

## **YUKI SETTLEMENT ON THE BLACK BUTTE RIVER REVISITED**

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*In the fall of 2013, Mendocino National Forest archaeologists, Yuki tribal members, local landowners, and volunteers reexamined archaeological sites along the Black Butte River in northeastern Mendocino County, many of which had not been visited since their original recording in 1966. The intent was to verify site locations and record current conditions at numerous housepit villages, some with ethnographic names. This dynamic 20-mi. span of river was home to the Huititno'm division of the Yuki. Both previously recorded resources and newly identified sites were located as the result of this study, demonstrating site patterns challenging previously held settlement models. The project's success was largely due to collaboration with landowners and local tribes.*

### **BACKGROUND**

This article focuses on the Yuki Indians who occupied portions of Mendocino, Lake, and Glenn Counties in northern California. Based on their physical appearance and language, Kroeber (1925) suggested that of all the California tribes, the Yuki are the nearest to being autochthonous (native, original). It has been suggested that Pre-Proto-Yukian is correlated with the Post pattern of the Paleo-Indian period (12,000 to 8000 B.P.) and that prior to 3000 B.P., ancestral Yuki territory may have extended over a large geographic area from Humboldt Bay to the lower Russian River valley. Fredrickson (1973) hypothesized that Yukian speakers and their ancestors occupied the ethnographic territory of the Yuki, Coast Yuki, and Huchnom continuously throughout the entire period represented by the known archaeological record for the area. Athabascan language speakers are believed to have pushed the Yuki south around A.D. 900-1000. The Yuki were famous as the most ferocious and warlike people in northern California. The Yuki usually allied themselves with the Athabascan Wailaki to the north. The Nomlaki, Pomo, and intermittently the Cahto were considered enemies.

George Foster's 1944 "A Summary of Yuki Culture" outlined six Yuki subgroups: Ukomno'm (Valley People); Huititno'm (Middle Ridge People); Suksaltatamno'm (Nicely Shaped Pine Tree People); Witukomno'm (Eden Valley People); Onkolukomno'm (Ground in Another Valley People); and Ta'no'm (Slope People). Foster's (1944) map (Figure 1), modified to include the three westernmost Yuki divisions, depicts the most populous inland group (Ukomno'm), who held Round Valley, a large, low-elevation (1,300-ft.) mountain-rimmed valley in northern Mendocino County. It was noted by Edwards (1966:9) that an early settler, Judge Potter, estimated 3,000 Indians in Round Valley and another 10,000 in the surrounding foothills in 1860. At the time, the judge stated that "almost every spring in the mountains and every flat on the river had its Indian camp remains." Treganza's archaeological work supports this reported high population density in the Round Valley area (Treganza et al. 1950). Edwards's report also stated that Round Valley and the surrounding valleys and mountains were extremely productive of fish, game, berries, and acorns, and that tales of famine were rare. Much of the trade for beads, shells, obsidian, and other exotic items was in exchange for the Yuki's surplus foodstuffs.

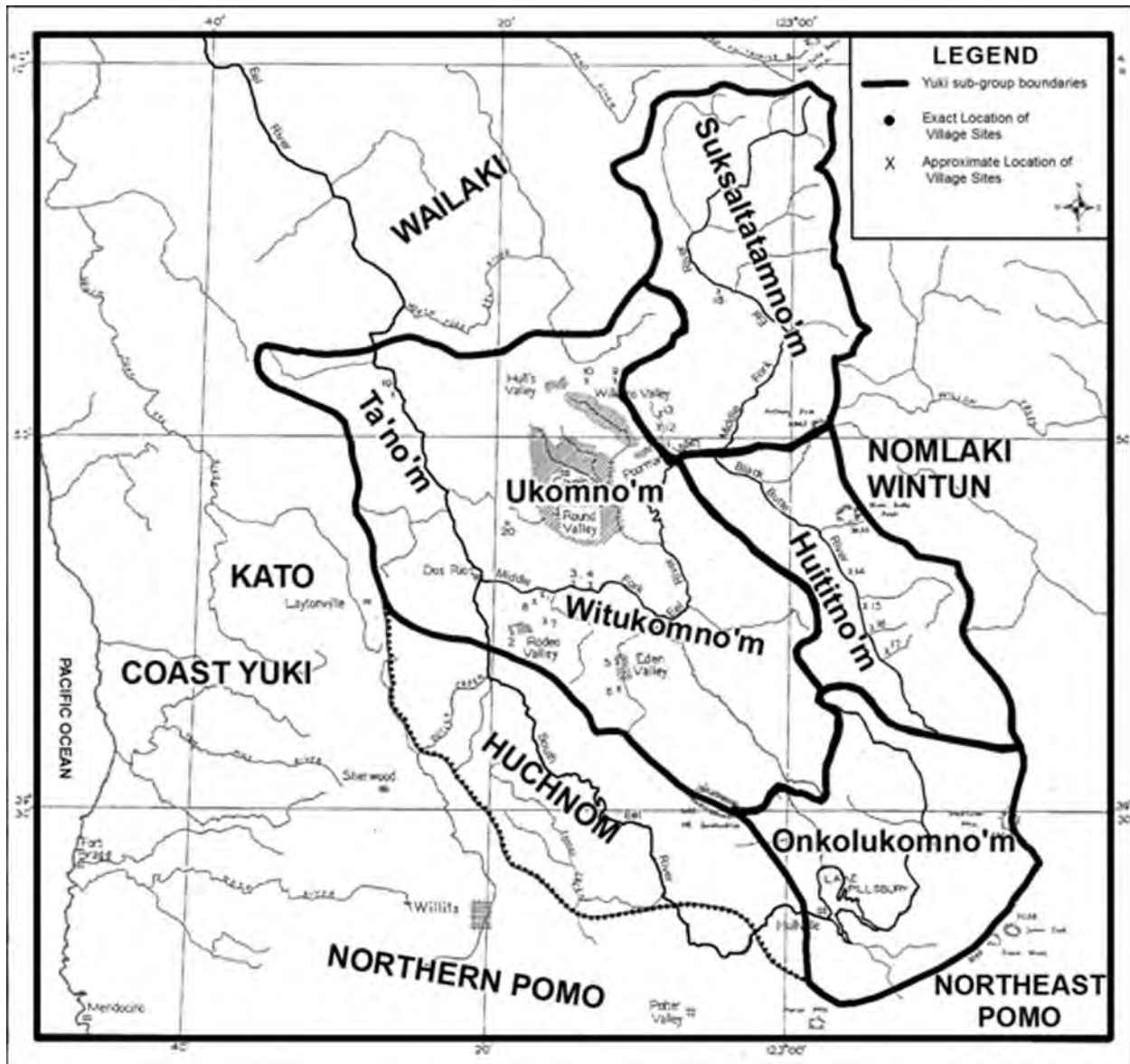


Figure 1. Foster's 1944 ethnographic map of Yuki territory.

Yuki territory is drained by the Middle Eel River basin, the fastest-eroding basin in North America (Wagner and Rowe 1977). The generally steep slopes, unstable geological material, intense winter storms, and recent human activities (e.g., logging, road building, etc.) have combined to produce rapid erosion and landslide rates. These environmental factors translate into rapid erosion of river terraces as well as frequent slumping and landslides along the hill slopes.

The Black Butte River is a tributary to the Middle Fork of the Eel River, flowing north approximately 24 mi. from its headwaters at around 3,800 ft. to its confluence with the Middle Fork of the Eel River at about 1,500 ft. The river provides habitat for winter steelhead, rainbow trout, and Chinook salmon, a valuable resource base prior to historic contact. The rivers' anadromous fish populations are greatly diminished but likely provided a substantial resource base prehistorically. Deer populations were abundant also until historic contact, when they were over-hunted largely for the value of their hides to Euro-Americans.

The upper reaches of the river are lush with riparian vegetation, providing shade and keeping water temperatures cool for fish habitat, while the lower reaches are largely devoid of riparian associations, largely as a result of previous landslides. The southwest side of the river is thick with mixed conifers and oaks, while the northeast side is more open, with glades interspersed with uniform oak groves, pines, and chaparral species. Aerial photos of the watershed depict the large numbers of open glades on the west- and south-facing slopes, an environmental phenomenon which may well have been purposely created or encouraged by aboriginal burning. Additionally, aboriginal spot burning, usually in the spring and fall, may have played a fundamental role in the evolution and maintenance of local chaparral species. Burning in woodland-grassland associations reduced brush cover and favored the creation of parklands with grasses, trees, and intermittent stands of brush; increased animal and plant productivity; and improved flow of springs. By creating and maintaining openings in the chaparral, aboriginal groups increased the overall resource potential and created enclosures where concentrated resources could be exploited.

This article focuses on the Huititno'm, the subgroup that held the Black Butte River drainage bounded to the east by the Coast Range Crest and to the west by Etsel Ridge. The Huititno'm shared with the Suksaltatamno'm the most rugged terrain in Yuki territory and were blessed with an abundance of deer. Foster identified four major *no'hots* or rancherias within Huititno'm territory: (14) Huitit (Middle Ridge), (15) Suk'hui (Fir Thicket), (16) Pilil (Snow Rock), and (17) Titam (Mountain), all situated on terraces along the Black Butte River. These are located on the middle to upper portion of the watershed. In Figure 2, Mendocino National Forest (MNF) watershed and tributary GIS data have been overlaid on Foster's original map of Yuki territory.

The previously recorded sites along the lowest reach (1,500-1,800 ft.) of the Black Butte River were identified by Rob Edwards and a field crew during the Etsel-Franciscan Reservoir survey in 1966. The Edwards survey was two years after the 1964 floods, which seriously damaged the watershed, scouring and undercutting river terraces and distributing sediment downstream. This reach is north (downstream) from Foster's identified rancherias and probably received the most significant disturbance from the floods. While Edwards noted in his report considerable housepit loss from erosion compared to the 1950 Treganza survey, subsequent work in this area continues to monitor the loss or degradation of housepits due to various erosive processes. In terms of settlement patterns, Edwards noted that while proximity to rock outcrops seemed to be important to the location of many sites, the most important reason for occupation seemed to have been presence of water. He also noted that "a small percentage of sites are located in such remote inconvenient spots that refuge seems to have been the only reason...most of these sites have housepits and a small amount of midden that, like Ishi's, are probably historic contact refuge sites" (Edwards 1966:10). He again cited Judge Potter, who stated that "for months, the Poor Yuki's...sulked like hunted wild beasts in the mountains, hiding in caves and in the most inaccessible places" (Edwards 1966:10).

## 2013 RESEARCH

Interest in the prehistory of the Black Butte watershed was generated through Edwards's 1966 survey and expanded over the next 40+ years of cultural resource management on MNF. While few subsequent surveys in the river bottom were completed, approximately 450 prehistoric sites are known to exist in the greater watershed boundaries; most are concentrated on Etsel Ridge, the western boundary of Huititno'm territory. Etsel Ridge divides the Huititno'm and Witukomno'm Yuki divisions and was probably shared by both populations. While Etsel Ridge (4,000 to 6,000 ft.) does contain numerous midden deposits, petroglyph sites, chert quarries, and lithic scatters, housepit villages are largely confined to the river below 3,500 ft. (snow level) in elevation (Figure 3). A 20-mi. stretch of the Black Butte River was designated for Wild and Scenic status in 2006, largely based on the density and complexity of archaeological sites known to exist in the half-mi.-wide river corridor. At the time, 27 sites were known to exist in the corridor; all but one are middens, and many had observable housepits.

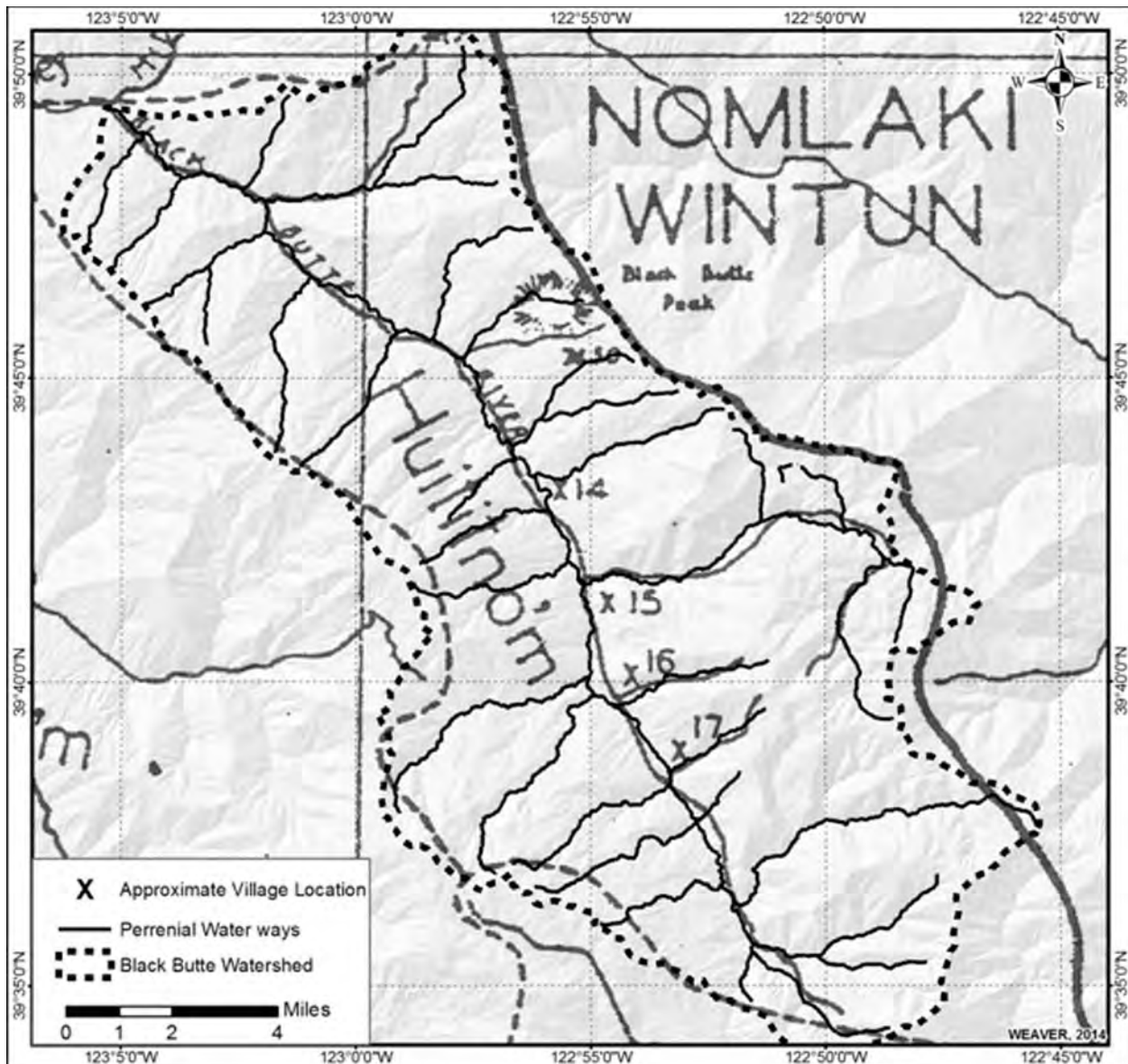


Figure 2. Foster's (1944) map of ethnographic rancheria locations.

The focus of this study was to monitor and rerecord known prehistoric sites along the river using new technologies (GPS, GIS, and digital photography) not available at the time of the earlier site recordings. A secondary goal was to identify new sites as time allowed during our week-long field project. This research involved a two-day survey in 2010, the week-long September 2013 Passport in Time (PIT) project, and a one-day return visit in November 2013 by MNF staff and Yuki tribal representatives. Given the small crew size, access problems (private land in-holdings), and time constraints, very little systematic reconnaissance was completed. However, with the aid of Yuki tribal members, landowners, and volunteers, we were able to monitor or rerecord 18 archaeological sites and record 14 new sites. Three of the new site locations were provided by private landowners who assisted us as their schedules permitted.

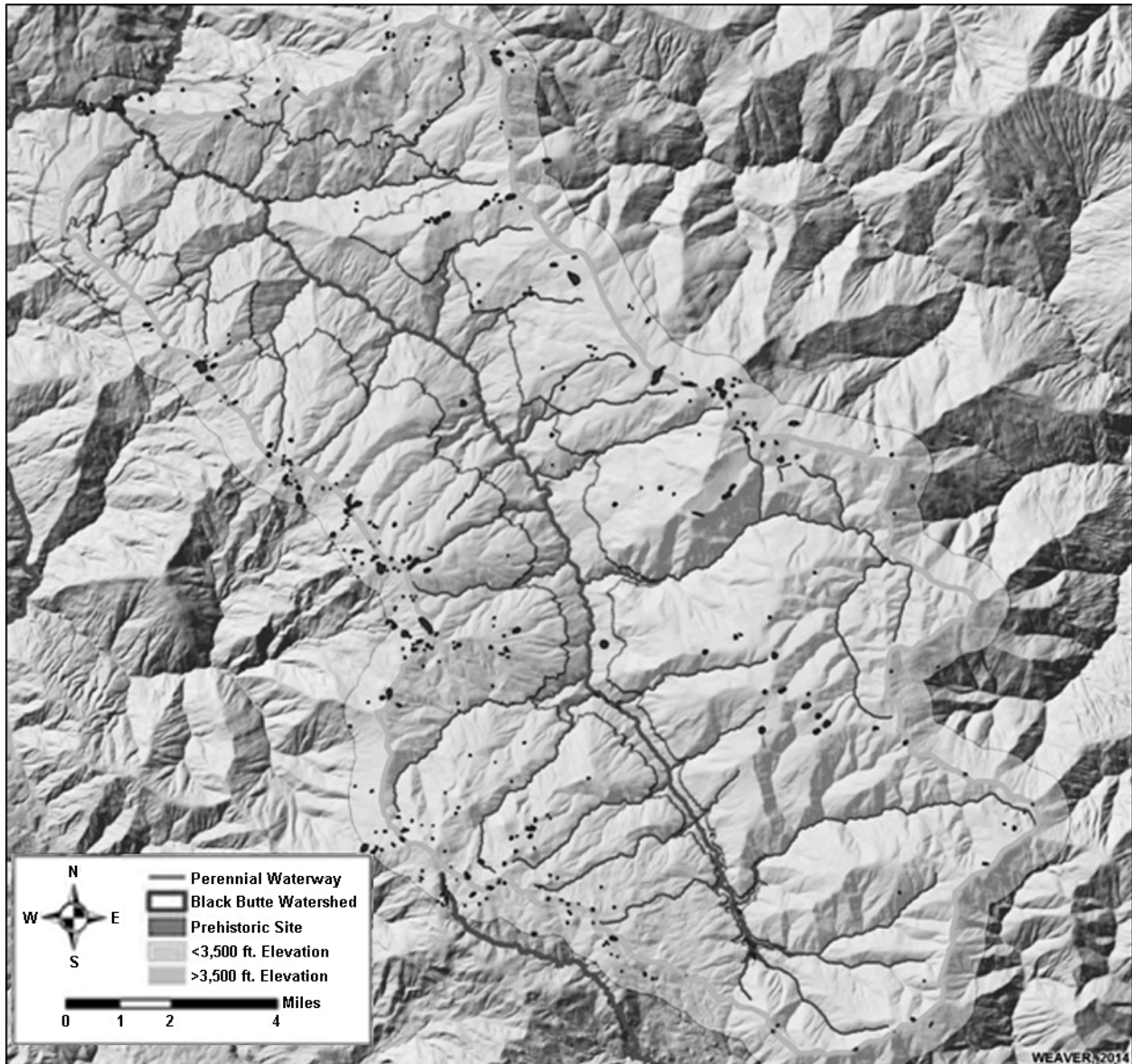


Figure 3. Watershed / Huititno'm boundaries, known prehistoric sites, and snow-level boundaries.

### 2013 Fieldwork

For the current study, the Black Butte River drainage was divided into three localities, based on elevation. The lowest reach of the Black Butte River at elevations ranging between 1,500 and 1,800 ft. elevation, includes Eel River Station (CA-MEN-320/643), a large terrace at the confluence of the Black Butte and Eel rivers which has been extensively tested in association with campground and road improvement projects (Figure 4). This reach is approximately 6 mi. long and was the portion surveyed for the Etsel-Franciscan Reservoir project by Edwards (1966). While no housepits were visible at MEN-320/643 due to major ground disturbance, investigations revealed it to be a large, complex midden site with primarily Willits and Augustine pattern occupations, between 2,500 years ago and historic contact.

The lowest reach of the river appeared to have the largest known housepit villages in terms of size and number of housepits. Four of the sites had five or more housepits, including two sites with large housepits suggesting a chief's house or possible ceremonial structure, although none of the ethnographic

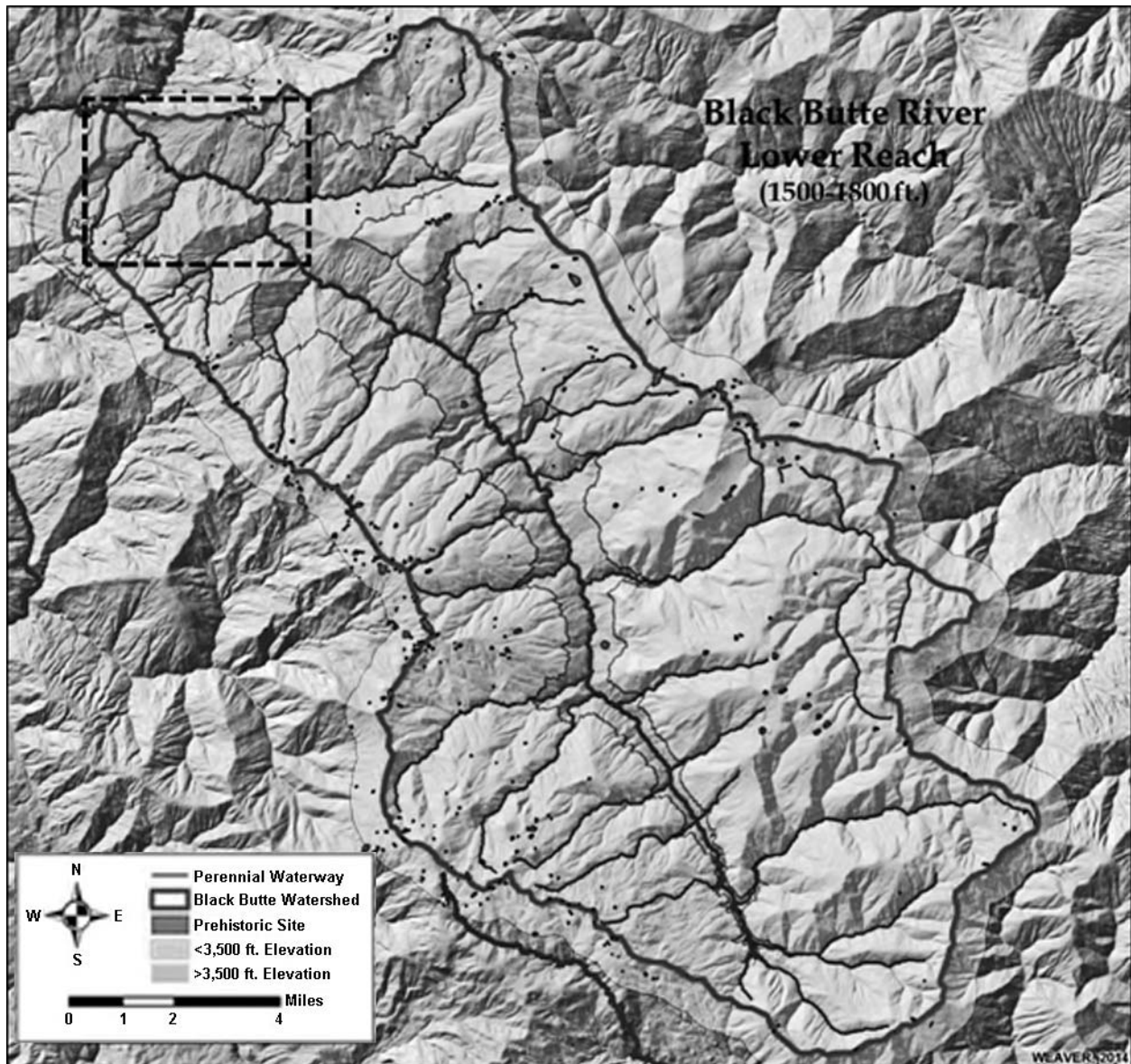


Figure 4. Black Butte River, lower reach.

villages named by Foster are within this stretch of the river. Fieldwork also identified seven additional midden deposits on the river as well as several further upslope.

The central reach of the Black Butte River (1,800 to 2,400 ft.) was marked by a paucity of sites; however, this area has not been systematically surveyed. Two access points were provided by local landowners in this reach, and the PIT crew recorded six new sites: two flaked stone scatters and four midden deposits (two with housepits). These included sites primarily on the midslope benches several hundred ft. above the river. Interestingly, two of the housepit sites were located one-half mi. from the Black Butte River and between 150 and 500 m away from any water sources. One of the local landowners who owns a cabin at Carpenter Place in the area took us to some of these sites, which were shown to him by his Nomlaki grandmother when he was a young boy. In this central reach of the river, historic homesteads were also common along the midslopes, as well as historic trails.

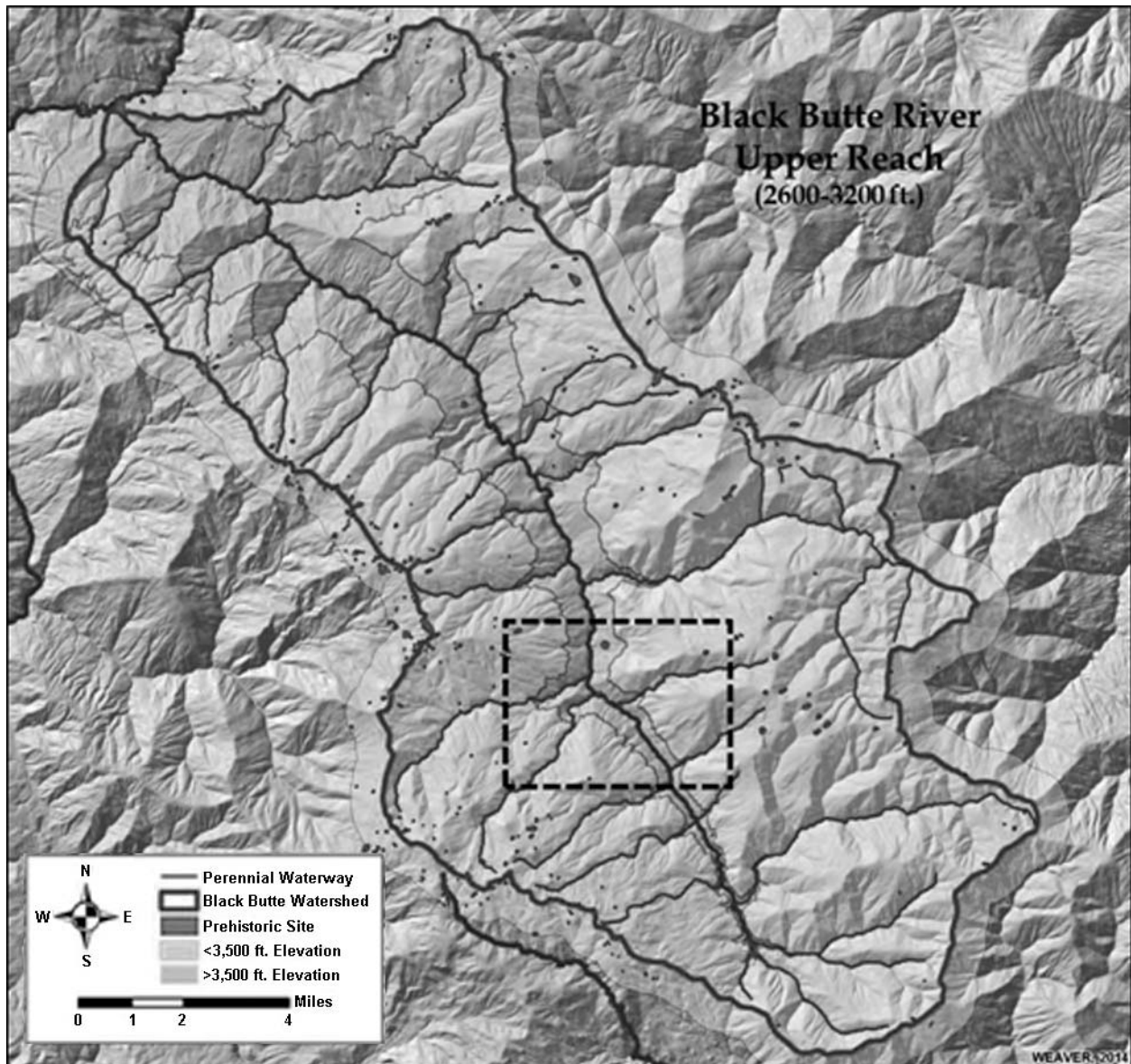


Figure 5. Black Butte River, upper reach.

The upper reach of the Black Butte River (2,600 to 3,200 ft.) contained a cluster of sites between 4 and 5 mi. farther upstream from the central reach sites (Figure 5). Again, no documented survey has been reported for the 4-mi. gap in sites between the middle reach sites and the first upper reach site. This area is difficult to access, as few roads exist and trespass rights through two private parcels were not provided. However, one landowner provided access to an area which contained a concentration of sites. Ten prehistoric sites have now been recorded along this stretch of the river. One of these (MEN-1018) was not revisited in 2013 but is the reported location of a multicomponent site that contained a dance house. This site may correspond to Foster’s Suk’hui rancheria. The other nine sites were clustered together tightly within a half-mi. segment of the river. Of these sites, three contained housepits with midden, one had housepits and no midden, and the other five were midden sites with no visible housepits.

Located within this upper reach of the Black Butte, what was thought to be the ethnographic site named Pilil (MEN-1793) was excavated in 1991 by Sharon Waechter and Tom Origer. Based on its location, the presence of two to three housepits, and a midden deposit, it was believed to be the



*Figure 6. Seven-m-diameter housepit.*

ethnographic village. Testing indicated the site was probably a subsidiary village utilized from the Upper Archaic through the historic period. A glass projectile point was recovered during testing. In 2013, another flake of historic bottle glass was identified on the site's surface.

During the 2013 PIT project, fieldwork indicated there were quite a few sites in close proximity to the site thought to represent Pilil, including one directly across the Black Butte River that may have been utilized more intensively than MEN-1793. Many of these nearby sites exhibited darker middens, more housepits per site, and larger and more distinctive housepits than the location excavated in 1991. These data indicate the possibility that what Foster referred to as Pilil was not one specific archaeological site but perhaps a cluster of what are manifested as separate archaeological sites in close proximity that essentially represented the rancharia Pilil as it was utilized over the period of perhaps 100 to 200 years. For example, Figure 6 illustrates a site containing a 7-m-diameter housepit, only 50 m from a non-midden site containing seven separate housepits.

Another interesting phenomenon observed at many of the sites along this stretch of the Black Butte River was a paucity of surface flaked stone artifacts, coupled with a preponderance of small to medium cobbles, cobble tools, and fire-affected rock. Specifically, an artifact type that was also described in the Pilil excavation report was something referred to as "spatula hammer stones" (Figure 7). These have been described as small, elongated, usually unshaped cobbles, often showing use abrasion on one or both ends. While their function is uncertain, the Round Valley Indian Reservation archaeological survey (Fredrickson 1979) found them limited in distribution to low-elevation midden sites. These artifacts were also noted by Janet Eidsness (1986) during data recovery excavations at the Eel River Station archaeological site in the 1980s, by Edwards (1966) during his survey for the Etsel-Franciscan Reservoir, and during the earlier Treganza (1950) survey in the area. White (in Fredrickson 1979) believes them to be limited to low-elevation midden sites in the Middle Eel drainage, possibly suggesting that they are





Figure 7. “Spatula hammer stones” and cobble tools.

diagnostic of the ethnographic Yuki. According to both Greg White (personal communication 2014) and local Native American consultants, they may have functioned as acorn anvils.

Finally, regarding the headwaters reach of the Black Butte River, at 3,100 to 3,600 ft. elevation (not revisited during the 2013 survey), 10 sites were previously recorded here, including seven flaked stone scatters and three midden sites. The isolated northernmost site contained five housepits and roughly corresponds to the rancheria of Titam, the furthest upstream rancheria for the Huititno'm Yuki as noted by Foster.

### 2013 Fieldwork Summary

Eighteen sites were monitored or rerecorded in 2013. Eleven had significant damage from erosion, and fully 35 percent of the housepits at those sites were no longer visible. It appears that in the 45 years since Edwards conducted his survey of the area, approximately one-third of the housepits disappeared. Their disappearance is likely the result of their proximity to the river, which has caused erosion of the sites over the years.

Also during the project, 14 new sites were recorded. Of these, nine that were not directly on the river appeared to be stable. Six of the new sites, which include four midden/housepit sites, were not located in direct association with any water source. Four of the new sites were bisected by or adjacent to historic trails. Information on recorded housepits is summarized in Table 1. The table indicates a variety of housepit sizes, ranging from 2.2 to 7.0 m in diameter. A total of 52 housepits at 13 sites were measured, with nine of the sites directly on the river.

Foster indicated that individual or small-family-sized housepit diameters were approximately 10 ft. (3 m), while chiefs' houses or multifamily dwellings were somewhat larger. Of our sample, 17 of the housepits fit the individual or small-family measurement; nine of these are at a distance from the Black Butte River. A total of 31 of the recorded housepits ranged from 4.0 to 5.9 m in diameter, possibly representing large or multifamily dwellings. Four large housepits from three sites measuring between 6.3 and 7.0 m in diameter may be chiefs' houses or sweat houses, possibly representing the hub of the rancheria. All of these large housepits are in direct association with the river.

Table 1. Black Butte River housepit numbers, sizes, and settings.

SITE #	NUMBER	DIAMETER RANGE (M)	DEPTH RANGE (CM)	COMMENTS
MEN-1793	2	3-4	Unknown; shallow	Pilil?; tested 1992; on river (elevated bench)
MEN-667	5	3.8-6.3	31-73	Originally 7 housepits; on river
MEN-708	5	3.9-5.1	19-38	Originally 9 housepits; on river
MEN-772	5	2.3-5.0	Unknown	On river
MEN-773	7	3.0-7.0	13-70	Elevated bench above river
MEN-774	1	3.0	15	Low river terrace; originally 3-4 housepits
MEN-776	3	4.0-5.0	Unknown	Protected terrace above river
FS 05-08-53-540	2	2.2-3.3	10-19	Near creek, 200 m from river
FS 05-08-53-541	1	not measurable	Shallow	Heavily eroded low river terrace
FS 05-08-53-542	2-3	4.0-7.0	20-40	Elevated river terrace
FS-05-08-53-543	7	4.0-6.0	10-40	No midden, well above river; adjacent to 53-542
FS 05-08-56-736	3	4.0-4.8	25-40	500 m from creek; 1/2 mi. from river
FS 05-08-56-737	3	4.0-4.4	25-40	150 m from creek; 1/2 mi. from river
FS 05-08-56-740	7	3.0-4.0	Unknown	Elevated bench above river

### FOREST DATA SYNTHESIS

For this study, we compiled data from the riverine sites, along with some of the higher-elevation sites within Huititno’*m* Yuki territory. These included MNF GIS data for sites within the Black Butte River watershed, including a 1,000-m buffer. Of the 479 known sites (see Figure 3), 426 had prehistoric components. Based on these data, it appears that housepit sites in particular, as well as most middens (83 percent), are located in the “winter zone,” below 3,500 ft. (Figure 8). Twenty-six middens are in the summer zone, concentrated between 4,000 and 6,000 ft. on Etsel Ridge. Three of these high-elevation midden sites contain pitted boulder or pit-and-groove petroglyphs as well. Quarry sites (typically chert, and a few schist) are located atop Etsel Ridge. Lithic scatters make up 56 percent of all sites, and 94 percent are above 4,000 ft. in elevation. Multi-activity sites (n = 119) with flaked and ground stone are typically above 3,000 ft. elevation, and 80 percent of these have milling slabs and hand stones rather than mortars and pestles (pecked stone). Middens are largely absent on the North Coast Range crest, which corresponds to the tribal boundary between the Yuki and Nomlaki.

While archaeological survey within the watershed (plus the 1,000-m buffer) is limited primarily to the timbered northeast-facing slopes and upland areas, the upper (headwaters) 5 mi. and bottom (mouth) 5 mi. of the Black Butte River have been inventoried. Overall, approximately 30 percent of the watershed has been surveyed. Edwards’s (1966) survey of the lower 5-mi. stretch was completed with a small field crew in about one week’s time and consisted of walking up the drainage and inspecting adjacent terraces. This intuitive survey did not extend up the side slopes and likely missed those sites not in direct association with the river. As seen in Figure 8, this segment of river (below 2,000 ft.) shows the least diversity of site types and largely mirrors site distributions in the 2,000-3,000-ft. range. Sites at this low elevation are dominated by midden deposits, most of which also contain housepits. Interestingly, with the exception of what appeared to be possible incipient milling slabs or hopper mortar slabs, most of these sites had few visible ground or flaked stone artifacts. Many did contain the spatula stones noted previously in this article as well as by Fredrickson (1979) in his nearby Round Valley survey. Above 3,000 ft., site diversity expanded significantly to include ground and flaked stone scatters composed primarily of milling equipment, chert flakes and flake tools, and only limited obsidian detritus. Obsidian studies indicate a preponderance of Borax Lake obsidian, although northeastern sources are occasionally present at sites with a late component. As suggested by Huberland (1988), upland sites with obsidian sourcing data indicated approximately 93 percent southern sources (Borax Lake, Mt. Konocti, Napa) and 7 percent northern sources (Medicine Lake Highlands, Tuscan), while testing at MEN-320/643 resulted in

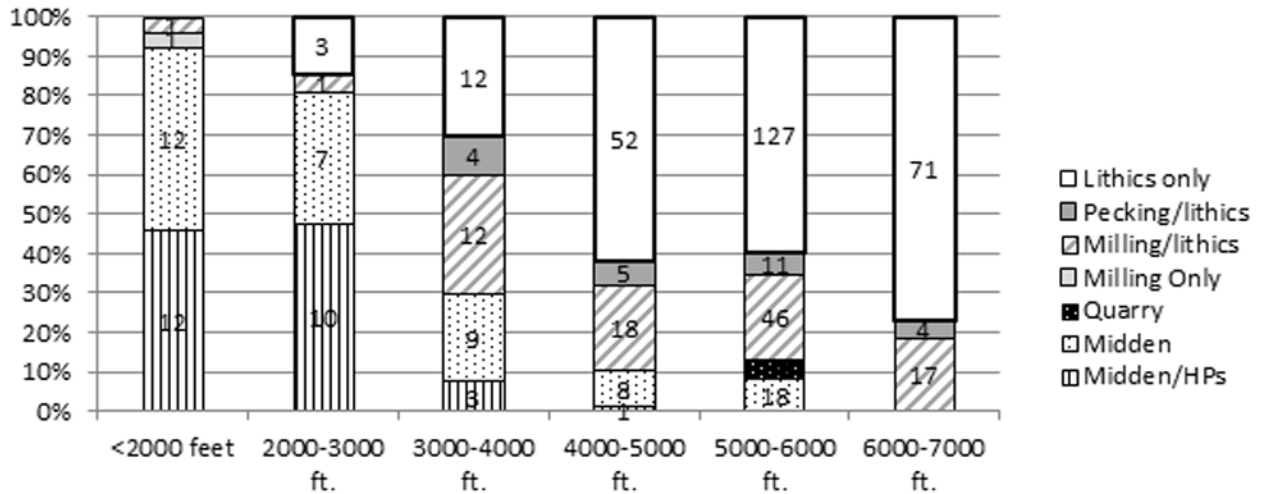


Figure 8. Site type by elevation.

slightly different percentages: 88 percent southern sources and 11 percent northern obsidians at that low-elevation site.

Above 4,000 ft. elevation, site diversity continues to be demonstrated but is typified by many more lithic scatters with or without ground stone. On multi-activity sites, the milling slab and hand stone predominate over the mortar and pestle, but both are present. Both shaped and unshaped hand stones are included in the assemblages, and mortars are typically of the hopper variety. Above 5,000 ft. were noted 10 stone tool quarries, including eight chert and two schist workshop areas. Four midden sites with petroglyphs are also recorded at this elevation. Three are pitted boulder sites, and one contains a pit-and-groove petroglyph. There are no recorded housepit sites above 5,000 ft. and no middens above 6,000 ft. Three of the four known petroglyphs, all quarries, and most of the middens are situated on Etsel Ridge between 4,000 and 6,000 ft. in elevation.

Overall, the diversity and number of sites in the Etsel Ridge area is not surprising in light of the fact that this was probably a joint-use area between two closely related Yuki divisions: the Huititno'm and the Witukomno'm, whereas the eastern watershed boundary along the Coast Range crest met up with the Nomlaki, who were enemies of the Yuki (Figure 9). Additionally, much of the Etsel Ridge locality is typified by relatively open conifer woodland vegetation with large open glades on gently sloping ground, ideal for prehistoric occupation. As mentioned earlier, vegetation in this area may well have been manipulated through burning and other means by Native populations to create and maintain an environment favorable to plants and animals utilized by the Yuki.

### Previous Test Excavations

In addition to examining spatial data compiled for Yuki sites on the Black Butte River, this article also addresses previously tested sites in the region. In order to understand settlement/subsistence patterning, it is necessary to be able to discriminate temporal components. While temporal data are limited to a handful of excavations (Table 2), these data appear to support implications drawn from the settlement pattern data described in the previous section.

Two sites directly on the Black Butte River have been excavated, including MEN-320/643, which was tested several times (Eidsness 1988; Holson 1986), and MEN-1793, which was tested by Waechter and Origer (1992). MEN-320/643 is situated at the confluence of the Black Butte and Middle Fork Eel rivers, and located where the two mountainous Yuki divisions (Huititno'm and Suksaltatamno'm) came together, just a few miles east of the Round Valley division, the Ukomno'm. The site has been the subject of repeated excavations in association with campground development, road improvements, and ranger

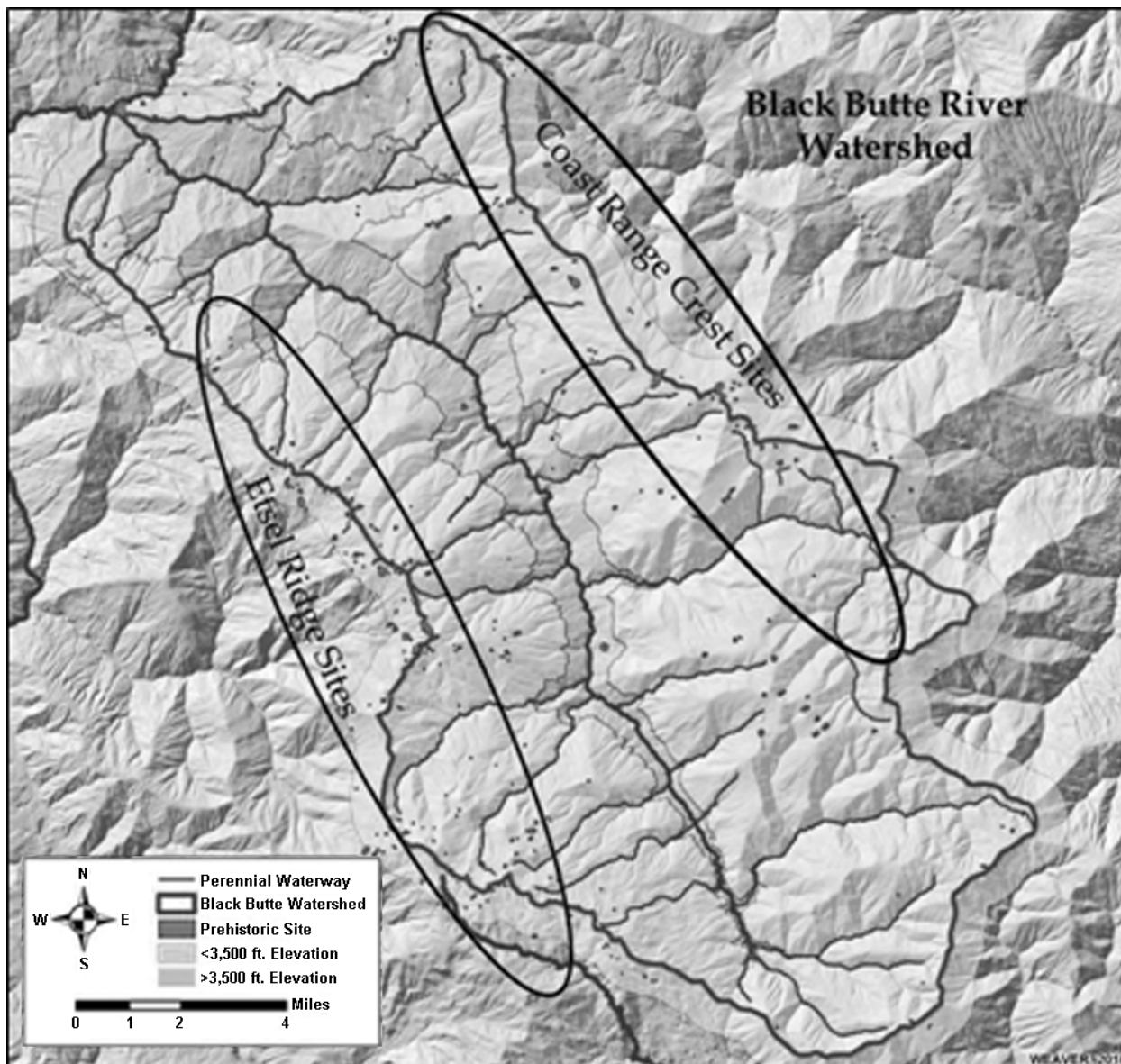


Figure 9. Black Butte River watershed, Etsel Ridge, and the Coast Range crest.

station maintenance. Numerous cores, bifaces, projectile points, and flake tools were encountered, with limited numbers of ground stone with both milling stone / hand stone and mortar / pestle present. A few shell and glass trade beads and two net sinkers were also recovered. Burials were encountered but were reburied on site at the request of the Round Valley Indian Tribes (RVIT). The site has a surprisingly sparse faunal assemblage, suggesting that fish may have been the primary economic focus. While no housepits were identified, the site has been significantly damaged by ongoing use as a campground, road-building, and maintenance, which, along with the periodic flooding due to its confluence location, may explain their absence.

Excavations indicated that MEN-320/643 has strong middle and late period associations based on projectile point styles, beads, and obsidian hydration analysis dating it from Upper Archaic (2500 B.P.) through historic contact. Local Franciscan chert dominated the flaked stone assemblage, representing over 90 percent of the tool stone. According to Huberland (1988), obsidian procurement patterns at MEN-320/643 and other lowland Yuki sites appear to differ from those at upland (e.g., Etsel Ridge) sites, and

Table 2. Black Butte River watershed summary of excavated sites.

SITE	ELEVATION (FT.)	CONSTITUENTS	LOCATION
MEN-320/643 (Eel River Station)	1,500	Large, complex midden site, primarily Willits and Augustine pattern occupations. Many small to medium-sized points with a few earlier Willits period and Borax Lake complex points. Both milling stones / hand stones and mortar / pestles. Two net sinkers. Very little faunal. Burials were recovered.	Confluence of Black Butte and Eel rivers
MEN-1793 (Pilil)	2,900	Subsidiary village, Upper Archaic through Historic period occupation. Ground stone primarily mortar / pestle. Obsidian debitage dominates over chert.	Black Butte River
GLE-459 (Cottonwood Glade)	5,120	Middle and Upper Archaic base camp with a possible leached midden. Mostly chert with obsidian from Borax Lake area (1.7-5.2 microns). Few milling stones, many bifaces, flake tools (few projectile points).	Crest of North Coast Range (headwaters of Cold Creek)
MEN-791 (Post Camp)	5,300	Middle and Upper Archaic midden with pit-and-groove petroglyph. A great deal of milling equipment. Four wide-stem bases, cores, and edge-modified pieces.	Etsel Ridge
MEN-939 (Lower Poison Rock)	5,370	Leached midden deposit on Etsel Ridge (primarily Upper Archaic-Emergent). Some Middle Archaic/Borax Lake pattern artifacts.	Etsel Ridge
MEN-950 (Swallow Rock)	5,760	Middle and Upper Archaic midden with pitted boulder petroglyphs, many bifaces, and few manos and hammer stones (one possible wide stem).	Long Doe Ridge (west-trending ridge off Etsel Ridge)
GLE-512 (Rocky Basin)	6,260	Primarily Borax Lake pattern occupation, with some Mendocino pattern and sparse Augustine pattern utilization.	Southwest slopes of North Coast Range Crest

these procurement patterns may have shifted through time. While Borax Lake obsidian was typically the most commonly utilized obsidian source in all localities through time, compared to upland sites, lowland sites consistently exhibit higher relative percentages of northern obsidian sources (Medicine Lake Highlands, Tuscan), compared to southern sources (Borax Lake, Mt. Konocti, Napa). Upland sites indicate 93 percent southern sources and 7 percent northern sources, while testing at MEN-320/643 (Eel River Station) resulted in a slightly different percentage: 88 percent southern sources and 11 percent northern obsidians at that low-elevation site. Additionally, obsidian hydration results from MEN-320/643 and other nearby lowland Yuki sites indicate that while Borax Lake obsidian use was quite intensive during the middle period, late period use of that source dropped off significantly. This drop-off was not mirrored along Etsel Ridge and other upland site areas, however. Huberland proposed several hypotheses to explain this dichotomy, including (1) a late period increase in sedentism, coupled with a decrease in mobility and exchange relationships, and (2) shifts in time in the routes through which obsidian reached Round Valley and the Middle Eel uplands (e.g., via the Coast Range crest and Etsel Ridge rather than through Round Valley and the Eel River lowlands).

MEN-1793, which lies in the upper part of the Black Butte watershed at 2,900 ft. in elevation, was tested by Waechter and Origer (1992). Originally thought to be the ethnographic rancheria of Pilil, noted on this site were two to three housepits and a small discrete midden deposit. Testing revealed a well-developed late period component (A.D. 500 through historic contact) extending into the ethnographic period as evidenced by the presence of a projectile point and debitage manufactured with bottle glass. Interestingly, obsidian debitage dominated over chert. Typical of lowland sites, the Borax Lake source was predominant (85 percent), followed by Medicine Lake Highlands (12 percent), Mt. Konocti (1.5 percent), Napa (0.5 percent), and Tuscan (0.1 percent). Ground stone was dominated by pestles (n = 9) and hammerstones (n = 8), with only one hand stone and one milling stone recovered. Both milling implements were found very deep (70-100 cm) and, along with a couple of larger points, probably represent a middle period component. The faunal assemblage was composed mostly of undifferentiated mammal bone. Overall, subsistence strategies at MEN-1793 appeared to focus on hunting mammals and processing acorns. The authors categorized the site as a subsidiary village and possibly a refuge site.

Excavated sites located on the upper slopes of the Black Butte River basin near the Coast Range crest and along Etsel Ridge all have well-developed Middle and Upper Archaic components (Table 2). However, late period occupations at these sites do not appear to extend into the historic period. Additionally, these upland sites exhibit more evidence of Borax Lake pattern utilization than the lowland sites, evidenced by wide-stemmed point fragments found at the upland localities. GLE-512 was tested as part of PIT projects in 2011 and 2012. Site analysis indicates that the primary period of site use was associated with the Borax Lake pattern, indicated by artifacts including wide-stemmed projectile points, large domed scrapers, and spall tools, types consistent with Post pattern sites found elsewhere in the region (White 2013). A very thin veneer of late period use was also found at GLE-512. Ground stone was limited to a few hand stones, a milling stone, and a few spall tools. Obsidian sourcing indicated a dominance of Borax Lake obsidian.

MEN-791, MEN-939, and MEN-950 are large midden deposits situated on Etsel Ridge. Two of these are black middens with petroglyphs and substantial residential residue, including ground stone, flake tools, and sparse faunal assemblages. MEN-791 contains a very dense scatter of milling stones and hand stones, many of which had heat spall detachments suggesting use as cooking stones. While it appears that these three upland sites were residential bases for at least part of the year, MEN-939 exhibited more of a leached midden, lacked ground stone concentrations, and appears to be a temporary base camp used repeatedly by a small group.

## CONCLUSIONS

A perusal of MNF cultural resource data for the last 40 years indicates that some of the previously championed settlement models may be in need of refinement. Tom King (1974) argued that Borax Lake pattern settlement involved seasonal movement of people to changing resource locations with ridge top settlement in the summertime and shifting to lowland base camps in valleys and along rivers and streams in the winter. He said that with increased sedentism in the late period, populations concentrated in large lowland villages, with specialized task groups moving food back to the people. The data we have gathered do support the presence of Borax Lake pattern (ca. 8000-5000 B.P.) ridge top summer base camps in the uplands, but evidence of early period occupations along the Black Butte River lowlands is sparse. It is likely, however, that with the susceptibility of these river sites to flooding, most early period artifacts that may have existed have long since washed away. The second component of King's model suggested that late period occupation was tied to the river lowlands, with a logistically based economy in which small task groups traveled to the mountains and brought food back to the lowland villages. The presence of dark middens (associated with intensive late period occupations) on Etsel Ridge and a number of housepit sites which are located on side slopes up to 500 m from the river in the Black Butte drainage call into question King's model.

Jackson's (1975) settlement model for the area was based on ethnographic data and assumed that groups spent winter in lowland village sites and then moved up to the higher elevations in pursuit of seasonally available resources when the weather warmed. He associated certain "site types" (principal and subsidiary villages, base camps, task sites, etc.) with elevation and season of use, but his model was static and did not take into account any change in site patterning through time. As such, it would be difficult to extend Jackson's ethnographically based model back in time to the Archaic period.

Fredrickson's (1979) model based on a survey of the Round Valley Reservation (directly west of our study area) more closely represents what we have found from our surveys and a perusal of the survey and excavation data collected on MNF in the last 40 years. Housepit sites with midden tend to occur below 3,500 ft., near permanent water sources. Our 2013 surveys support the 3,500-ft. elevation as the transition zone from housepit villages to sites lacking housepits; however, we did find several housepit sites at a considerable distance from water. These sites appeared late, as they contained very dark middens (or no midden at all) and well-developed discrete housepits. Our 2013 survey and monitoring efforts were focused in this "winter zone" below 3,500 ft., and we found that housepit villages can occur up to 500 m

from water. Some of these midslope sites were associated with historic trails, which may in turn have been aboriginal trails. These historic trails may have played an important role aboriginally for travel between villages. Both travel and occupation along the floodplain of the Black Butte River may have been quite dangerous in the winter, with heavy rains and flooding probably a regular occurrence. During the 2013 PIT project, we found ample evidence of washed-out sites and landslides, and indications of alluvium covering some of the sites recorded in the 1960s. By situating housepit villages on the side slopes above the Black Butte River, populations were more protected in the event of flooding, which would be important to protect houses that represent an investment in time and resources.

While Fredrickson (1979) predicted that midden-only sites would be found above 3,500 ft., primarily on ridges near active springs, he found that virtually all sites were below 2,600 ft. and most of those were below 1,800 ft. However, his study was biased, as most of the Round Valley Indian Reservation land is located below 3,500 ft. Our study found midden deposits without housepits throughout the winter zone, including many below 2,000 ft. along the river. It is likely that many of the middens on the river once contained housepits that have washed away or filled in as a result of alluvium and colluvium resulting from the steep canyon slopes and the dynamics of the river. Some of these middens may represent special-use areas not requiring the construction of a dwelling.

Huberland (1988), in her study of changing settlement and subsistence patterns through time on Etsel Ridge, divided occupation into three time periods based on obsidian hydration values: Etsel Ridge I (5.0-9.0 microns on Borax Lake obsidian (BLO), associated with wide-stemmed projectile points and infrequently McKee Uniface types); and two phases for Etsel Ridge II (0.9-4.2 microns on BLO). Etsel Ridge II included Phase A, associated with stemmed, concave-base, notched, and lanceolate projectile points, and Phase B, with notched and lanceolate, Gunther barbed and Gunther variant points. She found that during the early period (Etsel Ridge I), sites were fewer in number and tended to be located on major ridges near the most dependable springs, probably representing highly mobile, complete social groups. During the period represented by Etsel Ridge II-A, ridge tops were still favored, but the presence of on-site water was not as critical. All Etsel Ridge II-A sites were multi-activity. During the period represented by Etsel Ridge II-B, sites showed greater diversity with respect to location, proximity to water, and site activities. Many sites were still located on ridge tops, but some of the late period sites were situated on midslope benches or midslope by drainages. Of these late sites, half appeared to be multi-activity, while half were flaked stone scatters. Late period exploitation of resources appeared to most intensive, possibly associated with larger populations relative to earlier periods. While Huberland's model represents a synthesis of data from surface and subsurface contexts, many of her inferences appear to compare well with our conclusions from the 2013 PIT project results.

In summary, we have identified some correlates which may have importance for understanding Huititno'm Yuki settlement in the winter zone along the Black Butte River. While localities below 3,500 ft. do appear significant in terms of the location of housepit villages, midden deposits without housepits are often found in the mountainous uplands at elevations up to 6,000 ft. Additionally, the 2013 PIT investigations indicate the possibility that what Foster (and other ethnographers) referred to as named village sites or rancherias were not one specific archaeological site but perhaps a cluster of what are manifested as separate archaeological sites in close proximity that essentially represent the rancheria as it was utilized over the period of perhaps 100 to 200 years.

In terms of the midslope sites identified during our PIT project, it appears that travel through the Black Butte canyon may have been difficult at times (particularly during winter rains and flooding), necessitating the development of alternative access routes (trails) above the river. As flooding and landslides regularly occurred on the river, it would have been advantageous to settle on protected terraces along the mid-elevation side slopes of the river drainage outside of the flood zone. Additionally, direct access to water may be overstated as the primary driver for village/base camp locations. Gathering additional data on time period(s) and seasonality of site use would help address this question. Further investigations, including testing at some of these sites, is definitely warranted. Additionally, it will be

important to salvage information from those sites that might soon be lost due to flooding and landslides because of their proximity to the river.

### **Future Research**

The data gathered in this paper not only add to the research base for this area but point to some important avenues for future research, listed below:

- Additional survey along historic trail routes in the watershed may shed more light on the relationship between historic trails and prehistoric settlement.
- Test excavations at new housepit villages distant from water should be performed to assess seasonality and temporal occupation.
- Surveying and monitoring of the sites identified by Foster (1944) as ethnographic rancherias / villages should be completed. It appears that rancherias / villages may be clusters of sites rather than a cluster of housepits in what is typically called an ethnographic village.

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