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Cover: East Fork, Owyhee River — *Photo by Plew-Woods*

NOTICE TO AUTHORS

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DIVERSITY AND VARIABILITY IN THE PREHISTORY OF SOUTHWESTERN IDAHO[1]

By

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1982

[1]The portions of this paper describing the research zones previously appeared, in somewhat different form, in Ames 1982. This paper is an outgrowth of long discussions on Idaho prehistory with Max Pavesic, Thomas J. Green, Mark Plew and Terry Zontek. They have no responsibility for any errors.

ABSTRACT

Southwestern Idaho can be divided into seven research zones to facilitate comparisons within the region and to preserve information on the diversity and variability of the archaeological record. The description of temporal and spatial variability in the area's prehistory remains the critical substantive archaeological problem in Southwestern Idaho.

INTRODUCTION

The volume and pace of archaeological work in Southwestern Idaho has increased significantly over the past 10 years. This issue of *Idaho Archaeologist* shows that clearly. It is also clear that we still know very little about the region though we do know enough to realize that it is a very interesting region with a complex prehistory germaine to many problems in western North American Archaeology. This paper presents a way to organize our ignorance. Southwestern Idaho is herein divided into seven research zones. The paper justifies the division, briefly compares the known prehistory of the zones and concludes with a discussion of important substantive and theoretical problems in southwestern Idaho prehistory.

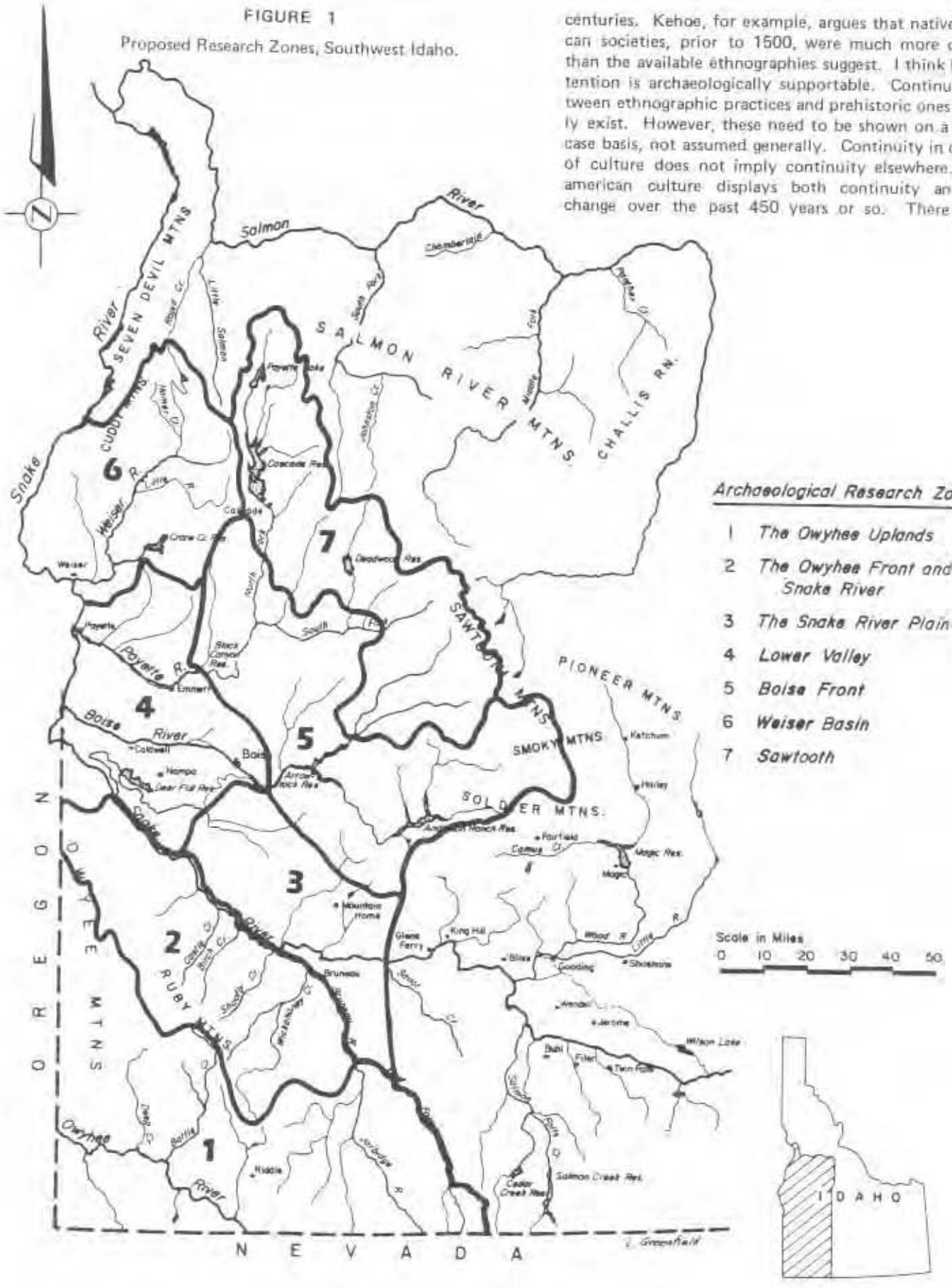
The basic justification for proposing these zones is that, as work continues to intensify (if not in scale, at least in regularity) in southwestern Idaho, it will be important to preserve the record of prehistoric culture variability in the region. I argue that the description of temporal and spatial variability in the prehistoric cultures of the area is currently the key research problem facing local prehistorians.

The major research effort in southwestern Idaho, and in southern Idaho generally, has been to link the region to a culture area, either the Great Basin or the Plateau. Swanson, for example, split the region along the Snake River, Great Basin to the South, Plateau to the north (Swanson 1965). While some (e. g., Pavesci 1974) have protested the assignment of the region to any culture area, a concern with how to place the region pervades the literature. Our ignorance of the region's prehistory is a prime reason for this continuing interest. If it were possible to identify the right culture area for the region, then one could first, explain the meager archaeology using the correct ethnographic analogy and second, develop expectations for the archaeological record; research problems, in other words, which would be explored by further work. The approach was about the only one available when work began here in the late 1950's, but now seems, to me at least, no longer to be appropriate. My major reasons are these:

1. The culture areas are typological constructs, since they are based upon the definition of a typical group. Thus Ray's study (Ray 1959) of the plateau is based upon the Sanpoil-Nespelem, supposedly the least modified and therefore the most *plateau* of the plateau groups. Assignment of marginal regions, such as southern Idaho, to a culture area has been based upon a few, limited, material culture traits, i.e., pit houses, or on the presence of key resources such as salmon or camas, because their exploitation is taken to typify a particular culture area.
2. The quality and nature of the ethnographic record. Recent work (e.g., Kehoe 1981) supports the contention that Native American socieities underwent far more serious alterations at contact than previously assumed. Disease, trade, the horse and displacement of whole societies caused major changes even before the first Euro-americans appeared. While the regional ethnography tells us much about life in the late 19th and early 20th centuries, it may have little to say about the 16th or 15th

FIGURE 1

Proposed Research Zones, Southwest Idaho.



centuries. Kehoe, for example, argues that native American societies, prior to 1500, were much more complex than the available ethnographies suggest. I think her contention is archaeologically supportable. Continuities between ethnographic practices and prehistoric ones certainly exist. However, these need to be shown on a case by case basis, not assumed generally. Continuity in one area of culture does not imply continuity elsewhere. Euro-american culture displays both continuity and great change over the past 450 years or so. There are no

reasons to assume greater cultural stability among native Americans for the same or longer periods. It is now becoming evident that there was far greater diversity in the Great Basin than originally, or even recently, recognized (e.g., Bettinger 1978, O'Connell 1975).

While the identification and comparison of regions and their prehistoric cultures is an important research problem, these comparisons should be done with as full a grasp of the diversity and uniformities within and between areas as is possible. Typological approaches simplify and mask diversity, thus it is not possible to know if the perceived uniformities are "real" or are artifacts of the typologies themselves. The research zones described in the next section of this paper provide a means of preserving information on diversity within the region intermediate between the site and the region at a level, as it were, between the trees and the forest.

THE RESEARCH ZONES

These zones are arbitrary and tactical. They are arbitrary because no attempt has been made to correlate their boundaries with any possible cultural boundaries, though they do correspond broadly to physiographic units in Southwestern Idaho. They are tactical because they are designed to facilitate intraregional comparisons while preserving information on local variability in the archaeological record in a form more convenient than site by site comparisons. They are not regions in the Willey and Phillips' sense (Willey and Phillips 1958: 106-107) because they did not develop from previous research, they are imposed *de novo;* nor may they be assumed to have any cultural reality, which I regard as an advantage.

Some of these zones, i.e., the Owyhee Upland and the Weiser Basin, already have informal currency and are closest to the Willey and Phillips' sense of region.

If the zones are to be useful, they cannot be typified by any particular site. An adequate description of the prehistory of one of these zones is a description of the spatial and temporal variability of selected analytical dimensions, such as the kinds of sites, artifact assemblages, faunal assembleges, etc. Thus, Givens Hot Springs does not typify the Owyhee front-Snake River zone any more than does either Dry Creek Rockshelter or Lydle Gulch typify the Boise front.

The zones are (Fig. 1):

1. The Owyhee Uplands: The Owyhee Uplands lie west of the Bruneau and Jarbidge Rivers and include that part of the Owyhee Plateau which is drained by the Owyhee River.
2. The Owyhee Front and Snake River: This zone includes the northern front of the Owyhee Mountains, which is drained directly by streams flowing into the Snake River, the pediment of this front, and the Snake River flood plain from Hammett, Idaho to Marsing, Idaho.
3. The Snake River Plain: The Snake River plain consists of the basalt plateau bounded at the east by the Mt. Bennett Hills, on the south by the Snake River canyon, on the north by the Boise front and arbitrarily on the west by a line from Boise to Kuna, Melba and to the Snake River.
4. Lower Valley: This zone includes the low, well-watered valley west of the western boundary of the Snake River plain and includes the Snake River below Marsing to Weiser, the Boise River below Lucky Peak Dam, and the Payette below Black Canyon Dam.
5. Boise Front: This zone is comprised of the southwestern front of the Northern Rocky Mountains. It includes the Squaw Creek drainage, the Payette River from Smith's Ferry to Black Canyon Dam, the Payette South Fork below Lowman, the Boise Basin, the Boise River below the confluence of its North and Middle forks and all of the Boise River's South Fork drainage.
6. Weiser Basin: This zone includes the full Weiser River drainage, and the high country between the Weiser drainage and the Snake River.
7. Sawtooth: This zone includes the North Fork Payette drainage above Smith's Ferry to Payette Lakes, the Middle Fork of the Payette above Garden Valley, the South Fork of the Payette above Lowman, the East and Middle Forks of the Boise River above their confluence. Thus the zone includes the western face of the Sawtooth mountain range.

DISCUSSION

Owyhee Uplands

Plew's work in the central portion of this region (Plew 1976a, 1976b, 1978a, 1978b, 1979a, 1979b, 1980a, 1980b) is the most extensive for the entire zone, and includes both survey and testing. Other surveys are Metzler's (1976) in the western part of the zone and a series of surveys in the eastern section (Bucy 1971, Pavesic and Hill 1973, Pavesic and Moore 1973, Tuohy 1963b). Plew (1980a) recognizes four phases for the central portions of the uplands. Camas Creek I (4000 – 700 B.C.) is marked by the presence of Humboldt and Pinto series projectile points. Materials are generally restricted to isolated surface finds. Camas Creek II (700 B.C. – A.D. 600) is characterized by the presence of Elko Series projectile points. There is some increase in assemblage complexity relative to Camas Creek I, but settlement patterns remain the same. Camas Creek III (A.D. 600 – A.D. 1200) is characterized by Rose Springs-Eastgate series points, a major increase in assemblage diversity and an apparent intensification in utilization of the area. This is the most visible of the four phases. Camas Creek IV (A.D. 1200 – contact) is marked by Desert Side Notch and Cottonwood series points, and a diminution in use of the area. Thus Plew recognizes a six-thousand year occupational record with long trends in intensity of use and perhaps in manner of use, as measured by settlement patterns.

There are scattered reports of earlier materials, particularly from the eastern portion of the zone (e.g., Murphy 1977), similar to Plano components on the high plains of central North America or Windust components (Rice 1972) on the Columbia Plateau. Thus it is likely that occupation of the Owyhee Uplands extends back ca. 11,000 BP.

Owyhee Front and Snake River

This zone has had the most continuous level of work, both survey and excavation, of the seven zones, beginning in 1982 (Shellback 1967). However, as yet, it has no coherent chronology. Several surveys clearly show that the banks of the Snake River were extensively and intensively used at least during the late prehistoric period (Murphey n.d., Ostrogorsky and Plew 1979, Plew 1980c, 1980d, Swanson, Powers and Bryan 1964, Swanson 1965, Tuohy 1958, Moe et al., 1980). Surveys of the Owyhee Front have been relatively limited in scope, but show various occupational

patterns during the past 10,000 to 5,000 years (Moe, this volume[2]). Scientific excavations along the river are limited: (Shellback 1967; Tuohy and Swanson 1960; Gruhn 1964; Green (this volume); Plew 1980d, and in some cases not productive. At Givens Hot Springs, however, Green (this volume) has recovered pit houses dating between 4,000 and 5,000 BP. Plew (1980d) encountered late prehistoric structures at Big Foot Bar. Ames excavated a similar prehistoric structure at Swan Falls Dam in the summer of 1981. Structures are also reported at the Hagerman fish hatchery, several miles east of the region's eastern boundary (Pavesic and Meatte 1980). Rockshelter excavations (Shellback 1967, Tuohy and Swanson 1960) have failed to produce anticipated long occupational records, as have the very limited excavations conducted in the Owyhee Front (Gaston, personal communication). Despite the lack of data, a series of substantive, cultural-historical problems have arisen in this zone. Swanson (1965) has hypothesized that the Snake River can here be regarded as the boundary between Great Basin and Plateau culture areas. Pavesic (1974) has strongly disputed this view. Butler (1979a, 1979b, 1980) and Plew (1979b, 1979d, 1980b) have debated whether the small pottery sample from southern Idaho indicates the presence of a Fremont type cultural pattern along the Snake River similar to that in northeastern Utah. There is also general debate, centering on the pottery, over various Shoshoni expansion hypotheses (Swanson 1972, Butler 1979a, Plew 1979b, 1979d).

Snake River Plain

Work in this zone is limited. A survey in its most eastern portions (Cinadr 1976) appears to show that the basalt plateau was unimportant prehistorically. Wilson Butte Cave near Shoshone, Idaho on the eastern Snake River plain has materials (Wilson Butte I) which may be as old as 14,500 years BP (Gruhn 1965), providing a lower limiting date for human occupation of southern Idaho as well as for the basalt plateau itself.

Lower Valley

While this zone may have the highest archaeological potential of any discussed in this paper, there has been little work done, exept the excavations at Dry Creek Rockshelter (Webster 1978), and Lucky Peak dam (Sappington 1977, 1981b). Webster's excavations produced a radiometrically dated sequence spanning the period 4150 BP to 1450 BP. Webster saw his material as being much more like northern Great Basin sites, such as Dirty Shame Rockshelter (Aikens, Cole and Stuckenrath 1977), than like the Columbia Plateau. Sappington (1981b) recovered what he interprets to be a deer hunting/butchering station at the mouth of Lydle Gulch on the Boise River. He thinks the site was utilized primarily by task groups operating out of more permanent camps in the Boise Valley downstream. Importantly, he sees evidence for climatic stability over the past 4,000 years. It does seem evident now that, regionally, streams began an aggredational cycle 4,000 – 5,000 years ago (cf. Ames 1982). As at Dry Creek Rockshelter, the projectile points are classed using Great Basin series. Limited survey work along the Boise near Caldwell produced some intriguing data from lava tubes. The lower reaches of the Boise and Payette and adjacent stretches of the Snake should have held significant aboriginal populations. There is sufficient evidence from adjacent areas to the south and west to predict population concentrations in well-watered oasis. The major salmon runs in the Payette (Evermann 1895) would have made it particularly attractive.

Boise Front

Work in the Boise Front includes a variety of very limited survey and testing projects by Ames (Moore and Ames 1978, Ames 1980, 1982). These projects recovered nothing unequivocally older than 5,000 years. However, the Timber Butte obsidian quarry is in this zone, and is known to have been exploited for at least 10,000 years (Sargeant 1973). Local amateurs claim to have found Clovis and Folsom materials in the vicinity of Sage Hen Reservoir and Bowers (1967) reports a Folsom Point. These claims are not confirmed.

Midvale like material is present in amateur collections from Timber Butte, though nothing like the Weiser burial complex has yet been reported or recovered. No structures have been encountered in any of the test excavations[3]. These, however, were not done in areas likely to have held large populations for any length of time. No work has been done in the major valleys, such as Horseshoe Bend Valley, Montour, Sweet Valley, Ola Valley or Garden Valley. Some of these valleys have camas now and most may have had camas and other wild plant foods in the past, and so may have been important in aboriginal subsistence systems.

Weiser Basin

There have been a series of surveys (Drucker 1948, Tuohy 1958, Bowers 1967, Pavesic 1976, Gaston 1978) and excavations (Bowers 1967, Warren, Wilkinson and Pavesic 1971, Ruebelmann 1973, Harten 1975) which have produced some intriguing data, not presently replicated elsewhere within the region. A series of excavations in the vicinity of Mesa Hill and the town of Midvale, Idaho recovered a distinctive complex of basalt tools, termed the Midvale Complex (Warren, Wilkinson and Pavesic 1971). The closest known analogs to this material are found in northeastern Oregon (Womak 1977). Ruebelmann (1973) links this material to the late Cascade subphase of the Lower Snake River archaeological region (Leonhardy and Rice 1970) which is presently dated 6700 BP to 4000 BP. Some similar tools have been reported in the Sawtooth zone (Gallagher 1975, Boreson 1979), but have yet to be recovered in excavations elsewhere in southwestern Idaho. Warren, Wilkinson and Pavesic date the complex to between 2500 and 1 B.C., later than does Ruebelmann.

Excavations at the Braden burial site, near the town of Weiser, produced a burial complex presently without analogs in the intermountain west. The flexed burials were associated with large, extremely well made, laurel leaf shaped blades (Harten 1975). Such blades have been reported elsewhere in the Weiser Basin and the region (Pavesic, personal communication). Recent attempts to locate additional graves at the Braden site and elsewhere have not yet proved successful (Pavesic, personal communicaiton). The date of the burials is not yet fixed, though they are thought by Pavesic to date sometime etween 5000 BP and 2000 BP.

Sawtooth

Survey and excavations in Stanley Basin east of the Sawtooth Range produced a sporadic occupation record. A component at Redfish Overhang (Sargent 1973) is dated to ca. 10,000 BP, while components at Redfish Overhang, the Sheepeater and Dancing Cat sites are very late prehistoric

period (Gallagher 1975). Survey and test excavations along the South Fork of the Payette seem to show a continuous but light utilization during the past 4,000 years (Moore and Ames 1979). The absence of earlier materials is probably due to geomorphic processes rather than cultural ones. Materials in amateur collections from Garden Valley on the South Fork may date as early as 7000 BP. Projectile points collected by amateurs around Cascade Reservoir may also be rather early (Mark Arnold, personal communication). A test excavation at Warm Lake (Boreson 1979) was relatively unproductive. Midvale complex-like materials are reported from Stanley Basin and Warm Lake. Forest Service surveys do show that the full altitudinal range was utilized.

PROBLEMS IN SOUTHWESTERN IDAHO PREHISTORY

The following discussion is not an exhaustive listing of all the possible problems in Southwestern Idaho prehistory. They are a selection of the problems I regard as the most pressing based on the principle that the first step in archaeological research is documenting the variability of the archaeological record in both time and space.

Quality and Nature of the Regional Sample

The brief review of the research zones makes it clear that our areal and spatial coverage is both uneven and sparse. The Owyhee uplands have received the most work, the Snake River plain the least. While it is apparent that we are dealing with at least a 10,000 year occupational span, most recovered materials are from the last 5,000 to 6,000 years only. Our chronological controls, at present, are primarily projectile point styles. Most dating is done by correlating projectile points with dated and named Great Basin projectile point series. Dry Creek Rockshelter, Lydle Gulch and Givens Hot Springs will eventually provide some chronological controls for the local projectile point sequences. A recently developed obsidian hydration rate for Timber Butte obsidian also promises to significantly improve our chronological controls (James P. Green, personal communication).

Areal coverage of the region is the result of the management needs primarily of the BLM, the hydroelectric potential of the Snake River and the research interests of a very small community of research archaeologists. The vast bulk of the work has been survey. In some cases surface collections have been made, in some cases not. Excavations have been limited primarily to very restricted test excavations, most recently to collect the minimal data required for significance determinations and the development of mitigation plans. Givens Hot Springs is the primary multi-year excavation in the region. Most of the excavations and surveys remain unreported, or are reported only in very preliminary form, with the important exception of Plew's Owyhee County surveys.

Much essential data are unreported because the bulk of the literature is preliminary in this way. Some classes of information such as debitage counts and the results of faunal analyses are customarily reserved for the final report and therefore never get reported at all. Many contracts are now so limited in scope and financing that critical data which is collected cannot be analyzed and reported because to do so would exceed the limited management requirements of the project. Projects conducted as part of federal energy project licensing procedures come to mind here. There is also a widespread process in which final reports regress infinitely into the future under the stresses and demands of life. The point here is that while our areal coverage is thin and spotty because of the circumstances governing where work will occur, the coverage would be better if it were better reported.

Important areas of which we are completely ignorant are the lower valley zone, including parts of the Snake River Valley, and the lower runs of the Boise and Payette Rivers, the Snake River Plain and the Owyhee Front-Snake River canyon. The latter zone has been seen as pivotal to understanding the region's prehistory for a long time (Swanson 1965) and Moe's and Green's papers in this volume strengthen that perception.

Culture History

A preliminary cultural chronology is available for the Owyhee Uplands. This is the only zone where a chronology exists and the only zone where a cultural chronology is possible. However, its chronological controls depend upon correlations with dated sequences in the western Great Basin, using projectile points. The Owyhee materials are primarily surface collections; sequential data is available only from Nahas Cave. I am not criticizing this work, only emphasizing its preliminary nature. This sequence spans only the last 6,000 years.

Willey and Phillips' (1958) general stages, Lithic (or as it is now termed, Paleo-Indian) and Archaic have been used (Butler 1967, Plew 1979c) to organize the regional culture history. However, their usage creates questions; are these stages or chronological periods? As originally defined, they are stages in the evolution of subsistence and economic patterns in the Western Hemisphere. As generally understood, Paleo-Indian peoples specialized, to some unknown extent, in the exploitation of the pleistocene megafauna—elephant, horse, bison, camel, etc.—while the Archaic represents a foraging adaptation in which local resources are intensively exploited. When the stages are subdivided, they tend to become periods. Willey and Phillips themselves had similar difficulties in attempting to subdivide the Archaic (Willey and Phillips 1958).

There is no persuasive evidence, at present, for a Paleo-Indian type subsistence pattern in the region; thus we may be dealing with archaic stage economies exclusively. This is not a problem, either in interpreting local prehistory or for the general utility of the Willey and Phillips' schema, unless we attempt to use the Archaic as a local partitive concept; then we must know if it is a stage, a period or a subsistence pattern. As a subsistence pattern, it seems to apply to almost all described, modern forager adaptations. In my opinion, Archaic as a descriptive and analytical concept seems to have minimal utility for Southwestern Idaho.

Subsistence and Settlement Patterns

The discussion of the available ethnographies and of the Archaic stage raised problems in the interpretation of regional subsistence patterns. My concern here with both of these sources of inference is that their use as ready descriptions of the past will ultimately obscure a great deal of diversity. Hunters and gatherers are quite variable in their subsistence patterns (Winterhalter 1981); two areas with the same resources with different patterns of predictability and productivity may contain significantly different human adaptations. Thus, the Boise Front and the Owyhee Uplands, or the Owyhee Front-Snake River Canyon and the Lower Valley may have each had very different cultural ecologies in the past.

Thomas (1981) shows clearly how differences in the structure of environments which are similar in content will produce significant differences in land use patterns and social structure among groups of Nevada Shoshone. By differences in structure and similarities in content, I mean that different environments with the same organisms may show important differences in the productivity, distribution and predictability of resources. Such differences can be expected to minimally affect scheduling decisions and the division of labor, as Thomas' study indicates, and hence the archaeological record.

The data base, or lack of one, is our essential problem because it will be difficult to expand. Many sites are either surface sites or have poor preservation. Thus, stratified sites known to contain, or with the potential to contain, subsistence data should be among our highest research and management priorities. Recovery techniques need to be geared towards recovering faunal and floral remains, even during preliminary testing (cf. Ames 1981), particularly for significance evaluations.

The cultural area types and the ethnographic descriptions of the regional, native-American cultures have provided the sole bases for making predictions about subsistence and settlement patterns. Other approaches are now available. Computer modeling of subsistence strategies using optimal foraging theory (Witherhalter and Smith 1981) and lineal programming (Reidhead 1981) are methods which can be linked to general cultural ecological and economic theories. Such models have the advantage of producing fairly explicit, quantified predictions. One should not expect them to be models of reality, but a source of predictions to be tested. Their advantage over analogies is that systems parameters and variables can be manipulated to produce multiple, linked sets of models. One need not believe in their basic assumptions to use them. Thus, while it seems evident that humans are not optimal foragers (McKay 1980), optimal foraging theory produces usable models of hunter-gatherer subsistence systems.

Even without recourse to these methods, it is possible to develop several qualitative models of settlement-subsistence systems for the region. The following six are derived from the archaeological literature for southwest Idaho and adjacent areas.

1. Small bands of hunters and gatherers living in small transitory camps and exploiting a broad array of resources (Steward 1938, Bettinger 1978).
2. Small bands of hunters and gatherers living in small, transitory camps exploiting a very few, highly productive, highly mobile resources (i.e., Paleo-Indian).
3. Large aggregations, overwintering in the valleys, dispersing widely in the summer, utilizing a varied array of resources, particularly plants. Winter residences were wikiups or mat lodges.
4. Small groups, perhaps one or two families, living in permanent or semi-permanent pit houses (or some other kind of permanent structure) intensively exploiting a small catchment area and relying on a limited array of highly productive resources (e.g., Madsen and Lindsey 1977).
5. Large groups living in permanent or semi-permanent pit houses. These groups might contain more than 50 people and depend very heavily on a very few intensively exploited resources, such as salmon or roots (e.g., Ames and Marshall 1980-81).
6. Small, permanent groups relying on a mixed forager-agricultural economy, perhaps growing corn, beans, and squash.

At present there is no good evidence to support or refute the existence of any of these. But they have existed at sometime within a 1,000 mile radius of the region, and they are all possible, some even probable. (This is not a list of my preferred models, and it does not imply support for any of the six.) This list does indicate the potential range of variation in the record. I am sure other alternatives have already occurred to the reader.

Society and Culture

The Bradon burial material, the prolific rock art, the rare piece of *art mobilier* (e.g., Webster 1978) provide fascinating but very limited glimpses at vast areas of cultural behavior in the region. It is a truism that prehistoric archaeology is strongest at unraveling subsistence related problems, weakest when dealing with social organization and ideology. However, in many ways, these are the major problems in the regional literature. For example, the recent debate over pottery in southern Idaho and the possibility of there being Fremont peoples in the region is a problem in recognizing distinctive cultural manifestations in the archaeological record. There are a variety of attendent issues arising both from the ongoing, more general debate over what, exactly, is Fremont as well as the technical debate over the adequacy and nature of the local pottery sample. The Shoshoni expansion is a related and similar problem.

These are historical problems, by that I mean they are problems in reconstructing the general sequences of events in the region. They are "who, what, where and when" questions. There is another, very basic and very implicit question also being asked, and that is what is the relationship between culture and the subsistence practices we see in the archaeological record. Carl Borden, the founder of Northwest Coast Archaeology and a strong influence on some of the early workers in this region, thought that culture shaped subsistence, affecting the choices of resources exploited (e.g., Borden 1975). Earl Swanson (1972) saw his Bitterroot culture as the result of a process of co-evolution between the environment and the resident culture (Swanson 1972). Implicit in the importance of culture area boundaries is the notion that choices, to live, for example, in a pit house or a wikiup, or to exploit salmon, are cultural choices and these shape the adaptation. Therefore, one must understand the cultural base to interpret the archaeological record; one must know, for example, whether the people on the Salmon River were Shoshone or Nez Perce.

While it cannot be denied that culture shapes subsistence, we must be careful not to conflate the two. It is legitimate to ask, for example, whether many of the attributes characterizing Bitterroot culture can be regarded as distinguishing a particular culture, or are they attributes common to the subsistence strategies of many hunters and gatherers. Another example, of course, are pit houses, which have been seen by many authors as marking various cultural traditions (Bettinger 1978), while others have seen such houses as representing social responses to subsistence changes (Ames and Marshall 1980-81, O'Connell 1975).

All of these discussions have proceeded from an intuitive understanding of how to distinguish one prehistoric culture

from another, and how to separate cultural factors from subsistence factors; or, in Steward's terms, from the culture core (Steward 1955). A key question to ask is what are the general spatial and temporal distributions of the culture marker. Of course, the answers to that question are subject to gross sample error, but even partial answers can be informative. Pit houses, for example, are widely distributed, having been constructed in east and central Asia for over 20,000 years (Shimkin 1978) and in North America for at least 7,000 years. Adovasio's (e.g., 1970, 1975, 1979) basketry studies make it clear basketry associated with Fremont is distinctive from contemporary forms in a large area of the western United States. Even studies such as his remain subject to important definitional problems (cf. Madsen 1979, 737) and problems in drawing cultural boundaries. Adovasio notes that Fremont basketry occurs in western Wyoming, for example, but evidently in non-Fremont contexts. Like Madsen (op. cit.) I am not comfortable with a single class of material culture being the sole measure of cultural differences. However, despite reservations, it has been Adovasio's precise documentation of basketry variation across large spatial and temporal spans which makes Butler's recent suggestions about a Fremont presence in Idaho as provocative as they have been. I am again advocating that the variability and diversity in the archaeological record be thoroughly documented as a necessary first step in its explanation. If the data set is poor, one documents its poverty and then proceeds to explain it.

It seems evident that there was considerably greater diversity and complexity in social organization among prehistoric peoples in North America than generally accepted (Kehoe 1981). The Braden Burials hint at complexity in the form of social hierarchies in the past in southwestern Idaho. It also seems clear that social organization is not fixed, nor does it move uniformly from simple to complex. Data from central California suggests fluctuations between simple and complex in one region (Moratto, King and Woolfenden 1980) and on essentially the same subsistence base. Pettigrew (1981) reports the possibility of similar changes in social organization in south-central Oregon. Thus, while there may have been important organizational differences between societies on the Owyhee Uplands and the Weiser basin, there may also have been significant differences among societies in a given zone through time and these differences may include simplification as well as increasing social complexity. One can imagine circumstances where increasing complexity at one spot may cause simplification at another. To choose a dramatic example, the rapid urbanization of Teotihuacan led to the depopulation of its hinterland (Brumfiel 1976). We more commonly expect increasing complexity in one place to lead to greater complexity elsewhere but it is not inevitable.

The six settlement subsistence systems noted at the end of the previous section very likely could have been integrated with somewhat to very different social and ideological systems. I do not regard subsistence as determining society, though it certainly can be limiting. But the world's ethnography makes it clear that at least one of the settlement systems listed above and perhaps two (numbers 5 and 6 respectively) can support fairly complex hierarchical societies while all of them may be associated with very complex ideological systems, all of which may affect the material record.

Process

If the previous sections dealt with who, what, where and when questions, then this one deals with how and why questions. Why questions are very difficult to answer; how questions only slightly less so. However, how questions are answerable whereas, at least in an historical science like archaeology, why questions may be impossible to answer. It is a commonplace in the theoretical literature that archaeology's major contribution to knowledge is the study of long term culture change, of cultural evolution as the term is usually understood. Thus we are concerned with how cultures change as well as why cultures change. I will illustrate the point and distinction with two examples from Mesoamerican prehistory, specifically the origin of agriculture and the Maya collapse, and from biology.

The Tehuacan project was undertaken to explain the origins and development of agriculture in central America. However, if we examine its most famous results (e.g., Flannery 1968) we see they have documented, in extraordinary detail, how agriculture was adopted, but as Flannery (1973) has stated, we still do not know why. After almost a century's work in Yucatan, we know where and when the Maya collapse occurred; and brilliant and painstaking epigraphic work has provided information on who and what collapsed. There are explanations as to why they collapsed (e.g., Willey and Shimkin 1971), but these in many ways mix how and why. Thus to say, for example, that the collapse occurred because of a Toltec invasion only tells us something of how. Turning to a biological example, evolutionary theory can tell us how we evolved to our present physical state, and give proximate causal answers as to why, but it cannot tell us why there are humans, as opposed to super intelligent felines or brilliant dinosaurs. Thus a good answer to a how question is as important and more likely, than a good, completely satisfying answer to a why question.

The "new archaeology" of the 1960's emphasized developing answers to why questions, so researchers may be dissatisfied with a good how answer. Thus Flannery (1973) professes some frustration that after 20 years we still do not know why agriculture began. We do know how for many places, which is a major achievement. Turning to southern Idaho, and the Great Basin, we may never know why the numic expansion occurred, if it did, but it would be an important step if there were agreement on how it occurred. Looking at an analogous example, it is known, approximately, how the various Indo-European speaking groups moved into Europe, southwest Asia and India, however we cannot say "why" with anything approaching the precision with which we say "how." That precision took over a 100 years to achieve. So how questions are not necessarily easy to answer. I am not advocating abandoning processual questions, because how questions are processual questions. To answer them, one must specify the relationships among the variables being considered; the organization and dynamics of the systems involved must be described. If one can specify the effect of one variable upon another, one is describing a process.

Binford has insisted in many publications that archaeology's scientific goal is to explain the diversity and variability in the archaeological record (Binford 1968). This paper follows that view. But if I ask, "Why is the archaeological record of southern Idaho variable?", the question seems absurd. It is hard to know where to start. If I ask "How is the record variable?", the problem becomes tract-

able. First, we need to document the variability; our emphasis in classification must be on all realms of material culture, not just projectile points and pots. Binford and Sabloff note:

> . . . the characteristics of sites as such are not studied . . . the basic unit of observation is the artifact . . . every class of [artifacts] does not yield types, for some may be judged so generalized in their distribution as to be "non-diagnostic," and as such are most often ignored. . . . In other words traits which are frequent, not too generalized and easily recovered, are given priority . . . (Binford and Sabloff 1982, 146).

What I think we need to describe are the distributions in time and space of all categories of recovered material remains and their associations. Our descriptive goal is a comparative account of the structure of the archaeological record which is clearly separate from interpretations and hypotheses.

CONCLUSIONS

I have divided southwestern Idaho into seven research zones. These zones have been justified on the grounds that they, or something similar, will aid in preserving valuable data on the diversity and variability of the archaeological record in the region. They provide a level of integration and comparison intermediate between that of the site and the region. I have also reviewed some problems in the regional prehistory in an attempt to show that typological constructs and simple analogies will not aid us in answering questions about prehistory because they obscure the nature of the archaeological record. I have not discussed specific problems in any detail. I have not reviewed the Fremont Question or discussed the Midvale complex. Nor have I mentioned such work as Sappington's (1981a) important obsidian source project. Thus the tone may have seemed unduly pessimistic about the status of southwestern Idaho prehistory. The papers in this issue and other work cited by those authors clearly shows that a great deal is being learned. I have tried here to indicate that we have much left to learn and that we should expect and be prepared for that prehistory to be far more complicated than we presently realize, and that new approaches and concepts will be necessary to understand that past.

FOOTNOTES

[1](On cover page)

[2]After this paper was readied for publication, Moe's M.A. thesis on Reynolds Creek became available (Moe 1978).

[3]Recent test excavations in the Montour Basin by the University of Kansas revealed clear evidence of a house pit on a site overlooking the Payette River. The report on these excavations is expected during the spring of 1983. This structure is significant as it is the first unequivocable pit house on a tributary of the Snake above the Salmon River. The structure appears to be similar to some excavated at Givens Hot Springs and 10 AA 1F.

REFERENCES CITED

Adovasio, J. M.
1970 The origin, development and distribution of western archaic textiles. *Tebiwa* 13(2):1040.

1975 Fremont basketry, *Tebiwa* 7(2):67-76.

1979 Comments, *American Antiquity* 44(4):723-731.

Ames, Kenneth M.
1980 Archaeological inventory of the North Fork Payette Project Power Line Corridor. Boise and Gem Counties, Idaho. Report on file, Idaho State Archaeologist's Office, Boise, Idaho.

1982 Archaeological Investigations in the Payette River Drainage, Southwestern Idaho, 1979-1981. *Archaeological Reports No. 11*, Boise State University, Boise, Idaho.

Ames, Kenneth M. and Allan G. Marshall
1980-81 Villages, demography and subsistence intensification on the southern Columbia Plateau. *North American Archaeologist* 2(1):25-52.

Aikens, C. Melvin, David L. Cole and Robert Stuckenrath
1977 Excavations at Dirty Shame Rockshelter, southeastern Oregon. *Tebiwa* No. 4.

Bettinger, Robert L.
1978 Alternative adaptive strategies in the prehistoric Great Basin. *Journal of Anthropological Research* 34(1): 27-46.

Binford, Lewis B.
1968 Archaeological perspectives, in *New Perspectives in Archaeology*, Sally R. Binford and Lewis B. Binford eds., pp. 5-32, Medine: Chicago.

Binford, Lewis R. and Jeremy A. Sabloff
1982 Paradigms, systematics and archaeology. *Journal of Anthropological Research* 38(2):137-153.

Boreson, Keo
1979 Archaeological test excavations at 10-VY-165, South Fork Salmon River Satellite Facility, Valley County, Idaho. *University of Idaho Anthropological Research Manuscript Series No. 57.*

Borden, Charles E.
1975 Origins and development of early Northwest Coast culture to about 3000 B.C. *Archaeological Survey of Canada Paper No. 45.* National Museum of Man Mercury Series. Ottawa.

Bowers, Alfred S.
1967 Archaeological Excavations in the Spangler Reservoir: Surveys in Washington County, Idaho. Manuscript, Idaho Archaeologists Office.

Brumfiel, Elizabeth
1976 Regional growth in the eastern valley of Mexico: a test of the "population pressure" hypothesis. In *The Mesoamerican Village*, Kent V. Flannery ed., pp. 234-249, Academic Press, New York.

Bucy, Douglas R.
1971 Final Report on the Archaeological Survey of Saylor Creek Unit 1. Report on file, Idaho State Archaeologist's Office.

Butler, B. Robert
1968 *A Guide to Understanding Idaho Archaeology*. Second (Revised) Edition, Idaho State University Museum, Pocatello.

1979a The native pottery of the Upper Snake and Salmon River Country. *Idaho Archaeologist* III(1):1-10.

1979b A Fremont culture frontier in the Upper Snake and Salmon River Country. *Tebiwa* (NS) No. 18.

1980 Towards a better understanding of the Fremont Problem in southern Idaho: A reply to Plew's comments. *Idaho Archaeologist* IV(1):11-14.

Cinadr, Thomas J.
1976 Mount Bennett Hills planning unit: analysis of archaeological resources. *Archaeological Reports No. 6*, Idaho State University Museum of Natural History, Pocatello.

Drucker, Phillip
1948 Appraisal of the archaeological resources of Cascade, Smith's Ferry, Scriver Creek and Garden Valley Reservoirs, Upper Payette River Basin, Idaho. Report on file, Idaho State Archaeologist's Office.

Everman, Barton W.
1895 A Preliminary Report Upon Salmon Investigations in Idaho in 1894. *Bulletin of the United States Fish Commission, Vol. 15*, Washington, D.C.

Flannery, Kent V.
1968 Archaeological systems theory and early Mesoamerica, in *Anthropological archaeology in the Americas*, Betty J. Meggers ed., pp. 67-87, Anthropological Society of Washington.

1973 The origins of agriculture. *Annual Review of Anthropology* 2:271-310.

Gallagher, Joseph Gregory
1975 *The archaeology of: the Sheepeater Background and Redfish Overhang Sites: settlement model for central Idaho*. Unpublished M.A. thesis, Idaho State Univerity, Pocatello.

Gaston, Jeanette
1978 Archaeological Reconnaissance of Indian Valley, Idaho Transportation Department, Project ST-3331(501), I 80N to Mesa. Report on file, Idaho State Archaeologist's Office.

Gruhn, Ruth
1964 Test excavations at Sites 10-OE-128 and 10-OE-129, southwest Idaho. *Tebiwa* 7(2):28-36.

1965 Two early radiocarbon dates from the lower two levels of Wilson Butte Cave, south-central Idaho. *Tebiwa* 8(2):57.

Harten, Lucille A.
1975 *The osteology of the human skeletal material from the Braden Site, 10-WN-117, in western Idaho*. M.A. thesis, Idaho State University, Pocatello.

Kehoe, Alice B.
1981 Revisionist anthropology: aboriginal North America. *Current Anthropology* 22(5):503-517.

Leonhardy, Frank, and David G. Rice
1970 A proposed culture typology for the lower Snake River region, southeastern Washington. *Northwest Anthropological Research Notes* 4(1):1-29.

Madsen, David B.
1979 Reply, comment on Adovasio, Aikens and Marwitt. *American Antiquity* 44(4):436-439.

Madsen, David B. and LaMar W. Lindsay
1979 Backhoe Village. *Antiquities Section Selected Papers Number 12*. Utah State Historical Society, Salt Lake City.

McCay, Bonnie J.
1981 Optimal foragers or political actors? Ecological analysis of a New Jersey fishery. *American Ethnologist* 8(2): 356-381.

Metzler, Sharon
1976 The Brown Creek archaeological survey, Owyhee County, Idaho. *Archaeological Reports* No. 2, Boise State University.

Moe, Jeanne M.
1978 Prehistoric settlement and subsistence in Reynolds Creek, Owyhee County, Idaho. *University of Idaho Research Manuscript Series, No. 73*.

Moe, Jeanne M., William P. Eckerle and Ruthann Knudson
1980 Southwestern Idaho transmission line heritage resources survey, 1979. *University of Idaho Anthropological Manuscript Series* No. 58.

Moore, Joseph and Kenneth M. Ames
1979 Archaeological inventory of the South Fork of the Payette River, Boise County, Idaho. *Reports in Archaeology No. 6*, Boise State University.

Moratto, Michael J., Thomas F. King and Wallace B. Woolfenden
1978 Archaeology and California's climate. *The Journal of California Archaeology* 5(2):147-162.

Murphey, Kelly A.
1977 An archaeological inventory of Devil's Creek, Owyhee and Twin Falls Counties, Idaho. *University of Idaho Anthropological Research Manuscript Series No. 37*.

nd Field notes, Archaeological Survey, Birds of Prey Natural Area. On File, Idaho State Archaeologist's Office.

O'Connell, James F.
1975 The Prehistory of Surprise Valley. *Anthropological Papers No. 4*. Ballena Press, Ramon, CA.

Ostrogorsky, Michael and Mark G. Plew
1979 Cultural resource evaluation of the proposed Wiley and Dike Reservoirs in the Snake River near Bliss, Idaho. *Project Reports No. 1*. Idaho Archaeological Consultants, Boise.

Pavesic, Max G.
1974 *Archaeological observations on the western Snake River plain*. Paper presented to the 14th Great Basin Anthropological Conference, Carson City, Nevada.

1976 Antiquities assessment of the proposed Paddock-Ontario 230KV double circuit transmission line, Idaho Power Company. Report on file, Idaho State Archaeologist's Office.

Pavesic, Max G. and Richard Hill
1973 The Bruneau River survey. Report on file, Idaho State Archaeologist's Office.

Pavesic, Max G. and Daniel S. Meatte
1980 Archaeological test excavations at the national fish hatchery locality, Hagerman Valley, Idaho. *Archaeological Reports No. 8*. Boise State University.

Pavesic, Max G. and Joseph M. Moore
1973 Deadman Flat: An archaeological inventory of Saylor Creek, Unit II. Report on file, Idaho State Archaeologist's Office.

Plew, Mark G.
1976a An archaeological inventory survey of the Camas Creek drainage basin, Owyhee County, Idaho. *Archaeological Reports No. 1*. Boise State University, Boise.

1976b Shield bearing warrior motif petroglyphs from southwestern Idaho. *The Masterkey* 50(3):112.

1978a The rock art of upper Pole Creek, Owyhee County, Idaho. *Idaho Archaeologist* 1(30):9-12.

1978b An archaeological survey of Pole Creek, Owyhee County, Idaho. *Archaeological Reports No. 4*. Boise State University, Boise.

1979a Aboriginal hunting complexes in the Owyhee Uplands, Idaho. *The Masterkey* 53(3):108-111.

1979b Archaeological excavations at Camas and Pole Creeks, southcentral Owyhee County, Idaho. *Archaeological Reports No. 5*. Boise State University, Boise.

1979c *Archaeology in southern Idaho*. College of Southern Idaho, Twin Falls.

1979d Southern Idaho Plain: implications for Fremont-Shoshoni relationships in southwestern Idaho. *Plains Anthropologist* 24(97):329-335.

1980a Archaeological investigations in the southcentral Owyhee Uplands, Idaho. *Archaeological Reports No. 7*, Boise State University, Boise.

1980b Comments on Butler's "Native pottery of the upper Snake and Salmon River country." *Idaho Archaeologist* III(3):4-6.

1980c An archaeological evaluation of the Nature Conservancy land tracts in the Snake River Birds of Prey Natural Area, Idaho. *Project Reports No. 2*. Idaho Archaeological Consultants, Boise.

1980d Archaeological excavations at Big Foot Bar, Snake River Birds of Prey Natural Area, Idaho. *Project Reports No. 3*. Idaho Archaeological Consultants, Boise.

Pettigrew, Richard M.
1980 *The ancient Chewaucanians": more on the prehistoric lake-dwellers of Lake Abert, Southeastern Oregon.* Paper presented to the 33rd Annual Northwest Anthropological Conference, Bellingham, Washington.

Ray, Verne F.
1939 Cultural relations in the plateau of northwestern America. *Publications of the Frederick Webb Hodge Annual Publication Fund, Vol. 3* Southwestern Museum, Los Angeles.

Reidhead, Van
1981 A linear programming model of prehistoric subsistence optimization: a southeastern Indian example. *Prehistory Research Series* VI(1):1-277, Indiana Historical Society, Indianapolis.

Rice, David G.
1972 The Windust Phase in lower Snake River region prehistory. *Report of Investigations No. 50*, Laboratory of Anthropology, Washington State University, Pullman.

Ruebelmann, George Norman
1973 *The archaeology of the Mesa Hill site: a prehistoric workshop in the southeastern Columbia Plateau*. M.A. thesis, University of Idaho.

Sappington, Robert Lee
1977 *A progress report on the Lydle Gulch Site, 10-AA-72.* Paper presented to the 5th Annual Idaho Archaeological Society Meeting, Boise.

1981a A progress report on the obsidian and vitorphyte sourcing project. *Idaho Archaeologist* 4(4):4-17.

1981b The archaeology of the Lydle Gulch Site (10-AA-72): Prehistoric occupation in the Boise River canyon, southwestern Idaho. *University of Idaho Anthropological Research Manuscript Series*, No. 66, Moscow.

Sargeant, Kathryn Estel
1973 Final report on the archaeology of the Redfish Overhand Site, 10-CR-201, Sawtooth National Forest, Cassia County, Idaho. MS on file, Boise State University.

Shellbach, Louis
1967 The excavation of Cave No. 1, southwestern Idaho. *Tebiwa* 10(2):63-72.

Shimkin, Edith M.
1978 The Upper Paleolithic in northcentral Eurasia: evidence and problems, in *Views of the Past: Essays in Old World Prehistory and Paleoanthropology*, ed. by Leslie G. Freeman, 195-315, Morton Publishers, The Hague.

Steward, Julian H.
1955 *Theory of Culture Change*. University of Illinois Press, Urbana.

Swanson, Earl H., Jr.
1965 Archaeological explorations in southwestern Idaho. *American Antiquity* 31(1):24-37.

Swanson, Earl H., Jr., Roger Powers and Alan Lyle Bryan
1964 The material culture of the 1959 southwestern Idaho survey. *Tebiwa* 7(2):1-27.

Thomas, David Hurst
1981 Complexity among Great Basin Shoshoneans: the Worlds Least affluent hunter-gathers? In "Affluent Foragers, Pacific Coasts, East and West" ed. by Shuzo Kohama and David Hurst Thomas, pp. 19-52, *Senri Ethnological Series No. 9*, National Museum of Ethnology, Osaka.

Tuohy, Donald R.
1958 An appraisal of the archaeological resources of Garden Valley Regulating Reservoir, the Garden Valley Reservoir, the Scriver Creek Reservoir, and Smith's Ferry Reservoir, Boise and Valley Counties, Idaho. MS on file, Idaho State Archaeologist's Office.

1963a An appraisal of the archaeological resources of the Guffey Reservoir in southwestern Idaho. Report on file, Idaho State Archaeologist's Office.

1963b Archaeological survey in southwestern Idaho and northern Nevada. *Nevada State Museum Anthropological Papers No. 8*.

Tuohy, Donald R. and Earl H. Swanson, Jr.
1960 Excavations at Rockshelter 10-AA-15, southwest Idaho. *Tebiwa* 3(1,2):20-24.

Warren, Claude N., Kent S. Wilkinson and Max G. Pavesic
1971 The Midvale complex. *Tebiwa* 14(2):39-71.

Webster, Gary S.
1978 Dry Creek Rockshelter: cultural chronology in the western Snake River region of Idaho ca. 4150 BP - 1300 BP. *Tebiwa* (NS) No. 15.

Willey, Gordon R. and Philip Phillips
1958 *Method and theory in American archaeology*, University of Chicago Press, Chicago.

Willey, Gordon R. and Demitri B. Shimkin
1971 The collapse of Classic Maya Civilization in the southern lowlands. A symposium summary statement. *Southwestern Journal of Anthropology* 27(1):1-18.

Winterhalter, Bruce
1981 *Optimal foraging strategies and hunter-gatherer research in anthropology: theory and models. In*
1981 Optimal foraging strategies and hunter-gatherer research in anthropology: theory and models. In *Hunter-Gatherer Foraging Strategies, Ethnographic and Archaeological Analyses*. Bruce Winterhalter and Eric Alden Smith eds., pp. 13-35, University of Chicago Press, Chicago.

Winterhalter, Bruce J. and Eric Alden Smith
1981 *Hunter-Gatherer Foraging Strategies, Ethnographic and Archaeological Analyses*. University of Chicago Press, Chicago.

Womak, Bruce
1977 *An archaeological investigation and technological analysis of the Stockhoff Quarry, northwestern Oregon*. M.A. thesis, Washington State University, Pullman.

ONE HUNDRED AND FIFTEEN YEARS OF COLLECTING AND RELIC HUNTING IN SOUTHWESTERN IDAHO: ITS CAUSE AND EFFECT ON THE ARCHAEOLOGICAL RECORD

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ABSTRACT

This paper will review some of the knowledge gained over the years in observing the archaeological scene in what we may call the Owyhee Sub-Province. From the arrival of the first white men, until the present day, collectors and relic hunters have had, and are having, an effect on the archaeological resources of the region.

Author's Note: This paper was prepared from notes taken as far back as 1930-1939, and others written after World War II in 1946-1950. Not until professional archaeologists entered the scene in the late 1950s were more notes taken. With the recent professional surveys and excavations in the Owyhees, it was felt that some information on amateur collecting and relic hunting, and its effect on the archaeological resources, might be of some value. The author would be most willing to cooperate with authorized people as regards to names, dates, site information, and other data listed in this paper.

The author also wishes to extend his thanks to Max Pavesic, Thomas Green, Richard Harrison, Mark Plew and Kenneth Ames for their helpful suggestions in reading and editing this paper.

INTRODUCTION

To understand the substance of this paper, one should know some of the things that differentiate the Owyhee Sub-Province from the surrounding region:

Its location geographically; the geologic formations and topography; the major rivers, streams, and their tributaries; its ecological resources, and its little-known ethno-history. Together, they form the overall picture that sets the region apart and makes it what it is from the archaeological viewpoint.

One must also know something of the recent historic period, as well as the lesser-known prehistoric past.

While not exhaustive, a few highlights of the above-mentioned items may give the reader, especially the newcomers to this archaeologically important part of Idaho, some insight into the purpose of this paper.

THE OWYHEE SUB-PROVINCE

The major portion of the Owyhee Sub-Province is located in the southwest corner of Idaho, takes in all of Owyhee county south of Snake River, and much of the western Snake River Plain. It extends into southeastern Oregon and northern Nevada to encompass the drainage system of the Owyhee River. The eastern border is the approximate boundary of Owyhee and Twin Falls counties, drained by the Bruneau-Jarbidge River systems. Owyhee county alone contains 7,662 square miles. With the surrounding areas mentioned above, the Owyhee Sub-Province contains in excess of 10,000 square miles. (Figure 1). (Freeman 1945)

TOPOGRAPHIC AND GEOLOGIC SETTING

The topography of the Owyhee country is quite rugged, and could be divided, generally, into three areas: 1) the lowlands in the north along the Snake River plain; 2) the high mountains in the western portion; and, 3) the high tablelands of the south central plateau, sometimes called the Owyhee uplands. The whole area is cut by many canyons, often separated from each other by lava roughened plains. In many instances the stream channels provide the easier routes from the lowlands to the high country. In the foothills and intermediate zone of the mountains, the rough uplifts of rhyolite, together with erosion, has produced caves, overhangs, and rockshelters. In the south central uplands some caves and rockshelters are found in the small canyons, but to a lesser degree. (Plew 1981, 1979, 1980). These sheltered places, and low riverine terraces provided the native people with seasonal habitation sites.

Another prominent feature of the Owyhee region is the "rock rivers" and talus slopes, many of which are very large. They occur at all elevations. The aboriginal inhabitants made some use of the talus areas for burials, hunting blinds, and as catchment pens during animal drives. (Agenbroad 1968, Tuohy 1963, Murphey 1977, Plew 1979).

The Owyhee Sub-Province is unique geologically in several respects. Its main mountains, the Owyhees, are isolated from the Columbia Plateau to the north, and the Great Basin on the south. The basalts are more closely related to those of the Snake River Plain than the Columbia River basalts (Fenneman 1931).

The division is more pronounced by the river drainage system of the Snake River and its tributaries, the Owyhee, Bruneau, and Jarbidge. The area is underlain by granites, which are overlain by rhyolite masses. These strata are evident near the tops of the Owyhee Mountains where they have been uplifted. (Warner 1981). The ryolites have been

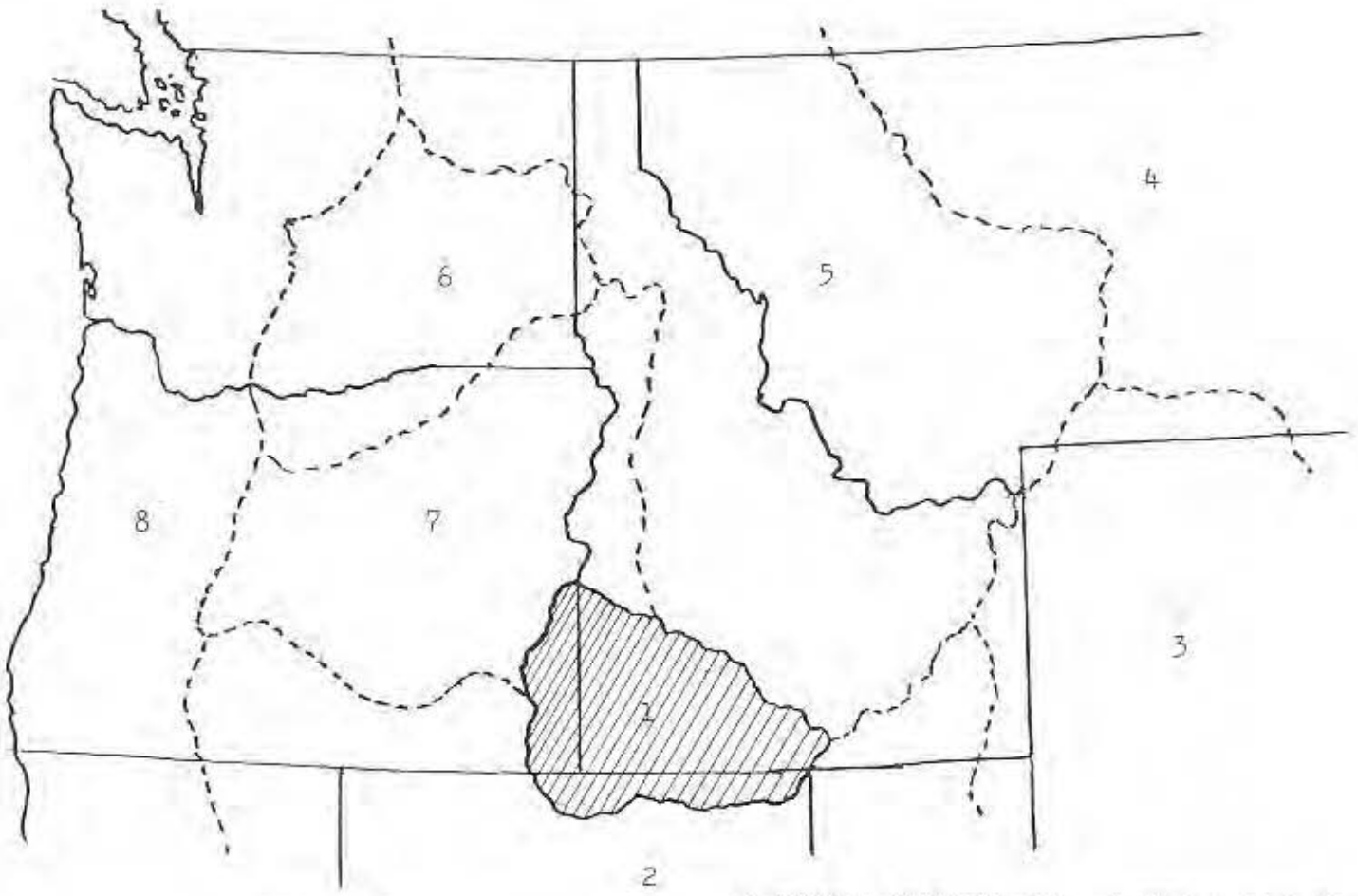

FIGURE 1

Physiographic provinces and sub-provinces of the Northwest. (Based on Freeman, Forrester and Lupher, 1945.)

1. OWYHEE SUB-PROVINCE
2. Great Basin
3. Middle Rocky Mtn.
4. Great Plains
5. Northern Rocky Mtn.
6. Columbia Basin
7. Central Mountains
8. Sierra-Cascade Mtn.

exposed by streams at lower elevation. These strata are overlain by a series of ancient lake deposits which are interfingered with basalts, light colored tuffs, and latites. (Anderson 1941). The Jordan Craters of southeastern Oregon are a unique geological feature, thought to be of recent origin. The lava flow could have thrown a dike across the Owyhee River, which was there before the lava erupted. However, the flow either stopped or was diverted away. (Warner 1981).

Volcanic activity, together with the geologic formations, have produced a great variety of rock and mineral forms in the Owyhee Sub-Province. Vesicular and fine-grained basalts, granite, rhyolite, ignimbrite, obsidian, chert, opalite, siltstone, sandstone, crypto-crystalline materials, fossilized bog, and petrified wood, are all to be found in quantity throughout the Owyhees. Like so many other plentiful resources in the region, the native population had no lack of artifact producing lithics. Use of these materials is demonstrated in the recent archaeological record. (Tuohy 1963; Plew 1976, 1981, 1979-1980; Huntley 1979; Green 1980).

THE WATER RESOURCES

An important and unusual feature of the Owyhee region is the river and stream drainage systems. (Figure 2). With a precipitation rate of ten inches per year or less (Idaho Department of Water Resources 1978), and most of this as winter snowfall, these streams, together with the many springs found throughout the Owyhees, give the sub-province a remarkable water supply despite its dry and desert-like appearance. This plentiful water supply was of great importance to the economy of the native population. As a result of water resources, from the riverine lowlands to the higher elevations, a great variety of vegetation and food plants grew in abundance.

FOOD RESOURCES

Root producing plants, seed grasses, medicinals, and a variety of manufactuary plants were readily available to the natives. (Butler 1978). Last, and certainly not least, was the tremendous food resources of the rivers and streams which permeated the region. Anadromous fish ascended the rivers and tributaries, almost to the limits of their watersheds. (Plew 1980; Follet 1963; Aikens, Cole, Stuckenrath 1977). We know from the historic past that the salmon fisheries were an extremely important part of the food resources. (Huntley 1979).

Small aquatic animals and waterfowl also were utilized. Another primary source of food was the almost inexhaustible beds of freshwater shellfish found in the rivers and some of the larger streams. The shell heaps found in the campsites along, and adjacent to, Snake River indicate that mussels were an easily collected source of winter and seasonal

food supplement. (Shellbach 1930, Tuohy 1960, Green 1979, Huntley n.d.). The mussels could be transported for some distance as indicated by the numerous shell remains found in camps and shelters away from the river. (Huntley n.d.)

Game in the form of large and small animals could be taken year around throught the area, including waterfowl and upland birds.

ETHNO-HISTORY

There is little substantial ethno-history available that deals specifically with the native inhabitants of the Owyhee country. It has been postulated that these people came into the Owyhee area from the southwest, through the Great Basin, at some indeterminate time in the past. Some observers (Steward 1938, Liljeblad 1957, Murphy and Murphy 1960) deal lightly with the people of the area. In historic times we know they were Numic speaking Shoshone and Paiute. Groups of five to twenty-five people were probably common. (Fowler 1934). Population density was no more than one person per thirteen to sixteen square miles (Kroeber 1934, Steward 1938), and consisted mostly of small family groups moving about the land, using its resources in season.

If, indeed, these were the people who inhabited the Owyhee country, they must have found the abundant resources of the region a definite cause to remain in the area. From the lower lands along the major rivers to the highest elevations of the mountains, the ancient people left, over a long period of time, thousands of large and small open campsites, occupied rock shelters, overhangs, and caves, to mark their passing. It was this archaeologically rich country that, later, attracted the relic hunters and amateur collectors.

LITHIC RESOURCES AND STONE TOOLS

The aboriginal inhabitants of the Owyhee Sub-Province manufactured and used most of the same kinds and types of stone tools typically found in the neighboring Northern Great Basin physiographic province, a part of the same general culture area. The usual variety of scrapers, knives, drills, chopping tools, metates and mano, mortar and pestle; the list is long. Most were fashioned from the many kinds of lithic materials found in the Owyhee region. Concerning the projectile points, we follow Cressman;

> . . . and since motor skills are not equally distributed through a population, it is reasonable to expect that within the general pattern considerable variation would occur in the finished product.
>
> . . . Projectile points provide a good example. Any large collection from a given site and the same time level in the Far West can be expected to provide a variety of point forms. . . . Types are set up based on these attributes and others, and some of them may be valid . . . . It may be that the archaeologist is fabricating types when he should be describing the products of differential individual abilities and performance levels.
>
> . . . Actually, the significant variations in kinds of points is in the devices for hafting.
>
> . . . Even at the earliest period there are multiple kinds of points at the same site . . . Hogup Cave (Aikens, Harper and Fry 1970) gives a firm record of one type lasting 5,000 years with another introduced and used at the same time for 2,000 years. Others also were in use . . . while others can only be explained as the result of an expression of an individual desire to be different . . . (Cressman 1977).

Others, even before Cressman, have had some thoughts about using projectile points as indicative of certain cultural attributes;

> I have deplored the common practice of using a projectile point type which could be found in a dozen different places in the United States as a hallmark of any particular culture . . . In the archaeology of Early Man this situation has often been used as a basis for the formulation of distinctive cultures. If the same analytic technique were applied to a local bow and arrow people, such as some Yuman (Lower Colorado River) group, who made three different kinds of arrow points, it would be obligatory to assume that three different cultures were involved and that each was of a "non-Yuman" facies. (Rogers 1939).

The foregoing quotes may give one explanation as to why there are so many variant types of projectile points in any given campsite in the Owyhee Sub-Province.

As with projectile points, two other classes of artifacts were predominant in the stone tool inventory of the Owyhee area inhabitants: (1) The great variety of scraping tools. Scrapers had a multitude of uses and there seemed to be styles to fit every occasion. From the tiny "thumb" scrapers, so called, to the large "turtle back" variety, scrapers are to be found in large numbers in every habitation site in the Owyhee region. Their individual use is not always recognized. (2) The great quantities of milling stones. From the lowland camps to those at the highest elevations, milling stones were to be found in prodigious numbers. Almost every living site had at least one and some of the larger sites had hundreds. Too large and heavy to be carried about, they were left where they were used, often turned over with the grinding depression downward. The mano or pestle was usually nearby. They have been carried away by relic hunters and collectors by the hundreds. Even so, many are still to be found. (Huntley n.d.).

It must be remembered also that man, even primitive man, had the basic human instinct of gathering or collecting about him those things of a useful, or curious, nature. The many generations of native inhabitants of the Owyhee region could hardly have overlooked the living sites of their ancestors. In their seasonal rounds, the natives gathered not only food items, they also gathered stone materials for tool manufacture. This is amply demonstrated by the many locally-known quarry sites, and by the great variety of types of lithic waste found in most open campsites. There can be little doubt but that they picked up and used, and often modified, the lost and discarded tools they found scattered in such profusion over the area. These tools were probably carried over varying distances to be lost or left in their own habitation sites (Bowers 1962). As time passed, more and more sites were occupied, and succeeding generations found more tools left by their predecessors, which they, in turn, picked up and used. (Huntley n.d.)

This could also be true of buried sites, or those with some degree of stratigraphy. The site was not always covered. An artifact from a certain level may have been brought in from some distance when the site was being occupied and, therefore, not be pertinent to the context in which it was found.

One must be wary of postulating the provenience of artifacts, especially projectile points, found on the surface campsites, and perhaps some of those found in buried sites as well.

In studying the many amateur and professional collections from the Owyhee region, it would seem that most of the various types of projectile points, scrapers, milling stones,

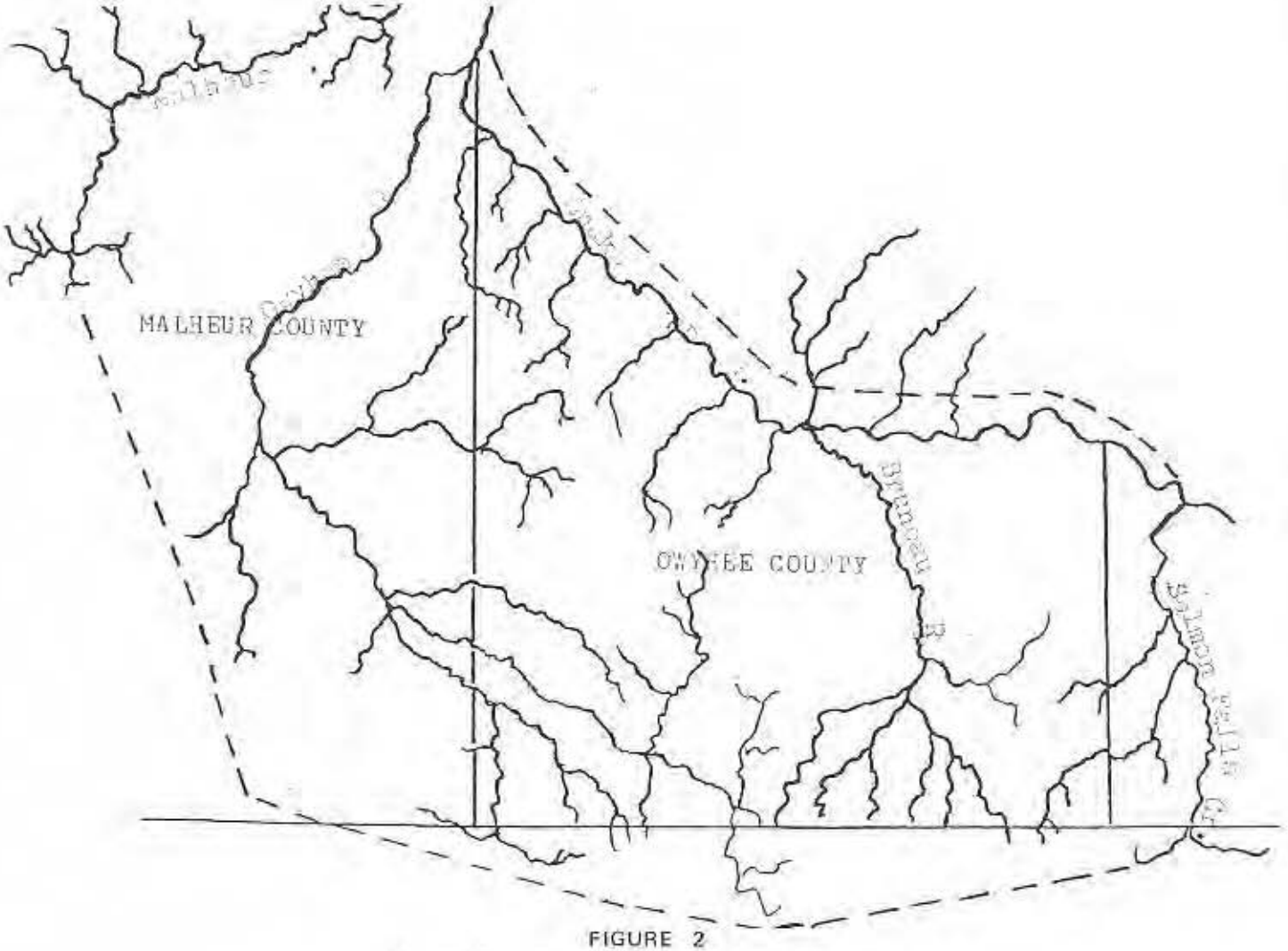

FIGURE 2

Owyhee Sub-Province and Western Snake River Plain with its rivers and watersheds.

and other artifacts, have remained constant over a long period of time. This could be said to be true, also, of the rocks and stones used to manufacture these artifacts, since most were made from local lithic materials.

Some obsidian, however, was brought in from quarries more distant. (Sappington 1981).

THE ARTIFACTS

Only in recent years have any stratigraphically controlled excavations been made in the Owyhee area (Tuohy-Swanson 1960, Green 1979-1980, Plew 1977-1978), excepting one made by Shellbach in 1929. (Shellbach 1930). The artifacts recovered from these excavations are, for the most part, the same types and of the same materials, found in surface collections. They range in age from about 4800-4500 B.P. to 1800 A.D., or the time of white contact. (Green 1979-1980 [Tx.3656], Plew 1980 [Tx-3636]).

The artifacts found in excavations by relic hunters, while they have no recorded stratigraphic provenience, are typically the same types and of the same materials as those that have been excavated recently by trained archaeologists.

There are a few exceptions to the general types of artifacts found in the Owyhees. Several reasons may account for these intrusions. (a) Local adaptation to some particular need; (b) movement into, or through, the specific area by an outside group of people; (c) changes in lifestyle due to climatic changes; (d) pressures by other groups of peoples. A few of the exceptions are listed blow:

1. "Bliss Points", (Bonnichsen 1964), generally found in a narrow band along Snake River from the vicinity of the town of Bliss, Idaho, downstream as far as the mouth of Squaw Creek between Givens Hots Springs, and Marsing, Idaho.
2. A possible new point type first found at DeLamar Spring in 1958, by the author. (Clark 1977).
3. Two campsites in the higher part of the Owyhee Mountains that have produced some beautifully made artifacts of exotic type materials. (Huntley n.d.a.).
4. An aberrant type of long, narrow, corner-notched point, found in Jump Creek Cave in the mid-1930s. (Grant, personal communication).
5. The distinctive artifacts of the "White Knife" Shoshone of northern Nevada, some of which have been found in the southern part of Owyhee county. (Harris 1940).

An example of artifacts brought into the Owyhee region are the crescentic stone artifacts from the Coyote Flat area

in southeastern Oregon. One crescent has been found in an open campsite near the top of Juniper Mountain. Another was picked up near Big Bog Meadows north of Wagontown. A "butterfly" type crescent was found on the surface in a camp at the head of Pole Creek on Big Succor ridge. Three crescentic stones were found at the Mud Springs site, and one was found at, or near Camas Creek. (Helton, Beall, Norquist, Clark, personal communication).

THE FIRST COLLECTORS AND RELIC HUNTERS

The first collectors of Indian artifacts were probably the explorers and fur traders. Some of their journals tell of trading for trinkets and a variety of other Indian articles. Some of these were used through necessity, and some could be sold or traded when they returned to civilization.

After 1840, those Oregon Trail emigrants, using the southern route, passed through the Owyhee country along Snake River in great numbers. Worried about the Indians, and inhospitable country, most of them kept going.

In his Oregon Trail journal of 1843, Overton Johnson had expressed what most travelers thought of this land: (Huntley 1979).

> This is perhaps the most rugged, desert, and dreary country between the western borders of the United States and the shores of the Pacific. It is nothing else than a wild, rocky, barren wilderness of wrecked and ruined Nature, a vast field of volcanic desolation.

Major G. G. Kimball was trailing a band of sheep from Chico, California to the Boise mines (Idaho City) in August, 1865. In his diary he describes the Owyhee country through which he passed (Kimball 1865):

> I was brought up and educated to believe there is a Hell where all had to suffer for their sins. I now think there was one once, and the country over which I have just passed must have been the place where it is located. I have seen no boundary lines, but the marks of the heat are still there; and I guess all the rocks that were not used were thrown into the Devil's Half Acre. (He was probably describing the lava beds between Owyhee Crossing and Jordan Valley).

Since the emigrants traveled through the western Snake River Plain and along the Snake River, they undoubtedly saw, and passed over, many of the numerous Indian campsites close to the Oregon Trail. They must have collected some of the artifacts lying about in profusion.

With the gold discoveries in the Owyhee Mountains in May of 1863 by Michael Jordan and his party, a rush of miners into the area soon followed. The Indians residing in the region resented the white men intruding their homeland and, understandably, gave them trouble. The camp where the discovery party set up the headquarters for the new mining district was called Skull Camp, an Indian skull having been fastened to the top of a post to mark the spot.

Michael Jordan kept a diary of his daily affairs. (Jordan 1863). He gives a graphic account of how the Indians were handled. We pick up some of his entries in the diary beginning June 27, 1863:

> June 27, 1863 — I went a prospecting up Jordan Creek with Iba . . . Reports of Indians a running in on prospectors.
>
> July 7, 1863 — I was awoke at 12 o'clock by Dr. Bowers. He came into camp telling us that he had shot his partner, Fred Barnard, in a mistake for an Indian.
>
> September 1, 1863 — . . . We are raising a company of men to go after the Indians.
>
> September 2, 1863 — I and twenty others started out on a 10 days hunt after Indians on horseback. We have pack animals along.
>
> September 5, 1863 — We killed and scalped a large Indian and found the fresh tracks of others. We hunted all day for more but could not find any. Smith got a severe cut from the Indian.
>
> September 6, 1863 — Turned to the left and camped on Snake (River) within three miles of the Indian camp.
>
> September 7, 1863 — We saddled up before light and made a charge on the Indian camp, and found 50 or 60 Indians. We killed 16 bucks, and others ran away. The squaws and children we did not molest. Today after the fight we traveled 20 miles with 7 head of extra horses captured from (the) Indians, with guns, robes, skins, and other Indian trinkets.
>
> September 9, 1863 — We all got to Jordan Creek after 8 days riding through the mountains.
>
> September 13, 1863 — Rec'd dividend on Indian plunder, $15.43; Bot an Indian horse, $52.00; One buffalo Robe, $26.00; Root axe and buckskins, $9.00; Furs and trinkets, $1.50.

From the above, we know that relic hunting by the white men had begun in the Owyhees in the fall of 1863.

COLLECTING AND RELIC HUNTING INCREASES

After the gold discoveries in 1863, a rush of people moved into the Owyhees. Between 1865-1890, miners, prospectors, horse raisers, ranchers, farmers, cattlemen, sheepmen, teamsters, and families were settling in the Owyhee country. They were to have an effect on the future of the archaeological record of the area. Almost without exception, the newcomers built their roads, houses, barns, corrals, line shacks, or cabins, on or near sources of water, such as springs or along streams. The former inhabitants, the native peoples, had also used these places for camps. In many instances buildings were erected over a part of the lithic scatter of the old campsites. There can be little doubt that the white people saw and picked up the hundreds of artifacts they found lying about in their yards, corrals, or at the nearby springs. Even today a look around the old ranches will usually turn up an old camp or lithic scatter, and perhaps, an artifact or two.

The cattle and horse growers, and later the sheepmen, especially the sheepherders, picked up hundreds of Indian artifacts in their herding duties over much of the mountain and desert lands. Others who could be called part-time collectors were the townspeople who hunted, fished, went on outings and picnics, a great form of recreation in those days, and not to forget the school children, when they could find a nearby Indian campsite.

With the decline of the mining industry, 1890-1920, most of the people moved to the valley towns of Nampa, Caldwell, Boise, or some of the smaller places such as Middleton, Meridian, etc. Many of the ranchers and stockgrowers continued to live in the Owyhees. Artifact collecting slowed down until the start of the depression years beginning in 1929.

The depression years, 1929-40, saw a rapid increase in artifact collecting. Hundreds of people were out of work, most depending on some kind of government welfare programs such as WPA, etc. Automobiles and gasoline were cheap. To augment their food and clothing needs, many of the local residents of the Boise valley took up hunting and fishing.

This, naturally, took them to the mountains and desert, the Owyhees in particular. Relic hunting for antiques around the old mining towns, deserted ranches, and cabins increased as did the hunting of Indian artifacts. Many of the relics could be sold or traded to help with the family budget in those hard times. Some ten or fifteen known relic hunters did almost nothing else than hunt out the caves, rockshelters, and open sites for their pothunting enterprises. Hardly a site was left undamaged, and many were totally cleaned out. Large collections were made during this period. Some of the collections can be found today, but others were sold, traded, or split up among descendants. Also, in the early 1930s, the Civilian Conservation Corps was established by the government to provide jobs for the young men of the country who were unemployed. Camps were set up throughout the country. Several of these were in Owyhee county, one camp being at Mud Flat Station south of Grand View. On their days off, the CCC boys hunted artifacts at the open campsites and dug in the caves in the Pole Creek-Camas Creek area. Another CCC camp was located in the Opaline district near Givens Hot Springs. The young men stationed here constructed the Sommercamp Road and built a small flood dam at the canyon mouth of Hardtrigger Creek. They also collected artifacts at the Mud Springs site and dug in a large cave at the mouth of the creek, among others. (Also, in the early 1930s, the WPA, a relief works organization, built the road on the north side of Snake River from Walter's Ferry to Liberty Butte. This road destroyed several Indian campsites and burials.) Only a very few of the local collectors have made an effort to keep their collections in order, together with other pertinent data.

After Mounain Home Air Force Base was established in the early 1940s, many of the men stationed there hunted artifacts in the desert, and in the Owyhees, south of the river. They also collected in the desert between the Air Base and Grand View. One officer is known to have excavated in Tank Higby, and Cathedral Caves, and to have made collections near the several small dry lakes in the area. Some local collectors have also worked the caves and dry lakes.

The years 1940-1946, during World War II, were relatively quiet as far as the collectors were concerned. Gasoline and tires were rationed which kept the general population near home. After the war years when the country had returned to some semblance of normality, the out-of-doors people, including the artifact hunters, again became very active.

Since the end of World War II, amateur artifact collecting and relic hunting has been on the increase in the Owyhee region. Four-wheeldrive "jeeps" were soon available to the general public, and it was not too long until commercial off-road vehicles were common. This gave added impetus to the get-out-of-doors crowd. It was back to "business as usual" for the collectors.

The ensuing years have found more people in the Owyhees area engaged in looting antiquities. Listed below are some probable reasons this is taking place:

1. Increased coverage in the media about archaeology and related subjects.
2. The population explosion in the Boise Valley and surrounding area has brought more people into outdoors recreation.
3. The added interest in antiques, primitives, and collectibles, and their rising values.
4. Better and easier means of accessibility into the more difficult places of mountain and desert settings. Four-wheel drive automobiles, motorcycles, the increased popularity of horseback riding and back packing, canoes, and kayaking, and even aircraft have brought the hard-to-get-at sites within reach of almost everyone.
5. Availability of detailed maps.
6. An increase in the archaeological literature and related publications which are being read and used by collectors to find the few undamaged archaeological resources still available.
7. Older collectors are passing the avocation down to their children, thus two, and sometimes three generations in one family are collecting today.
8. A large percentage of the land in the Owyhees is public domain. Its great size and the rugged terrain makes it almost impossible to enforce the few laws obtained to date.

THE ROCKHOUNDS

The fast growing hobby of rock and gem mineral collecting by "rockhounds" had been progressing rapidly. About 1936 the first gem and mineral societies were formed in Nampa, Caldwell, and other nearby towns. In the search for gems and minerals for collections, for cutting and polishing, and to make into forms of jewelry, the rockhounds scour the hills and desert looking for agates, jasper, fossilized wood, opalite, picture rock (siltstone), and other gem stones. Idaho, the "Gem State," has suitable material in abundance and the Owyhee country is no exception. The better known deposits include: Graveyard Point agates; petrified wood from Coal Mine Basin, McBride Creek, Negro Rock, Texas Springs, and Jackson Creek; jasper from Bruneau, Bog Meadows, and Haystack Butte; silicified bog from Wagontown, Succor Creek, and Little Squaw Creek; picture rock from Three Fingers, Wildhorse, and Mahogany Gap. (Huntley 1979). There is hardly a hill, creek, or basin in the Owyhee Sub-province that the rockhounds have not been over. What, may we ask, is the connection between rockhounds and artifact collecting? They go hand-in-hand. The minerals and gem stones sought by the rockhounds are primarily the same stones used by prehistoric man in his lithic industry. Since the Owyhees are an abundant source of these stones, collected by an early culture for one use, and sought by a later culture for another, most, if not all rockhounds are collectors of artifacts. In their search for gem rocks they also find Indian campsites. There are six, or more, major rock societies in southwest Idaho and southeastern Oregon. Each club has a membership of about two hundred, and many rockhounds do not belong to a club. In all, there are, perhaps, fifteen hundred active rockhounds in the area.

"We must consider, also, the hundreds of out-of-state rockhounds who come to the noted gem rock areas of the Owyhee country to collect gemstones and incidently . . . artifacts." (Craw 1972). A dozen or more of the locally known rockhounds have collections running into the hundreds. Almost all rockhounds have a few artifacts, from half-dozen to fifty or more. A little simple arithmetic will show that the rockhounds have taken thousands of artifacts from the Owyhee region, most, of course, by surface hunting. Collectively, they probably have the largest collections taken from the Owyhee country. (The author is a longtime member of the Owyhee Gem and Mineral Society, and is personally acquainted with most of the members of the local rock

clubs. He has examined and studied many of their collections.)

Most rockhounds are self-trained, and quite knowledgeable in mineral and gem stone identification. A few are college educated and are very knowledgeable about rocks and minerals in Idaho, and of the surrounding states. Rockhounds collect gem rocks and minerals in quantity, thus assuring a supply for specimen displays, cutting and polishing, jewelry making, or perhaps, for sale. To obtain rocks and gem stones in quantity, a collector must find outcroppings, or a quarry where materials can be hand excavated; or in the case of the commercial dealer, excavated by backhoe or other machine. Some of the prehistoric Indian quarry sites have been reworked or even obliterated by the commercial rockhounds. Every local gem and mineral society sponsors field trips during the summer months to the various areas in Idaho and the surrounding states for the express purpose of collecting gem material for their use.

As previously stated, rockhounds are thoroughly familiar with every part of the territory they explore, and well versed in specific mineral localities. Long-time rockhounds, when searching over an Indian campsite, for example, can tell at a glance whether an artifact, core, or chipping, is from a specific quarry. Many rockhounds collect the cores and chippings from the camps for use in making jewelry or other objects.

Obsidian is a good example of a highly prized gem stone. Some of the most sought after varieties include: black, green, blue, black and red, red, mahogany red, snowflake, rainbow, banded, goldsheen, silversheen, translucent, iris, and clear. Any field trip to an obsidian quarry of note is usually well attended.

DESTRUCTION OF ARCHAEOLOGICAL RESOURCES IN THE OWYHEES

Archaeological resources in the Owyhee Sub-Province are destroyed in ways other than by relic hunters.

Natural Causes

1. Erosion by water.
   Normal rain and snow meltwater can slowly erode the terrain, washing away the soil on which the campsites are located. Torrential rains, or cloudbursts, can wash away an archaeological site in minutes.
2. Erosion by wind.
   Strong winds can slowly expose a site or lithic scatter, concentrating the artifacts in one level by blowing away the loose topsoil. This can obliterate the stratigraphy of the site, if any is present, which is important to the archaeological record. In the same manner, the wind can cover up an exposed site. It may be lost if it is deeply buried.
3. Alternate wetting and drying.
   Some soils in the Owyhees have a high clay content. When wet, the soil is very adhesive. As the soil drys it hardens, and large shrinkage cracks form which can be from one to two inches across, and ten to twenty inches deep. This happens each year, between the cool, wet spring and the hot, dry summer. Later on, the fall rains obliterate the cracks. In a campsite exhibiting this soil condition (several have been recorded), lithic materials can, by the action of water, wind, burrowing animals, or tromping by livestock, fall into the cracks where they are covered when the cracks close up again. The action of this yearly cycle does not destroy the site, but stratigraphy, if present, can become unreliable.
4. Stream erosion.
   Live and ephemeral streams often change their course, especially in their formative stages, due to seasonal runoff or high water flooding. An aboriginal campsite on a low or streamside terrace can be damaged or washed away.
5. Earth movements.
   Some archaeological sites may have been lost by being covered during avalanches, or landslides and by alluvial depositions.

Man created causes

1. Agricultural activities.
   Land leveling, plowing, ditch digging, land filling, any operation that can damage or destroy campsites found on land being cultivated. This was especially true on lands bordering on Snake River where there was heavy native occupation.
2. Chaining and reseeding by government agencies, primarily the Bureau of Land Management (BLM).
   Upgrading rangelands by this procedure is instrumental in destroying many archaeological deposits.
3. Road building.
   Many archaeological sites in the Owyhees have been badly damaged by having roads constructed through them. In the early years it was wagon road destruction. In recent years, this has happened during development of access to livestock watering facilities at spring sites by government agencies, including the BLM. Relocating and straightening roads by federal and county agencies has also been damaging to some sites.
4. Development of springs for livestock water.
   Over the years, BLM and other projects have been very destructive of aboriginal campsites located near natural springs. During the placing of pipe and tanks, or of building a small earthen dam for water collection, almost every locality has seen the destruction of an aboriginal deposit. This is also true where ranchers put in tanks for watering facilities. Sportsman and wildlife groups have also been destructive in fencing spring sites.
5. Installation of high-lift pumping plants along Snake River.
   These have damaged or obliterated a number of sites at various places where irrigating water has been taken for use at higher elevations.
6. Mining activities.
   Early day placer mining along Snake River either damaged or destroyed some of the riverine campsties. Evidence of this is visible near Indian Cove on the south bank of the river. Bigfoot Bar has been heavily impacted by both mining activity and agricultural use. These activities have also occurred near Walter's Ferry, Bernard Ferry, and at the mouth of Squaw Creek. Placer mining of some of the mountain creeks such as Meadow Creek, Boulder Creek, and Jordan Creek has resulted in damage to some sites. In recent years the open pit mining operations at DeLamar has destroyed several spring campsites. Commercial rockhound mining for gem materials has damaged or destroyed some Indian quarry sites.

It would seem that given the accelerating rate of destruction of the archaeological resources of the Owyhee region, the agencies controlling the public lands would set up some kind of program to get qualified people to mitigate this problem, even on a salvage basis. As time goes on it will be "too little and too late." We can take heart in the fact that there are a few sites left where some of the knowledge that is rapidly disappearing can be salvaged.

With the continuing popularity of the Owyhee country as a prime target for collecting artifacts, or for whatever reason, it will be difficult to find an archaeological site and say, with any degree of certainty, that it has not been collected, potted, or looked over in the last one hundred and fifteen years. From the past record one must assume this to be true and act accordingly.

SUMMARY AND COMMENTS

With its diversity of topography, climate, water sources, relative isolation, food resources, and abundant lithic producing materials, the Owyhee Sub-Province was conducive to aboriginal occupation. There was little reason to leave a region that gave them so much. Consequently, the inhabitants, though never large in numbers, remained in the Owyhees for many generations. This is generally verified by the great numbers of archaeological sites to be found. Also, the artifacts, in both types and materials, have remained fairly constant over a long time period.

This rich archaeological region, as it became better known with the mining, and later, ranching activities, drew the attention of the relic hunters and potters. From the early 1860s, to the present time, the Owyhee country has been archaeologically vandalized by collectors, relic hunters, and/or, by all those people who use the land for whatever purpose, and incidently to also collect artifacts.

Depletion of archaeological resources have also been caused by natural agencies. Wind, water, and land erosion have contributed to the destruction of sites.

In recent years, a sizeable part of the destruction of archaeological sites had been caused by modern human activities, particularly by certain actions (and inaction) of the BLM. This agency manages all of the non-privately held land in the Owyhee country. For the most part, the BLM has been primarily concerned with the upgrading of the area in order to increase forage for domestic livestock, wild horses and game.

Other destructive forces are more indirect. Some of these are: a growing population in southwestern Idaho, more interest generated in popular archaeology as a result of irresponsible media coverage, and increasing accessibility to more remote areas by off-road vehicles. These elements, and others, have contributed to the declining numbers of remaining archaeological sites that have not undergone damage.

An equally serious problem affecting archaeological sites is vandalism. It takes only a few "hard core" or professional artifact collectors to completely devastate an entire area over a few years. These people travel into a preselected spot and proceed to dig into one or more archaeological sites for the sole purpose of gathering artifacts, particularly projectile points. If an area is productive, they may return time after time until they have completely destroyed the site and have taken most of the "good" artifacts home. Unfortunately, there are far more than just a few "hard core" collectors in southwestern Idaho, and the vandalism to archaeological sites is higher today than it has ever been.

Because the vast acreages of the Owyhee Sub-Province are administered mostly by the BLM, this agency has the prime responsibility to protect archaeological sites from vandals. Unfortunately, very little has been done by the BLM to meet its responsibilities to properly manage and protect archaeological sites even though it has mandates to do so. Unless the BLM can adjust its priorities to deal with this deplorable situation, it can be predicted that vandalism to Idaho's archaeological heritage will continue to accelerate. If the BLM could adjust its work schedules to create a known "presence" in the back country on weekends and holidays, the public would be deterred to a great extent from potting and vandalism. The writer knows from long experience that an "on-duty" Federal employee is never met or seen south of the Snake River on a weekend.

Apart from getting the BLM to do its job, better education of the public through school programs is needed. These efforts should begin in the elementary school and continue through high school to really be effective. Also, various public land user groups such as ranchers, backpackers, campers, hunters, and fishermen, among others, need to be informed about the value of protecting and preserving archaeological sites.

If little or nothing is done to curtail the increasing levels of destruction to the archaeological heritage of the Owyhee country, it is estimated that within twenty years, or less, the situation will be irreversible, and any attempt to protect the remaining undamaged sites will be futile.

REFERENCES

Agenbroad, Larry D.
1968 The Five Fingers Buffalo Jump. *Explorers Journal* 46(4):279-286. New York.

1976 Buffalo jump complexes in Owyhee County, Idaho. *Tebiwa, Miscellaneous Papers of the Idaho State University Museum of Natural History No. 1*, Pocatello, Idaho.

Aikens, C. Melvin, K. T. Harper, G. F. Fry
1970 *Hogup Cave: interim report*. Paper read at the Annual Meeting of the Society for American Archaeology, Santa Fe, 1968.

Aikens, C. Melvin, David L. Cole and Robert Stuckenrath
1977 Excavations at Dirty Shame Rockshelter, southeastern Oregon. *Tebiwa, Miscellaneous Papers of the Idaho State Museum of Natural History, No. 4*. Pocatello.

Anderson, A. L.
1941 Physiographic sub-divisions of the Columbia Plateau in Idaho. *Journal of Geomorphology* 4:206-222.

Bonnichsen, Robson
1964 The Rattlesnake Canyon cremation site, southwestern Idaho. *Tebiwa* 7(1):28-38.

Bowers, Alfred W., C. N. Savage
1962 Primitive man on Browns Bench. *Information Circular No. 14, Idaho Bureau of Mines and Geology*. Moscow, Idaho p. 13.

Butler, B. Robert
1978 A Guide to Understanding Idaho Archaeology (Third Edition) A Publication of the Idaho State University Museum, Pocatello.

Clark, Everett
1977 Unique and unusual finds. *Idaho Archaeologist* 1(2):4.

Cressman, Luther S.
1977 *Prehistory of the far west, home of vanished peoples.* University of Utah Press, Salt Lake City, Page 4.

Craw, Julia
1972 *Rock and gem. The rockhound search for indian tools and arrowheads.* Behn-Miller Publications, Encino, California.

Fenneman, N. W.
1931 *Physiography of the western United States.* McGraw-Hill Book Company, New York.

Follett, W. I.
1963 Fish remains from Deer Creek Cave, Elko County, Nevada. In: *Deer Creek Cave, Elko County, Nevada,* by Mary Elizabeth Shutler and Richard Shutler, Jr., pp. 31-32. Nevada State Museum Anthropological Papers No. 11.

Fowler, D. D.
1965 *Cultural ecology and cultural history of the Eastern Shoshoni Indians.* Ph.D. dissertation Washington State University.

Freeman, Otis W., J. D. Forrester, R. L. Lupher.
1945 *Physiographic divisions of the Columbia Intermontane Province.* Association of American Geographers 35(2): 53-75.

Green, Thomas J.
1982 Archaeological excavations at Givens Hot Springs 10-OE-1689, 1979-1980. M.S. in preparation.

Harris, Jack S.
1940 *White Knife Shoshoni of Nevada. Acculteration in seven American Indian tribes.* D. Appleton-Century Company Inc., New York, pp. 39-166.

Huntley, James L.
1979 *Ferry boats in Idaho. A history of early water transportation in the state.* Caxton Printers, Caldwell, Idaho, pp. 74-75, 97-98, 198, 202, 258.

1979 Lithic quarry sites in northern Owyhee County. *Idaho Archaeologist,* Boise 2(2):2-3.

1940 *Field notes on various lithic tools from the Owyhee Region.* 1930-1939. Manuscript in author's possession.

n.d.a. *Preliminary test excavations at the Gem site.* 10-OE-2792. Manuscript in preparation.

n.d.b. *Freshwater bivalve mollusca as a dietary adjunct and/or primary food source for prehistoric people inhabiting the middle Snake River region of southwest Idaho.* Manuscript in preparation.

Jordan, Michael I.
1863 Original diary of Michael I. Jordan. *Owyhee Outpost,* Owyhee County Historical Society, 5:11-18.

Kimball, Major G. G.
1865 Entry from his diary. In *Story of the Owyhee Crossing,* Owyhee Outpost. Owyhee County Historical Society, 4:37-38.

Kroeber, Alfred L.
1934 Native American population. *American Anthropologist,* 22:1-25.

Liljeblad, Sven
1957 *Indian peoples of Idaho.* Manuscript on file. Idaho State University Museum, Pocatello.

Murphey, Kelly
1977 An archaeological inventory of Devils Creek, Owyhee and Twin Falls Counties, Idaho. *University of Idaho Anthropological Research Manuscript Series,* No. 35, Moscow.

Murphy, Robert F. and Yolanda Murphy
1960 Shoshone-Bannock subsistance and society. *University of California Anthropological Reports (Berkeley),* 1:152-164, 16(7):2930338.

Plew, Mark G.
1979 Archaeological excavations at Camas and Pole Creeks, southcentral Owyhee County. *Idaho Archaeological Reports No. 5,* Boise State University, Boise.

1980 Fish remains from Nahas Cave: Archaeological evidence of anadromous fishes in southwestern Idaho. *Journal of California and Great Basin Anthropology,* Riverside 2(1):129-132.

1981 A preliminary report on archaeological excavations at Nahas Cave. *Idaho Archaeologist,* 4(3):1-7.

Rogers, Malcolm J.
1939 Early lithic industries of the lower basin of the Colorado River and adjacent desert areas. *San Diego Museum Papers, No. 3.* San Diego.

Sappinton, Robert Lee
1981 A progress report on the obsidian and vitrophyre sourcing project. *Idaho Archaeologist,* 4(4):4-17; 5(1):4-8.

Shellbach, Louis
1930 Researchers in Idaho. *Indian Notes* 7:123-125. Museum of the American Indian, Heye Foundation, New York.

Steward, Julian H.
1938 Basin-Plateau Aboriginal Sociopolitical Groups. *Bureau of American Ethnology Bulletin No.* 120. Smithsonian Institution.

Tuohy, Donald R.
1963 Archaeological survey in southwestern Idaho and northern Nevada. *Nevada State Museum Anthropological Papers,* No. 8. Carson City.

Tuohy, Donald R. and Earl H. Swanson Jr.
1960 Excavations at Rockshelter 10-AA-15, Southwest Idaho. *Tebiwa* 3(1&2):20-24 Pocatello.

Warner, Mont
1981 Personal Communication.

FOOD PLANTS OF SOUTHWESTERN IDAHO

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ABSTRACT

This paper focuses on the plant foods which may have been used aboriginally in southwestern Idaho. A list of these plants is presented, preceded by a brief discussion of the contemporary distribution of plant habitats in Owyhee County and important environmental factors relative to plant food availability.

INTRODUCTION

An ethnobotany, consisting of the plants used by the Native American people for food, medicine, and manufacture of utensils, weapons, and other items, combined with a reconstruction of indigenous vegetation would be useful, if not vital, to anthropologists and archaeologists attempting to formulate research models for the study of prehistoric subsistence and settlement patterns of southwestern Idaho. Neither an adequate ethnobotany specific to the native peoples of southwestern Idaho, nor an accurate description of the changes in their environment through time is presently available. Current research is limited instead to the use of a synthesis of what is known today about the plants of southwestern Idaho with paleoenvironmental and ethnobotanical information from other areas. The purpose of this paper is to present some ethnobotanical and contemporary vegetation data applicable to southwestern Idaho studies and discuss briefly environmental factors important in the pursuit of an understanding of plant food availability in that region.

ETHNOBOTANY

Plant use by Indians in Idaho has been studied. In his work with the Nez Perce, Herbert Joseph Spinden (1908) recorded many important food plants. Two projects in the 1960s by Lucy Harbinger (1964) and Leda Scrimsher (1967) also involved identification of the native plant foods of the Nez Perce. More recently, Alan Marshall (1977) and Kenneth Ames with Marshall (1980-81) have studied the interrelationship between environment and Nez Perce social groupings with plant resources as a major factor; and Dawn Statham (1982) has examined the geographic distribution of camas, and its socioeconomic implications, in Southern Idaho. Other than Statham's work, the only available information on aboriginal plant use in southern Idaho is that gathered by Julian Steward (1938) from groups more closely identified with areas south of Idaho but interrelated with groups ranging into southern Idaho. Steward's ethnobotany is comprised of his own work combined with that of Ralph Chamberlin (1911) and others. He describes it as a "fair sampling" but in need of more detailed study of Utah and Idaho.

With a few exceptions, these comprise the ethnobotanical studies for the state of Idaho. If we were to combine these studies, we would have a list of about 140 species of food plants known to have been used by aboriginal groups in Idaho. My interest has been in expanding this list of food plants, realizing that the total number of edible plant species is probably much greater. In pursuit of this goal, I have been collecting information from ethnobotanies for aboriginal groups in western North America. Some of these include the Northern Paiute (Kelly 1932; Mahar 1954), the Southern Paiute (Bye 1972; Kelly 1964), the Blackfoot (Hellson and Gadd 1974; Johnston 1970), interior and coastal people of the Pacific Northwest (French 1965; Gunther 1945; Steedman 1930; Turner 1975, 1978; Turner and Bell 1971), the Apache (Gallagher 1977), and various California groups (Balls 1962; Bean and Saubel 1972; Mead 1972; Schenk and Gifford 1952). Also contributing data are some ethnobotanical studies of more general Indian plant use (McClure 1966; Murphey 1959; Nickerson 1966). Specifically, I am focusing on the use of those plants used for food that are also found in the state of Idaho. My assumption has been that those Idaho plants known to have been utilized for food by Indians elsewhere, could have been similarly used here by our own aboriginal population. Gathering the information in this manner, I now have a list of some 380 species of food plants.

This species list represents the following breakdown: 154 seed plants, 119 root or bulb plants, 69 berry or fruit plants, 107 plants (stems, leaves, and young shoots) used for greens, and 47 plants receiving marginal use of their flowers, buds, seed pods, pollen, cones, nuts or cambium or use as a salt, sugar, or spice source. Some species, of course, are in more than one of these categories.

With southwestern Idaho as the main focus of interest, and using a native species list for Owyhee County (provided by Dr. Pat Packard, College of Idaho), and a plant list compiled for the Reynolds Creek watershed, the total number of available food plants is reduced to 209 species. These consist of the following: 108 seed plants, 53 root plants, 23 berry plants, 64 plants used for greens, and 17 plants in the miscellaneous category.

These figures indicate a proportionally greater variety of seeds and greens and a lesser variety of berries and roots were available in southwestern Idaho than in the state of Idaho as a whole. Although it can be presumed, it does not automatically follow, of course, that the populations of southwestern Idaho were more dependent upon seeds and

greens. For instance, a greater variety of seeds could have been consumed while a few root species remained the staple of the diet. Clearly, the next step to a complete understanding of the vegetal diet of a group is a determination of the availability or density of each species within their geographic range, and how this has changed through time.

PLANT DISTRIBUTION AND DENSITY

Factors of primary importance in the distribution and density of plants are elevation, soils, precipitation, and specific micro-environmental features such as streams, springs, talus slopes, etc. The importance of soil properties to food plants has been recently illustrated in the work of Lucile Housley and Glen Hartmann (Housley 1980; Housley and Hartman 1980) denoting a root plant/Lithosol relationship and that of Dawn Statham (1982) indicating significant association of camas with Mollisols. Further research like that of Statham, Housley, and Hartmann will improve our understanding of the sensitivity of important food plants to specific environmental factors. Interest in this ecology of food plants, for the moment, seems to rest with the archaeologist or the "survivalist," who is just beginning to examine the situation. Meanwhile, more general plant density and distribution information must be utilized.

Maps showing soils, rainfall, and topography in southwestern Idaho provide some indication of its vegetation. Perhaps the most valuable available tool for determining plant distribution in southwestern Idaho is a digitized line plot map used by the Idaho Fish and Game Department which shows the vegetation habitat classes. Accompanying the map is a list of the vegetation habitat classes with descriptions, location, climate, value to wildlife, and actual plant associations included.

The map shows 19 different types of vegetation habitat classes in Owyhee County. Dramatically dominating the total county acreage is the Tall Sagebrush class with 57%. This is followed by the Low Sagebrush class which covers 11% of the county, Salt Desert Shrub 8%, and on down the line to Urban-Industrial Built-up class with only .02%.

The Tall Sagebrush class consists primarily of the big sagebrush species *(Artemisia tridentata)* but includes a large variety of shrubs and grasses. It estends over large areas in southern Idaho with an elevation range from 305 m (1,000 ft.) to 2,896 m (9,500 ft.) or above. A look at an incomplete list of associated species shows 14 species of aboriginally-used seeds, primarily grasses; 11 species of root foods, such as sego lily, biscuitroot, and onion; and five species with edible stems, leaves, or young shoots.

While the Tall Sagebrush class is found on generally moderate to deep soils, the second most prevalent class, Low Sagebrush, is found on shallow or extremely gravelly soils which are often seasonally waterlogged. Low sagebursh *(Artemisia arbuscula)* is the dominant sagebrush species above 1,372 m (4,500 ft.) occurring usually on moderately sloping west and south-facing areas having poorly drained soils (Stephenson 1977). The plant associations listed for the Low Sagebrush class include four grass species with aboriginally-used seeds and most of the same root foods, with a few additions, that were found in the Tall Sagebrush class. An extremely rich flora of herbs including the aboriginally-used hawksbeard, clover, biscuitroot, bitterroot, sego lily, yampa, broomrape, onion, and yellow bells are characteristic of this class.

Covering 8% of Owyhee County, and limited to its northern half, is the Salt Desert Shrub class which is found in alkaline soils that are usually highly calcareous on the uplands and either high in sodium or saline on the bottomlands. While the seeds of the characteristic shrubs, shadscale and saltbush, were used for food, many of the important seed grasses also shared the habitat.

The classes that follow the Salt Desert Shrub class in order of predominance and ranging from 5% of the county to .6% are: Juniper Woodland, Irrigated Agricultural Lands, Escarpment Shrub, Juniper-Mountain Mahogany Woodland, Perennial Grasslands, Mountain Mahogany Woodland, Dry Meadows, Annual Grasslands, Douglas Fir, Mixed Shrub Steppe, and six other classes.

The juniper and mahogany classes include an understory of the Tall Sagebrush class—a great variety in grass seeds. The Perennial Grasslands consist of stands dominated by one or more grass species, the possible varieties again consisting of those found in the Tall Sagebrush class. In fact, the Tall Sagebrush understory is excluded only from areas highly alkaline, areas too heavily forested to allow sufficient sunlight to reach the ground, and areas used for agriculture or disturbed by fires, over-grazing, or erosion (classified as Annual Grasslands and dominated by cheatgrass and medusahead rye).

The picture so far indicates an abundant availability of seed plants in a variety of habitats, elevations, and soils, with the root plants perhaps less broadly available in the Low Sagebrush communities on the hillsides and in the upper elevations.

According to the habitat descriptions, the berries of Owyhee County are found in three habitat classes: the Douglas Fir stands (rose, Oregon grape, chokecherry, service berry, and wax currant), the Mixed Shrub Steppes (rose and service berry), and areas of Escarpment Shrub (currant, rose, chokecherry, and elderberry). Currant is also typical, assuming co-dominance with snowberry (not edible), in the microclimates found above 1,524 m (5, 000 ft.) on the steep north-facing slopes in Owyhee County. The mixed shrubland communities are typically in protected pockets where snow accumulates immediately below or in openings of timber, while the Escarpment Shrub is found along major streams and side drainages and is characterized by many species of plants having highly different temperature/moisture requirements in close proximity.

Given a general idea of the food plant distribution and their abundance overall, the next important variable for food plant availability is their denisty within their appropriate habitats. Moisture is perhaps the most crucial factor affecting plant density. The Reynolds Creek experimental watershed which represents the span of elevations in southwestern Idaho, has an annual precipitation ranging from 25 cm (10 inches) to 114 cm (45 inches) with the heavier precipitation in the form of snowfall in the upper elevations (Stephenson 1977). Southwestern Idaho has basically a semiarid environment with marked fluctuations in seasonal rainfall not uncommon. The resulting seasonal plant yield variation would have played a critical role in subsistence patterns with those plants which are adaptable to highly variable climates or are drought resistant perhaps assuming some major importance. Notable is the fact that many of the grasses grow throughout a wide spectrum of climatic conditions.

Reconstruction of plant distribution and density in the prehistoric past brings up several additional factors for consideration. For example, the contemporary vegetational landscape has been considerably altered from its pristine state by Euroamerican settlement practices such as grazing, firewood cutting and control of natural fires, and by the take-over of introduced species of plants. It also reflects the present-day climate, an element subject to major variations in the past. An altitudinal shift of vegetation zones in conjunction with warming and cooling trends is evident in a pollen study conducted in southeastern Idaho (Bright 1966). Such shifts, likely to have occurred in southwestern Idaho as well, could have significantly altered the geographic availability of many food plants, and hence the prehistoric settlement patterns.

FUTURE RESEARCH

The list that follows is a compilation of food plants included in ethnobotanies for aboriginal groups in the west- reduced to those plants which grow in Owyhee County. Such a listing by no means represents an accurate or complete ethnobotany of the area which would, ideally, be developed through oral interviews with contemporary Native American peoples who participated in and still remember the native lifeways of southwestern Idaho. Hopefully, such interviews will be conducted before it is too late. This list can serve as an interim research tool. It is also anticipated that future pollen studies of the region will enable us to reconstruct with some accuracy the plant life that was available to the native peoples of southwestern Idaho during prehistoric times. And, more specific information on plant use will be obtained in the careful analysis of vegetal remains found in the archaeological deposits of the region.

NOTE:

The Miscellaneous category used below includes plants used as a salt, sugar, or spice source and some utilized for their cambium, flowers, pollen, or cones. This list does not include the lichens and mushrooms which were used aboriginally. Experimentation in consumption of plants on the basis of this list is not recommended. Some of these plants are very toxic at certain stages of development; or, in some cases, certain parts of a plant may be toxic while other parts are not harmful when specially prepared. Be also advised that some of the plants listed may have received only marginal use, as a famine food for instance, and may have played a very insignificant part in the total diet. Species-specific information was not available on those plants listed by genus name only. It is possible that the species of that genus which are available in southwestern Idaho may not include the actual species used. This can be determined only when species-specific information is available.

	Seeds	Roots	Greens	Fruits	Misc
Abies Lasciocarpa (balsam fir)	x				x
Acer glabrum (rocky mountain maple)					x
Agastache urticifolia (giant hyssop)	x				
Agropyron repens (quackgrass)	x				
Agropyron spicatum (bluebunch wheatgrass)	x				
Agrostis (bentgrass)	x				
Allium acuminatum (wild onion)	x	x	x		
Allium geyeri (wild onion)		x			
Alopecurus aequalis (foxtail)	x				
Amaranthus albus (tumble pigweed)	x				
Amaranthus graecizans (prostrate pigweed)	x		x		
Amaranthus powellii (Powell's amaranth)	x		x		
Amaranthus retroflexus (redroot pigweed)	x		x		
Amelanchier alnifolia (service berry)				x	
Amelanchier utahensis (Utah service berry)				x	
Amsinckia tessellata (tessellate fiddleneck)	x				
Angelica (Angelica)		x		x	
Antennaria (pussy-toes)	x				
Apocynum androsaemifolim (spreading dogbane)	x				
Apocynum cannabinum (common dogbane)	x				
Aquilegia formosa (columbine)	x		x		
Artemisia biennis (bien wormwood)	x				
Artemisia dracunculus (dragon sagewort)	x				
Artemisia ludoviciana (western mountain sagebrush)	x		x		
Artemisia tridentata (big sagebrush)	x		x		
Artemisia tridentata var. *nova* (mountain sage)	x				
Asclepias fascicularis (Mexican milkweed)	x		x		x
Asclepias speciosa (showy milkweed)	x		x		x
Aster canescens (aster)	x				
Atriplex argentea (silverscale)	x				
Atriplex canescens (wingscale)	x		x		
Atriplex confertifolia (shadscale)	x				
Atriplex truncata (wedgescale)	x				
Balsamorhiza hookeri (Hooker's balsamroot)	x				
Balsamorhiza sagittata (arrowleaf balsam)	x	x	x		
Beckmannia syzigachne (sloughgrass)	x				
Berberis aquifolium (tall Oregon grape)				x	
Berberis repens (creeping Oregon grape)				x	
Boisduvalia densiflora (dense-flowered evening primrose)	x				
Boisduvalia stricta (upright evening primrose)	x				
Brassica nigra (black mustard)			x		
Brodiaea douglasii (wild hyacinth)		x			
Bromus carinatus (California brome)	x				
Calochortus macrocarpus (sego lily)		x			x
Camassia quamash (camas)		x			
Capsella Bursa-pastoris (shepherd's purse)	x		x		
Carex (sedge)			x		
Castilleja (Indian paintbrush)	x				
Caulanthus crassicaulis (thick-stemmed wild cabbage)	x		x		
Caulanthus pilosus (hairy wild cabbage)			x		
Ceanothus (buck brush)	x				
Celtis reticulata (hackberry)				x	
Chenopodium album (white or common lambs-quarters)	x		x		
Chenopodium fremontii (Fremont's lambsquarters)	x				
Chenopodium leptophyllum (narrow-leaved lambsquarters)	x		x		
Chenopodium murale (nettle-leaved lambsquarters)			x		
Cirsium scariosum (elk thistle)		x	x		
Cirsium undulatum (wavy-leaved thistle)		x			
Clarkia pulchella (Clarkia or ragged robin)	x				
Clarkia rhomboidea (rhombic-petalled Clarkia)	x				
Claytonia lanceolata (spring beauty)		x			
Cleome serrulata (beeplant)			x		
Comandra pallida (pale false toadflax)				x	
Conyza canadensis (horseweed)			x		

	Seeds	Roots	Greens	Fruits	Misc.
Cornus stolonifera (dogwood)				x	
Crataegus douglasii (black hawthorn)				x	
Crepis acuminata (long-leaved hawksbeard)			x		
Crepis modocensis (low hawksbeard)			x		
Crepis occidentalis (western hawksbeard)			x		
Cyperus erythrorhizos (red-rooted flatsedge)	x				
Cyperus esculentus (yellow nut-grass)	x				
Deschampsia caespitosa (tufted hairgrass)	x				
Deschampsia elongata (slender hairgrass)	x				
Descurainia pinnata (pepper grass)	x		x		
Descurainia richardsonii var. *sonnei* (tansymustard)	x				
Descurainia sophia (flixweed)	x				
Distichlis spicata (saltgrass)					x
Dodecatheon (shooting star)		x	x		
Dracocephalum parviflorum (dragonhead)	x				
Echinochloa crusgalli (large barnyard grass)	x				
Eleocharis palustris (common spikerush)	x	x			
Elymus cinereus (giant wildrye)	x				
Elymus glaucus (blue wildrye)	x				
Epilobium angustifolium (fireweed)		x	x		
Equisetum (horsetail)			x		
Eragrostis (lovegrass)	x				
Eriogonum (buckwheat)	x		x		
Erysimum (wallflower)	x				
Festuca octoflora var. *tenella* (six-week fescue)	x				
Fritillaria lanceolata (rice-root)		x			
Fritillaria pudica (yellow bells)		x			
Geum triflorum (old man's whiskers)		x			
Gilia leptomeria (gilia)	x				
Glyceria (mannagrass)	x				
Glycyrrhiza lepidota (Wild licrice)		x			
Glyptopleura marginata (peanut butter plant)			x		
Habenaria dilata (tall white bog-orchid)		x			
Haplopappus (bristleweed)	x				
Helianthus annus (sunflower)	x				
Heracleum lanatum (cow parship)			x		
Hordeum brachyantherum (meadow barley)	x				
Hordeum jubatum (foxtail barley)	x				
Hydrophyllum (waterleaf)		x	x		
Hypericum formosum var. *Scouleri* (St. John's wort)		x			
Juncus balticus (Baltic rush)	x				x
Juncus ensifolius var. *montanus* (dagger-leaf rush)	x				
Juncus ensifolius var. *ensifolius* (dagger-leaf rush)		x			
Juniperus occidentalis (western juniper)				x	
Lappula redowskii (western stickseed)	x	x			
Layia glandulosa (white tidy tips)	x				
Lewisia nevadensis (Nevada Lewisia)		x			
Lewisia pygmaea (bitterroot)		x			
Lewisia rediviva (bitterroot)		x			
Ligusticum grayi (Gray's lovage)			x		
Lomatium canbyi (Canby's lomatium)		x			
Lomatium cous (cous)		x			
Lomatium dissectum (fern-leaved lomatium)		x	x		
Lomatium grayi (wild celery)			x		
Lomatium leptocarpum (bicolor biscuitroot)		x			
Lomatium macrocarpum (lomatium)		x			
Lomatium nudicaule (barestem lomatium)			x		
Lomatium triternatum (nine-leaved lomatium)		x			x
Linum lewisii (blue flax)	x				
Lithospermum ruderale (western gromwell)	x				
Lonicera involucrata (twin berry)				x	
Lupinus (lupine)	x		x		
Lygodesmia grandiflora (skeleton weed)			x		
Madia glomerata (cluster tarweed)	x				
Madia gracilis (common tarweed)	x				
Mentha arvensis (mint)			x		

	Seeds	Roots	Greens	Fruits	Misc.
Mentzelia albicaulis (white-stemmed mentzelia)	x				
Mentzelia dispersa (bushy mentzelia)	x				
Mentzelia laevicaulis (blazing star mentzelia)	x				
Microseris nutans (nodding microseris)		x			
Mimulus guttatus (yellow monkey-flower)			x		x
Mimulus moschatus (musk plant)			x		
Monolepis nuttalliana (patata)	x		x		
Montia perfoliata (miner's lettuce)			x		x
Muhlenbergia (muhly)	x				
Oenothera rydbergii (common evening primrose)	x				
Oenothera scapoidea (naked stemmed evening primrose)	x		x		
Oenothera hookeri (Hooker's evening primrose)	x				
Opuntia polyacantha (prickly pear)			x		
Orobanche corymbosa (flat-topped broomrape)		x	x		
Orobanche fasciculata (clustered broomrape)		x	x		
Orogenia linearifolia (Indian potato)		x			
Oryzopsis hymenoides (Indian ricegrass)	x				
Osmorhiza chilensis (mountain sweet-root)		x			
Osmorhiza occidentalis (western sweet-root)		x			
Panicum (panic grass)	x				
Perideridia Bolanderi (Bolander's yampah)		x			
Perideridia gairdneri (yampah)		x			
Phragmites communis (common reed)		x			x
Pinus flexilis (limber pine)	x				
Pinus ponderosa (ponderosa pine)	x				x
Plantago (plantain)			x		
Poa nevadensis (Nevada bluegrass)	x				
Poa secunda (Sandberg bluegrass)	x				
Polygonum bistortoides (American bistort)		x			
Polygonum douglasii (Douglas' knotweed)	x				
Populus angustifolia (narrow-leaf cottonwood)					x
Populus tremuloides (quaking aspen)					x
Potentilla (cinquefoil)		x			
Primula (primrose)		x			
Prinus emarginata (bitter cherry)				x	
Prunus virginiana var. *demissa* (common chokecherry)				x	
Prunus virginiana var. *melanocarpa* (black chokecherry)				x	
Pseudotsuga menziesii (Douglas fir)	x				x
Psoralea lanceolata (lance leaf scurf-pea)		x			
Ranunculus aquatilis (water buttercup)			x		
Rhus trilobata (squawbush, lemonade berry)				x	
Ribes aureum (golden currant)				x	
Ribes cereum (squaw or wax currant)				x	
Rorippa curvisiliqua (yellow watercress)	x				
Rosa woodsii var. *ultramontana* (pearship rose)				x	
Rubus ideaeus (red raspberry)				x	
Rumex acetosella (sheep sorrel)			x		
Rumex crispus (curly-leaved dock)	x				
Sagittaria cuneata (wapato)		x			
Salix (willow)					x
Salvia carnosa (gray-ball sage, chia)	x				
Sambucus cerulea (blue elderberry)				x	
Sambuscus racemosa var. *melanocarpa* (black elderberry)				x	
Sarcobatus vermiculatus (greasewood)	x				
Scirpus acutus (common tule)	x	x	x		
Scirpus microcarpus (small fruit bulrush)			x		
Scirpus paludosus (alkali bulrush)		x			
Scirpus validus (softstem tule)		x	x		
Silene (catchfly)			x		
Sitanion hystrix (bottlebrush, squirreltail)	x				
Smilacina racemosa (false Solomon's seal)		x		x	
Smilacina stellata (wild lily-of-the-valley)		x		x	
Solidago canadensis (goldenrod)	x				
Sorbus scopulina (mountain ash)				x	

	Seeds	Roots	Greens	Fruits	Misc.
Sparganium eurycarpum (giant bur-reed)		x	x		
Sporobolus cryptandrus (sand dropseed)	x				
Stachys palustris (swamp hedge-nettle)	x				
Stanleya pinnata (bushy stanleya)	x		x		
Stipa comata (needle-and-thread)	x				
Suaeda nigra (seep weed)	x				
Thlaspi (pennycress)			x		
Trifolium (clover)	x		x		
Triglochin maritima (arrow-grass)	x				
Typha latifolia (common cattail)	x	x	x		x
Urtica (nettle)			x		
Vicia americana (American vetch)	x		x		
Viola (violet)			x		
Wyethia amplexicaulis (mule's ears)	x				
Wyethia helianthoides (white wyethia)	x	x			

REFERENCES CITED

Ames, Kenneth M. and Alan G. Marshall
1980-81 Villages, demography and subsistence intensification on the southern Columbia plateau. *North American Archaeologist* 2(1):25-52.

Balls, Edward K.
1962 *Early uses of California plants.* University of California Press, Berkeley.

Bean, Lowell John and Katherine Siva Saubel
1972 *Temalpakh, Cauilla Indian knowledge and usage of plants.* Malki Museum Press, Morongo Indian Reservation.

Bright, Robert C.
1966 Pollen and seed stratigraphy of Swan Lake, southeastern Idaho: its relation to regional vegetational history and to Lake Bonneville history. *Tebiwa* 9(2): 1-47.

Bye, Robert A. Jr.
1972 Ethnobotany of the Southern Paiute Indians in the 1870's, with a note on the early ethnobotanical contributions of Dr. Edward Palmer. *Desert Research Institute Publication in the Social Sciences* 8.

Chamberlin, Ralph V.
1911 The ethno-botany of the Gosiute Indians. *American Anthropological Association Memoirs* 2(5):329-405.

French, David H.
1965 Ethnobotany of the Pacific Northwest Indians. *Economic Botany* 19(4):378-382.

Gallagher, Marsha
1977 *Contemporary ethnobotany among the Apache of the Clarkdale, Arizona area, Coconino and Prescott National Forests.* Report No. 14, USDA Forest Service, Southwestern Region.

Gunther, Erna
1945 *Ethnobotany of western Washington.* University of Washington Press, Seattle.

Harbinger, Lucy Jane
1964 *The importance of food plants in the maintenance of Nez Perce cultural identity.* Unpublished M.A. thesis, Washington State University.

Hellson, John C. and Morgan Gadd
1974 Ethnobotany of the Blackfoot Indians. *National Museum of Man Mercury Series.* National Museum of Canada, Ottawa.

Housley, Lucile
1980 *Floral resource interpretation of prehistorical land use in central Washington: site catchment analysis.* Paper presented at the 33rd Annual Northwest Anthropological Conference, Bellingham.

Housley, Lucile and Glenn Hartmann
1980 *Site catchment analysis, prehistoric settlement and land use in central Washington.* Paper presented at the American Association for the Advancement of Science Annual Meeting, San Francisco.

Johnston, Alex
1970 Blackfoot Indian utilization of the flora of the northwestern Great Plains. *Economic Botany* 24:301-324.

Kelly, Isabel T.
1932 Ethnography of the Surprise Valley Paiute. *University of California Publications in American Archaeology and Ethnology* 31(3):67-210.
1964 Southern Paiute ethnograph. *University of Utah Anthropological Papers* 69.

Mahar, James M.
1954 *Ethnobotany of the Oregon Paiutes of the Warm Spring Indian Reservation.* Unpublished B.A. thesis, Reed College, Portland.

Marshall, Alan Gould
1977 *Nez Perce social groups: an ecological interpretation.* Unpublished Ph.D. dissertation, Washington State University.

McClure, Ruth Alice
1966 *A study of native plants used for food by Indians on the North American deserts.* Unpublished M.S. thesis, Department of Home Economics, University of Idaho.

Mead, George R.
1972 The ethnobotany of the California Indians, a compendium of the plants, their users, and their uses. *Occasional Publications in Anthropology, Ethnology Series* 30. Museum of Anthropology, University of Northern Colorado, Greeley.

Murphey, Edith V. A.
1959 *Indian uses of native plants.* Desert Printers, Inc., Palm Desert.

Nickerson, Gifford S.
1966 Some data on Plains and Great Basin Indian uses of certain native plants. *Tebiwa* 9(1):45-51.

Scrimshier, Leda S.
1967 *Native foods used by the Nez Perce Indians of Idaho.* Unpublished M.S. thesis, Department of Home Economics, University of Idaho.

Spinden, H. J.
1908 The Nez Perce Indians. *American Anthropological Association Memoirs* 2:165-274.

Statham, Dawn
1982 Camas and the Northern Shoshoni: a biogeographic and socioeconomic analysis. *Archaeological Reports* 10. Boise State University.

Steedman, E. V. (editor) based on field notes of J. A. Teit
1930 Ethnobotany of the Thompson Indians of British Columbia. *45th Annual Report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution* 1927-1928:441-522.

Stephenson, Gordon R. (editor)
1977 Soil-geology-vegetation inventories for Reynolds Creek watershed. *University of Idaho, Agricultural Experiment Station, Miscellaneous Series* 42.

Steward, Julian H.
1938 Basin-Plateau aboriginal sociopolitical groups. *Bureau*

of American Ethnology Bulletin 120. Smithsonian Institution.

Turner, Nancy J.
1975 Food plants of British Columbia Indians. Part 1. Coastal peoples. *British Columbia Provincial Museum Handbook* 34. Victoria.

1978 Food plants of British Columbia Indians. Part 2. Interior peoples. *British Columbia Provincial Museum Handbook* 36. Victoria.

Turner, Nancy J. and Marcus Bell
1971 The ethnobotany of the Coast Salish Indians of Vancouver Island. *Economic Botany* 25:63-104.

ARCHAEOLOGICAL INVESTIGATIONS ALONG THE EAST AND SOUTH FORKS OF THE OWYHEE RIVER

By

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INTRODUCTION

Archaeological investigations in the Owyhee Uplands prior to 1975 amounted to limited survey and testing (Tuohy 1963; Swanson, Bryan, and Powers 1964). Systematic archaeological investigations have been ongoing since 1975. During this time 700 archaeological sites have been recorded, and thirteen sites have been tested and/or excavated within an area of approximately 200 square miles. On the basis of these findings, four archaeological phases have been defined (see Plew 1980a:28-32 for summary). These phases span a period from 4,000 B.C. to the Historic era with documentation of an intensive occupation during the period of 600 to 1,200 A.D. The latter is characterized by site catchments restricted to relatively small, shallow canyons of the Owyhee plateau. The distribution of sites is associated with major plant resources which include biscuitroot and camas. The presence of a stable resource base has prompted the description of a settlement model in which habitation was semi-permanent within a restricted area for up to eight months of the year (Plew 1980a:81). It has been hypothesized that winter encampments were situated on the lower ends of major tributaries of the Owyhee River and within the East and South Fork Owyhee canyons (Plew 1980a:73, see Figure 1). This hypothesis was based upon ethnographic references to the areas as wintering sites (Harris 1938; Steward 1938).

During July and August 1981, an archaeological survey of the East and South Forks of the Owyhee River canyons was conducted with the support of the Idaho State Historical Society. The investigations undertook to record and describe archaeological sites within and adjacent to the East and South Forks of the Owyhee River for the purpose of determining site densities and evaluating the potential of sites to be winter encampments.

SURVEY RESULTS

Owing to rugged terrain, lack of accessibility, and little logistical support, only selected sections of the canyon and adjacent rimrock areas were surveyed. These areas extended two to three miles in each direction from major accesses such as Crutcher, Richard, Battle Creek, and Garat Crossings on the East Fork, and Coyote Hole and 45 Ranch on the South Fork. Survey was restricted to an area within Idaho and did not extend into the Duck Valley Reservation. Approximately eighteen miles of the East Fork and eight miles of the South Fork were investigated (See Figure 2). Prior to fieldwork, the entire length of the East and South Forks of the Owyhee River was surveyed by air. This overview provided a basis for identifying sections of the drainages which would or would not be accessible, and located areas of high potential such as caves, rockshelters, terraces, and springs.

The survey recorded twenty-five sites (see Table 1). Of this number, nine were historic sites, including four major habitation sites dating from the turn of the century into the 1940s. Prehistoric sites consist of a single rock alignment near Richard's Crossing, a small rock cairn near Coyote Hole, six small isolated lithic scatters, and eight rockshelters. In all instances the level of use appears to have been minimal. Two Eastgate projectile points, one drill, and a broken biface were collected (see Figure 3). The absence of material remains at some sites is, at least in part, the result of human vandalism. Evidence of such destruction was observed at all recorded rockshelters.

CONCLUSIONS AND INTERPRETATIONS

The absence of archaeological sites and material remains in the East and South Forks of the Owyhee River may be

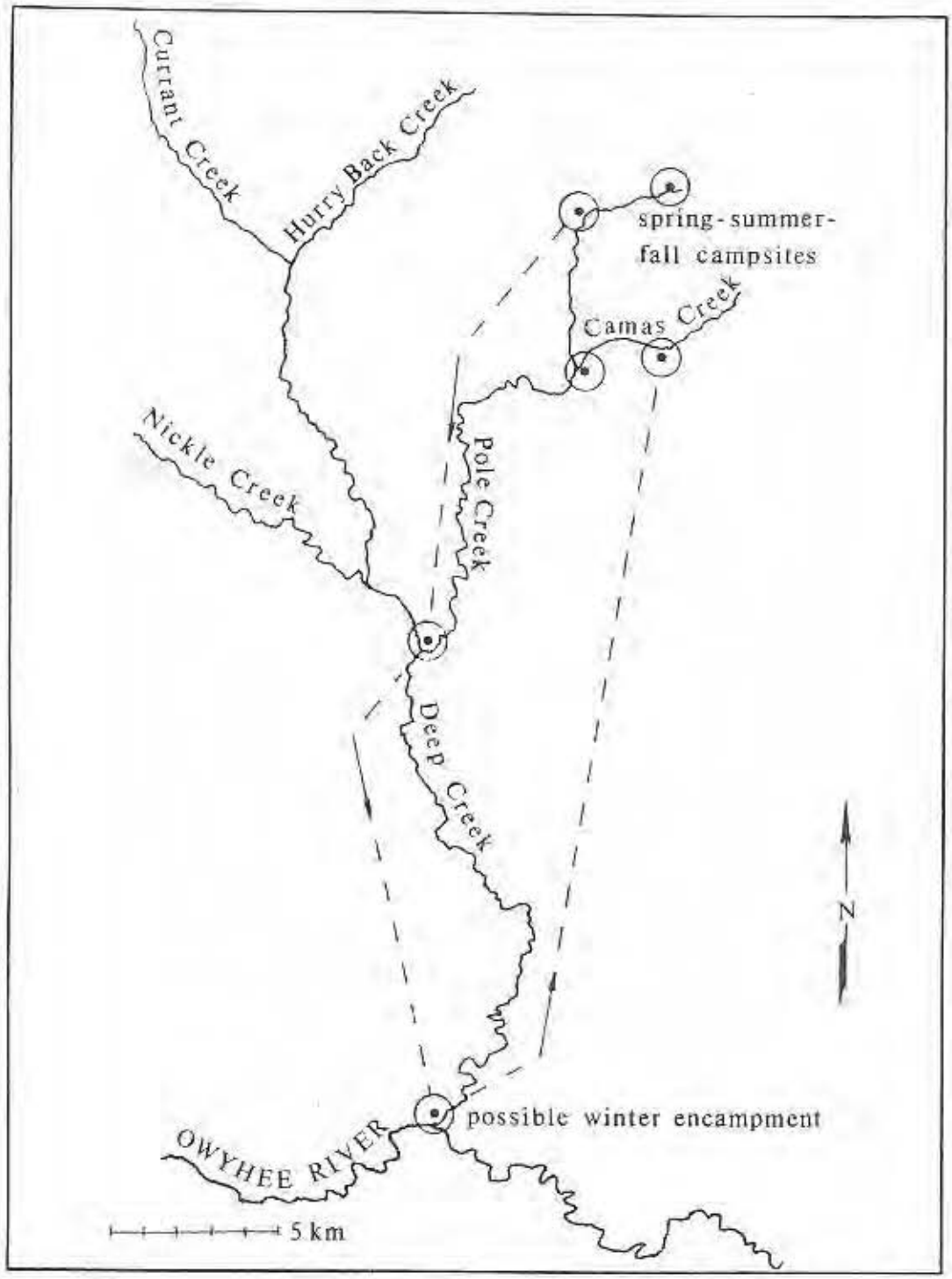

FIGURE 1

A Possible Settlement Model Showing Spring-Summer-Fall and Winter Sites
(From Plew 1980a:73)

attributed to a number of variables. We believe that the most obvious of these elements, access to and from the canyon, was (most probably) an impediment to habitation. A second consideration is that the canyon was inhabited, but that evidences of occupation and use have been eroded. This seems probable since most major river terraces are approximately one to two meters below high water levels. A third possibility involves the presence and absence of seasonally available resources. We regard this last possibility as the most likely and most important variable affecting site distribution on the Owhyee River; the rest of the paper is a discussion of its implication. Generally, the Owyhee River lies at elevations between 4,000 and 4,500 feet, some 1,500 feet below elevations in the Owyhee Uplands where high site densities are noted at elevations of 5,600 to 5,800 feet. These are optimal areas for such major resources as camas, biscuitroot, and a diverse faunal community (see Figure 4). We believe that the Owyhee River canyon did not provide

TABLE 1

RECORDED SITES – EAST AND SOUTH FORKS OF THE OWYHEE RIVER

Site	Type	Size	Cultural Remains
10 OE 2866	Lithic Scatter	Indeterminate[1]	Corner-notched point cryptocrystalline/ obsidian debris
10 OE 2863	Lithic Scatter	30 x 50 meters	Crytocrystalline/obsidian debris
10 OE 2862	Lithic Scatter	Indeterminate	Point tip/obsidian/chert debris
10 OE 2860	Lithic Scatter	20 x 30 meters	Lanceolate point mid-section/obsidian/crypto-crystalline debris
10 OE 2857	Lithic Scatter	20 x 20 meters	Drill fragment/chert debris
10 OE 2858	Rock Cairn	1/2 meter high	None
10 OE 2850	Semicircular rock alignment	2 x 2 meters	None
10 OE 2865	Rockshelter	8 x 1 meters[2]	Obsidian/cryptocrystalline debris
10 OE 2864	Rockshelter	10 x 4 meters	Obsidian/cryptocrystalline debris
10 OE 2861	Rockshelter	12 x 3 meters	Obsidian/cryptocrystalline debris
10 OE 2859	Rockshelter	3 x 2 meters	Obsidian/cryptocrystalline debris
10 OE 2856	Rockshelter	10 x 3 meters	None
10 OE 2855	Rockshelter	8 x 1 meters	Obsidian/cryptocrystalline debris/burnt bone/shell
10 OE 2854	Rockshelter	12 x 2 meters	Cryptocrystalline debris/ burnt bone/shell
10 OE 2845	Historic Cabins	14 x 7 / 3 x 4 meters	Fine obsidian flakes
10 OE 2846	Water Wheel	5 x 5 meters 2 meters high	Porcelain pot/miscellaneous metal artifacts
10 OE 2847	Stone Cabin and cellar	6 x 7 meters 2 x 3 meters	Miscellaneous metal fragments/ bed frame
10 OE 2848	Historic Horse-drawn buggy	1 x 2.5 meters	Miscellaneous metal fragments in area
10 OE 2849	Historic Ranch site (Wiley) Barn Cabin Cellar	 4 x 5 meters 5 x 9 meters 3 x 3 meters	 Metal/wood fragments Model "T" Ford engine
10 OE 2851	Historic Willow Corral	58 x 30 meters	Miscellaneous metal and wood fragments
10 OE 2852	Historic Stone Structures (cabins)	Each 4 x 3 meters	Bed springs
10 OE 2853	Historic Stone Cabin	9 x 5 meters	Stove parts/iron hardware/ glass/nails
10 OE 2867	Historic Scatter	10 x 10 meters	Solder-top cans/metal and glass debris
10 OE 2868	Lithic Scatter	35 x 12 meters	Obsidian/green and pink chert/ cryptocrystalline debris
10 OE 2869	Lithic Scatter	Indeterminate	Obsidian/cryptocrystalline debris

[1]Site size estimation impossible

[2]Width/interior

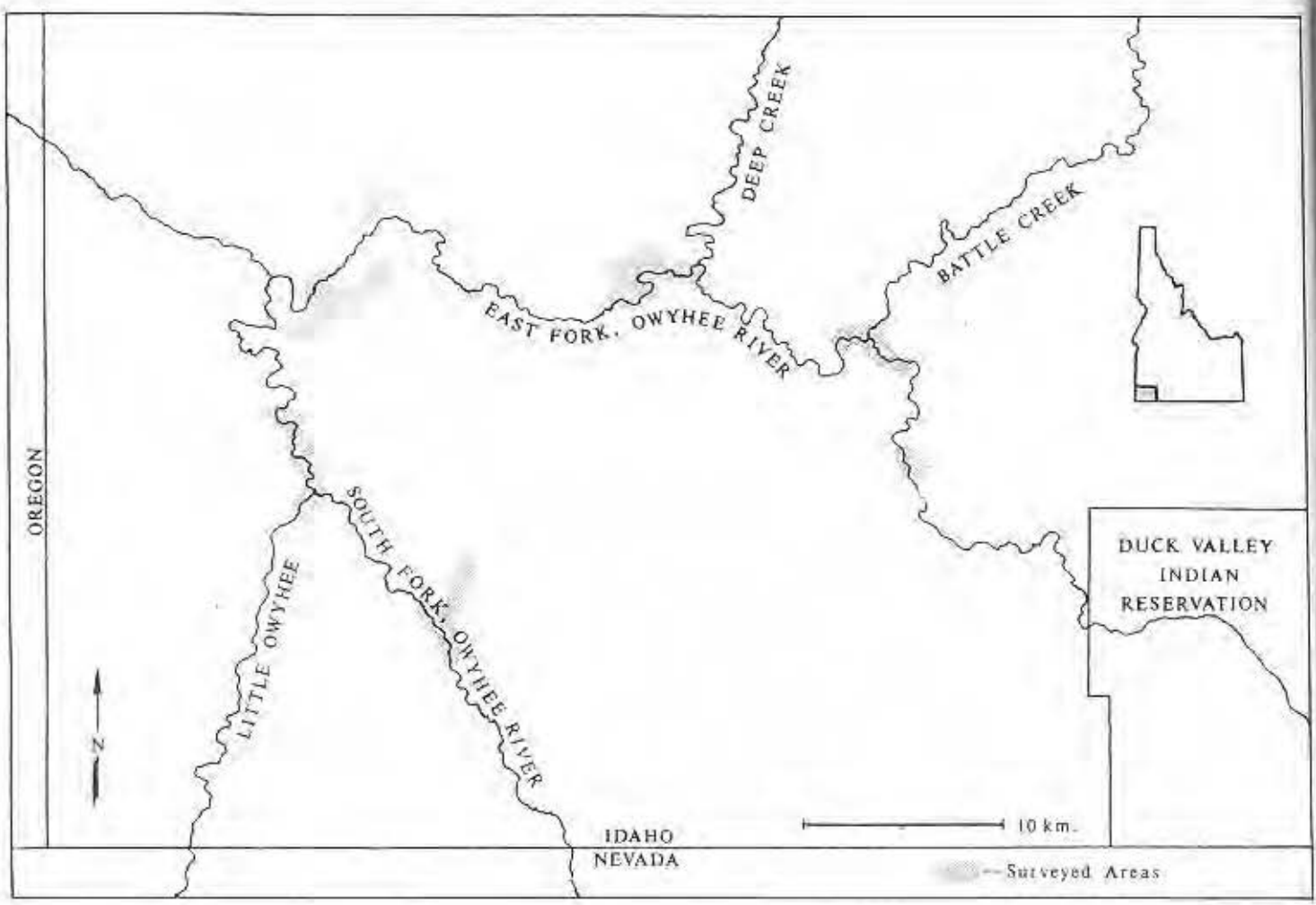

FIGURE 2

Areas Surveyed Along the East and South Forks of the Owyhee River of Southwestern Idaho

an optimal resource area for native inhabitants (see Table 2). Major spring-summer root crops of the southcentral Uplands were probably not available along the Owyhee River. Use of the area would have required a decision, weighing the potential of resources in each area. We suggest that the southcentral Uplands contain more diverse and abundant biotic communities. On the assumption that the environment of the Owyhee River country has remained relatively unchanged over the last six thousand years (see Plew 1981a), occupation of the area past midsummer would have been difficult because of high temperatures and aridity of areas adjacent to the main course of the river.

During most of the year, resources in the Owyhee River country would have been concentrated within an area along the course of the river. This relative density would have facilitated rapid depletion of available resources and made long-term use of the area difficult. This would, if accurate, contradict Steward's account which suggests periodic extended visits to the Owyhee River (1938:167). An exception to this explanation concerns the presence of salmonid and non-salmonid varieties of fishes in the Owyhee River. Prior to dam construction in the Northwest, salmon are reported to have migrated in the Owyhee River and its major tributaries (see e.g. Fulton 1968; Steward 1938). The remains of Steelhead trout *(Salmo gairdnerrii)*, bridgelip sucker *(Catostomus columbianus)*, and possibly mottled sculpin *(Cottus bairdii)*, have been reported from Nahas Cave (Plew 1980b) located on a secondary tributary approximately 18 miles north of the Owyhee River. Presently, large numbers of non-game fish inhabit the relatively warm waters of the Owyhee and its tributaries. This is important since Steward (1938: 168) reported use of a sucker called *Mugadu* and a bony fish with wide mouth and yellow stomach called *Ondiawox*, possibly *Ptychocheilus oregonensis*, the Northern Squawfish.

We suggest that fishing, if a major subsistence activity, may have been restricted during much of the year to the upper reaches of the primary and secondary tributaries of the Owyhee. Access to and use of the Owyhee River for salmon fishing would have been considerably more difficult than on the Snake River. The steep rock walls of the Owyhee River canyon (see Figures 5 and 6) coupled with the absence of shoals, riffles, etc., which are known fishing areas on the Snake River (see e.g. Steward 1938:167-168) would have made spring salmon fishing difficult. High water may have precluded spring access while low fall water levels may have inhibited salmon runs. Nonetheless, non-game fishes are abundant in the Owyhee and its tributaries. We propose that the Owyhee River canyon, though utilized, was not a major fishing/gathering/hunting area during the Late Archaic (A.D. 600-Historic period). We suggest that fishing

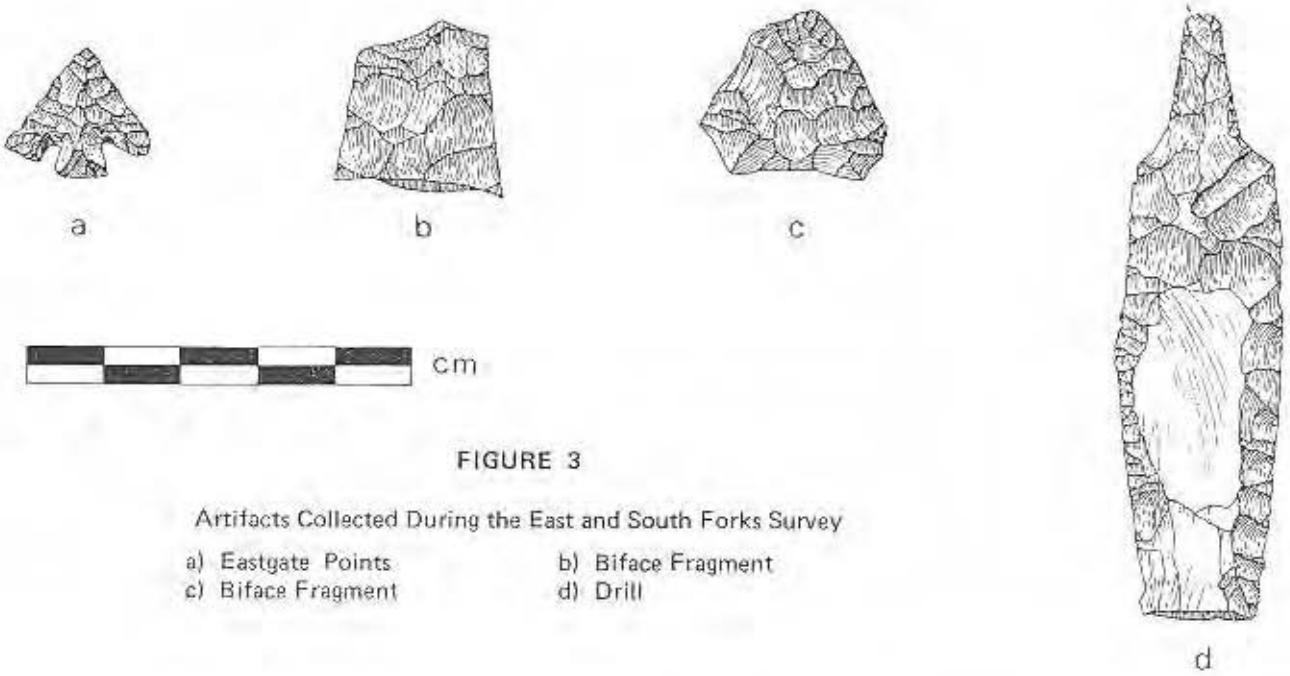

FIGURE 3

Artifacts Collected During the East and South Forks Survey

a) Eastgate Points
b) Biface Fragment
c) Biface Fragment
d) Drill

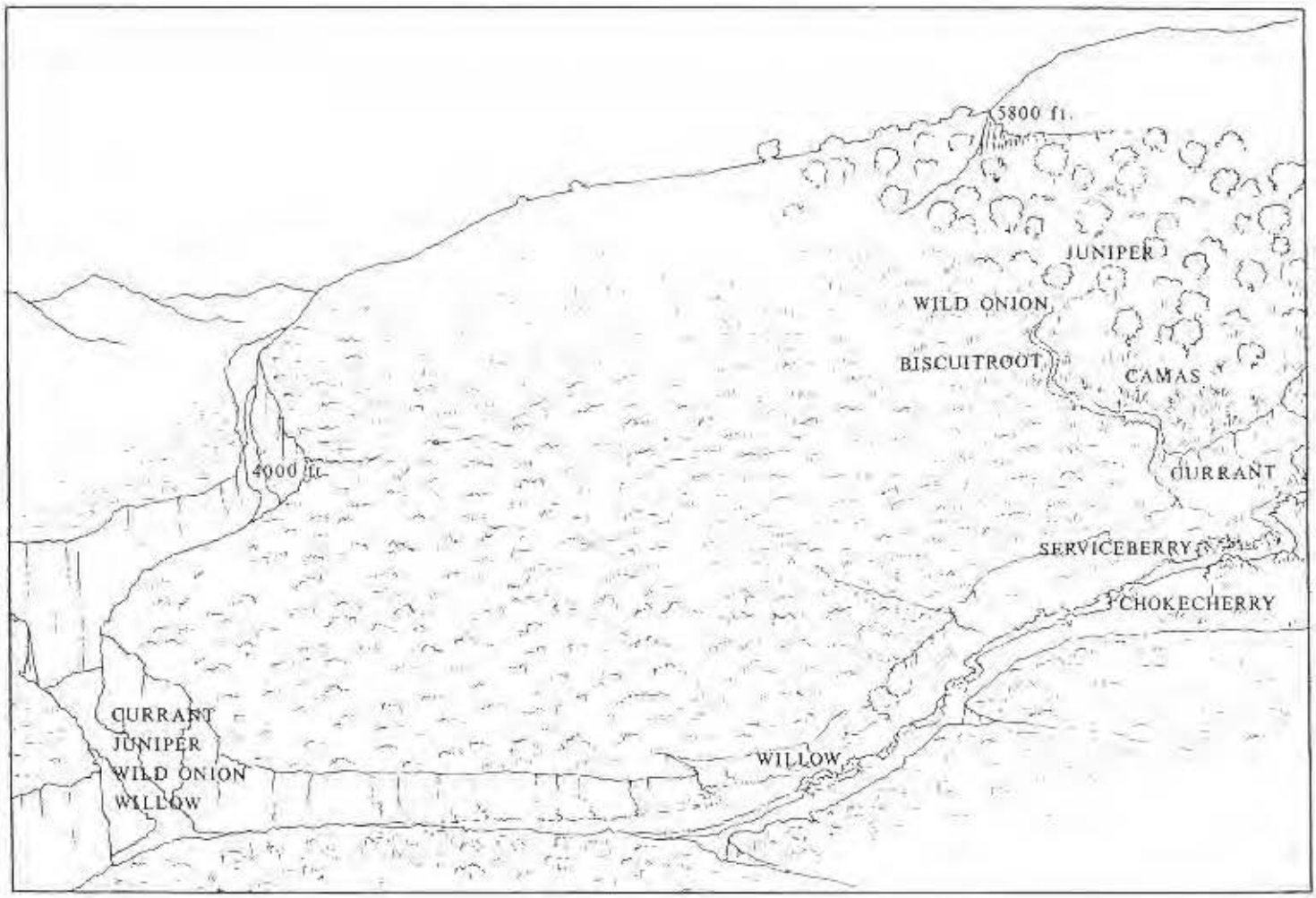

FIGURE 4

Physiographic and Plant Resource Availability in the Owyhee River Country

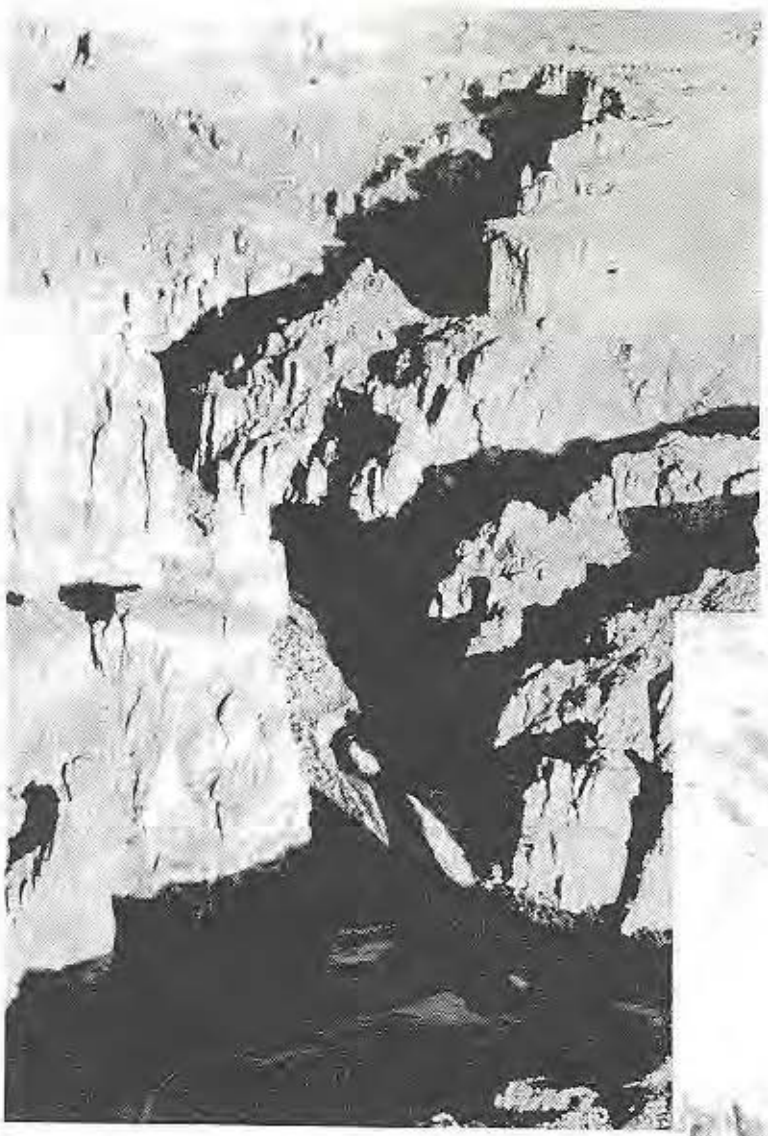

FIGURE 5

Confluence of the East and South Forks of the Owyhee River

on the Owyhee River may not have been routinely scheduled since salmon and other non-game fish were found in abundance in the southcentral Uplands, in association with major plant resources. Further, the abundance of cacheable foodstuffs would have facilitated wintering in the Uplands since winter temperatures are essentially the same as those nearer the Owyhee. This proposal is an extension of the southcentral Uplands catchment model which emphasizes semipermanent residence within restricted wandering limits (Figure 7).

A primary concern of the Owyhee River survey was determination of the density of settlement and the identification of winter encampments. The negative findings of the reconnaisance indicate minimal use of the area, and no basis for describing wintering areas short of the potential for shelter. In this context, we suggest that ethnographic accounts (cf. Harris 1938:408; Steward 1938:168) describing wintering on the South Fork of the Owyhee, called *Sohohunub*, are unsubstantiated on the basis of existing archaeological data. Further, we suggest the need to view with scrutiny the ethnographic record as it is generally applied to southwestern Idaho. The ethnographic depictions of Murphey and Murphey (1960), Liljeblad (1957), and Steward (1938) among others form an interpretive foundation for western Idaho prehistory (see e.g. Butler 1978; Pavesic 1978; Pavesic and Meatte 1980; Plew 1981a; Swanson 1965). It is important to consider the limitations of the ethnographic record and insure that analogies do not supersede the data base. Though representative of a generalized hunting/gathering pattern, ethnographic records cannot be used to the exclusion of interpretations based upon archaeological data. Recent advances in the study of Owyhee Upland prehistory have demonstrated the general but non-specific application of the Steward Model of Shoshoni settlement-subsistence to the area (Plew 1980a:77-82). Archaeological reconnaissance of the South Fork of the Owhyee River fails to substantiate the ethnographic record concerning winter encampments and thereby reiterates the non-specifity of the model. In this context the model of prehistoric Upland

FIGURE 6

East Fork of the Owyhee River, West of Richards Crossing

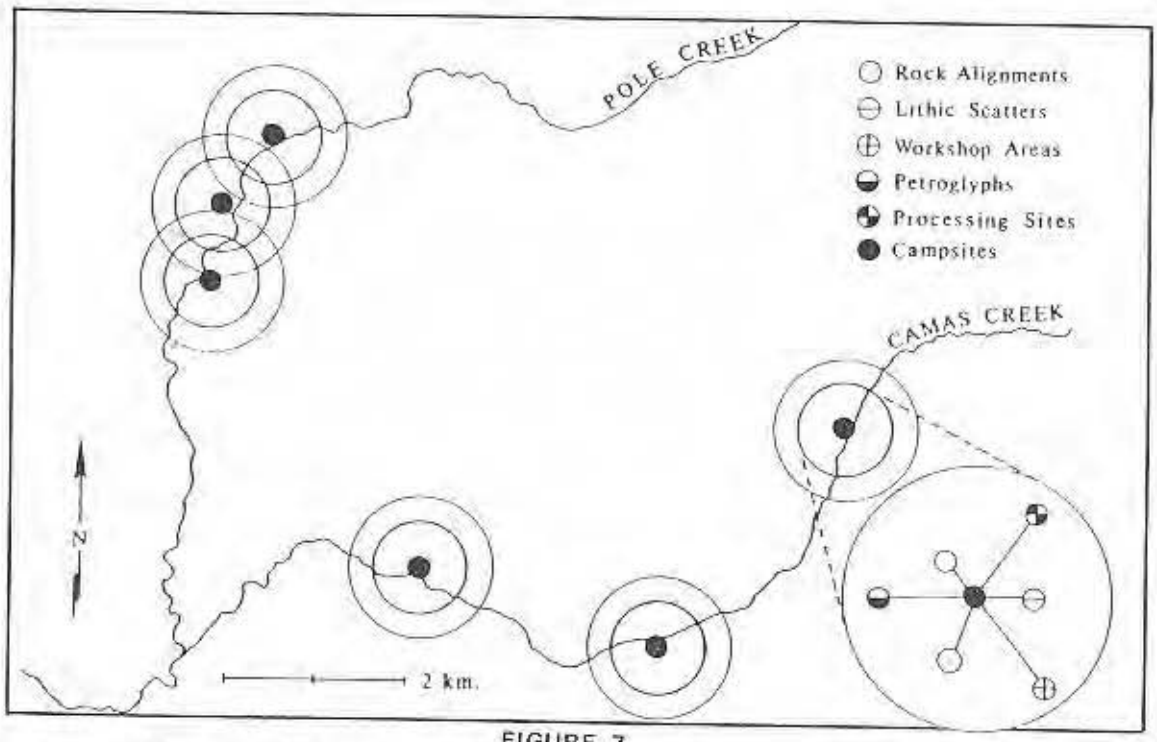

FIGURE 7

Southcentral Uplands Catchment Model Emphasizing Semipermanent Residences Within Restricted Wandering Limits. The Illustration in the Right-Hand Corner Shows the Distribution of Activities Around Each Campsite (From Plew 1980a:80).

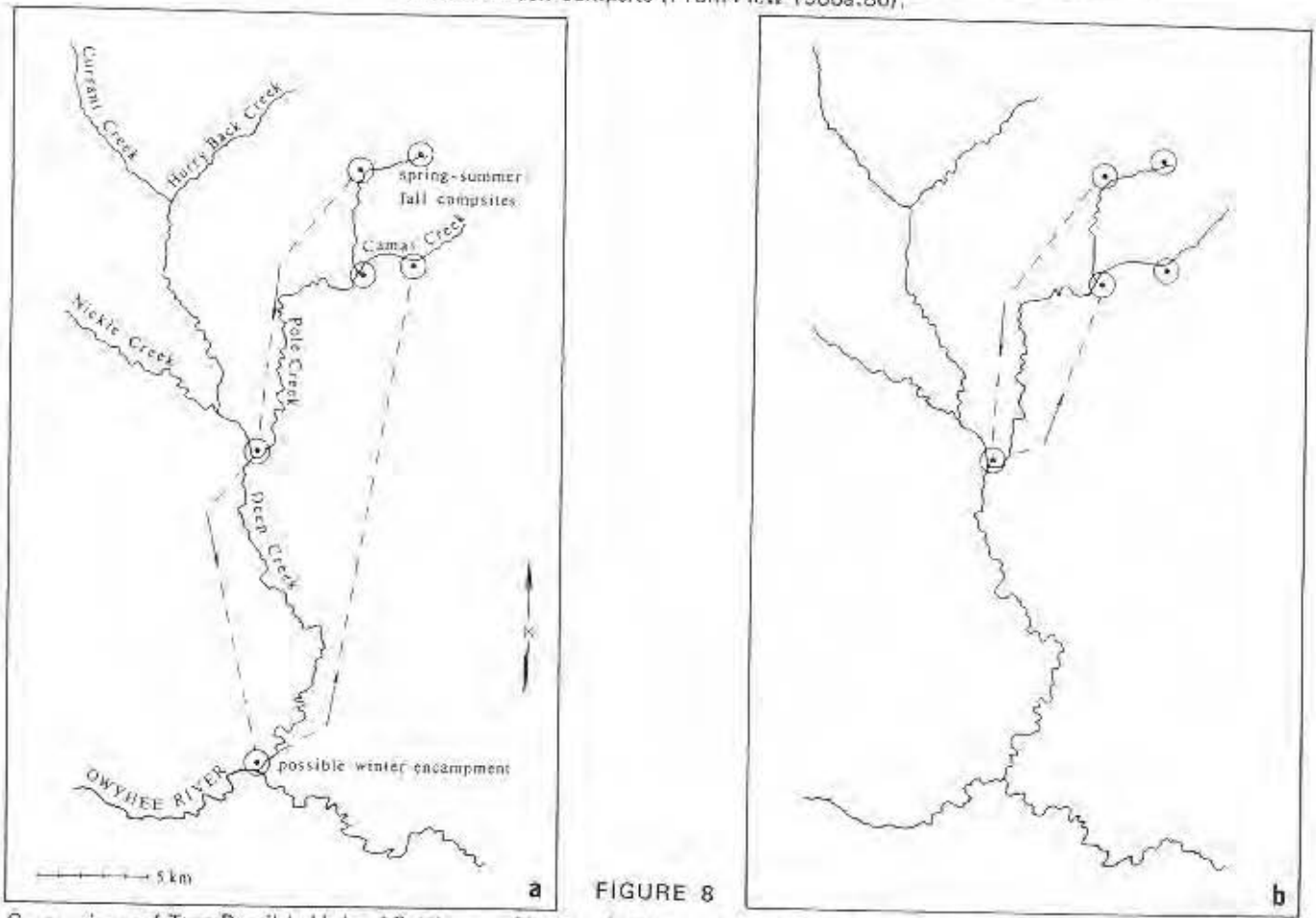

FIGURE 8

A Comparison of Two Possible Upland Settlement Models. Model (a) is Dependant Upon the Enthnographic Record Concerning Winter Encampments. Model (b) is a Modified Version Reflecting the Negative Findings of the East/South Forks Survey.

settlement is modified to reflect the negative findings of the East/South Forks survey, which do not corroborate the existence of winter encampments (Figure 8).

We do not suggest that the Owyhee River canyons were not utilized, nor that native groups did not periodically visit the areas during winter months. We do wish to emphasize the need to view with caution, pending further investigations, the ad hoc acceptance of the ethnographic record as it pertains to the Owyhee River country.

TABLE 2

Comparative Plant Resource Availability for the Southcentral Owyhee Uplands and the East and South Forks of the Owyhee River[1]

Uplands	Owyhee River Area
Juniper *(Juniperus)*	Juniper *(Juniperus)*
Willow *(Salix)*	Willow *(Salix)*
Sagebrush *(Artemisia)*	Sagebrush *(Artemisia)*
Wild Onion *(Allium)*	Wild Onion *(Allium)*
Currant *(Ribes)*	Currant *(Ribes)*
Wheat Grass *(Agropyron S.)*	Wheat Grass *(Agropyron S.)*
Mountain Mahogany *(Cercocarpus L.)*	
Aspen *(Populus tremuloides)*	
Camas *(Camassia quamash)*	
Biscuitroot *(Lomatium)*	
Serviceberry *(Amelanchier Utahensis)*	
Chokecherries *(prunus Virginiana)*	

REFERENCES CITED

Butler, B. Robert
1978 *A guide to understanding Idaho archaeology (Third Edition): the Upper Snake and Salmon River Country.* Idaho State Historic Preservation Office. Boise.

Daubenmire, Rexford F.
1952 Plant geography in Idaho. In *Flora of Idaho*, Ray J. Davis, pp. 1-17. Dubuque: Wm. C. Brown Company.

Fulton, Leonard A.
1968 Spawning areas and abundance of Chinook salmon *(Oncorhynchus tshawytscha)* in the Columbia River Basin—past and present. U. S. Fish and Wildlife Service, *Special Scientific Report*, Fishers No. 571. Washington.

Harris, Jack
1938 Western Shoshini. In "Tribal distributions in eastern Oregon and adjacent regions," Vern F. Ray et al., pp. 407-410. *American Anthropologist* 40 (3):384-418.

Liljeblad, Sven
1957 Indian peoples of Idaho. Manuscript on file, Idaho State University. Pocatello.

Murphy, Robert F. and Yolanda Y. Murphy
1960 Shoshone-Bannock subsistence and society. *Anthropological Records* 16 (7):293-338. Berkeley.

Pavesic, Max G.
1978 Ethnohistory as culture ecology: a case study of Shoshonean salmon fishing. Presented paper, 31st annual meeting of the Northwest Anthropological Conference. Pullman.

Pavesic, Max G. and Daniel S. Meatte
1980 Archaeological test excavations at the Hagerman National Fish Hatchery Locality, Hagerman Valley, Idaho. *Archaeological Reports* No. 8, Boise State University. Boise.

Plew, Mark G.
1979 Archaeological excavations at Camas and Pole Creeks, southcentral Owyhee county, Idaho. *Archaeological Reports*, No. 5, Boise State University. Boise.

Plew, Mark G.
1980a Archaeological investigations in the southcentral Owyhee uplands, Idaho. *Archaeological Reports* No. 5, Boise State University. Boise.

1980b Fish remains from Nahas Cave: archaeological evidence of Anadromous fishes in southwestern Idaho. *Journal of California and Great Basin Anthropology* 2 (1): 129-132. Riverside.

1981a A preliminary report on archaeological excavations at Nahas Cave. *Idaho Archaeologist* 4 (3): 1-7.

1981b Archaeological test excavations at four prehistoric sites in the western Snake River canyon near Bliss, Idaho. *Project Reports* No. 5, Idaho Archaeological Consultants. Boise.

n.d. Field Notes from the 1981 Owyhee River Survey.

Steward, Julian H.
1938 Basin-plateau aboriginal sociopolitical groups. *Bureau of American Ethnology Bulletin*, No. 120. Washington. (Reprinted 1970 by University of Utah Press).

Swanson, Earl H., Jr.
1964 The material culture of the 1959 southwestern Idaho survey. *Tebiwa* 7 (2):1-27. Pocatello.

Tuohy, Donald R.
1963 Archaeological survey in southwestern Idaho and northern Nevada. *Nevada State Museum Anthropological Papers*, No. 8. Carson City.

HOUSE FORM AND VARIABILITY AT GIVENS HOT SPRINGS, SOUTHWEST IDAHO

By

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ABSTRACT

This article will provide preliminary information resulting from the archaeological excavations at Givens Hot Springs, Owyhee County, Idaho, in 1979, 1980, and 1982. The purpose and goals of the excavations will be described, and a preliminary statement on the regional significance of the Givens Hot Springs locality will be provided. The article will focus primarily on the residential structures located at the site.

INTRODUCTION

The archaeological research at Givens is part of a larger project started in 1976 by the Idaho State Historical Society along the Snake River and adjacent mountains. The ultimate goal of the project is to describe and, hopefully, provide some explanation for the changing lifeways of the prehistoric peoples who lived there during the last 10,000 to 12,000 years. The project is a cooperative effort between the Idaho Archaeological Society and the Idaho State Historical Society. Work on the project is erratic and is governed by the administrative duties of the State Archaeologist's Office. Funds for the project have been provided by the Idaho State Historic Preservation Office.

Givens Hot Springs is one of three large hot springs on the Snake River between Grand View and the mouth of the Boise River. All three hot springs have extensive archaeological deposits near them. In 1978 the owners of Givens began to plan a housing development that would destroy the archaeological deposits. Because of the extensive deposits at Givens and because it was one of only three hot spring sites on this reach of the Snake River, it was decided to concentrate all efforts and money on the salvage of the archaeological information at the site. The owners, Eldon and Shirley Marsh of Caldwell, and Mr. Lester Moncrief, graciously allowed excavations. The Marsh's also allowed the use of their camping, swimming, and cooking facilities at the springs in 1979 and 1980. Mr. Moncrief excavated backhoe trenches as needed in 1982.

THE SITE

Givens Hot Springs is located on the Snake River in southern Idaho approximately fifty miles southwest of Boise (Figure 1). The hot spring is 300 meters south of the Snake River, and drains directly into the river. Hardtrigger Creek runs northeast from the Owyhee Mountains passing about 200 meters west of the hot springs before merging with the Snake River (Figure 2). Prehistoric archaeological deposits occur at the mouth of Hardtrigger Creek (10 OE 1689, 10 OE 59), on both sides of the hot springs drain (10 OE 1690, 10 OE 60), and immediately around the hot springs (10 OE 1691). On the other side of the Snake River, directly across from Givens, are numerous petroglyphs, including the wellknown Map Rock.

The elevation at Givens Hot Springs is approximately 677 meters above sea level. The predominate vegetation is shadscale, as the soils are quite alkaline. Cottonwoods and willows occur on the banks of Hardtrigger Creek and the Snake River. At one time various species of salmon, trout, and sturgeon were common in the river. Antelope, deer, and rabbits were the primary game animals in the area.

EXCAVATIONS

Major excavations occurred at site 10 OE 1689 in the summers of 1979 and 1980 (Figure 3). Site 10 OE 60 was tested in the fall of 1979, and more extensive excavations were conducted in February and March of 1982. No work was conducted at sites 10 OE 59, 10 OE 1690, and 10 OE 1691. Site 10 OE 1691 is outside the development area. Augering at site 10 OE 1690 revealed the site was about one meter deep but concentrated materials could not be found. Archaeological materials and features were not observed when the site was leveled and graded for an airplane runway. Site 10 OE 59 was destroyed by construction before any work could be done at the site. The site had been previously damaged by erosion, and the intact deposits were about 10 x 10 meters in extent.

EXCAVATION STRATEGY

The excavation strategy at Givens Hot Springs was designed with a number of problems in mind. The first concerned the nature of riverine settlements in southwest Idaho, and a major goal was to determine if residential structures could be located. The archaeological reports available when the excavations began in 1979 indicated that several different types of house structures might be found in southern Idaho. Archaeological surveys along the Snake

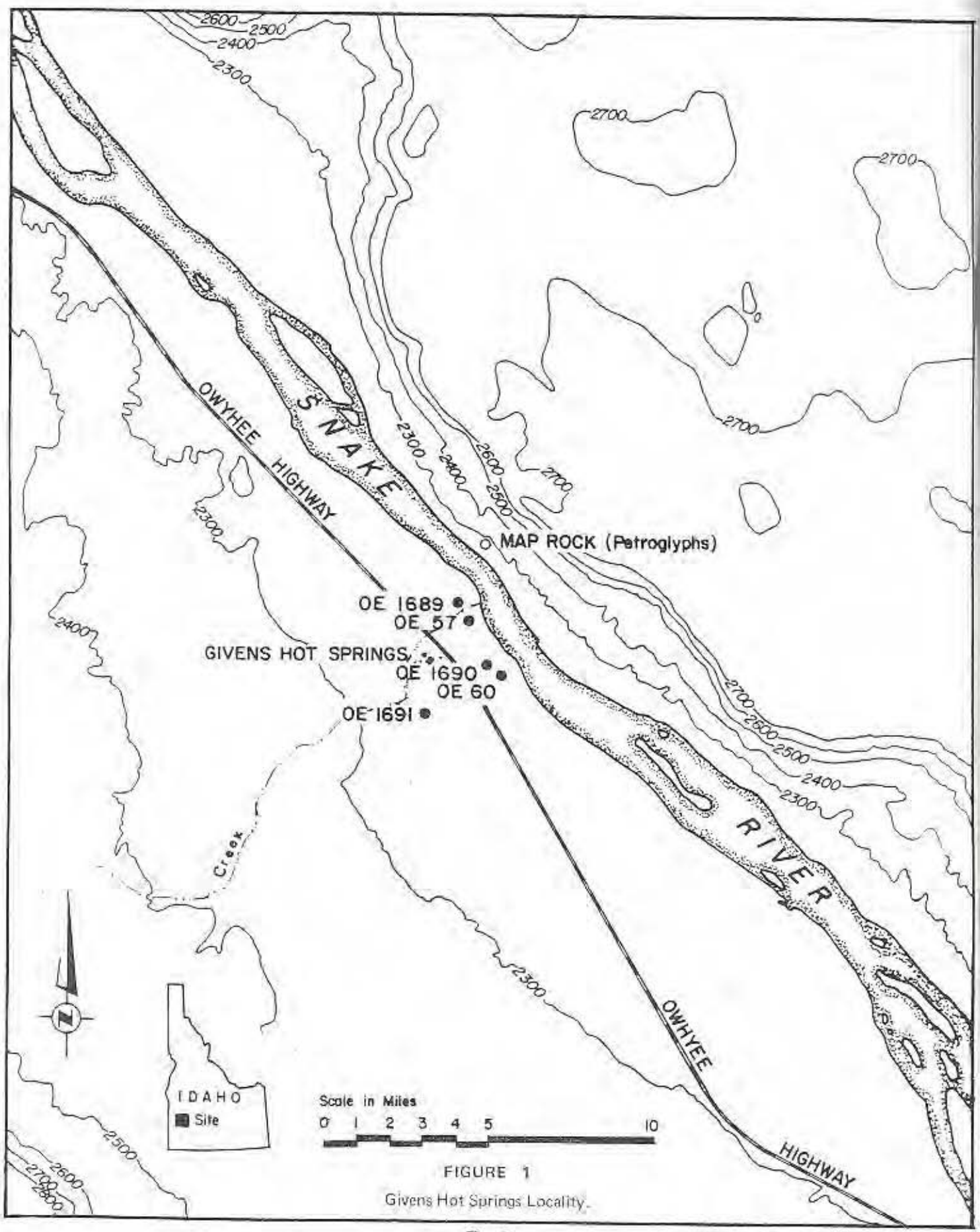

FIGURE 1

Givens Hot Springs Locality.

River (Touhy, 1959a) and in the Weiser area (Tough, 1959b) identified prehistoric sites with depressions appearing to be housepits similar to those found on the lower Snake and Columbia Rivers. These pits suggested the possibility that regular plateau-type pit houses might be found in southern Idaho. It was also possible that small structures similar to the historic brush or mat covered wickiups of the Shoshone or Paiute might be located. The diaries of immigrants on the southern route of the Oregon Trail, which ran by Givens, record there were Indians living in "lodges" in the Givens vicinity in the 1830's and 1840's. These lodges are generally thought to be the small brush-covered wickiups. It would not have been surprising to locate either pit houses or wickiups in prehistoric contexts. Both had been found southwest of Givens in Surprise Valley, California (O'Connell and Ericson, 1974; O'Connell, 1975) and to the north only a little over 100 miles from Givens in Hells Canyon (Caldwell and Mallory, 1967; Warren, Sims and Pavesic, 1968). Finally, because the larger pit houses were found stratigraphically below the smaller structures, both in Surprise Valley and in Hells Canyon, it was possible that a clear sequence of house types might be found at Givens as well.

Given these possibilities, an excavation strategy aimed at locating house structures and activity areas was adopted. Large horizontal exposures were made and all items, including flakes, bone, and thousands of mussel shells were individually mapped. The piece-plotting of all items was extremely time consuming, but it was thought that structures might only be identified by the configuration of artifactual and faunal materials. Fortunately, the structures could be identified by differences in soil color and texture. Once this was discovered, piece-plotting was limited to those items larger than a quarter with the exception of mussel shells which were mapped only when concentrations occurred.

A second research question concerned the role of fish in the diets of the prehistoric peoples in southern Idaho. Historically, salmon fishing was an important subsistence activity, but very little is known about its development and importance in prehistoric times. It is not known when fishing became important, what species were taken, whether they were stored for winter use, the basic methods used to take fish, the social organization of the work force, and what season or seasons fish were taken. When the Givens excavations began in 1979, only two sites in southwest Idaho provided any information at all. In Shellbach Cave (Shellbach, 1967), fish bones, fish hooks, and fishing gear was found in abundance. At site 10 AA 15, located across and just up river from the Shellbach Cave, no fish bones or fishing paraphernalia was located (Touhy and Swanson, 1966). The shelter has a 4,000-year sequence, and the faunal remains were predominately deer and river mussels. How can this

FIGURE 2

Givens Hot Springs Locality. View to the south.

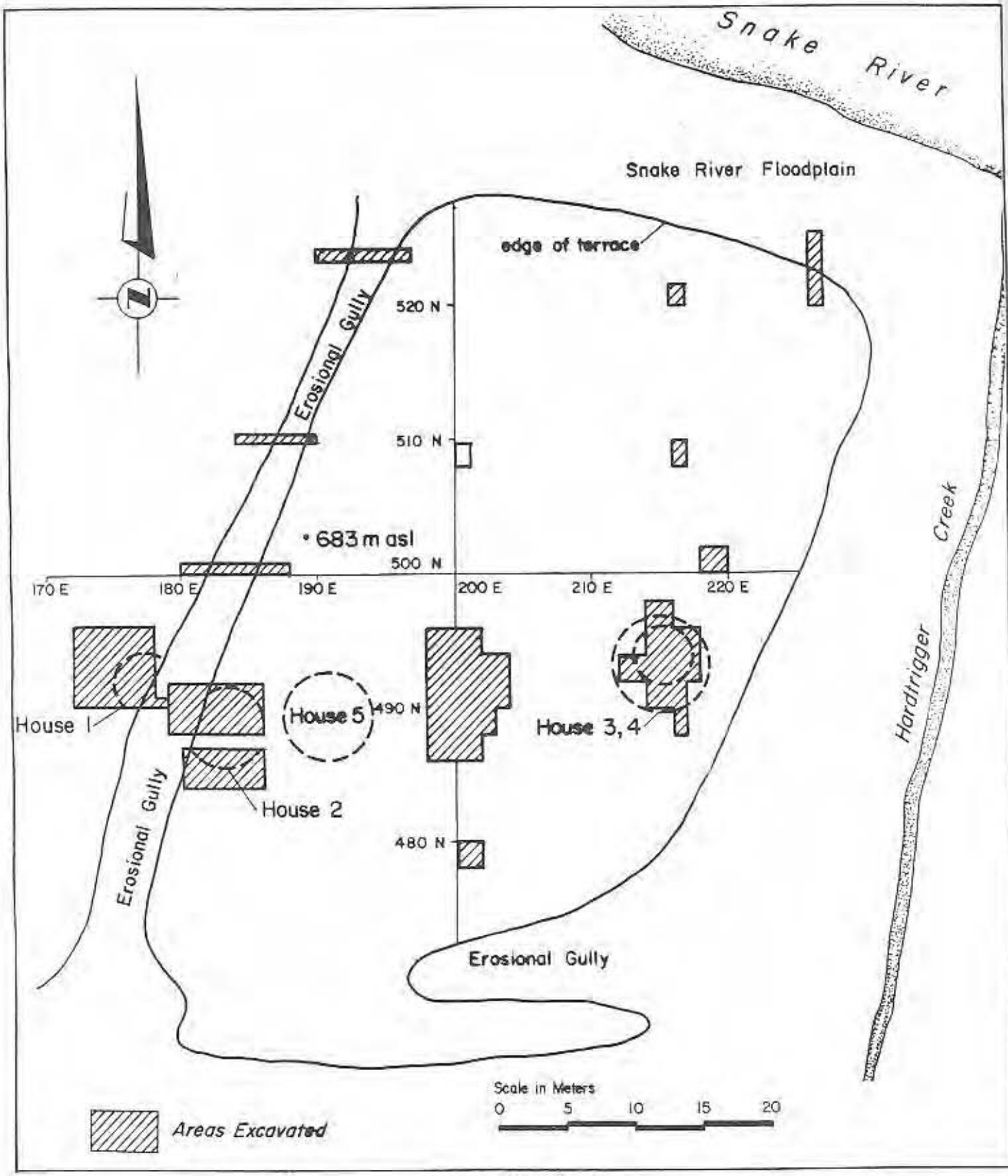

FIGURE 3

Map of 10 OE 1689.

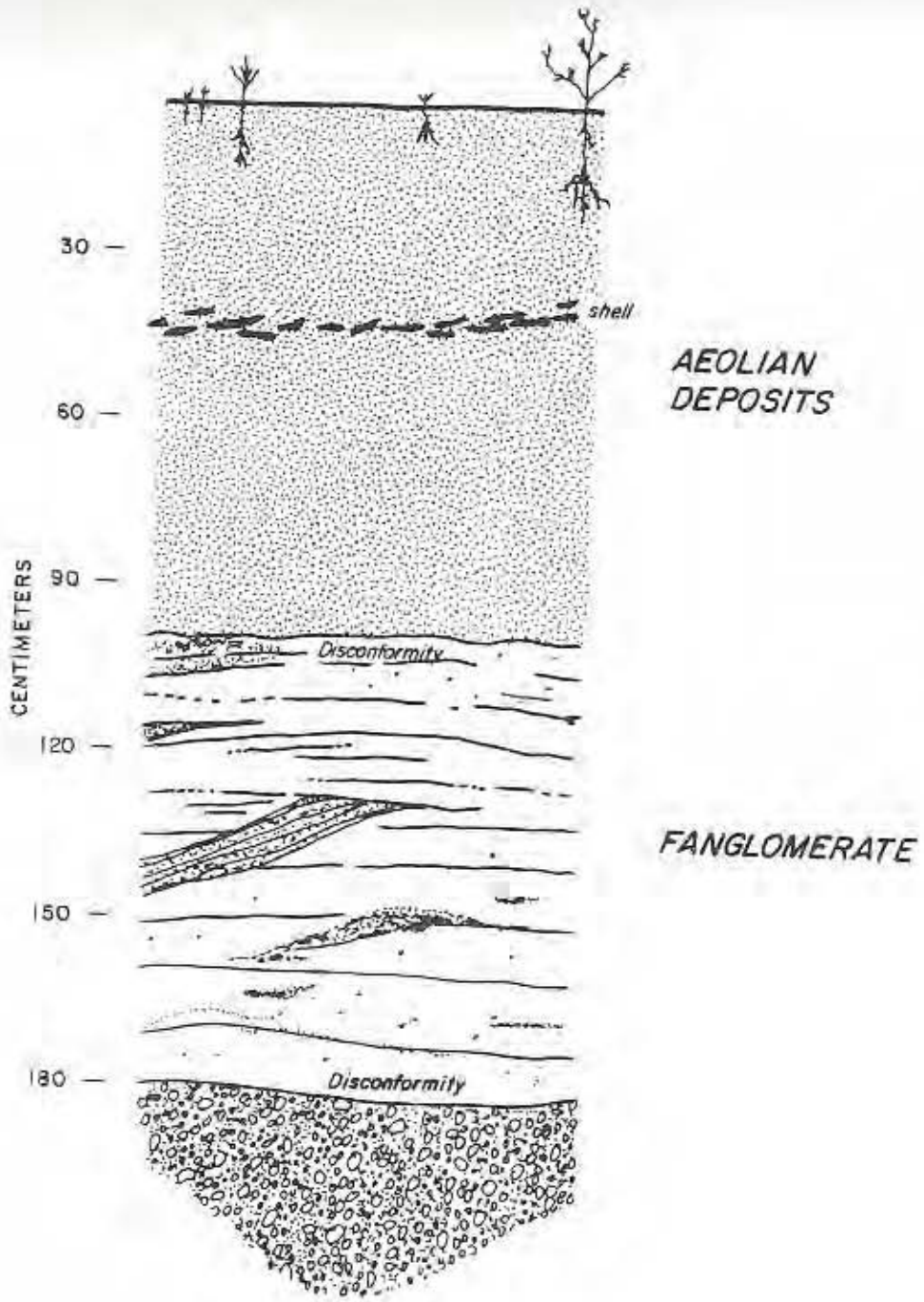

FIGURE 4

Stratigraphic Profile 10 OE 1689.
Prepared by Elton Bentley.

evidence be reconciled? Do these sites reflect differences in seasonality, function, or age? Or is it simply a problem of differential preservation with the evidence of fish remains more fragile and thus preserved in the dry Shellbach Cave and not preserved in the more exposed shelter 10 AA 15? The people traveling on the southern route of the Oregon Trail report Indians fishing in the Givens area, so it was thought that the excavations at Givens Hot Springs might shed some light on these questions. By using water separation and flotation techniques pioneered by Struever (1968) and refined by Watson (1976), the possibility existed for recovering fish vertebrae, scales, or otoliths that would be missed by normal screening techniques. Standard three-gallon bucket soil samples were taken from every 10 cm level, and multiple soil samples were taken from each feature. A total of 261 flotation samples were taken from 10 OE 1689, and an additional 23 samples were taken from 10 OE 60. Thousands of small pieces of bone were collected using these techniques.

A third research question revolved around seasons in which Givens Hot Springs was inhabited. Based on ethnographic analogy it was thought likely that Givens would be a winter occupation because of its location in a river valley and because of the hot water. However, people traveling

FIGURE 5

Cultural deposits 10 OE 1689.

on the Oregon Trail reached the Givens area in August, and as has been mentioned above, they did see Indians living in "lodges" and fishing. So, a late summer or early fall occupation was also a possibility. If substantial houses were found at Givens, for example semi-subterranean pit houses, these might then indicate that Givens was occupied during all seasons of the year. In this case, task groups would leave the main village for short periods of time to gather roots, hunt elk and Bighorn sheep in high mountain valleys, or to gather stone for tools, but the main site at Givens would have been occupied by some people at all times during the year. Detailed information on the faunal and floral remains at the site were needed in order to determine the seasons during which the site was occupied. The water flotation techniques would recover charred plant remains, as well as small fish and animal bones. The analysis of both the plant and animal remains will provide information on the seasonal use of the site.

In short, the excavation strategy was to open large horizontal exposures for the purpose of locating residential features and activity areas so that the community organization at the site could be determined. A second part of the strategy was to recover through flotation techniques a large and representative sample of plant and animal remains so that the role of anandromous fish in the diet could be assessed and the seasonal occupation of the site could be determined. These approaches would provide evidence to place Givens Hot Springs in a regional settlement system.

Since the excavations at Givens began, other sites in southwest Idaho have been excavated that provide information on these various questions. These sites include the work funded by the Bureau of Land Management at Clover Creek near King Hill, Idaho (Butler 1982); the Hagerman National Fish Hatchery Site, 10 GG 176 (Pavesic and Meatte, 1980; Lothson and Virga, 1981) sponsored by the Corps of Engineers; the test excavations at Big Foot Bar sponsored by the Nature Conservancy (Plew, 1980a); the testing of a number of sites for the proposed Wylie Dam near Bliss, Idaho (Plew, 1981); the recent work by the Idaho Transportation Department along Highway 95 at sites 10 OE 867 and 10 OE 903 (Gaston, 1982); the work by Ken Ames in the Payette River drainage (Moore and Ames, 1979; Ames, 1982a); and the research at Swan Falls (Ames, 1982b) sponsored by the Idaho Power Company.

STRATIGRAPHY

Givens Hot Springs is located on the Hardtrigger alluvial fan. The fan has been modified into a floodplain and a terrace at its juncture with the Snake River. The Hardtrigger fan deposits are typically interbedded sands and gravels, but at both sites, 10 OE 1689 and 10 OE 60, an aeolian deposit

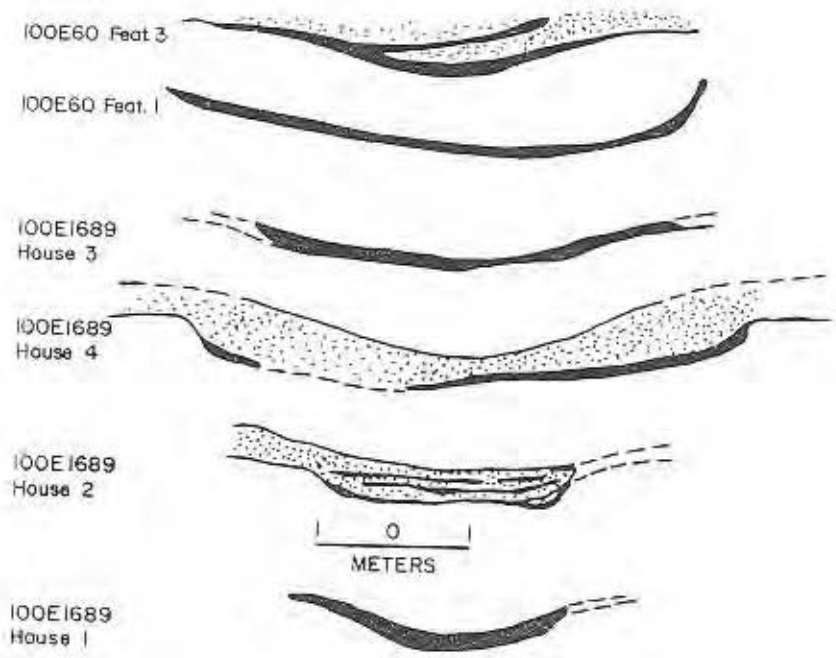

FIGURE 6

House profiles.

FIGURE 7

House No. 1, 10 OE 1689.

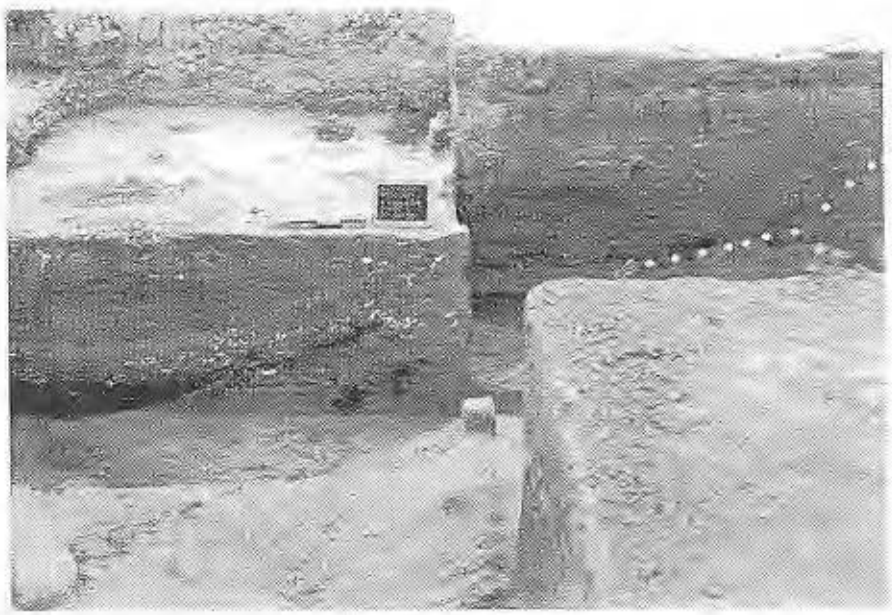

FIGURE 8

House No. 4, 10 OE 1689.

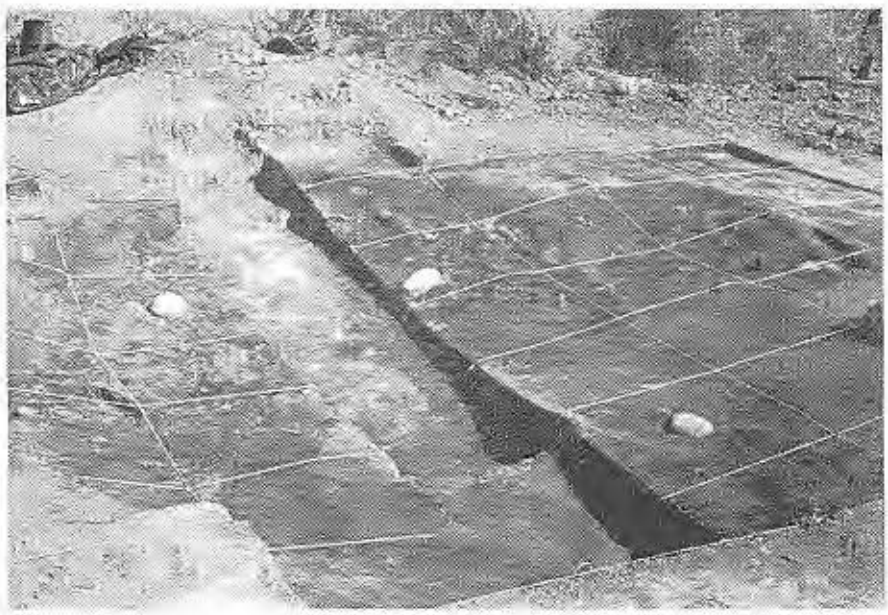

FIGURE 9

House Feature No. 1, 10 OE 60.

one meter deep occurs over the top of the fan deposit (Figure 4). Cultural material is mostly restricted to the aeolian deposits, although test pits have revealed cultural deposits 190 cm below the surface in the sand and gravels at site 10 OE 1689. The most common item in the cultural deposits are the shells from fresh water mussels. Thousands of mussels were collected, eaten, and the shells discarded (Figure 5). The soils and geomorphology of the Givens Hot Springs locality have been studied by Dr. Elton Bentley, Boise State University.

STRUCTURES

The excavations at Givens have located eight house structures with associated hearths, trash deposits, and other features. Five of these structures were located at site 10 OE 1689 and three were found at 10 OE 60. Table 1 summarizes the basic attributes, ages, and projectile point associations, Table 2 gives all radiocarbon dates obtained so far, and Figure 6 shows the floor profiles of these houses. Only minimal information was obtained at house #5 at 10 OE 1689 and house feature #4 at 10 OE 60, and they are not included in the tables.

House #1 was the smallest structure found at Givens, being approximately 3.8 meters in diameter with the floor depression appoximately 60 cm deep (Figure 7). The house profile was a deep saucer-shaped pit and did not have steep walls. Three radiocarbon samples were submitted from the structure. Uncorrected dates of 7300±110 BP (TX 3654), 4060±100 BP (TX 3655), and 4620±270 BP (TX 3656) were obtained. The 7300 BP date was from freshwater mussel shell, and is considered too early. The other two dates were obtained from charcoal collected across the floor zone. They compare favorably with other radiocarbon dates from the site. No diagnostic artifacts were found in the structure. A single hopper mortar base was located in the floor. The materials in the house were small and fragmentary and, with the exception of a hearth area, no internal features such as annular benches, storage pits, or roof supports were noted in the structure. The structure was partially destroyed by a recent irrigation gulley which cut through it.

House #2 is located approximately 10 meters east of House #1. The structure is 6 to 6.5 meters in diameter with the floor depression approximately 55 cm below the house rim. The profile of the structure has steep walls. Central roof supports were located beneath the floor zones in the center of the structure. Four radiocarbon dates were obtained from the structure, and all were from charcoal. Uncorrected dates of 4280±70 BP (TX 3652), 5120±100 BP (TX 3653), 4180±110 BP (TX 4307) and 4029±100 BP (TX 4308) were obtained. For some reason, sample TX 3653 is considerably older than the other three. For whatever reason, it is clearly aberrant, and it seems reasonable to conclude the house is about 4,200 years old. The structure contained hundreds of artifacts and thousands of individual pieces of bone, stone debitage, and fire-cracked rock. Hopper mortar bases were found placed into the floor. Northern Side Notch and Humboldt Series projectile points were throughout the housefill and in direct association on the house floor. Other than the roof supports and a central hearth area, no internal features were located.

House #3 is a circular structure with a saucer-shaped profile. It is estimated to be about 5.0 to 6.0 meters in diameter with the floor about 55 cm below the house rim. The structure was superimposed in House #4, and the rim area between the two houses could not be distinguished. No charcoal samples were found in the house fill, but the structure dates after 2200 BP, based on its stratigraphic position in relation to House #4. Elko Series projectile points were found in the house fill, along with numerous small tools, flakes, and fire-cracked rock. Again mortars were found placed in the floor. No internal features, such as storage pits, annular benches, or roof supports were located.

House #4 is the largest structure found at Givens, being approximately 7.5 meters in diameter. It has steep walls, and the floor is 110 cm below the house rim (Figure 8). Central roof supports were located below the house floor. Four radiocarbon dates were obtained from charcoal found in the house fill. The uncorrected dates are 2570±100 BP (TX 4309), 2030±60 BP (TX 4310), 2780±70 BP (TX 4311) and 2160±70 BP (TX 4312). The structure contained hundreds of artifacts with the predominant projectile points being Elko Series, although a few Humboldt Series were also found in the house fill.

House #5, at 10 OE 1689, was not excavated. It was found by systematically augering the area between House #2 and the central portion of the site (Figure 3). The house is approximately 6 meters in diameter and appears to have steep-sided walls.

Three structures were located at site 10 OE 60 in February and March of 1982. However, only two, Feature #1 and Feature #3, could be excavated enough to determine their overall size. The first of these excavated, called House Feature #1, was a large circular structure 7.2 meters in diameter (Figure 9). It had steep walls, except on the northeastern side where the doorway was located. The floor was 85 cm below the house rim. Roof supports were located in the center of the house floor. The house had burned, and pole rafters were found on the floor in a pattern indicating that they were placed on the house rim in a circular fashion and then attached to the central post or posts in the middle of the structure. The roof was thatched with a large and heavy grass, similar to thatching found on a house at 10 AA 17, identified as rye grass (*Elymus*, Kenneth Ames, Personal Communication). The age of the house has not yet been determined. Numerous radiocarbon samples were collected, but dates have not yet been obtained. The projectile points on the house fill are typical Rosegate materials, and should date between AD 600-1200 (Hester and Heizer, 1973), although an earlier date is possible (Webster, 1978; Plew, 1980). As in the other structures at Givens, mortars were found set into the floors of the house. A roasting pit was located near the central portion of the house. No annular benches were observed, nor any other internal divisions.

House Feature #3, at 10 PE 60, was only partially excavated. Its diameter was 4.5 meters, and the floor was 60 cm below the surface. Two floors are present. The age of the structure has not yet been determined, but Rosegate materials were found on the house floor. Again, mortars were found in the floor. No roof supports or internal features were discovered.

DISCUSSION

Typical "plateau-like" semi-subterranean pit houses are represented at site 10 OE 1689 by Houses #2 and #4 and at site 10 OE 60 by House Feature #1. These structures are comparable to pit houses found in Hells Canyon, Surprise

Valley, and numerous other sites on the Columbia Plateau and in California. These three structures are reliably dated at Givens at about 4200 BP, 2400 BP, and 750-1350 BP. A second type of house at Givens lacks any evidence for internal roof supports, is smaller in diameter than the larger pit houses, and in profile the floor is more saucer-shaped and tends to be shallower than the larger structure. These smaller houses range in age from 4300 BP to around 750-1350 BP. House #1 and House #3 at 10 OE 1689 and House Feature #3 at 10 OE 60 are the representatives.

In both Surprise Valley, California, and in Hells Canyon, the larger pit houses occur earlier than the smaller saucer-shaped structures. In both cases the researchers refer to the smaller structures as wickiups, although in Surprise Valley they are thought to be dome-shaped, while in Hells Canyon they are thought to be more on the order of mat-covered teepees. While this sequence is similar, there is dramatic difference in time between the two areas. At Surprise Valley the pit houses occur from 4,500 to 6,000 years ago and were replaced by wickiups some time around 3,000 years ago (O'Connell, 1975). In Hells Canyon, Caldwell and Mallory (1967) report the change from pit houses to wickiups or mat-covered teepees occurred after 500 years ago during the Big Bar Phase. At Givens Hot Springs, a sequence is less obvious. The larger pit houses with steep interior walls and internal roof supports occur throughout the sequence as do the smaller structures. There is one case where a smaller structure is superimposed on a larger structure (House #3 over House #4 at 10 OE 1689). Also, House Feature #1 at 10 OE 60 has steep walls only on the western perimeter of the structure, but it does have central roof supports, which the author thinks may be more significant than how steep the walls are.

The houses excavated in other parts of southern Idaho since 1979 appear to be the smaller varieties. The structure at Big Foot Bar, 10 AA 166, was oval-shaped, approximately 4 x 3 meters in size, with the floor about 30 cm below the house rim. Small post holes were found around the perimeter of the structure (Plew, 1980a:39). The structures found at the Hagerman National Fish Hatchery, 10 GG 176, are small shallow structures around three meters in diameter (Pavesic and Meatte, 1980: 76). At Swan Falls, 10 AA 17, a similar structure was partially excavated (Ames, 1982). None of these structures are well-dated, but based on projectile point similarities, they are not older than 1,500 years. These sites suggest that the smaller structures occur later than the larger. Nevertheless, a clear sequence of house types has not yet been established for southern Idaho. It may be that a sequence does exist, but additional structures will have to be excavated to establish it.

FAUNAL REMAINS AND SEASONALITY

Dr. David Gillette, Director of the Shuler Museum of Paleontology, Southern Methodist University, is identifying the faunal remains from 10 OE 1689 and 10 OE 60. To date, only the bone samples found in the screen at 10 OE 1689 have been identified. The plant and animal remains from the flotation have yet to be examined. The thousands of mussel shells recovered have not been formally analyzed, but the overwhelming large majority are *Gonidea angulata* Lea. Based on what we know at the moment, that is, the analysis of 17,220 items of bone from 10 OE 1689, deer, rabbits, and river mussels were the primary food items eaten at 10 OE 1689. There is little point in presenting a detailed analysis of the faunal collection until all the materials have been identified.

CONCLUSIONS

Until the floral and faunal materials are completely identified, little can be said about the seasonal occupation of the site. The situation is the same with regard to the role of fish in the diet of the people. Concerning the nature of riverine settlements in southwest Idaho, a definite pattern is apparent at the moment.

It does not appear that Givens Hot Springs was the locus for a large winter village such as those mentioned in the ethnographic literature on the Plateau or occasionally in the Great Basin. Rather, Givens was used by two or three families who lived together throughout the winter and possibly at other times as well. The survey data from the Snake River from at least Grand View, Idaho on the east, to the Boise River juncture on the west, suggest a similar pattern of small settlements scattered almost continuously up and down the river. This pattern lasts from 4,000 years ago up until at least 700 years ago. Much additional research is needed to determine the underlying dynamics of this pattern.

TABLE 2

GIVENS HOT SPRINGS

RADIOCARBON DATES

10 OE 1689

NO. *	Age BP**	Materials	Association
TX 3649	5510 ± 600	charcoal	Feat #2
TX 3650	6610 ± 120	shell	Feat #3
TX 3651	6240 ± 90	shell	Feat #3
TX 3652	9280 ± 70	charcoal	House No. 2
TX 3653	5120 ± 100	charcoal	House No. 2
TX 3654	7380 ± 110	shell	House No. 1
TX 3655	4060 ± 100	charcoal	House No. 1
TX 3656	4620 ± 270	charcoal	House No. 1
TX 4307	4180 ± 110	charcoal	House No. 2
TX 4308	4020 ± 170	charcoal	House No. 2
TX 4309	2570 ± 100	charcoal	House No. 4
TX 4310	2030 ± 60	charcoal	House No. 4
TX 4311	2780 ± 70	charcoal	House No. 4
TX 4312	2160 ± 70	charcoal	House No. 4

*All samples processed by Radiocarbon Laboratory, Balcones Research Center, University of Texas at Austin.

**Uncorrected based on C^{14} half-life of 5568 years.

Table 1

GIVENS HOT SPRINGS

HOUSES

	Diameter	Depth of Floor Depressions	Approximate Age	Associations
Feat #3 10 OE 60	4.5 meters	60 cm	600-1200 AD*	Rose Spring, Eastgate Points
Feat #1 10 OE 60	7.2 meters	85 cm	600-1200 AD*	Rose Spring, Eastgate Points
House #3 10 OE 1689	5+ meters	70 cm	Post 2400 BP	Elko Series
House #4 10 OE 1689	7.4 meters	110 cm	2400± BP**	Humboldt, Elko Series
House #2 10 OE 1689	approximately 6 meters	65 cm	4200±BP**	Humboldt, Northern Side-Notch Points
House #1 10 OE 1689	3.8 meters	60 cm	4300±BP**	No Diagnostic Artifacts Located

* Based on Projectile Point Cross Dating

** See Table 2 for C-14 Dates

REFERENCES CITED

Ames, Kenneth

1982a Archaeological investigations in the Payette river drainage, Southwestern Idaho. *Archaeological Reports* No. 11, Boise State University, Boise.

1982b Management Report: Excavations at 10 AA 17. Swan Falls, Ada County, Idaho. Manuscript on file. Department of Sociology/Anthropology, Boise State University, Boise.

Butler, B. Robert

1982 A Closer Look at the Clover Creek Site. Paper presented at the 10th annual conference, Idaho Archaeological Society, Boise State University, Boise.

Caldwell, Warren W. and Oscar L. Mallory

1967 Hells Canyon Archaeology. Publication in *Salvage Archaeology Number 6*, River Basin Surveys, Lincoln.

Gaston, Jennette

1982 Archaeologists, Collectors, and Engineers Unite: US 95, Owyhee Uplands, Idaho. Paper presented at 1982 Great Basin Anthropological Conference, Reno.

Hester, Thomas R. and Robert F. Heizer

1973 Review and discussion of Great Basin projectile points: forms and chronology. *Contributions of Archaeological Research Facility*, Dept. of Anthropology, University of California, Berkeley.

Lothson, Gordon A. and Keith A. Virga

1981 Archaeological test excavations Phase II testing at the Hagerman National Fish Hatchery, Hagerman, Idaho. Report Number 1-2, *Eastern Washington University Reports in Archaeology and History*, Cheney, Washington.

Moore, Joseph and Kenneth M. Ames

1979 Archaeological inventory of the South Fork of the Payette River, Boise County, Idaho. *Archaeological Reports* No. 6, Boise State University, Boise.

O'Connell, James F.

1975 The Prehistory of Surprise Valley. *Ballena Press Anthropological Papers* No. 4, Rowena, California.

O'Connell, James F. and Jonathon E. Ericson
1974 Earth lodges to wickiups: A long sequence of domestic structures from the northern Great Basin. In: A collection of papers on Great Basin Archaeology, Robert Elston and Loretta Sabini, editors. Nevada Archaeological Survey, *Research Paper No. 5*. University of Nevada, Reno.

Pavesic, Max G. and Daniel S. Meatte
1980 Archaeological test excavations at the National Fish Hatchery locality, Hagerman, Idaho. *Archaeological Reports* No. 8, Boise State University. Boise.

Plew, Mark G.
1980a Archaeological excavations at Big Foot Bar, Snake River Birds of Prey Natural Area, Idaho. *Project Reports*, Number 3, Idaho Archaeological Consultants. Boise.

1980b Recent Data from Nahas Cave. The Masterkey. 54: 146-149.

1981 Archaeological test excavations at four prehistoric sites in the western Snake River canyon near Bliss, Idaho. *Project Reports*, Number 5. Idaho Archaeological Consultants. Boise.

Shellbach, Louis
1967 The excavation of Cave No. 1, Southwestern Idaho, 1929. *Tebiwa*. 10: 63-72. Idaho State University. Pocatello.

Struever, Stuart
1968 Flotation techniques for the recovery of small-scale archaeological remains. *American Antiquity*. 33: 353-362.

Touhy, Donald R. and Earl H. Swanson
1966 Excavation at Rockshelter 10 AA 15, Southwest Idaho. *Tebiwa*. 3: 20-24. Idaho State University, Pocatello.

Touhy, Donald R.
1959a An appraisal of the archaeological resources of the Guffey Reservoir in Southwestern Idaho. Report submitted to National Park Service. Manuscript on file at Museum of Natural History, Idaho State University, Pocatello.

1959b An Appraisal of the Archaeological Resources of the Spangler Reservoir, Washington County, Idaho. Report submitted to National Park Service. Manuscript on file at Museum of Natural History, Idaho State University, Pocatello.

Warren, Claude N., Cort Sims, and Max G. Pavesic
1968 Cultural Chronology in Hells Canyon. *Tebiwa*. 11: 1-37. Idaho State University, Pocatello.

Watson, Patty Jo
1976 In pursuit of prehistoric subsistence: A comparative account of some contemporary flotation techniques. *Mid-Continental Journal of Archaeology*. 1: 77-99.

Webster, Gary S.
1978 Dry Creek Rockshelter: Cultural chronology in the western Snake River region of Idaho. ca 4150BP-1300 BP. *Tebiwa*. Miscellaneous papers of the Idaho State University Museum of Natural History, No. 15, Pocatello.

A FOLSOM POINT FROM THE OWYHEE MOUNTAINS OF SOUTHWESTERN IDAHO

By

Jeanne M. Moe

ABSTRACT

A Folsom point base was found in the course of surface reconnaissance in Reynolds Basin, Owyhee County, in June 1980. This find marks the western-most extent of the Folsom complex in southern Idaho as is presently known.

The Reynolds Creek Archaeological Project field work was conducted in June and July of 1980 in the Owyhee Mountains of southwestern Idaho. Funds for this project were supplied by the Historic Preservation Fund and administered through the Idaho State Historic Preservation Office. Actual field reconnaissance was conducted by me and Caroline D. Carley of the University of Idaho.

During the course of archaeological survey, the base of a Folsom style projectile point was found. This point base was an isolated surface find and has been given site number 10-OE-2055. The find area is situated in Reynolds Basin, (4,400 feet) above sea level (Figure 1). The vegetation of this area may be characterized as a sagebrush *(Artemisia tridentat wyomingensis)*-grass *(Agropyron spicatum)* community.

This point base represents a lanceolate point in overall outline (Figure 2). The finished product was fluted on one side only. The basal edge is concave but assymetrical and the lower lateral edges have been ground extensively. The point was broken apparently on impact as is evidenced by the fracture scars and the remaining specimen measures 16 mm in width and 6 mm in thickness. This point is probably not of the classic Folsom style but exhibits sufficient characteristics to group it with the Folsom stylistic type.

The projectile point was constructed of obsidian from the Timber Butte source in central Idaho (Lee Sappington 1981: personal communication). This raw material source is located approximately 110 km (70 miles) northeast of Reynolds Basin.

Folsom style projectile points have been found in buried and radiocarbon dated deposits at the Wasden Site in southeastern Idaho and are considered to be approximately 11,000 years old (Butler 1978, Miller and Dort 1978), older than other Folsom sites in Western North America. The Wasden Site contains the only datable strata with associated Folsom artifacts investigated to date in southern Idaho. Surface Folsom finds, however, have been made throughout most of southeastern Idaho (Swanson 1961, Butler 1965, 1980). The distribution of this stylistic type in southern Idaho appears to be centered in the eastern portion of the Snake River Plain geographic province. Very few Folsom points have been found in the southcentral or southwestern portions of the state. This distribution has been attributed to the proximity of the eastern Snake River Plain to the Great Plain geographic province (Swanson 1961:27) where the early lanceolate projectile point tradition is so well represented.

In conclusion, while projectile points of the Folsom style are relatively common in southeastern Idaho generally and on the eastern Snake River Plain in particular, they are quite uncommon in the archaeological record of southwestern Idaho. The recent Reynolds Creek find appears to represent the most westerly extension of the Folsom projectile point tradition in Idaho.

FIGURE 1

Archaeological sites mentioned in the text.

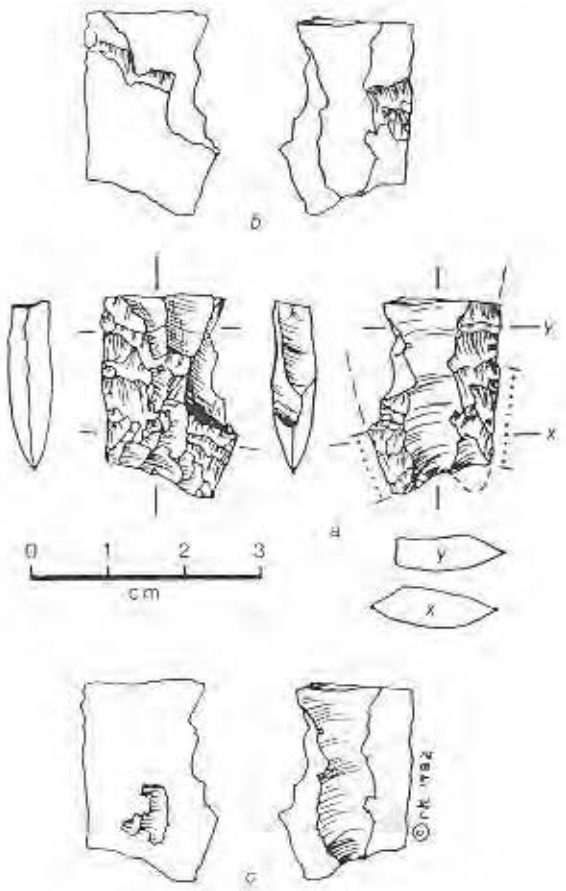

FIGURE 2

Details of the Folsom Point. Drawing by Ruthann Knudson.

REFERENCES CITED

Butler, B. Robert

1965 Contributions to the archaeology of southeastern Idaho. *Tebiwa* 8(1):40-45.

1978 *A Guide to Understanding Idaho Archaeology*, 3rd edition. Pocatello: Idaho State University Museum.

1980 A Folsom Point multipurpose tool from the Little Blackfoot River, southeastern Idaho. *Idaho Archaeologist* 3(3):4-6.

Miller, Susanne, J. and Wakefield Dort, Jr.

1978 Early man at Owl Cave: current investigations at the Wasden Site, eastern Snake River plain, Idaho. In *Early Man in America from a circum-Pacific perspective*, edited by Allan Bryan, Occasional Paper No. 1, Dept. of Anthro., University of Alberta, Edmonton.

Swanson, Earl H.

1961 Folsom Man in Idaho. *Idaho Yesterdays* 5(1):26-30.

PREHISTORY OF THE OWYHEE COUNTRY: A PRELIMINARY OVERVIEW

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ABSTRACT

The purpose of this paper is to outline and review previous research in the Owyhee Country; to summarize and evaluate the current status of research in the area and to suggest on the basis of the overview research needs and priorities of the area with regard to cultural, historical and methodological/theoretical problems.

INTRODUCTION

For purposes of review, I have divided the Owyhee Country which here refers to Owyhee County bordered on the north by the Snake River and abutting the Oregon, Nevada and Twin Falls, Idaho county lines (see Figure1). Within this area are recognized three arbitrarily defined sub areas: Eastern Owyhee Uplands, Southcentral Owyhee, and Western Owyhee area. The Western Owyhee area includes an area along the south side of the Snake River and adjacent foothills. The area further includes the Silver City-Delamar area west to the Oregon border and east to the foothills of the Snake. The Southcentral Uplands include a 200 square mile area bordered by Deep Creek on the west and Battle Creek on the east. The area is bordered on the north by the Deep Creek or Mud Flat Road and by the Owyhee River to the south. The Eastern Owyhee Uplands include the broad eastern plateau of Owyhee County containing the Bruneau and Jarbidge drainages and bordered on the east by Salmon Falls Creek.

EASTERN OWYHEE AREA

Earliest investigations in the area were undertaken by Olsen (1940) in the Bruneau Canyon under the auspices of the New York Heye Foundation. This work has never been fully reported. Further work was conducted in the Bruneau River Canyon in the early 1970's (Pavesic and Hill 1973). One Hundred Seventy One sites were recorded including rockshelter and open sites consisting of campsites and work shops. As a preliminary inventory survey, the results have not been fully described and reported.

In the Saylor Creek area Bucy (1971) has recorded a series of sites representing a range of aboriginal activity. Early through Late Archaic projectile points were recovered. Bucy (1971:23) notes a continuum of large side and corner notched points into smaller side and corner notched varieties, specifically Desert side-notched and Rose Spring-Eastgate points, and suggests an area occupation of 7000-5000 B.C. until the Historic Period. Radiocarbon dating of similar occupations elsewhere in Owyhee County (see e.g. Plew 1981) suggest a somewhat more recent time frame. On the basis of grinding implements and the presence of pottery, similar to Wilson Butte Plain, Bucy (1971:23) suggests the semi-permanence of some sites.

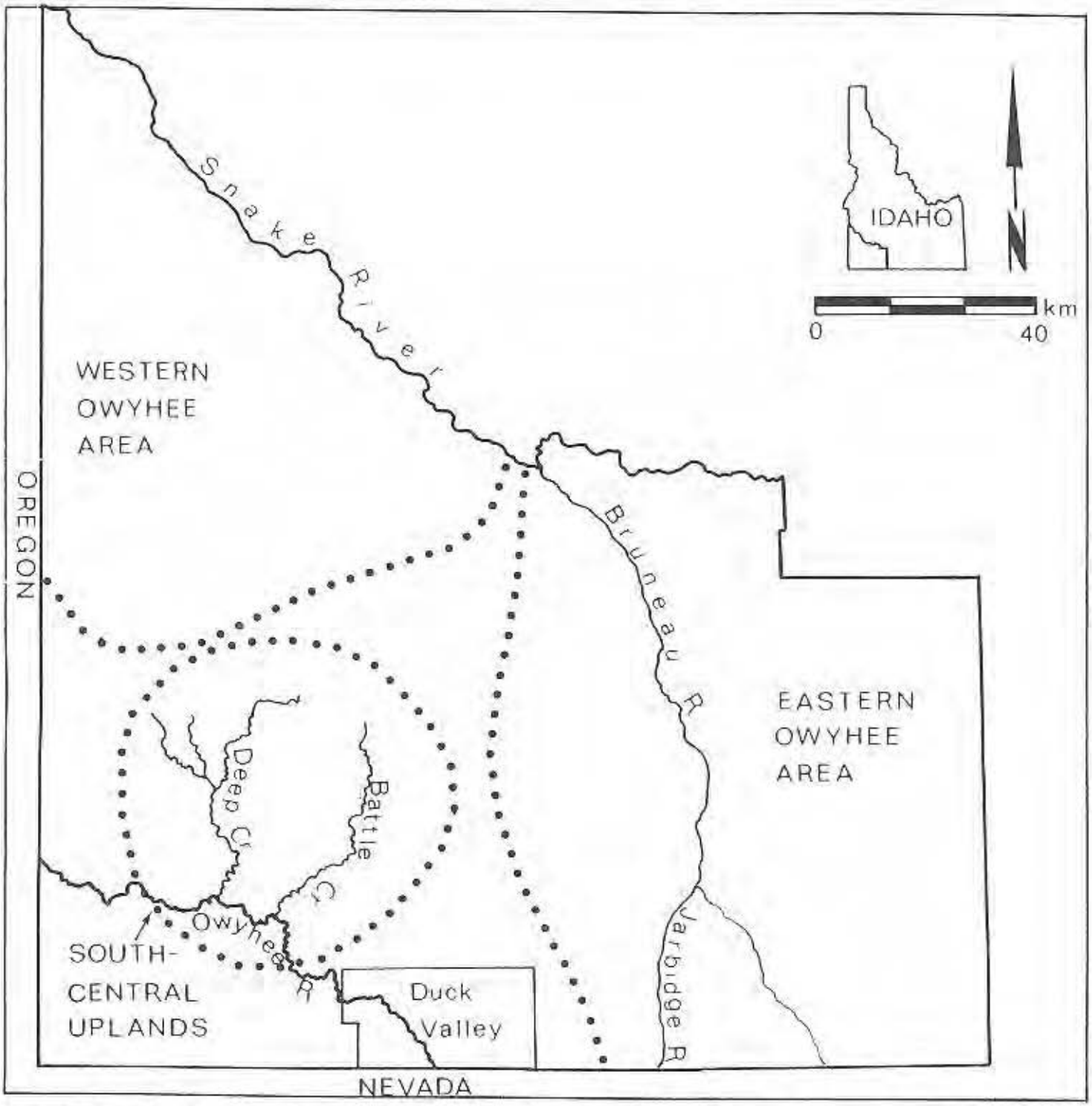
More recently, Murphy (1977a, 1977b) has surveyed portions of the Devils Creek and Tuanna Gulch areas and has reported finding Plano period cultural materials. The only other Paleo-Indian find for Eastern Owyhee County was reported by Swanson (1961).

Tuohy's (1963) pipeline survey from Mountain Home, Idaho to Reno, Nevada crossed the Eastern Owyhee Country and recorded campsities, petroglyphs and numerous rock alignments. These sites were believed to date from 5000 B.C. into the Historic Period (1963:75).

The diversity in rock alignment structures is confirmed by investigations of the "Y" and Three Fingers Buffalo Jumps (Agenbroad 1976). These consist of a variety of rock structures (cairns, circular, semi-circular, and linear alignments) situated along rimrock projections. Associated with a wide range of Early and Late Archaic projectile points, the "Y" and "Three Finger Buffalo Jumps" are believed to represent the use of the classic features of Plains Bison jumps and timely mark their western most distribution in Idaho. The evidence for considering these complexes to be Bison jumps has been criticized by Plew (1979). Similar features were recovered by Tuohy (1963) in the Eastern Owyhee area and by Plew in the Southcentral Uplands (1976, 1979b, 1980).

The Columbet Creek Rockshelter located on an intermittent tributary of the Jarbidge River, near Murphey Hot Springs, provides the only stratified sequence for the Eastern Owyhee area (Lynch and Olsen 1964). The excavations lack strict stratigraphic controls, though nine major excavation units were recognized. The cultural assemblage includes bone, shell, matting, twine, wooden artifacts including a hollow cane shaft, a leather pouch and clay figurines. Projectile points include a complete Archaic range consisting of Humboldt lanceolate types, stemmed inducted base and large side and corner-notched points as well as later Rose Spring-Eastgate series projectiles. The materials from Columbet Creek Rockshelter are similar to those found over the entirety of the Eastern Owyhee area. Unfortunately, no radiocarbon determinations are available for the site.

The only interpretive framework for the area is Swanson's (1974) description of South Hills culture. Description of South Hills culture attempts to contrast the Bitterroot pat-



tern of Eastern Idaho with a pattern found above the 5000 foot contour on the Snake River Plain and possibly from the Malad River Valley to the Owyhee Uplands of Southwestern Idaho (Swanson 1974:6). Data suggest a hunting/gathering pattern. Definitive are the wide distribution of petroglyphs and Early-Middle Archaic projectile points; specifically Humboldt and large corner and side notched points and a continuous use of spring sites above 5000 feet.

SOUTHCENTRAL UPLANDS

In general, current knowledge of the prehistory of the southcentral Owyhee Uplands is based upon a number of limited investigations (Swanson et al. 1964; Plew 1976, 1978, 1979, 1980; Tuohy 1963). These investigations have been continuous since 1975. As a result of this work a local chronology and settlement system has been defined. A series of four phases have been defined for an area of ca. 200 square miles which extends from Deep Creek on the west to Battle Creek on the east, being primarily restricted to an area south of the Deep Creek or Mud Flat Road. Survey data has been accumulated from Camas, Pole, Camel, Deep, Battle, Hurry Back, Currant, and Big Springs and Nickel Creeks. The interpretive potential of this information has been increased by test excavations at Camas and Pole Creeks (Plew 1976, 1979).

A brief description of each phase follows:

Camas Creek I: This phase is dated between 4000 B.C. and 700 B.C. and is defined on the basis of surface recovered projectiles. The dominant type range is the Humboldt-Pinto series. The temporal occurrence of the points has been based upon the ranges determined by Hester and Heizer (1973) from radiocarbon sequences in the Great Basin.

Sites of this phase consist largely of isolated finds which are sometimes associated with small amounts of lithic debris. Sites are located on open flats and terrace areas where drainages are open and canyons shallow. Humboldt and Pinto points are sometimes associated with rock alignments. Campsites have not been identified with the phase.

Camas Creek II: This phase is associated with the presence of Elko series projectile points and is dated between 700 B.C. and A.D. 600. Unlike the preceding phase, a limited variety of scrapers, drills and occasional groundstone implements occur. Artifacts have not been recovered in quantities great enough to determine the relative frequencies of specific types. Site location is similar to that of the preceding phase with what may be an association with existing water sources. Some sites may be defined as campsites. Again, Elko points are occasionally associated with rock alignments. Whether these associations represent the original builders or a later construction on an existing occupational area cannot be determined. It is probable, however, that all phases exhibit the use of hunting structures.

Camas Creek III: This phase is dated between A.D. 600 and A.D. 1200. The artifact assemblage consists primarily of projectile points of the Rose Spring-Eastgate series, a biface industry, end and side scrapers, drills, utilized flakes, numerous groundstone implements including mortars, slab metates, manos, pestles and pottery. In addition to the Rose Spring-Eastgate materials, a small corner and side-notched projectile point named Camas Creek Corner-Notched and Camas Creek Side-Notched are common.

This phase represents the most intense occupation of the area. It is characterized by an intense, probably seasonal, utilization of small drainages with the use of larger drainages for winter encampments. Campsites, winter encampments, hunting complexes, workshops and processing sites and petroglyphs comprise elements of the settlement system which is characterized by site clusters or catchments within limited areas, representing a range of activities (Plew 1980). A seasonal round involving extended stays at Spring-Summer-Fall and Winter encampments is suggested. Seasonal reuse of the same sites is also inferred (Plew 1980).

Large rock alignment complexes (Plew 1977) suggests heavy reliance upon hunting. This is further suggested by the significantly high proportion of projectile points associated with the phase and the relative occurrence of animal bone from excavated contexts which indicate some use of antelope, deer, and possibly rodents (Plew 1979:88-89).

Equally important is the use of plant foods as suggested by a large inventory of goundstone mortars (Plew 1976). This represents utilization of camas and biscuitroot within the area.

Subsistence may have placed greater emphasis on gathering. Settlement is characterized by periodic movements between small drainages during Spring, Summer and Fall to Winter encampments within the larger canyons. The artifactual inventories include extensive debris, tool and pottery collections. Groundstone specimens of Spring-Summer association are absent (Plew 1978).

Particularly interesting in discussion of this phase is the occurrence of pottery at most campsites. Evidence for a new pottery type referred to as Southern Idaho Plain has been outlined (Plew 1979; see also Plew 1980a, 1980b, 1980c). This pottery may represent indigenous pottery manufacture based upon Fremont or Sevier (Madsen and Lindsay 1977) technology and/or represent diffusion of ideas or borrowing of technology from northward expanding Numic peoples familiar with Fremont ceramics. These ceramics may predate or overlap slightly the beginning of the presumed Shoshoni expansion into Southwestern Idaho (Madsen 1975). Of additional interest is the occurrence of crude and typically defined "Shoshoni" ware in the same contexts with Southern Idaho Plain. The presence of ceramics in the area may be older than previously believed (Swanson et al. 1964:9). It is possible that some of the pottery associated with Shoshonean peoples was acquired after their entry into the area, much in the same manner Shoshonean pottery may reflect influences from Fremont-like ceramics in the Sevier area of Western Utah-Eastern Nevada. A lack of radiocarbon dates prohibits accurate chronological associations.

Camas Creek IV: The Camas Creek IV phase is dated from ca. 1200-1300 A.D. into the Historic Period in the Great Basin, and is synonymous with the historic Shoshoni occupation. Characteristic artifact types include Desert Side-Notched and Cottonwood series projectile points. These types are not well represented in excavated contexts and occur when present in the uppermost levels.

Settlement-subsistence appears similar to that of the preceding phase though the specialization and clustering of activity oriented sites is absent. Subsistence reflects a continuation of the Camas Creek III phase pattern although length of use appears to be substantially less. This may be attributed to changes in animal cycles and movements, vegetational changes and human population densities associated with these changes.

In general, the area is considered part of the Great Basin culture area. Continuity as well as change in material culture seems to have been broadly similar over a wide area over an extended period of time. The various projectile point series relied upon as chronological indicators in the Basin are similar to forms outside the Uplands. General morphological similarities are to be noted with the materials of the Columbia Plateau and the Sevier area of Western Utah (see e.g., Bonnichsen 1964; Marwitt 1970).

The available comparative data for the area of the Uplands is presently limited. Major survey data are restricted to work done by Green (n.d.), Metzler (1976, 1977), Murphey (1977), Plew (1976, 1978, 1980), Tuohy (1963), and Swanson et al. (1964). These surveys represent distinct localities within Owyhee County. While differences may be observed, there are broad similarities in terms of chipped stone inventories. A major problem is in defining the chronological relationships of these assemblages, and associated settlement patterns.

Excavated data are more fragmentary and complicate this difficulty. Excepting Metzler's not yet fully reported excavations at the Bachman Cave Site (1977), only Dirty Shame Rockshelter in eastern Oregon provides direct implications for the Owyhee Uplands (Aikens et al. 1977). Excavations at Dirty Shame suggest that the site may have been used

as a winter camp (1977:16). This is important since traditional interpretations suggest aboriginal movements to the protection of large drainages such as the Snake and Owyhee Rivers to winter. This view is largely derived from Steward's (1938) ethnographic accounts. An important element of Steward's thesis (1938) is the movement across major environmental zones. As recently suggested (Plew 1980), upland settlement equates with Zones I and II of Dirty Shame Rockshelter which advance Madsen's verification of the Numic expansion model (Aikens et al. 1977:23). This coincides with the hypothesis concerning possible origins of Uplands pottery (Plew 1979a:97, 1979:335).

Significant material culture affinities are with sites in the eastern Great Basin. Surface data from the Idaho Owyhee area are similar to those described by Fowler (1968) from surface collections in eastern Nevada, including the Jarbidge area, which is further represented by excavations at Deer Creek Cave (Shutler 1963:515-3). This shelter is believed to have been inhabited for a period of ca. 8000 B.C. into the Historic Period and utilized as a temporary seasonal hunting camp occupied in later periods by Shoshoneans who may have brought pottery to the shelter as early as A.D. 1150. Recent excavations at Nahas Cave in the Owyhee Uplands (Plew 1981a) document an archaic hunting camp occupied intermittently for ca. 6000 years.

Nahas Cave is located in the Owyhee Uplands some sixty miles south of Grandview, Idaho. The site is on Pole Creek near its confluence with Deep Creek about 15 miles north of the Owyhee River and 20 miles west of Battle Creek. It is situated three meters above the present stream course in a juniper-sagebrush-grass environment which supports a diverse animal community including deer, antelope and a variety of smaller mammals and avifauna. There are fish in the stream. The site was originally brought to the attention of the State Historical Society in 1977 by state fish and game officials, who accompanied Dr. Thomas Green on an inspection of the site. The cave was subsequently recorded in 1978 during a survey of Pole Creek as part of the activities of the Southcentral Owyhee County Archaeological Project. Excavations were conducted at the site during May and June, 1979, with the assistance of members of the Idaho Archaeological Society and the cooperation of the land owner, Mr. R. T. Nahas. Further excavations were conducted in June, 1980 (Plew 1981a).

The Nahas Cave sequence constitutes the first radiocarbon sequence for Owyhee County. It is important because it confirms the cross-dated phase sequence proposed for the Southcentral Owyhee Uplands (Plew 1980:28-32). This sequence consists of four temporal phases, Camas Creek I-IV, based upon association of cultural remains with point styles. The chronology of projectile points was based on Hester and Heizer's (1973) summary of Northern Great Basin dates. The Camas Creek I phase dating 400 B.C.-700 B.C., corresponds in age to Zone I at Nahas Cave. No diagnostics were recovered from the zone. Camas Creek II corresponds to the Elko levels of Zone II and the lower levels of Zone III. The Rose Spring-Eastgate horizon equated with the Camas Creek III phase corresponds with the middle and upper levels of Zone III. Camas Creek IV dated ca. 1200-1300 A.D. into the Historic Period equates with Zone IV and is characterized by Desert Side-Notched and Cottonwood Triangular point types. It is noteworthy that the density of materials described for the phase sequence (based upon surface data) reflect a comparable density at Nahas.

Of additional interest is the limited but early presence of Rose Spring-Eastgate and small side-notched points in predominantly Elko levels about 3,000 years ago (see Plew 1980b, 1980c). This early occurrence is interesting in the context of similar finds at Dirty Shame Rockshelter (Aikens et al. 1977) and Dry Creek Rockshelter (Webster 1978) in the Boise foothills.

Preliminary examination of the cultural remains from Nahas Cave suggest broad similarities with these and other sites such as Deer Creek Cave (Shutler 1963). In general, Nahas Cave will provide important chronological and settlement data for an area within the Northern Great Basin which is little known.

The greatest external similarities are with Great Salt Lake Fremont and what Madsen and Lindsay (1977) have recently termed Sevier Cultures (formerly Sevier and Parawan Fremont variants). These cultures are primarily hunting and gathering peoples distinguished by their manufacture and use of ceramics. Similarities in material culture between these areas include cylindrical pestles, manos, pecked and smoothed stone balls, projectile points, pottery and petroglyphs (Plew 1976b, 1979). A pattern similar to that of the Uplands has recently been described for the area of Northeastern Nevada and Northwestern Utah (Dalley 1976).

Temporally, the Camas Creek II phase equates with the duration of the Sevier Culture and coincides with the Great Salt Lake Fremont levels at Hogup Cave (Aikens 1970). The projectile point series from the Hogup Cave levels include Elko Corner-Notched, Rose Spring Corner-Notched and Eastgate Exploding Stem. These are the dominant point types within the Southcentral Owyhee Uplands. Cottonwood Triangular and Rose Spring Side-Notched are common types in the Bear River area (Aikens 1967) and occur with frequency in the Uplands as well. Unnamed points which may be the equivalent of Camas Creek Corner-Notched occur in Northeastern Nevada and Northwestern Utah in significant numbers (Dalley 1976).

Marked similarities exist between much of the Upland pottery and the gray wares of the Great Salt Lake Fremont and Snake Valley Gray ware of the Sevier area. Fowler (1968:23) has reported Snake Valley ware at Newark Cave in Northeastern Nevada.

The existing chronology is problematic since it is based on cross-dating of the Upland sites with other radiocarbon dated deposits in the Great Basin. This problem is compounded by the fact that many dates vary between the Eastern and Western Basin. The dates for many projectile series recovered at Hogup Cave (Aikens 1970) in Western Utah are much earlier than those for other areas of the Great Basin (see Hester and Heizer 1973). In this context, the Rose Spring-Eastgate series has been dated to an earlier period at Dirty Shame Rockshelter in Southeastern Oregon (Aikens et al. 1977), and Dry Creek Rockshelter in the Boise foothills (Webster 1978, 1980). Neither the dates nor temporal sequence proposed for the area has been stratigraphically derived or dated by radiocarbon samples within the Uplands. An additional problem related to discussion of projectile point seriation pertains to the occurrence of relatively early projectile point types such as Humboldt, Pinto and Elko series points. These points occur intermixed with later Rose Spring-Eastgate Desert Side-Notched projectiles at a number of sites including those tested at Camas Creek (Plew 1979). While distinct phases can be recognized on the basis of the predominance of certain point types in context

with other variables, such intermixing does pose serious questions regarding the temporal significance of these series. The limited presence of earlier point forms in later contexts may be explained as the result of aboriginal collection, modification and reuse of early forms, style replication in later periods or similarity based upon continuity in general morphology. Excavations at Nahas Cave confirm cross-dating of Uplands projectile points (Plew 1981).

A further problem concerns the location of winter encampments (Plew 1978:47-48; 1979:96-97). The nature of aboriginal wintering habits of Uplands peoples is not clearly understood and has not been archaeologically demonstrated. It has been suggested that aboriginal activities during the Spring, Summer, and Fall were centered around the smaller drainages such as Camas and Pole Creeks with movement of short distances to large and better sheltered drainages to winter (Plew 1978, 1980). Aikens et al. (1977) have suggested that Dirty Shame Rockshelter may have been a winter camp and Steward (1938:168) has noted that some Shoshonean groups wintered on the South Fork of the Owyhee River. In order to test this general hypothesis, archaeological investigations of the East and South Forks of the Owyhee River were conducted in 1981. The results do not support the ethnographic model of area use (Plew and Woods 1981).

WESTERN OWYHEE AREA

The area delimited as the Western Owyhee Area is more arbitrarily defined and is not well known archaeologically. Further, the area contains evidences of occupations which, while reflecting the general chronology of the area, may represent activity orientations somewhat distinct from those of the Southcentral and Eastern Uplands areas. The Western Owyhee area includes the riverine environments along the Snake River, the adjacent foothills and areas of higher elevation within the Owyhee proper.

The earliest investigations in the area were conducted in 1929 by Louis Shellback who excavated a small cave along the south side of the Snake River south of Boise. Shellback Cave No. 1, as it is commonly designated, contained pottery and perishables as well as fishing equipment which included net, sinkers and hooks and fish remains (Shellback 1967). Shellback No. 1 is important because of the evidence it provides for interpreting use of the Snake River dating probably to the Late Archaic.

Near the community of Marsing, Idaho, Gruhn (1964) tested two sites 10 OE 128 and 10 OE 129. Gruhn (1964) recovered two chronologically distinct components—an early lanceolate-Humboldt component and a later component consisting of large corner and side-notched points. Both components, which contain considerable mussel shell (*Gonidea angulata*), may be Fall-Winter mussel gathering stations (see Plew 1981:173-174 for discussion).

More recently Green (n.d.b.) has recovered extensive mussel deposits in association with Plateau and Great Basin type house structures at Givens Hot Springs. Green (n.d.b.) suggests a possible Fall-Winter occupation dating to 4,000-5,000 years ago. Sites 10 OE 128 and 129 as well as Givens Hot Springs suggest general winter use of the Owyhee lowlands area along the Snake.

In the adjacent foothills near Oreana, Metzler (1976, 1977a) has conducted surveys of the Brown's Creek and Castle Creek drainages. Random and intuitive sampling techniques were utilized to record two hundred eight sites. The drainages lie between elevations of 8,000 and 2,500 feet. The majority of sites are open campsites and lithic scatters dating from 7000 B.C. (Metzler 1976:41; 1977a:52). This determination is based upon the presence of Humboldt type points and may be too early. Metzler (1977a:40) observed few groundstone implements, suggesting limited plant use within the drainages. Additionally, Metzler (1976:41; 1977a:52) notes a decline in the intensity of occupation after ca. 1400 A.D. Excavations at Bachman Cave, near Oreana, Idaho exhibit evidence of 6,000–7,000 years of occupation (Metzler 1977b).

To the northwest, Green (n.d.a.) has recorded numerous campsites, lithic scatters and workshop areas in the Squaw Creek drainage.

This area continues under investigation (Green, personal communication) and has not yet been fully reported. A variety of sites associated with springs and other natural features are located within distinguishable micro-environmental zones. Noteworthy is the location of sites on high prominences and the probability that the distribution of sites within Squaw Creek represents seasonal use of the area as part of a larger settlement-subsistence round involving use of the Snake River.

SUMMARY

In summary, it is possible to make some general statements concerning present knowledge of the culture history and lifeways of the area. The Eastern and Western Owyhee uplands have been occupied in varying degrees of intensity for the last 6,000–7,000 years. The Western Upland area may indicate greater use during the periods referred to as Camas Creek IV and III (Thomas Green, personal communication), while a more intense occupation characterizes the Southcentral Uplands during a period of some 1,300–700 years ago. This phase is marked by rather restricted catchment areas and similarities with Sevier culture of Eastern Nevada and Western Utah. At present, knowledge of the north slope of the Owyhees and the adjacent Plain is limited to point distributions. Metzler (1977) has noted an absence of groundstone tools which are common in the Uplands (Plew 1976). This suggests possible settlement-subsistence variation based upon availability of high yield seasonal resources and suggests that subsistence may not always be characterized by the Steward Model (1938) of interzonal movements.

In general, the Owyhee Uplands and adjacent areas have been occupied for a period of 6,000–7,000 years and in all probability contain several distinct area settlement-subsistence systems. The Snake River Canyon is relatively unknown. Gruhn's (1964) excavations of two sites along the Snake River near Marsing, Idaho, recovered separate archaeological assemblages associated with the extensive use of fresh water mussels. The sites are primarily distinguished by the presence of lanceolate projectile forms and later side-notched points. These sites may represent part of a seasonal round which includes use of the Squaw Creek drainage. Recent investigations in the Bliss-Hagerman area (Pavesic and Meatte 1980; Plew 1981) and at the Givens Hot Springs Site (Thomas Green, personal communication) may clarify Snake River settlement.

Projectile points recovered from Brown's Creek and Castle Creek indicate the presence of a complete Great Basin range

of point forms from early Humboldt through Desert Side-Notched. Metzler (1976:20, 1977:52) has noted, however, a predominance of early projectile point forms and a noticeable lack of artifacts, chiefly Desert Side-Notched points associated with a relatively recent occupation. These findings are interesting in the context of the Squaw Creek materials which tend to mirror this distribution in the Western Owyhee area. In the Southcentral area (Plew 1976, 1979), Desert Side-Notched points are fairly common in surface settings but are generally absent in excavated contexts. The early point forms occur with irregularity in the Southcentral Uplands indicating a marginal use of the area during a period of ca. 6,000 to 3,500 years ago. Equally interesting is the limited occurrence of Rose Spring-Eastgate series projectile points in the Western Owyhee area. Such points are the dominant type and are associated with an earlier occupation in the Southcentral area prior to the Shoshonean occupation. Owing to the cultural and physiographic diversification of the Owyhee area, several distinct and chronologically separate settlement systems may ultimately be recognized. This situation is exemplified by the relative absence of groundstone tools observed by Metzler (1977:40). If groundstone tools were associated with the collection and processing of roots and seeds, then drainages at lower elevations nearer the Snake River may have been utilized somewhat differently than those in the Uplands. The preponderance of groundstone implements in the Southcentral area may only represent extensive use of a locally available resource.

The Eastern Owyhee area which appears to have been inhabited for 6,000–7,000 years shows marked similarities to the Southcentral area with respect to distribution of projectile point types and other items of cultural material including groundstone implements (see e.g. Bucy 1971). South Hills Culture may represent a relatively localized settlement subsistence strategy in the Eastern Owyhee area, though local and seasonal use of available resources appears to characterize the entirety of the Owyhee country.

Presently, a limited data base prevents extensive synthesis of Owyhee County prehistory. However, the following generalizations are offered.

The distribution of projectile point styles and radiocarbon dated sites (Nahas Cave, Bachman Cave [Plew and Pavesic n.d.], Givens Hot Springs), suggests an Archaic occupation of 6,000-7,000 years. There is no significant Paleo-Indian occupation save some possible late Plano materials in the Eastern periphery of the area (Murphy 1977a, 1977b). With the exception of three isolated finds (Huntley 1978; Moe n.d.; Swanson 1961), Clovis, Folsom and Plano material do not occur west of the Bruneau. This pattern may be related to the distribution of late Pleistocene fauna in the area. Historically, for example, Bison are not believed to have occurred in significant numbers west of the Twin Falls area (Haines 1967). Further, the area was probably not well suited to the mammoth populations found on the Snake River Plain.

The most intensively studied area within the Owyhee Country, i.e., the Southcentral Uplands, suggests a relatively intense occupation between A.D. 600-1200. This pattern, which appears to be based on exploitation of locally available high yield resources with some emphasis on hunting (see Plew 1979, 1980), seems to characterize not only the Southcentral Uplands but the Eastern Owyhee Country as well. This pattern occurs earlier than Butler's (1978) designation of Late Archaic (post ca. 1200 A.D.) for the Upper Snake and Salmon River Country of Eastern Idaho. In general, a period of relatively intense occupation occurs in the Southcentral and Eastern Owyhee areas between ca. 600-1200 A.D. (Plew 1980, Bucy 1971). This is, however, based upon a limited amount of work. Metzler's (1976, 1977) work in the Brown's and Castle Creek drainages suggests relatively greater use during a period of 4,000–5,000 years ago. Investigations at Givens Hot Springs and in the Squaw Creek drainage indicate a comparable time frame (n.d.). This variation may be associated with changes in biotic communities linked to environmental change. This may be equally true of the apparent decline in intensity of use in the Southcentral Uplands (Plew 1979, 1980) and the Western Owyhee area (Metzler 1976, 1977) after 1200-1400 A.D.

Summarily, they appear to represent spatio-temporal variations in settlement-subsistence strategies (cf. Bucy 1971; Metzler 1976, 1977; Plew 1976, 1979, 1980). The Owyhee Country stands apart from Eastern Idaho with regard to chronology. There is for general purposes no Paleo-Indian occupation; a relatively intensive occupation of the Eastern Owyhee Country and the Southcentral Uplands between ca. 600-1200 A.D.; and an apparent decline in occupation in the Southwest and Western areas after 1200 A.D. Overall the area has been occupied in varying degrees of intensity over the last 6,000–7,000 years.

Settlement-subsistence is relatively unknown, though dense site concentrations within restricted orbits or catchments are associated with tuber crops in the Southcentral Uplands (Plew 1980). Subsistence and settlement are less defined elsewhere, though evidence of seasonal use is inferred from assemblages from the Southcentral Uplands and the lowlands of the Western Owyhee area (Green n.d., Gruhn 1961). Swanson's (1974) South Hills Culture, while broad in scope, recognizes variations between Eastern and Southwestern Idaho. Some elements characterize the Southcentral Uplands (continuous site use above 5,000 feet, petroglyph distributions). At the same time, occupation of the Southcentral Uplands is much more recent than that described for the South Hills Culture, which temporally coincides with occupations in the Western Owyhee area. Further, there seems to be no continuous intensive occupations of the entire Owyhee area. The area is characterized by differing settlement-subsistence strategies which vary spatio-temporally.

RESEARCH NEEDS AND PRIORITIES

The most urgent need in the Owyhee Country is increased field investigations. Archaeological sites within the Uplands continue to be disturbed at an alarming rate. Major campsites recorded during the initial Camas Creek investigations (Plew 1976) are presently little more than major lithic scatter (Plew n.d.). Secondly, investigations in the Southcentral Uplands are presently a focus for area interpretations. The Uplands constitute a large, physiographically diverse area. Cultural diversity may be equally varied.

Areas in need of investigation include the north slope of the Owyhees; the area east of Battle Creek, including the Bruneau and Jarbidge areas; and investigations within areas of higher elevation in the Owyhee Mountains. There is a need for both inventory and well designed sampling strategies with which to conduct these investigations.

Cultural historical problems include the need for further documentation of local area chronologies and settlement

patterns. While additional excavations at caves and rockshelters are needed, the investigation of open sites will provide important subsistence data and assist in the chronological placement of these sites into regional prehistory. Cultural relationships between the Great Basin and Plateau areas should be of importance as are the relationships of the area to the Sevier and Fremont areas (cf. Plew 1979c).

Methodologically, there is an urgent need for work in the following areas: (1) paleoclimatic studies to include detailed geomorphology and palynological work; (2) use of floatation techniques to recover microfaunal and microfloral information; (3) detailed lithic analysis of projectile point types as regards variation between the Uplands and adjacent Basin areas; (4) development of sampling strategies to test or predict the accuracy of settlement in the Southcentral Uplands where a solid data base has been established; and (5) development of a research-management plan involving academic and federal management agencies to investigate and protect the cultural resources of the Owyhee Country.

TABLE 1

Major Archaeological Investigations in the Owyhee Country

Project	Reference
Southwestern Idaho Survey	Swanson, Powers and Bryan 1964
Idaho-Nevada Pipeline Survey	Tuohy 1963
Camas Creek Survey	Plew 1976
Pole Creek Survey	Plew 1978
Excavation at Camas and Pole Creeks	Plew 1979
Battle–Big Springs–Deep Creek Survey	Plew 1980
Nahas Cave	Plew 1981
Owyhee River	Plew 1981
Squaw Creek	Green, n.d.
Givens Hot Springs	Green, n.d.
Brown's/Castle Creek	Metzler 1976, 1977a
Bachman Cave	Metzler 1977b
Saylor Creek I	Bucy 1971
Bruneau River	Pavesic and Hill 1973
Devils Creek	Murphey 1977a
Tuanna Gulch	Murphey 1977b

REFERENCES CITED

Agenbroad, Larry D.
1976 Buffalo jump complexes in Owyhee County, Idaho. *Tebiwa, Miscellaneous Papers of the Idaho State University Museum of Natural History*, No. 1. Pocatello.

Aikens, C. Melvin
1976 Excavations at Snake Rock Village and the Bear River Site No. 2. *University of Utah Anthropological Papers* No. 87.

1970 Hogup Cave. *University of Utah Anthropological Papers* No. 93. Salt Lake City.

Aikens, C. Melvin, David L. Cole and Robert Stuckenrath
1977 Excavations at Dirty Shame Rockshelter, southeastern Oregon. *Tebiwa, Miscellaneous Papers of the Idaho State Museum of Natural History*, No. 4. Pocatello.

Bonnichsen, Robson
1964 The Rattlesnake Canyon cremation site, southwestern Idaho. *Tebiwa* 7(1):28-38. Pocatello.

Bucy, Douglas R.
1971 Final report on the archaeological survey of Saylor Creek Unit 1. Report on file, Bureau of Land Management, Boise.

Butler, B. Robert
1978 *A Guide to Understanding Idaho Archaeology (Third Edition): The Upper Snake and Salmon River Country.* Idaho Historic Preservation Office, Boise.

Dallay, Gardiner F.
1976 Swallow shelter and associated sites. *University of Utah Anthropological Papers* No. 96. Salt Lake City.

Fowler, Don D.
1968 Archaeological survey in eastern Nevada, 1966. *Desert Research Institute Publications in the Social Sciences* No. 2. Reno.

Green, Thomas J.
n.d.a. Personal Communication.

n.d.b. Personal Communication.

Gruhn, Ruth
1964 Test excavations at sites 10 OE 128 and 10 OE 129, southwest Idaho. *Tebiwa* 7(2):28-36. Pocatello.

Hester, Thomas R. and Robert F. Heizer
1973 Review and discussion of Great Basin projectile points: Forms and chronology. *Archaeological Research Facility, Department of Anthropology, University of California*, Berkeley.

Lynch, Thomas F. and Lawrence Olsen
1964 The Columbet Creek Rockshelter, (Owyhee County, Idaho). *Tebiwa* 7(1):7-16. Pocatello.

Madsen, David B.
1975 Dating Paiute-Shoshoni expansion in the Great Basin. *American Antiquity* 40(4):391-405.

Madsen, David B. and La Mar W. Lindsay
1977 Backhoe Village. *Antiquities Section Selected Papers* 4(12). Division of Utah State History, Salt Lake City.

Marwitt, John P.
1970 Median Village and Fremont culture regional variation. *University of Utah Anthropological Papers* No. 95. Salt Lake City.

Metzler, Sharon
1976 The Brown Creek archaeological survey, Owyhee County, Idaho. *Archaeological Reports* No. 2. Boise State University.

1977a Current status of excavations at Bachman Cave, Owyhee County, Idaho. *Idaho Archaeologist* 1(2):2-3. Caldwell.

1977b Archaeological survey of Castle Creek, Owyhee County, Idaho. Report on file, Bureau of Land Management, Boise.

Murphey, Kelly
1977a An archaeological inventory of Devils Creek, Owyhee and Twin Falls Counties, Idaho. *University of Idaho Anthropological Research Manuscript Series* No. 35. Moscow.

1977b An archaeological survey of the Tuanna desert land entries project-southcentral Idaho. *University of Idaho Anthropological Research Manuscript Series* No. 37. Moscow.

Olsen, Godfrey J.
1940 Bruneau Canyon notes-1937. *Report of the Historical Museum, University of Idaho Southern Branch . . .* 2934-1940m 1:6-8, Pocatello.

Pavesic, Max G. and Richard Hill
1973 The Bruneau River Survey. Report on file, Bureau of Land Management, Boise.

Pavesic, Max G., and Mark G. Plew and Roderick Sprague
1979 A bibliography of Idaho archaeology 1889-1976. *Northwest Anthropological Research Notes*, Memoir No. 5. Moscow.

Plew, Mark G.
1976 An archaeological inventory survey of the Camas Creek drainage basin, Owyhee County, Idaho. *Archaeological Reports* No. 1, Boise State University.

1978b An archaeological survey of Pole Creek, Owyhee County, Idaho. *Archaeological Reports* No. 4, Boise State University.

1979a Archaeological excavations at Camas and Pole Creeks, southcentral Owyhee County, Idaho. *Archaeological Reports* No. 5, Boise State University.

1979b Aboriginal hunting complexes in the Owyhee Uplands, Idaho. *The Masterkey* 53(3):108-111. Los Angeles.

1979d Southern Idaho Plain Ware: Implications for Fremont-Shoshoni relationships in southwestern Idaho. *Plains Anthropologist* 24(86):329-335.

1980a Archaeological investigations in the southcentral Owyhee Uplands, Idaho. *Archaeological Reports* No. 7, Boise State University.

1980b Fish remains from Nahas Cave: archaeological evidence of anadromous fishes in southwestern Idaho. *Journal of California and Great Basin Anthropology* 2(1): 129-132. Riverside.

1980c Recent data from Nahas Cave: A further note on the origins of the bow and arrow in the northern Great Basin. *The Masterkey* 54(4):146-149. Los Angeles.

1981a A preliminary report on archaeological excavations at Nahas Cave. *Idaho Archaeologist* 4(3):1-7. Caldwell.

1981b Archaeological test excavations at four prehistoric sites in the western Snake River Canyon near Bliss, Idaho. *Project Reports* Number 5, Idaho Archaeological Consultants, Boise.

n.d. Fieldnotes, 1975-1981.

Plew, Mark G. and James C. Woods
1981 *Archaeological investigations in the Owyhee River country.* Paper Presented at the Ninth Annual Meeting of the Idaho Archaeological Society, Moscow.

Shutler, Richard
1963 Deer Creek Cave. *Nevada State Museum Anthropological Papers* No. 11. Carson City.

Steward, Julian H.
1938 Basin-plateau aboriginal sociopolitical groups. *Bureau of American Ethnology Bulletin*, No. 120. Washington, D.C.

Swanson, Earl H. Jr.
1974 The Snake River Plain. *Idaho Yesterdays* 18(2):2-12. Boise.

Swanson, Earl H., Jr., Rodger Powers and Alan Lyle Bryan
1964 The material culture of the 1959 southwestern Idaho survey. *Tebiwa* 7(2):1-27. Pocatello.

Tuohy, Donald R.
1963 Archaeological survey in southwestern Idaho and northern Nevada. *Nevada State Museum Papers*, No. 8. Carson City.

Webster, Gary S.
1978 Dry Creek Rockshelter: Cultural chronology in the western Snake River region of Idaho, ca. 1450-1300 B.P. *Tebiwa, Miscellaneous Papers of the Idaho State University of Natural History*, No. 15. Pocatello.

Minutes of the Fall 1982
Idaho Advisory Council of Professional Archaeologists
General Council Meeting
October 15, 1982
State Library, Boise

SHPO Funding and NCSHPO Meeting

Tom Green (State Archaeologist) reported on the recent meeting of the National Conference of State Historic Preservation Officers. Funding for the state program is fairly assured for this year. It seems that even President Reagan is in support of the program, although he cannot appear that way officially. While the funding level is stable for the program nationally, Idaho could lose 25% of its appropriations (or $100,000 of last year's $400,000) because of changes in the formula for division of the funds among the states. Idaho was receiving a proportionally greater amount of funds than some of the larger and more populated states. Appropriations now will be based more on the number of tax applications processed, number of National Register nominations submitted, number of projects reviewed, etc. It is possible that an agreement reached by the NCSHPO in a previous meeting to not cut a state's funds by more than 10% each year will be followed so that Idaho would be cut by only 10% rather than 25%. The Advisory Council is experimenting with new compliance strategies which alleviate the need to comment on individual projects. No adverse effect guidelines have been implemented along with programmatic memoranda of agreement. Now, once a SHPO agrees to a plan, it has been proposed that he not be consulted again. This approach was not agreeable to many, so Merle Wells (Idaho SHPO) suggested that each SHPO write compliance procedures into plans. Green stated that these new strategies place more of a political burden on the local SHPO offices which can no longer forward the processing of controversial projects to the Advisory Council. Green reported that with the anticipated funding the local SHPO office will be able to continue the basic programs of the State Archaeologist office and the three curatorial centers. Large projects can no longer be funded, but small projects, providing assistance in a publication, radiocarbon dates, soil analysis, etc., may still be possible.

Idaho Historical Preservation Council

Jenna Gaston (Idaho Transportation Department) reported on her participation as a member of the Idaho Historical Preservation Council committee for the awarding of orchids and onions for proper and improper preservation of historic buildings in the state. She asked that any suggestions for orchids and onions or awareness of destruction of historic buildings be submitted to her.

Reports on Archaeological Programs

State Archaeologist: Green reported that other than the basic programs, the state SHPO office has funded part-time contracts this last year with Mark Plew, to finish his work in Owyhee County; Kenneth Ames, to finish his overview; and Belinda Davis, for work on the Givens project and general office work. Funding was provided through Max Pavesic to the MOHLAB in Pennsylvania for induced hydration rates for Timber Butte and Malad-Oneida. Obsidian samples from these sources can now be dated by the MOHLAB at a total cost of $25 for the sourcing and hydration analysis. Lee Sappington (U of I) is still doing sourcing. The SHPO office provided funding for the archaeological work associated with the Sineacateen project in northern Idaho. Bill Statham (Idaho State Historical Society) announced that his time at the center has been curtailed and that persons wanting to access the collections should contact the State Archaeologist office several days in advance. A brief time was spent in the field at Givens Hot Springs taking out a late house and sampling two others. Green said that more may be done there this fall. Over 1,000 federal projects have been reviewed in the State Archaeologist office this past year. Over half were Forest Service projects, and a significant number were FERC small hydro projects. Don Watts (Idaho State Historic Preservation Office) has set up a program for accepting easements on historic structures. The program will probably be expanded to include archaeological sites. Three tax workshops and an historic preservation class were conducted. Some of the major historical nominations submitted to the National Register were districts for Fort Street, Hyde Park, Hailey, Orofino, Paris, Long Valley Finnish structures, and the Continental Oil Complex in Twin Falls. Archaeological sites submitted include Hatwai and Map Rock; the Hells Canyon district nomination was also worked on. The Idaho SHPO office worked with National Park Service and Idaho Transportation Department on a bridge inventory. Don Watts and Fred Walters worked on design guidelines for Hailey. The State Archaeologist office has sub-contracted with the University of Utah to encode 5,000 archaeological sites for inclusion in the Intermountain Antiquities Computer System (IMACS). Green said that the A-95 program will be abolished by next spring, but federal agencies will still be required to notify the SHPO of projects.

Idaho Transportation Department: Gaston reported that the bridge inventory project is almost complete. About 40 bridges will be recommended as eligible for the National Register; the rest will be inventoried on HAER cards. A presentation on the inventory will be given in December, and a publication will be out next spring. With the budget cuts, highway projects have been fairly small. Gaston said that she has done 50 projects so far this year, and has covered about a third of the usual mileage. However, lots of testing has been conducted: a material source southwest of Challis; sites at Kooskia, Cottonwood Creek, and Big Canyon bridges; and a recently let contract for the Silver Bridge (North Fork, Payette River) sites. This fall or next spring, work will be done at the Sally Ann Creek site south of Kooskia.

Bureau of Land Management: Rich Harrison (Idaho BLM) reported that the BLM lost and has no plans to replace Kris Riddle in the Cottonwood office. John Hanson left the Shoshone District and has been replaced by John Lytle. Funding was about $250,000 in 1982, enough to cover salaries and a couple of contracts—one with the U of I to curate artifacts and another with the U of Utah for the IMACS program. A major Class II inventory has been completed for Burley and a Class I is almost complete for southwest Idaho. Volunteer and para-professional programs were initiated. The para-professional program will be evaluated this winter. The volunteer program was initiated in the Shoshone District and amounted to 1,200 man-hours spent this summer recording rock art and new sites. Frank Jenks is being moved into the Boise District to work in a resource area. Funding is expected to be a little better for 1983, permitting a continued contract for curation and another for IMACS.

Joe Randolph (BLM, Spokane) reported that an overview for eastern Washington and northern Idaho has been completed. Due to planning budget cuts there will be no Class II's.

Forest Service, Region IV: Jerry Wylie (FS, Ogden) reported that the budget and personnel will be about the same for the coming year. The archaeologist position for Sawtooth NF has not been filled. The U of I geoarchaeology field school was conducted on the Middle Fork last summer; other field schools are anticipated for next summer. The River of No Return surveys are completed. The upland country was looked at, and few sites were found. Wyoming and Colorado are interested in joining IMACS. The encoding for IMACS is proceeding at about 6 sites an hour, better than the anticipated 4 sites. A major IMACS review of the site form and handbook will take place in December in St. George. The FS contracted with Mark Druss (ISU) to test an obsidian quarry site and is also participating in the Silver Bridge project. Soon to be published are an overview of the River of No Return Wilderness and three log cabin studies. Studies are being conducted or have been completed for architectural stabilization at Custer, stabilization of the Birch Creek charcoal kilns, redefinition of the boundaries of Leesburg townsite, an evaluation of the Sheepeater Campaign, and nomination of some CCC architecture in southern Idaho. The six-story high gold dredge at Yankee Fork is to be looked at by a marine engineer. Green commented that through the encoding process it has been determined that about 50% of the UTM's on site forms are incorrect. Anyone not understanding how to figure UTM's should contact the State Archaeologist office for some help.

Bureau of Reclamation: Terry Zontek reported that the Bureau is continuing at about the same funding level. Planning studies are going on for the Boise and Payette rivers. They will involve modifications that will have little impact on archaeological sites. A northern Idaho anadromous fish enhancement study will begin with a Class I survey of the area. The Bureau is abandoning its three-stage planning process of appraisal, feasibility, and final plan so that there is less investment up front for basic feasibility studies. This will set back Class II and III surveys about four to five years. Zontek said that he is currently studying the methods and criteria for evaluation of historic engineering structures—dams in particular. The University of Kansas has just completed the field work of their evaluation of the sites at Montour. A report is expected next spring.

Boise State University: Max Pavesic reported that as department chairman, he had to fight for five threatened positions in the department. Only two were lost, but another round is expected this winter. Ken Ames' position, which is now full-time, was one of the five threatened. The anthropology program has been stabilized; six students were graduated with a major in anthropology this past year. BSU will host The Great Basin Anthropological Conference in the fall of 1984. Student internships were conducted with Bill Statham and Tom Green. Pavesic, Roderick Sprague, and Plew have updated the bibliography through 1979 in the Vol. 15, No. 2 of *Northwest Anthropological Research Notes*. Jim Woods, Plew, and Pavesic are working on a collection of essays in honor of Don Crabtree. Pavesic has also been involved in obsidian hydration projects with Lee Sappington and James P. Green. Boise State will be publishing two more archaeological reports, one dealing with the fish remains of Shellbach Cave. Ken Ames announced that the Northwest Anthropological Conference, for which he is the conference chairman, will be held at the Owyhee Plaza, March 24-26, 1983. His Clearwater overview is about done and the report on the Payette has been completed. A master's thesis on the Windust at Hatwai is also done. Ames, with Plew, will be conducting the test excavations at Silver Bridge. Ames will also be participating in the organization of a Plateau symposium at the Congress of Anthropological and Ethnological Sciences in Vancouver, B.C. next August.

University of Idaho: Rick Sprague pointed out that many of the University projects had already been mentioned because of their associations with other agencies. Among those are the BLM curation contract, Clearwater highway project, Challis-Baker Creek work, and obsidian sourcing by Sappington. Reports published or about to be published include: Clear Lakes, Lake Roosevelt, Jeanne Moe's thesis, San Juan project, the Nez Perce burial project, and various burial projects on the Lower Snake. Sprague mentioned negotiations with HUD on a project at Fort Lapwai and plans to excavate a Chinese mining dump at Pierce next summer using grant money from the National Endowment for the Humanities. A project funded on campus involved compilation of a bibliography of sources on the Chinese in northern Idaho and the building of a comparative collection of Chinese artifacts. Budget cuts have eliminated the University Museum and museology program and the Laboratory of Anthropology has been given the additional duties of the material functions of the Museum with no additional funds. NARN is back on schedule and the Archives, a subunit of the University library, are still functioning. If only

one copy of a report can be sent to Moscow, send it to the Archives, Sprague suggests. Frank Leonhardy reported on the geo-archaeology field school he conducted on the Middle Fork last summer. The project involved the definition of the geomorphology of the area and how the geomorphology relates to the archaeological material. Leonhardy also urged all the Idaho archaeologists to submit a summary of their work to him when he calls for it the next time for the Current Research section in *American Antiquity*. A strict straight-forward format of what was done, what was found, why it was done, and what is its significance must be followed. Leo Flynn, new curator of the Northern Idaho Regional Archaeological Center, reported on his current project of integrating the material collections and field notes in computer files. A system on the order of IMACS for site information in northern Idaho needs to be looked at next, according to Flynn.

Idaho State University: B. Robert Butler said that the Museum lost a half-time position due to budget cuts. But, a foundation board for the Idaho Museum of Natural History has been established to raise money for the Museum. The Museum's current primary objective is to develop exhibits. The Department of Sociology/Anthropology is advertising for two positions—an archaeologist and a cultural anthropologist. North Americanists are being sought for both positions, with a specialty in the Great Basin and contract experience desired in the archaeology position. A field school is being contemplated for next summer. Butler said that he is working on a handbook for pottery in southern Idaho.

Herrett Museum: Jim Woods said that the Museum participated in an archaeological project with Plew.

Burial Procedures

Green reported that little had been done to set up some kind of procedures for excavation of burials in the state of Idaho. He said that Idaho's procedures should probably be like Oregon's.

Curatorial Agreements

Butler commented that federal agencies should notify their contractors that each of the Regional Archaeological Centers have guidelines and requirements for submission of artifacts and that a curatorial agreement must be reviewed and signed.

Tax Deductions

Green described a Tennessee case involving tax deductions for donation of archaeological materials. The value of the materials donated was determined as equal to the cost of the field work, not including the lab work, needed to excavate the material. What was donated were the collections and the contextual information associated with those collections which were valued at the cost of the excavation. An auditable record of the field work costs must be maintained. The Tennessee case has not been audited by the IRS. Green said that this type of deduction may be used by the former owner of the Givens Hot Springs site, where $30,000 were spent in three field seasons.

IACPA Sanctions

Green presented problems encountered when his office is contacted by an agency wanting suggestions for whom they should contract with for archaeological work. Green said that he usually sends them a copy of the directory of Idaho archaeologists and suggests people in the area of the project. In a recent case an agency was considering contracting with a particular individual noted for poor quality work. Green informed the agency of this. Since that time, he has contacted the Arkansas SHPO office, which handles such situations in a similar manner and the Massachusetts office, which requires a permit be obtained from their office for all archaeological work in the state. Utah, like Idaho, has control only over work done on state and federal land and maintains a list of people who have state and federal permits. Green said that he does not want to maintain a list of accepted contractors because such a list would become voluminous and would have to contain many out-of-state firms. The problem was discussed at length, but no real solutions presented. The SHPO accepts archaeological work if 36 CFR 66 has been met and the report is adequate. The questions is should the SHPO advise the agency if it is about to contract with a firm or person whose previous reports have been unacceptable. Leonhardy presented a similar problem involving unethical client-oriented contracting in which information may be written off for the benefit of the client.

Idaho Archaeologist

Jim Huntley (Idaho Archaeological Society) announced for Bill Norquist (Editor, *Idaho Archaeologist*), who was unable to attend the meeting, that the southwest edition of the *Idaho Archaeologist*, which will run up to 72 pages, will probably be out in about a month. The last regular quarterly edition will be out toward the end of the year. Because of the financial crunch, the *Idaho Archaeologist* after this year, will probably be published in larger editions only twice a year, rather than quarterly.

Announcements

Green announced that the Seattle District of the Corps of Engineers has just completed a draft EIS for the Albeni Falls-Lake Pend Oreille project. Copies of the draft can be obtained from: Tom Bonde, Environmental Resource Section, Seattle Corps of Engineers, P.O. Box C-3755, Seattle, WA 98124.

Green stated that the SHPO office has been trying for years to get the Seattle District to accept some responsibility for the archaeology along the shoreline of Lake Pend Oreille, which is being impacted by the rising level of the lake caused by Albeni Dam. Letters should be written suggesting that it is the responsibility of the federal agency to do at least an inventory.

Green also announced that a poster session is being organized by the National Associaiton of State Archaeologists for the next meeting of the Society of American Archaeologists. Anyone having slides, educational kits, brochures, films, or any public information publications designed for the general public or appropriate for schools, county fairs, etc., should submit them to Green soon.

IMACS

Green announced that the new forms based on the IMACS system are available. He presented a map showing the physiographic zones that will be used for the state of Idaho. They were drawn according to drainage basins, and then modified to include basins, mountains, and irrigation districts. Wylie commented that each site will be coded in the

36th Annual Northwest Anthropological Conference

The 36th Annual Northwest Anthropological Conference will be held March 24, 25, and 26, 1983, hosted by the Dept. of Sociology, Anthro. and CJA, Boise State University. Sessions will be held at the Owhyee Plaza Hotel, Boise. The Conference will open Thursday morning with all-day sessions Thursday, Friday and perhaps Saturday.

Symposia are encouraged with half-day (3 hour) sessions preferred. Symposium organizers are asked to submit an outline of the proposed symposium, including a title, list of participants and tentative paper titles by January 15, 1983, with the final deadline for titles and abstracts for symposia of February 15th.

The deadline for contributed paper abstracts is February 15th. Contributed papers will generally be allocated 20 minutes for presentation and discussion.

A student paper contest will be held, with a $100 prize for the best paper presented by a student. Those wishing to enter should submit a title and abstract to the Conference Chair by February 15.

All inquires about the program should be addressed to: Kenneth Ames, NWAC Conference Chair, Department of Sociology, Anthro. & CJA, Boise State University, Boise, ID 83725

Women in Forestry

We are pleased to announce the founding of a quarterly journal, *Women in Forestry*, which aims to provide information and ideas for, from, and about women on topics related to: (1) the forestry profession and associated social science fields, (2) the use and conservation of natural and cultural resources, and (3) issues of administration and personnel of special interest to women in the natural resources. *Women in Forestry* will be published jointly by the College of Forestry, Wildlife, and Range Sciences and the Laboratory of Anthropology at the University of Idaho.

Women in Forestry is soliciting papers that will effectively integrate the factual, the personal, and the philosophical aspects of the forestry-related professions. *Women in Forestry* expects to provide interesting, thought-provoking reading and not to be merely a repository for factual data buried in esoteric technical jargon and statistics. The editors would like to receive contributions in the following categories:

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- calendar events
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- news and notes
- abstracts or clippings of articles from other publications
- announcements and awards
- positions wanted and positions available
- conferences and meetings
- cartoons
- advertisements

The first issue of the new *Women in Forestry* will appear in Spring 1983. Deadline for contributions to that issue was December 1, 1982. **The deadline for the second issue is March 1, 1983.** Send your contributions to: Molly Stock, Editor, Women in Forestry, Department of Forest Resources, University of Idaho, Moscow, Idaho 83843 (or call 208-885-6444).

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