post date ca. 2500 B.C., it could very well be that a significant number of them pre-date Late Holocene times, especially those that are situated in low gradient valley settings (such as the southwestern part of the study area) where soils develop slowly. It is also important to consider the very distinct possibility that some sites where no water occurs today may in fact have been near a seasonal or perennial water source prehistorically, but historic land use practices have either lowered the water table or diverted water flow to such an extent that these once-viable sources of water are now dry. This may be especially true for several canyons at the south end of the Sublett Range.

Perhaps a more pressing concern for the main topic of this paper are the myriad problems with inferring overall site function from surface data alone. Without comprehensive subsurface data, it is impossible to identify functional shifts at sites with buried components, especially those in settings where soils develop quickly. Alternatively, even those sites located in places where soil development is slow (and therefore may lend themselves to accurate functional interpretation because the majority of cultural materials there are exposed) might often contain palimpsest assemblages. In such cases, one could never truly know whether or not site function shifted over time, because the debris from multiple episodes of site use would form what appeared to be a discrete living surface that would typically be interpreted as a residential location. Add to this the poor preservation of surface organic artifacts, food remains, and features as well as the inadequate documentation of surface assemblages that characterize the typical site form that was filled out before about 1980 (not to mention the illegal collection of time sensitive artifacts), and one quickly realizes that we have some serious interpretive problems on our hands when all we have to work with is a minimally-documented and quite possibly jumbled surface archaeological record. This situation does not mean that we should not attempt to interpret ancient settlement practices from surface data, it simply means that we face some major hurdles in doing so. As long as we are aware of these potential complications, we can temper our initial impressions about how people used a given landscape at a certain point in time and commit ourselves to testing tentative models with reasonable amounts of ecologically-stratified survey and excavation work. With these things in mind, I now turn to some suggestions for testing my initial settlement model for the northern Curlew Valley.

TEST IMPLICATIONS AND AVENUES FOR FUTURE RESEARCH

It seems to me that in order to begin to understand how the Late Holocene Native peoples who frequented the northern Curlew Valley area used this landscape, one must first establish classification criteria for discerning between major habitation sites (i.e., residential bases) and minor habitation sites (i.e., field camps) (e.g., Binford 1980:9-10). Regardless of their ecozone affiliation, one would expect major habitation sites that were repeatedly occupied to contain midden-like soils as well as highly-variable artifact and ecofact assemblages reflecting the wide variety of activities that transpired there. One would also expect to encounter subsurface features such as formal, well-used hearths, and possibly post mold patterns marking the location of windbreaks, huts, and/or drying racks. Of course, the most intensively occupied habitation sites should be located at or near dependable water sources. On the other hand, minor habitation sites should be characterized by low artifact and ecofact assemblage variability, lack of midden-like soils, minimal numbers of hearths, and contain little or no evidence of domestic features. Furthermore, such short-term living sites do not necessarily have to be located near a water source.

In order to objectively determine whether a place was consistently used as a major or minor habitation site, it would be necessary to excavate broad, contiguous areas and collect numerous soil samples for flotation analysis as recommended by O'Connell (1993) based on his ethnoarchaeological research among the Alyawara and Hadza. By doing so, one can expose the main activity areas within a site and gauge the relative degree of occupational intensity there according to the number and variability of features as well as the amount and variety of micro-refuse (which theoretically tends to remain in a primary context). For obvious reasons, it would be desirable to use both mechanical and manual excavation techniques to accomplish such ambitious excavation work.

Most non-habitation sites (i.e., locations) within the northern Curlew Valley study area probably represent daily extractive activities and are associated with low levels of occupational redundancy (e.g., Binford 1980:9). If this is the case, then one would reasonably expect that such sites have fairly low levels of archaeological visibility, occur both at and away from water sources, are spatially confined, consist of relatively few formed artifacts, and are characterized by low-variability assemblages. Being familiar with the archaeological record of this general region, it seems quite likely that most small-to-medium sized lithic scatters represent such sites. It is important to note that while locations are perhaps the least complex of all site types in the region, they probably are the most numerous because they were not necessarily tethered to any particular critical resource and were produced by common, highly repetitive economic activities as people moved across the landscape in search of food and raw materials.

Because the sites in our present sample were recorded over a relatively long period of time by individuals with varying amounts of academic training and field experience, it would be desirable to relocate and re-record each one of them. Doing so would allow workers to apply the above-listed site classification criteria in a uniform fashion, and begin to identify those settings that tended to be used as residential camps vs. field camps, as well as those locations that typically contain non-habitation-related debris. If distinct landforms and/or ecozones were in fact used differently within this settlement system, then it would help predict where one should expect to find different site types during future surveys in the general study area. Once the sites in our present sample had been relocated, re-recorded, and properly classified, then we could turn our attention to excavating a representative sample of them. Ideally, approximately 20% of the sites within each of the six environmentally related categories (lowland sites near water, etc.) would be investigated via intensive subsurface testing (i.e., excavate at least twenty 1 x 2 m. units at each selected site). In this way, we could finally arrive at some scientifically valid interpretations about aboriginal settlement and subsistence practices in this part of southeastern Idaho.

WHAT CAN WE LEARN FROM SMALL, BIASED SAMPLES?

In closing the discussion portion of this paper, it seems appropriate to consider the advantages and disadvantages of small, biased samples in archaeological research, especially as they relate to survey work in the greater northern Curlew Valley. Because the vast majority of surveys previously conducted within the project area were done to comply with federal environmental review law, coverage occurred only in those areas that were to be affected by formal government "actions" such as range improvement projects and land exchanges. Therefore, survey coverage was heavily biased towards the foothill zone, which contains about 55% (11,360 acres) of the total survey acreage in our sample of nearly 20,500 acres. Approximately 35% (7,440 acres) of this total was devoted to inspecting portions of the lowland zone, whereas less than 10% (1,650 acres) of it occurred in the upland zone (Table 1). The end result of such coverage is that we are beginning to see some broad patterns of how aboriginal peoples used the foothills (which are known to contain big-game kill sites, locations, field camps, and residential camps), but are still woefully uninformed about the overall usage patterns in valley and upland settings. In order to obtain a basic understanding of ancient settlement systems in this part of southeastern Idaho, I imagine that we would need to inspect between 10% (e.g., Thomas 1973:168; Lindsay and Sargent 1979:7) and 20% (e.g., Binford 1964:434) of the entire study area. Perhaps an appropriate coverage goal for the northern Curlew Valley project area would be to survey a 15% sample within each of the three ecozones, which would almost triple the present amount of coverage and require a substantial effort in terms of time, personnel, and funding. Presently, the survey work that has been conducted in the foothills of our study area (which has received over half of the total survey coverage) totals less than 6% of the nearly 200,000 acres that comprise this ecozone, and in all likelihood, total coverage in any of the project area's three ecozones will never surpass a 10% sample.

Assuming that archaeological survey work within the study area will never approach the amount necessary for producing statistically-meaningful interpretations of the Late Holocene settlement system that prevailed there, we need to ask ourselves whether or not currently available data can serve any practical purpose for gaining insights into the past. Upon considering this question, I believe that the appropriate response is an unqualified "yes." Perhaps the most useful aspect of the tentative settlement model outlined above is the fact that it can be empirically tested with the extant archaeological record of the area, and can be incorporated into the research design of any future cultural resource management project in the general area. We already know of various sites located near and away from fresh water sources in all three ecozones, have an explicit list of functionally related assemblage expectations for each one of the six different site types, and could obtain excavation permits from the U. S. Forest Service and Bureau of Land Management to excavate a sample of each site type in order to test the initial settlement model. After obtaining an adequate sample of excavation data from each ecozone, it would then be possible to objectively determine the basic function(s) of each site and whether or not they corroborate my locationally-specific expectations. Undoubtedly, such excavation data would indicate that the initial settlement model should be revised; it could then be modified and tested again in order to reconstruct an accurate picture of local land use practices.

In his evaluation of a diet breadth model proposed by Grayson (1991), Madsen (1993:328) opined that "Models and hypotheses are made to fail and they should not be judged on their 'correctness,' but on whether they are clear enough and simple enough to be adequately tested. Tests, in turn, must be judged on whether or not they are appropriate to the model being examined." With this statement in mind, it should be quite clear that the small, biased sample of prehistoric sites in the northern Curlew Valley study area is all we need for initial testing of my settlement model. We do not need to conduct additional survey work to increase our sample of sites in lowland, foothill, and upland zones. All we need to do now is select and excavate an appropriate, ecologically-stratified sample of sites – admittedly somewhat of a daunting task, but one that could be accomplished over the course of some eight field seasons with crews averaging about twelve people. In this way, we could improve our understanding of local prehistoric adaptive strategies and see how they articulate with those that have been documented in other environmentally-similar parts of the Great Basin. So, it seems to me that one advantage of using small, biased archaeological samples is that they can reveal general patterns of the past, which certainly appear to be true for this area.

Another useful aspect of both survey and excavation data resulting from small, biased samples is that they provide predictive power just as the data from large, unbiased studies do. Because we know that several important habitation sites occur near permanent water sources on the Curlew National Grassland between elevations of 5200 and 5500 ft., future archaeological investigations of areas associated with springs or creeks in the lower foothills of the greater northern Curlew Valley should anticipate finding substantial prehistoric camps in such settings. These sites seem to reflect the common forager strategy of "mapping on" to critical resource patches by positioning their residential bases near a "tethering" resource (such as water or firewood) within a foraging radius that allows them to access one or more patches (e.g., Binford 1980). Establishing residential base camps at or near fresh water sources in ecological transition zones would certainly provide access to multiple resource patches, and it should come as no surprise that this is precisely what prehistoric people were doing in the northern Curlew Valley area – a pattern that has been revealed by small, biased sampling.

CONCLUSION

After processing all of the foregoing information, it becomes quite obvious why many archaeological settlement models tend to remain largely theoretical constructs that are rarely, if ever, thoroughly tested – a great deal of time and effort are required to recover the proper amounts of empirical data necessary for assessing them. However, if people are willing to commit themselves to testing prehistoric settlement system models at the regional level, the potential benefits are great. Looking at regional site distribution maps like that portrayed in Figure 3 reminds me of Robert Kelly's "TV-watching dog" analogy – archaeologists oftentimes are fascinated by the patterns that they see, but are not at all sure how to interpret them (O'Connell 1993:7). A primary goal of this paper is to get people thinking about ancient settlement patterns at the local level and the kinds of research questions we can pursue through survey and excavation in order to test tentative land use models. Our modest sample of excavated sites in the Curlew National Grassland certainly has provided us with information concerning how Native peoples incorporated the foothills of southeastern Idaho into their annual round of settlement and subsistence activities. Perhaps during the next twenty years or so, a number of other sites in lowland, foothill, and upland settings within the general study area will be investigated, allowing us to assess the accuracy of the settlement model presented above. Only then will we begin to truly understand prehistoric settlement practices on the northern edge of the Bonneville Basin, an area that has a great deal of research potential and deserves more attention from the archaeological community.

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SHORT CONTRIBUTIONS

ANALYSIS OF A CERAMIC VESSEL FROM SOUTHEASTERN OREGON

Monte Wells

INTRODUCTION

This brief note describes the partial remains of a ceramic vessel of unknown provenience collected by amateurs on Bureau of Land Management Vale District lands in southeastern Oregon. The collection of sherds consists of eighteen ceramic specimens of what appear on initial inspection to be what are locally known as Shoshoni pottery. The ceramic collection was submitted to the Department of Anthropology at Boise State Anthropology for analysis. A basic descriptive/typological analysis of the sherds was conducted during Fall 2002. This report details methods, artifact descriptions, and potential significance of the find.

METHODS

The analysis included measuring the length, width, and thickness of each specimen and weighing each sherd. The color and temper of each specimen was also recorded and measured using a unified soil classification systems gauge (USCS). The ceramic analysis diagram and analysis key were produced based on the geotechnical gauges letter symbol and on the soil color gauge located on the geotechnical gauge. Along with using the geotechnical gauge to aid in identifying color and temper, a letter system of symbols was established to identify different features from the ceramic analysis charts below (See Analysis Key for details). The temper was analyzed by using the USCS to identify the soil mixture that appeared to have been used to produce the ceramic specimens.

ARTIFACT DESCRIPTION

Overall, the majority of specimens are reddish-brown in surface color. Temper consists of clay and sand. The surface and the inside have been smoothed. Cross-sections indicate a black core, which in turn indicates that it was fired in a low oxidizing atmosphere. The base of the vessel is flat and the rim is vertical. The vessel form appears to be that of the common Shoshoni flower pot type common in the Great Basin. Table 1 provides metrical and descriptive/typological features of each specimen. Attributes include length, width, thickness, weight, and vessel form.

In general, the sherds described here fit within the type description for "Shoshoni" Ware as originally described by Rudy (1953:94) as follows:

Construction: Coiled and molded.
Firing: Uncontrolled atmosphere (?)
Core Color: Generally reddish brown, ranging from dark gray through reddish brown to almost black.
Temper: Variable; when reviewed with a hand lens, it appears as quartz sand ranging from fine to coarse, with occasional fragments of a light, opaque angular material and small amounts of mica. The thin section analysis shows the temper to be "crushed granitic rock or subangular sand that has been derived from granitic rock."
Core Texture: Coarse, occasionally medium.
Surface Finish: Poorly smoothed; scraped by a stick; striations common. Surface undulating. Occasional sherds well smoothed but not polished.
Surface Color: Reddish brown or buff, occasionally gray grading into dark brown; some almost black.
Vessel Walls: Strong to friable-principally friable.
Shapes: Flower pots and jars with pointed bases. Ethnographic reports also indicate bowls.
Rims: Straight and out-curved.
Wall Thickness: Average, 7 mm; range, from 4 to 8.5 mm.
Decorative Techniques: Occasionally fingernail impressions vertically placed in horizontal bands just below the rims; most sherds plain.

Analysis of ceramic specimen based on Rudy's description is as follows;

Construction: Unknown.
Firing: Low oxidizing atmosphere.
Core Color: General color is reddish brown, ranging from dark gray through reddish brown to an almost black color.

Table 1. Attribute Analysis of Sherds

Sherd	Length	Width	Thickness	Weight	Vessel Form	Base	Rim/Lip	Core/Surface		Temper
A1	27.8cm	24.0cm	1.9cm	600+g	F	FB	V	DG	YB	SC
A2	20.0cm	16.3cm	.87cm	561g	F	UB	V	DG	YB	SC
A3	12.4cm	9.1cm	.91cm	*	U	UB	V	DG	YB	SC
A4	7.3cm	3.1cm	2.2cm	34.6g	U	FB	UF	DG	LG	SC
A5	3.9cm	3.4cm	1.5cm	14.4g	U	UB	UF	DG	YB	SC
A6	6.4cm	9.8cm	.81cm	65.4g	U	UB	V	DG	LG/DG	SC
A7	5.5cm	7.2cm	.89cm	49.0g	U	UB	UF	DG	YB	SC
A8	4.6cm	3.5cm	.85cm	20.7g	U	UB	UF	DG	RB	SC
A9	4.3cm	5.6cm	.59cm	18.6g	U	UB	UF	DG	YB	SC
A10	4.6cm	4.4cm	.51cm	17.9g	U	UB	UF	DG	YB/LG	SC
A11	6.9cm	4.4cm	.65cm	32.1g	U	UB	UF	DG	LG	SC
A12	8.6cm	4.3cm	.60cm	43.3g	U	UB	UF	DG	YB	SC
A13	5.9cm	3.2cm	.63cm	14.7g	U	UB	UF	DG	YB	SC
A14	5.8cm	3.8cm	.61cm	23.4g	U	UB	UF	DG	YB	SC
A15	3.2cm	4.6cm	.57cm	12.3g	U	UB	UF	DG	LG	SC
A16	3.7cm	4.2m	.50cm	13.2g	U	UB	UF	DG	LG	SC
A17	3.1cm	2.3cm	.62cm	9.3g	U	UB	UF	DG	YB	SC
A18	1.7cm	1.5cm	.24cm	1.3g	U	UB	UF	DG	DG	SC

Ceramic Analysis

* Indicates that A2 and A3 were weighted together as one piece.

Analysis Key

Vessel Form	Flowerpot = F	Unknown Form = U		
Base	Flat Base = FB	Unknown Base = UB		
Rim/Lip Form	Vertical = V	Unknown Form = UF		
Surface & Core	Light Brown=LB	Yellowish Brown=YB	Reddish Brown=RB	Olive Gray=OG
Colors	Light Gray=LG	Dark Gray=DG	Organic=O	
Temper	Clayey sands, Sand - Clay Mixtures = SC			
Weight	Unknown Weight = UW			

Temper: Variable; when reviewed using the USCS it appears as sand ranging from fine to coarse.

Core Texture: Occasionally it was coarse, but generally medium.

Surface Finish: Smoothed; some striations on the surface. Occasional sherds well smoothed but not polished.

Surface Color: Reddish brown, with gray grading into dark brown; some almost black.

Vessel Walls: Strong.

Shapes: Flower pots forms with flat bases.

Rims: Straight.

Wall Thickness: Average, 8.5 mm.

CONCLUSIONS

Pottery sherds are not well represented in the material culture of southeastern Oregon. With the exception of the Lost Dune Site which produced over 600 hundred brown ware sherds (Thomas, Loreen and Goheen 1983; see also Lyons, Thomas and Skinner 2001), pottery is extremely rare. It is found at only five sites in Harney and Malheur Counties. These sites contain only one or a few sherds. Four of the sites found are near the Owyhee River (see Lyons, Thomas and Skinner 2001). Pottery is, however, quite common in sites in southwestern Idaho. Indeed, the ceramic collection described here fits well within the range of variation in southwest Idaho ceramics, as detailed in the analysis of southwest Idaho ceramics conducted at Boise State University in 1986 (Bennick and Plew 1988). A total of 1822 sherds and several partially complete vessels from 28 sites were examined. The sherds studied represent approximately 60% of the 3500 sherds collected from southwestern Idaho sites at the time. Though the greater number of sherds was from three sites (Clover Creek, Bliss, and Three Island Crossing between Glenn's Ferry and Bliss, Idaho), the study area included sites from near the Oregon border east to the Twins Falls County line and north to the Salmon River, thereby including the Owyhee Uplands and Camas Prairie. The conclusion of this study was that most Idaho sherds/vessels fit within the general range of the Grey-Brown Wares of the Great Basin and most specifically within the range of what is typically described as "Shoshoni Ware." The sherds reported here conform generally to potteries described by Plew and Huntley (1981) from Mud Springs, and by Plew at King Hill (1992) and from Higby Cave near Boise, Idaho (1994). The vessel appears to be very similar to the Mud Springs vessel in general morphology, and to the ceramics recovered at site 35HA792 near Burns, Oregon by Morris (1981).

Figure 2. Interior and Exterior Surfaces of Ceramic Vessel

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