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Thomas J. Green

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Jennifer Cuthbertson

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ARTICLE

Excavation at Givens Hot Springs, 1979-1987

THOMAS J. GREEN

Abstract

Three archaeological sites were excavated at Givens Hot Springs from 1979 to 1987. These sites span a period from circa cal BP 5400 to cal BP 1000. Middle Archaic and Late Archaic pithouses and associated middens were found at 100E1689 and 100E60. One shallow midden was excavated at 100E1691. This article is a prequel to a final report on these excavations. A monograph is mostly finished detailing the results and will be available from the State Historic Preservation Office if not published. Two previous articles (Green 1982, 1993) reported on pithouses found at the locality, but these articles provided little information on the artifacts and faunal remains recovered, or how the excavations at Givens Hot Springs contribute to our regional knowledge.

Keywords: Middle Archaic, Late Archaic, Pithouses, Southwest Idaho, Givens Hot Springs

Background

Givens Hot Springs is located on the south bank of the Snake River in southwest Idaho between the modern towns of Murphy and Marsing. The hot spring at Givens is located about 500 meters south of the Snake River. Hardtrigger Creek is immediately west of Givens. Givens is one a series of hot springs located along the northern front of the Owyhee Mountains from the Bruneau River to Vale, Oregon. Five separate archaeological sites are located at Givens Hot Springs. 100E1689 and 100E57 are located at the mouth Hardtrigger Creek. Sites 100E1690 and 100E60 are located about 400 meters east Hardtrigger Creek along the drainage of the hot spring. 100E1691 is adjacent to the hot spring (Figures 1, 2). Map Rock, one of Idaho's most famous petroglyphs, is located directly across the Snake River from Givens and there are numerous other archeological and historic sites in the general vicinity of Givens Hot Springs. The area was also a preferred camping spot for emigrants traveling the southern route of the Oregon Trail.

In 1979, Everett Clark reported the owners of Givens Hot Springs planned to subdivide the land and develop it for housing. Everett was a member of the Idaho Archaeological Society's Great Basin Chapter, a retired stockman, and a local public official in Owyhee County. He knew the importance of the

sites around the springs and feared significant information would be lost if they were destroyed. Due to Everett's concerns the Idaho State Historical Society tested sites 100E1689, 100E59, and 100E60 in 1979. Only scattered artifacts were found in the test excavations at 100E59, but substantial Middle and Late Archaic features were discovered at 100E1689 and 100E60. Site 100E1690 was not investigated before it was destroyed. More extensive excavations were conducted at 100E1689 in 1980. In

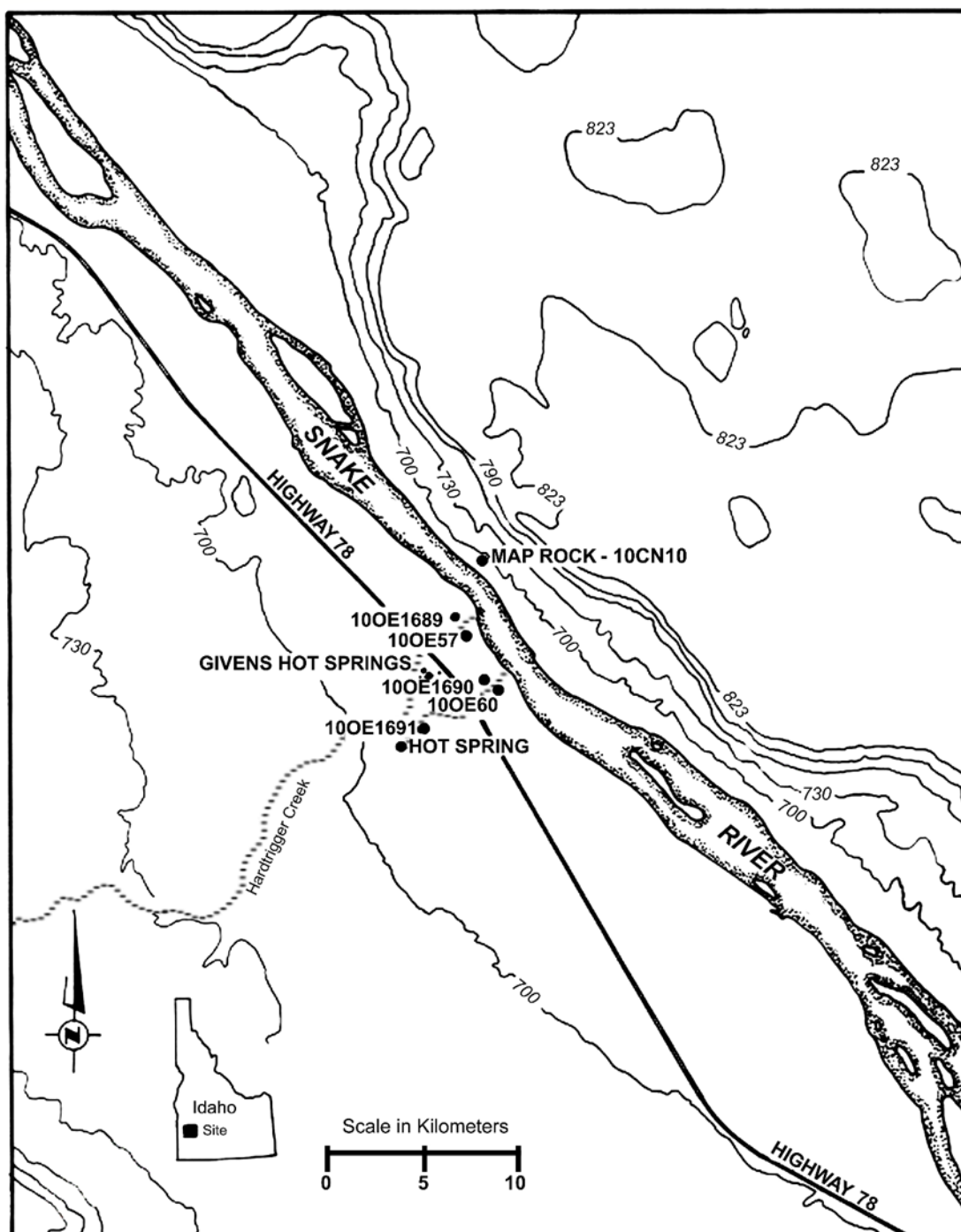


Figure 1. Givens Hot Springs locality.

1981 the land was sold and the new owner planned to build a private airport in the winter and spring of 1982. All four sites were directly in the path of the new airstrip. The new owner allowed us to work at 100E60 in late February and March of 1982 while at the same time bulldozing the runway. The construction of the runway in 1982 and the subsequent building of houses and hangers parallel to the runway destroyed the four sites. In 1986, the owners of the hot springs leveled land along the hot spring drain and impacted site 100E1691. The leveling uncovered a great deal of deer bone and what appeared to be a small structure. The owners, Elizabeth and Virgil Cuff, were interested in the history of the springs and stopped grading to allow for excavations. Excavation of the exposed features took place in June of 1987.



Figure 2. Givens Hot Springs in 1980.

The excavations at Givens and Mud Springs were pure *salvage archaeology* – in the 1950s sense of the word. That is, the actions that destroyed the sites were on private land and fell outside the requirements of Section 106 of the National Historic Preservation Act. The developers were not required by either federal or state law to pay for any archeological excavations, lab processing, or report writing, and they didn't. Only limited SHPO funds were available to hire a professional field team. Volunteers from the Idaho Archaeological Society and employees of the Idaho State Historical Society provided most of the crew. There were no funds for analysis or report preparation which is one reason it took over 30 years to produce a final report.

Basic Research Questions in 1979

When we began this project in 1979 there was little information about the nature of sites along the Snake River in western Idaho. Since then a great deal of research has been conducted in southwestern Idaho, eastern Oregon, and Hells Canyon. Summaries of this work for Idaho and Hells Canyon can be found in Meatte (1990), Plew (2016), and Reid (2003). For eastern Oregon see Aikens and others (2011). We know a lot more about the history of southwest Idaho and eastern Oregon than we did when we began the excavations at Givens in 1979. However, our original research goals reflect the

state of knowledge about the riverine prehistory of southwest Idaho in 1979. These questions remain relevant today.

The excavations at Givens were designed to obtain basic information about the nature of riverine settlements in this region. From agency sponsored surveys in the 1970s hundreds of sites were recorded along the Snake River in 1979, but we had very little information about them. Only two small rock shelters had been excavated along the Snake River upstream in the Birds of Prey Natural Area (Schellbach 1967; Touhy and Swanson 1960), and there were minimal excavations at two sites at the mouth of Squaw Creek just down river from Givens (Gruhn 1964). We wanted to know specifically the age of riverine settlements, their size, how many people occupied these sites at any one time, the season or seasons of use, what people did at the sites, what they ate, and what types of structures they built.

Based on descriptions in the primary ethnographic accounts (Steward 1938; Murphy and Murphy 1960) and early 19th Century reports by fur traders, it has always been assumed that people were taking anadromous fish in the spring and fall, gathering roots in the mountain meadows during the summer, and spending the winter in the river valleys. This appeared to be generally true based on Plew's work in the Camas and Pole creek drainages south of the Owyhee Mountains, but it was not an exact fit (Plew 1980a). However, for the Snake River and the Owyhee front in extreme western Idaho, the exact nature of this movement and the economic decisions affecting it were not known. We wanted to know when movements took place and where people went at different seasons. Were the riverine settlements occupied only in the winter or were some people living at them all year? If people lived at them all year were there specific task groups who left for higher elevations to hunt and gather plant foods? Were large sites recorded in the Owyhee mountains summer base camps? Did the people move in mass from one site to another? To put this in current terminology were these people more organized in collector systems or forager systems or some combination of the two? And of course, how did these systems change through time.

Besides these general systemic settlement questions we had a number of very specific questions that guided our research at Givens in 1979. One basic question was whether residential structures were built at the site. This seems like a silly question since one can assume that people living at Givens did not just sit in the greasewood with no cover (see Binford 1990:121). However, no residential structures had been excavated in southwest Idaho in 1979. Why? Did they build a structure that did not leave any archaeological evidence or were there other reasons? There certainly were suggestions from adjacent regions of the types of structures that should be present in southwest Idaho. The first non-Indians to visit southern Idaho reported Indians living in "lodges" or "huts". There are few good descriptions of these structures, but those that exist describe small pole-and-thatch structures. These structures are generally called wickiups in the Northern Great Basin and one similar structure was found in the Dirty Shame Rock shelter in eastern Oregon (Willig 1988).

In addition to the possible presence of Great Basin-style wickiups, there was also the possibility of larger, more substantial structures. Donald Touhy reported the presence of numerous circular depressions, thought to be house pits, while conducting survey on the Snake and Weiser rivers (Touhy 1959a, 1959b). This information was interpreted by Earl Swanson as an indication of "Plateau-like villages" along the major rivers in southwest Idaho that might mark a dividing line between the Plateau and Great Basin cultural areas (Swanson 1965). In January of 1961, Ruth Gruhn and B. Robert Butler tested two sites (100E128 and 100E129) near the mouth of Squaw Creek on the Snake River a few miles downstream from Givens Hot Springs. At both sites, near the base of the excavations, Gruhn states Butler interpreted dark, charcoal-laden, soil lens as house floors (Gruhn 1964:29, 31). Unfortunately, additional work was not done at these sites and these sites were leveled for irrigation.

In Hells Canyon, less than 100 km to the north, semi-subterranean pithouses had been excavated at a number of locations (Caldwell and Mallory 1967; Pavesic 1971; Warren et al. 1968). To the southwest, O'Connell had discovered pithouses in Surprise Valley, California that dated between 6000 to 4500 BP. After 4000 BP smaller houses and presumably less permanent houses were built in Surprise Valley (O'Connell 1975). With this information in hand in 1979, it seemed likely that house structures should be present at Givens and the excavations were designed to find them.

In 1979 we also had questions about what the people at Givens were eating. Based on historic and ethnographic accounts we could guess they were eating deer, bighorn sheep, antelope, rabbits, salmon and a variety of seed and root plants. However at the time, only two sites provided information for subsistence along the Snake River. Both sites are upriver about 25 km east of Givens. Schellbach Cave is located on the south side of the river and was excavated in 1929 by Louis Schellbach who was working for the New York City Heye Foundation (Pavesic et al. 1987; Pengilly and Yohe 2012; Schellbach 1967). Schellbach Cave (actually a small rockshelter) contained the remains of salmon and was used to store fishing tackle. The exact age of the site is problematic, but it generally is assumed to be "late". However, at 10AA15, a small rock shelter located on the north side of the river, Touhy only recovered deer and river mussels in the 4000 year sequence (Touhy and Swanson 1960). No fishing tackle nor fish remains were found. At 100E128 and 100E129, Gruhn reported finding few mammal bones, no fish remains, but a great deal of river mussels. She interpreted the sites as mussel collecting stations. These sites are all located along the Snake River. What are the reasons for these differences? Do they reflect differences in seasonal occupations, site function, or age? Schellbach is a dry shelter, 10AA15 is a wet shelter, and the sites at Squaw Creek are open sites, so maybe the differences in fauna were due to differential preservation. Whatever the case, it was thought the excavations at Givens might shed light on this question.

A related question concerns the season or seasons when people lived at Givens. The location at a hot springs near the Snake River and ethnographic information suggested Givens was a winter habitation. If so, where did they go at other seasons? Would they establish base camps in the Owyhee Mountains south of Givens? These inquiries lead back to questions of settlement and mobility. These were the basic questions that guided our excavations beginning in 1979 and 1980.

At the same time as excavations were beginning at Givens, a number of projects started or were just completed across southern Idaho that influenced our work. These projects were in response to new hydroelectric proposals and agency compliance projects (see Plew 2016 for citations). Excavations by Plew at Big Foot Bar, Ames at Swan Falls, and Pavesic and Meatte at the Hagerman National Fish Hatchery were especially important for the Givens research. Structures, of various ages and dimensions were found at all three sites. At Big Foot Bar, Plew (1980b) uncovered a 4x3 meter oval structure with post-holes around the perimeter. The structure was associated with Cottonwood triangular and Eastgate points. Ames (1983) excavated a small three meter diameter structure believed to date between 600 – 700 BP. Pavesic and Meatte (1980) reported profiled structures about 3.5 meters in diameter. These projects demonstrated that residential structures did exist along the Snake River and normal archaeological methods could find them. Structures were subsequently located on the Payette River (Artz 1983), at Three Island Crossing (Gould and Plew 2001), and in the Hagerman Valley. Green (1993) summarized the evidence for different types of structures found in southern Idaho in the 1980s.

Features, Middens, and Chronology at Givens Hot Springs

Structures

We located four pithouse structures at 100E1689. Two were completely excavated, one partially, and one left intact. We located three pithouses at 100E60 and excavated one completely but only portions

of the other two. We located one possible structure at 100E1691 but it was not excavated so it is still a "possibility". Only photographs of these structures are provided here; floor plans and profiles are in the finished monograph. The structures are pithouses. They are similar in size and design to those in Hells Canyon, Surprise Valley, Birch Creek on the Owyhee River, the northern Great Basin of Oregon, and those to the north in central Idaho and eastern Washington. They are circular to oval pit features ranging from four to seven meters in size. Central posts were found in four of the five houses we excavated. The depressions ranged from 45-70 cm below the rim of the structures. Mortars, metates, and large unmodified rocks were deliberately and securely placed in the floor zones of these structures. Concentrations of charcoal and burned areas were found near the center of the houses but none contained well-defined hearths. The floor zones and fill of the structures contained domestic debris consisting of finished but mostly broken artifacts, debitage, and the remains of deer, rabbit, and river mussels. One structure, House 1 at 100E1689, was almost devoid of finished artifacts (N=9) but contained 331 pieces of debitage and 1,124 faunal items. No identifiable storage features were associated with any of these structures.

Middens

Four middens were excavated. Two of these were above Houses 2 and 4 at 100E1689. One, called the middle midden, was located between Houses 1, 2 and 5 and House 4 at 100E1689 (Figure 3). A thin sheet midden and a mussel dump were excavated at 100E1691. Features located in the middens included large concentrations of discarded river mussels, other faunal remains, a few small pits, a lithic reduction area, and one cache of bifaces. No structures and no confirmed hearths were found in the midden areas.



Figure 3. Middle midden, 100E1689.

Chronology Summary

The excavated deposits excavated at Givens span the Middle and Late Archaic time periods from circa 5400-900 cal BP. There are 39 radiocarbon AMS and conventional LSC dates for the different con-

coal dates, 21 are from charcoal and two are bone dates. The shell dates are not used in this analysis since they were paired with charcoal samples (Osterkamp et al. 2014). Radiocarbon dates from Givens do not meet the modern “hygiene” standards for radiocarbon dating (Morton and Reid 2015; Tache and Hart 2013). The plant species of charcoal from various contexts were not identified. At 100E1689 charcoal was collected across a unit and combined to obtain enough material for conventional radiocarbon dating. This is a recipe for mixing and there was extensive evidence of the bioturbation from ground squirrels at 100E1689. The charcoal and bone dates were calibrated using the CALIB 7.1 program.

The age ranges for the radiocarbon dates at 2 sigma and associated projectile points for the primary contexts at Givens Hot Springs are as follows (from youngest deposits to oldest):

100E60, House 1: 926-1173 cal BP. Temporally diagnostic projectile points found in House 1 were 13 Rose Spring points, five Eastgate points, 10 Elko series points, and one Humboldt point. This house was completely excavated. It burned and not reoccupied (Figure 4).



Figure 4. House 1, 100E60.

100E60, House 2: 985-1311 cal BP. Projectile points found in House 2 were one Cottonwood, one Desert Side-notched, one Rose Spring, and five Elko series points. Only north-south and east-west trenches were excavated (Figure 5).

100E60, House 3. Only a small portion of this structure was excavated and no radiocarbon dates were submitted but two Rose Spring points were found. It is similar in age to Houses 1 and 2 at the site.

100E1691: Shell/trash features: 1554-1812 cal BP. Three Eastgate points and one Rose Springs point were found in the midden.

100E1689: Midden above House 4. No radiocarbon dates were submitted but the midden is similar in age to House 4 based on similarities in debitage and projectile points. These materials may have been located around the edge of House 4 and washed in the depression when the house was abandoned. Projectile points found in this midden are 30 Elko series points.



Figure 5. House 2, 100E60.

100E1689: House 4: 2000-3000 cal BP. Fourteen Elko series and three Humboldt projectile points were found in the house fill and floor zones. Only portions of this structure were excavated.

100E1689: Middle Trash Features: 2379-4523 cal BP. The projectile points include eight Humboldt points and one Northern Side-notched point. The temporally diagnostic artifacts suggest this midden dates to the early time range of radiocarbon dates.

100E1689: House 1: 4300-4800 cal BP. No temporally diagnostic artifacts were found in this structure. Portions of this house were destroyed by out-of-control irrigation. What remained was completely excavated (Figure 6).



Figure 6. Profile of House 1, 100E1689.

100E1689: Midden above House 2. This midden is similar in age to House 2 based on similarities in debitage and projectile points. As stated above regarding the midden above House 4, these materials may have been located around the edge of House 2 and washed in the depression when the house was abandoned. Projectile points found in this midden include 17 Humboldt, five Northern Side-notched, one Elko series, five smaller side-notched and stemmed points.

100E1689: House 2: 4700-5400 cal BP. Found in the fill and floor zone of the house were 27 Humboldt points, four Northern Side Notched points, one Elko series point, one smaller side-notched point, and one smaller stemmed point. Portions of this structure were destroyed by irrigation foul-ups, but a large part remained and was excavated (Figure 7).



Figure 7. Profile of House 2, 100E1689.

Fauna and Flora

Some 17,964± animal bones were collected in ¼ inch screens and another 30,501± were collected from bulk flotation samples. The faunal remains recovered from 100E1689 and 100E60 were identified by David Gillette, now Colbert Curator of Vertebrate Paleontology at the Museum of Northern Arizona, but then professor of biology at the College of Idaho. The bone was quite fragmented (mostly < 5 cm) and only about 2% of the bone was identifiable to Order, Family, Genus, or Species. The people at Givens purposely smashed bone to obtain grease and marrow. Much of it appears to have been boiled and about 1/3 of it was burned. This and post-depositional decay limited identification. The vast majority of bone could only be identified as Class Mammalia or cf (most likely) Mammalia, and very few of the small bones recovered in bulk flotation samples were identifiable. In addition, thousands (N=11,740) of river mussels (Order Unionoida) were collected and many more were identified on level sheets but were too fragmentary to collect.

The majority of identified fauna at all time periods were deer (*Odocoileus*), hares and rabbits (Leporidae), and river mussels. Deer were most likely mule deer. No other artiodactyls, such as bighorn sheep, pronghorns, or bison, were identified in the collection. Only a few hares and rabbits could be identified to genus and none to species. Miscellaneous animals include a couple of beavers, bobcats,

coyotes, one muskrat, and parts of two dogs. The river mussel species are primarily *Gonidea angulata* with few *Margaritifera falcata*. Four items were definitely identified as fish and these are salmonid otoliths. We processed 303 (11.4 L) bulk flotation samples from all contexts and recovered only four fish remains and some small rib bones. One bone fish gorge was found at 100E1691. A possible net weight was found in the midden above House 2 at 100E1689. No other fishing tackle was found. Fish were not a substantial part of the diet at any time period.

Few plants remains were found in any context at Givens. Using standard flotation techniques, 303 (11.4 liter) bulk samples were processed from all levels and features. The few charred chenopodium seeds recovered were mixed with uncharred seeds and can be explained by bioturbation caused by ground squirrels and ants. Plew (2007) summarized what little evidence there is for plant remains in archaeological sites southern Idaho. As Plew has pointed out, the lack of plant remains from sites in southern Idaho can be explained by the lack of systematic searching, but this isn't the case at Givens.

Seasons of Occupation

The age of deer remains, the lack of waterfowl, and only a few salmonids remains suggest a late fall and winter occupation. The faunal remains from 100E1691 appear to be mostly deer and rabbit but they have not been analyzed in detail. It is assumed the river mussels were collected in the winter or early spring since the other fauna indicate a winter occupation. Lyman (1984) describes winter and late summer as the two primary seasons of mussel collection. The river mussels need to be sampled to determine the season they were gathered following methods described by Chatters (2010:161-165). If some of the mussels were collected in late summer, it would certainly change the interpretation of the site.

Artifacts

There is a dominance of fabricating, processing, and general purpose stone tools (*sensu* Winters 1969) in all time periods and contexts at Givens. Few bone tools were recovered. The largest artifact categories are edge-modified flakes (N=368), broken unhafted bifaces (N=177) and projectile points (N=161). Bifaces are less common in the later components. In all contexts multifunctional tools are common and suggest similar basic activities, such as making and retooling chipped stone tools, making nets, baskets, and other perishable items. As these basic tools are used make a variety of different items it should not be surprising that there is little change in stone tools through time. This conclusion is similar to that of Gould and Plew (1996) in their statistical analysis of stone tool assemblages from seven Late Archaic components east of Givens on the Snake River. Their goal was to determine if tool assemblages were different at sites containing lots of fish bone in comparison to sites that contained mostly deer and rabbits. They found the stone tool assemblages were similar at all seven components and showed no specialization for taking fish verses taking deer. It is possible, but unknown, that significant differences in assemblage composition might be discovered at both Givens and the sites analyzed by Gould and Plew if the full range of material culture (including perishable items) could be compared.

We did not find at Givens any stone or shell beads, pipe fragments, clay figurines, incised stones, pottery, or stone balls in any of the contexts at Givens. All these items are found along the Snake River and in eastern Oregon, although in low numbers in Idaho (Plew 2016, 2019). One dentalium shell was found in House 1 at 100E60. No *Olivella*, bone, or cut shell beads were found in any contexts. This may reflect our use of ¼ screens, but we collected and processed 303 (11.4 L) bulk flotation samples so I think we should have found some if they were there. However, these items are not common at any sites in the area so maybe we just missed them.

There are differences in the percentages of different toolstone based on proximal flakes recovered from Givens. Mudstones and cherts are the primary toolstones in the early time periods. Mudstone is found along Succor Creek and the Owyhee River on the Oregon/Idaho border. Cherts come from Graveyard Point southwest of Homedale and from the higher elevations in the Owyhee Mountains. Obsidian is used in all time periods but its use increases through time. Timber Butte and Owyhee sources are most common in the earlier time periods at 100E1689. The Owyhee sources are primarily used in the later components at 100E60. Sources from the upper Malheur River basin comprise about 10-30% of the obsidian flakes in all time periods. Rhyolite and basalt are both used for tools but in small amounts.

The most obvious change in artifact types is the use of small arrow points in the later contexts. Rose-gate arrow points are the dominant point types at 100E1691 and 100E60. 100E1691 dates between 1554-1812 cal BP, and the houses at 100E60 date between 926-1173 cal BP. Northern Side-notched, Humboldt Concave Base, and Elko series are found at 100E1689. Northern Side-notch and Humboldt points are the common points in the earliest occupations at 100E1689 dating from 5400–circa 3000 cal BP. Elko series are common in the later occupation, dating circa BP 3000-2000 cal BP (House 4 and its overlying midden). There is also a difference in the production of bifaces. Broken early, middle and late stage bifaces are common in the Middle Archaic components at 100E1689. They occur, but are less common in the Late Archaic components at 100E1691 and 100E60.

Summary of Excavation Results at Givens Hot Springs

The people who used the hot springs at Givens lived in pithouses during the late fall and winter over a 4,000 year period. The pithouse data from Givens suggest only one or two houses were occupied at any one time during the late Middle Archaic (5000-2000 cal BP). At 100E60, dating around cal BP 1000, it appears likely that more houses were occupied at the same time based on the three we did find and reports from the owner that he saw many more “dark circles” when he bulldozed the site. This is similar to what we know about the Plateau (Ames et al. 1998; Chatters 1995; 2012) and the eastern Oregon Lake country (Aikens et al. 2011; Jenkins et al. 2004). Middle Holocene sites contain only a few pithouses and it is not until Late Holocene times that sites with multiple pithouses are common. Nevertheless, there were not a lot of people occupying the site at any one time, although their neighbors may have visited to “take the waters.”

The people at Givens lived on deer, rabbits, and river mussels. Fish were not a large part of their diet while wintering at the locality. No storage features and few plant remains were found. It appears people were primarily subsisting on deer and rabbits that congregate in the winter along the Owyhee front. In the early time periods atlatls are the main weapon. Bows and arrows are common in the later time periods. Besides hunting, retooling (the making or repairing of gear) is a primary activity at the site based on the numbers of utilized flakes, early to middle stage broken bifaces, high numbers of bifacial reduction flakes, and broken projectile points in all contexts.

Future Research

Givens Hot Springs

The only future excavation possible at the Givens locality is at 100E1691. The other sites are either totally destroyed or under houses, hangers, and the runway. Auger data suggest another pithouse located near the mouth of the hot springs at 100E1691. This area is still intact and excavations could determine if it is a structure, and if so, its age and relationship to the sheet midden at the site.

However more can be done with the faunal collections gathered in the 1980s. The faunal remains from 100E1691 need to be analyzed. Given the expertise of Dr. Gillette, I have no doubt concerning his identifications of the faunal materials, but someone with an archaeozoological focus can get more information from the collection. Following methods described by Chatters (2010), the season(s) the mussels were collected need to be determined for each component, and we have thousands of mussels to work with. The interpretation that the houses represent winter occupations could change with this information.

More can be done with the debitage and formal artifacts from the different components. Is there really little difference in artifacts across 4,000 years of occupation, other than the types of projectile points? There are ways to tease out differences in assemblages that may be sustain or negate my conclusions. The collections are available at the Idaho State Historical Society for anyone who wants to fine-tune my typology. It also may be possible to discover activity areas or internal patterning in the structures. The embedded mortars and metates and large rocks in the floors of the houses suggest some organization. The collections are available for use, so feel free to go at it.

Settlement Systems

If Givens is occupied during the winter, where did the people go during the other seasons? The Reynolds Creek survey (Moe 1982) provides information on *possible* settlement patterns along the Owyhee Front. Jeanne Moe conducted a stratified random sample of five different environmental zones in this drainage. Reynolds Creek drains north from the summit of the Owyhee Range to the Snake River. Her research is the only systematic survey of one drainage along the Owyhee front from its mouth on the Snake River to its source in the high elevations of the Owyhee Mountains.

Moe found the largest and most complex sites near springs and meadows from 5000-6000 ft. In addition to Middle and Late Archaic projectile points these sites contain numbers of mortars and metates. The sites are associated with dense stands of cous (*Lomatium cous*) growing on the rocky slopes around the springs and meadows. Camas also occurs in small patches in these meadows. Other edible roots and seeds are common in the higher elevations. Since deep snow normally occurs at these elevations in the Owyhee Range, these sites are presumably occupied from late spring and to fall. Cous (biscuitroot) is normally harvested in May and June. Deer and other large mammals are found at high elevations during these months as well. Fewer sites were located between the Snake River and the higher elevations. These are mostly small lithic scatters probably representing hunting activities. Ground stone was rare at these sites. This same site distribution pattern also occurs in Hardtrigger Creek and Squaw Creek drainages albeit based on less systematic inventories. The density of sites Moe documented at these elevations is also supported by the BLM's recent predictive model of the Owyhee Mountains (Hall et al. 2015).

A similar settlement pattern is described by Mark Plew (1980a, 2016:179-184) for Owyhee Plateau to the south of the Owyhee Mountains. Unlike the hypothesized settlement pattern for the Snake River and Owyhee Mountains just mentioned, Plew's interpretation is based extensive survey, testing, and excavation. The environment is a high plateau cut by deep canyons. His settlement pattern focuses on Camas and Pole Creek drainages during his Camas Creek III Phase, dating from 1350 to 750 BP. Spring and summer camps are located in the higher elevations near springs and meadows where camas and biscuitroot thrive. Large mammals move to these elevations in the summer months. Fish are in the creeks; and both anadromous (steelhead) and non-anadromous fish remains were found in Nahas Cave located on Camas Creek (Plew 1986:97; 2016:77). Fall hunting sites are located on the canyon edges where numerous hunting blinds and rock alignments occur. Winter settlements are likely in the deep canyons at lower elevations near the South Fork of the Owyhee River.

While people at Givens likely moved into the Owyhee Mountains in late spring and summer, Plew's work on the Snake River corridor (Plew 2016) and Connolly and Jenkins' (2011) on the Malheur River indicates people were using the river valley at different seasons and for different purposes. The same is true in Hells Canyon (Reid 2003). Food resources are similar across southern Idaho and the eastern Oregon rivers. Deer and rabbits can be taken anytime during the year. During the winter deer move to lower altitudes. River mussels can be collected when the river levels are low in winter and late summer, and probably any time when the mussel beds were accessible. Non-anadromous fish are in the rivers all year. Anadromous fish runs start in late spring and run into fall. Root crops are available in early spring through the summer. Various seed crops are typically harvested in late summer and fall. Despite the similarity in food resources across the region, the distribution of these resources is variable from drainage to drainage. There is no reason to expect the same settlement and mobility patterns all along the Snake River. There are clearly scheduling and mobility issues the pre-contact people had to solve, and as Plew as stated (2016:252-255) there are multiple strategies to solve the seasonal scheduling problems.

Mobility? Yes, the Givens people were mobile but the pithouse evidence suggests they were more sedentary than earlier people in the region, but at what level and at what time period? Were they foragers or collectors? They were probably some combination of the two depending on the season and this probably changed through time based on the availability of resources. Binford's (1990:122) mid-latitude seminomadic foragers may be the best description of mobility patterns given the current information. One scenario is small groups of people lived in winter base camps along or near the Snake River and then fanned out into the mountains and up or down the river in the spring, summer, and fall. Hunting and gathering river mussels were the primary subsistence activities at winter base camps. In the late spring people would move to mountains to hunt and harvest roots crops and/or move to fishing locales on the river to take advantage of early steelhead and salmon runs. During late summer they would move to fishing camps along the rivers. In the fall they might move back into the mountains to hunt and harvest seed crops. In this scenario the larger sites in the mountains result from years of use by small family groups returning to the same localities year after year. But, it is also possible that what we see in southwest Idaho is a dual base camp pattern. A winter base camp in the lower elevations and a summer base camp in the higher elevations near root grounds. Smaller resource extraction camps would then be located at hunting sites in the mountains and fishing sites along the rivers. This is the classic collector pattern as described by Binford (1980), and would be similar to what Plew (1980a) describes for the Owyhee Plateau. Given the evidence at hand it is difficult to make any definite conclusions what the people at Givens did at any one time period. We definitely need better information concerning the sites in the Owyhee Mountains in the high country between Silver City and into eastern Oregon.

Subsistence: Salmon vs Deer and Rabbits

Deer or other large mammals, rabbits, and mussels dominate faunal remains at Givens and most sites along the Snake in southern Idaho, in Hells Canyon, and even most sites on the Plateau. Based on both ethnographic and historic accounts both anadromous and non-anadromous fish *should* be more common in the archaeological record. Downstream from Givens fish remains have been found at sites at the mouth of the Malheur River (Jenkins et al. 2010), in the Malheur drainage (Connolly and Jenkins 2011), and at the Hetrick site near the mouth of the Weiser River (Rudolph 1995). Many small unidentified fish bone were found at Birch Creek on the Owyhee River but no salmonids were identified (Andrefsky et al. 2003:74). Some sites in Hells Canyon have fish remains and some do not. Small amounts of fish remains have been recovered at many sites upstream from Givens (Plew 2016:141). Three Island Crossing (Gould and Plew 2001) at Glenns Ferry is the major exception where lots of fish

bone was recovered. Using an explicitly human behavioral ecological approach, Mark Plew has vigorously argued anadromous fish were less important in the diet of southern Idaho people than indicated in the historic literature. His argument cites storage problems, labor issues, changes in river regimes, and nutritional deficiencies of fish by the time they reach southern Idaho (Gould and Plew 1996; Plew 2016:137-143). He has argued that deer, other large mammals, and rabbits are more important in the diet. Plew is not saying that salmon were not eaten, but they were a seasonal resource that were not stored in large quantities for winter use. The isotopic evidence from the Paleoindian Buhl Woman (Green et al. 1998) and the Middle Archaic people buried at the Braden site (Pavesic et al. 2016) indicates marine resources, presumably steelhead and salmon, were part of their diets. However, we also have two Late Archaic skeletons from two separate sites adjacent to the Snake River in Hells Canyon, McGraw Creek Village and Cottonwood Creek, that do not have isotopic signatures for marine resources (Reid 2003:70, 90). The evidence for salmon fishing in Hells Canyon and the greater Plateau is variable throughout the Holocene (Chatters et al. 1995; Reid and Chatters 1997:6.3-6.6). The different isotope values of people at Buhl, Braden, McGraw Creek, and Cottonwood Creek seem to reflect this. Mark Plew has made a valuable contribution regarding the parameters of fish procurement in southern Idaho, but I am not sure we have this all figured out and I am not ready to give up on a food source figuring so prominently in the ethnographic and historic literature. Nevertheless, the current archaeological evidence indicates deer, other large mammals, and rabbits were more important than anadromous fish at all time periods.

Plateau Villages in Southwestern Idaho

Based on early surveys in southwest Idaho, Swanson (1965) suggested this area was the dividing line between the Plateau and Great Basin cultural areas. While the whole idea of cultural areas and cultural areas with boundaries is questionable, and even if they exist they are not static (see Chatters 2012; Reid and Pitkin 2012). House pits reported in early reservoir surveys suggested Plateau-like villages to Swanson. However, today, after years of research in eastern Oregon, we know that pithouse villages occur both in the Plateau and across the Northern Great Basin.

What is a Plateau or Northern Great Basin village? Beginning around 5500 BP and lasting up to historic times, pithouses are found across the Plateau and Northern Great Basin. Chatters (1989; 1995; 2012) states that in the early time period, what he calls Pithouse I, settlements with one or two pithouses are located in strategic environmental zones near the mouth of streams in the Plateau or lakeside in the Northern Great Basin where there are wintering deer populations and access to other critical resources. This describes the locations of the Middle Archaic components in southwest Idaho at Givens, Mud Springs (Davis and Green 1988), and 100E128 and 100E129 at the mouth of Squaw Creek in southwest Idaho (Gruhn 1964), and at Birch Creek on the Owyhee River in eastern Oregon (Andrefsky et al. 2003). Some of these small settlements in the Northwest were occupied year round, in what Chatters (2012:147) calls “opportunistic sedentism.” He believes these settlements represent basic foragers who lived in one locality until the resources are depleted and then move the settlement to another environmentally rich setting or revert to a classic forager settlement pattern. Chatters’ Pithouse II settlements, dating after 3500 BP, are somewhat larger but still have only small groups of pithouses occupied in the winter. However, the number of settlements increase along the major rivers and streams, and the people occupying these sites are collectors in the classic sense. Larger concentrations of pithouses occur only after circa 2000 BP (Aikens et al. 2011; Ames 1991; Ames et al. 1998; Chatters 2012; Hackenberger et al. 1989; Jenkins et al. 2004).

Large concentrations of houses have not been recorded anywhere in southern Idaho. Along the Snake River in southern Idaho a few Middle and Late Archaic sites have residential structures, although usually only one or two at each site. Only limited survey data and a few excavations have been conducted on

the Snake River below Givens, but what evidence we have indicates a continuous scatter of small occupations, with and without pithouses, all the way to the lower end of Hells Canyon, basically to the mouth of the Salmon River. If a Plateau village (or a Northern Great Basin village) is a small group of pithouses occupied from Middle to Late Holocene times, such as Givens, then Swanson was correct.

Six Rivers Area

In 1982 Ken Ames identified what he called the “Lower Valley” as an area in western Idaho with the “...highest archaeological potential.” (Ames 1982:4). His Lower Valley includes the Snake River in western Idaho and the lower reaches of the Boise, Payette, and Weiser rivers. The lower reaches of the Owyhee and Malheur rivers, and possibly the southern portions of Hells Canyon, should also be included. Ericson (1994) and Reid and Piken (2012) call this region the “Six River” area. This area contains all but one of Pavesic’s Western Idaho Archaic Burial Complex sites (Pavesic 1985; Pavesic et al. 1993). The Boise and Payette were famous salmon rivers and probably easier to fish than the main stem of the Snake River. Based on historical accounts, this area was the site of an annual Indian summer gathering and trading hub that drew people from eastern Oregon, the southern Plateau, eastern Idaho, and even some Plains tribes (Ericson 1994). Hudson Bay Company established a trading post at the mouth of the Boise to take advantage of this annual gathering. This area should/could have the highest population anywhere in the region – at least during the summer trade fair. It is also a good place to spend the winter.

Reid and Pitkin (2012) tie the Six Rivers area with Hells Canyon and the lower valleys of the main Salmon, Clearwater, and Lower Snake rivers from circa 5000 – 800 BP based on similar house forms, subsistence, and settlement patterns. It is an idea to investigate, but we know almost nothing about the archaeology of the lower valleys in southern Idaho and eastern Oregon. There should be more sites with pithouses comparable to Givens on the Snake River, Montour on the Payette River (Artz 1983) and Birch Creek on the Owyhee River (Andrefsky et al. 2003). If they occur they could be represented by only a few houses spread along the rivers and not concentrated in one area. Unlike, Hells Canyon, the Clearwater Valley, and the Lower Snake, the river valleys in the Six Rivers area have broad, continuous, floodplains. It would be economically advantageous to spread winter occupations along the river to avoid over-hunting wintering deer populations, depleting mussel beds, and exhausting firewood and building supplies (Bishop and Plew 2016). Certain locations, such as hot springs, creek and river junctions, eddies to collect fire wood, and river fords, should be more attractive than others.

Ames stated little work had been done in this area. This is still true, even with the more recent excavations on Owyhee and Malheur rivers in Oregon and the Weiser in Idaho. We have little to no information concerning settlements in the lower Boise, Payette, and Weiser rivers. Research in the upper reaches of these rivers found mostly seasonal hunting and fishing sites (see Plew 2016 for citations). The reason for limited archaeological work in this area is the land is mostly privately owned farm land. The few Section 106 projects have been sponsored by Oregon and Idaho’s transportation departments. Sites in the Six Rivers area are typically covered with 30-40 cm of wind-blown silts (for example Givens, Braden, and Montour). There is little on the surface. This will make it more difficult to find buried deposits. However, since most of this land is farmed, the eolian deposits might protect buried sites from plowing and land leveling. There is no reason to expect occupations and mobility patterns of people using these valleys to be the same, even if they utilized similar resources (Ames 1982:5). Distances to desirable food resources like camas and biscuitroot are different, deer populations may be different, and the ease of taking fish in each drainage is probably different.

We need extensive survey and excavation in the Six Rivers area. This would provide more information to evaluate Reid and Pitkin's (2012) ideas concerning the relationship between sites in this area and those to the north. This is a testable hypothesis. We also need better seasonality information on sites upriver from Givens. We have good information on some sites but none on others. This might help sort out why some sites have salmon remains and others do not. Since river mussels are pretty much ubiquitous at most sites on the Snake River, these are the best bet to determine seasonality.

Other Research Questions

The big events in the history of southern Idaho, at least in the Middle and Late Archaic periods, include: the Middle Archaic Western Idaho Burial Complex; the use of bow and arrows versus atlatls and darts; the timing of the introduction of pottery; and the nature of trade networks. We do not know the social and settlement background for the Middle Archaic Western Archaic Burial Complex although there are suggestions (Pavesic 1985; Pavesic et al. 1993; Reid and Chatters 1997:6.9-6.10). Research in the Six Rivers area should provide information to understand this complex, and maybe why it ended. Chatters (2004) argues the bow and arrow introduced more warfare and caused the increase in size of villages (for protection) on the southern Plateau after 2500 BP. The Late Archaic component at 100E60 suggests more houses than the Middle Archaic components, and maybe warfare was a reason. The burned and apparently not reoccupied house at 100E60 (House 1) is suggestive of warfare. Reid and Pitkin (2012) argue that pottery and Desert Side-notched points are signs of Numic people moving across southern Idaho from east to west. The lack of pottery in the Late Archaic components at Givens may mean Numic people had yet to reach this section of Idaho. Olivella and dentalium shells occur in few numbers in southern Idaho from Middle Archaic to Late Archaic times (Plew 2019). Oregon obsidian is common in the western Idaho. The trade fair documented in historic times may explain these items in archaeological sites in Idaho and maybe the Middle Archaic burial complex is a manifestation of the trade fair. If so, it may have deep temporal roots. We don't have the information to understand these events. There is just lots of work to do and innumerable problems to investigate before southern Idaho cultural history can contribute to our understanding of hunters and gatherers in the Northern Great Basin and Plateau.

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I also want to acknowledge Ken Ames. When we began this project in 1979 he was the Idaho State Highway Archaeologist stationed at Boise State University. He had just finished his excavations at Hatwai on the Clearwater River. He provided field and excavation advice based on his extensive experience in the Northwest and he continually encouraged the completion of the final report. Unfortunately he died before he could review the draft report. His comments and suggestions would have improved the report.

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REPORT

Author, Subject, and Site Indexes to Idaho Archaeologist 2013-2018

JENNIFER CUTHBERTSON

So that readers might be provided with a guide to reference literature previously published in the *Idaho Archaeologist*, we offer this index to cover publications from 2013 to 2018. Previous indexes have been published in Volume 8, Issue 1 (compiled by Fred Sanger in 1985), Volume 11, Issue 1 (compiled by Fred Sanger and Russell Gould in 1988), Volume 18, Issue 2 (compiled by Sharon Plager in 1995), Volume 26, Issue 1 (compiled by Chris Willson in 2003), and Volume 36, Issue 2 (compiled by Katherine L. Peterson in 2013).

Included is a comprehensive author index, organized alphabetically; literature by multiple authors are listed under the senior author's name, followed by the contributing author(s). The index includes all literature publications from the *Idaho Archaeologist* through the above dates, as well as the abstracts of papers and posters presented at the Idaho Archaeological Society's annual 2013 conference. Included is also a Subject Index.

The author index, includes all publications in the *Idaho Archaeologist* from Volume 36 (2) to Volume 42 (2). However, due to a redesigning of the format, there were no volumes 37 (2) or 38 (2).

Following the aforementioned redesign, the *Idaho Archaeologist* is now only available in digital format. The journal's website includes publication information, an option to receive publications digitally, a list of article titles by volume and issue, and a style guide for submissions. It also includes information about the journal itself, as well as information regarding the Idaho Archaeological Society.

As Always, the *Idaho Archaeologist* continues to be a peer-reviewed journal, which publishes articles and contributions on the archaeology of Idaho and its surrounding areas.

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