SOUTHWESTERN IDAHO CULTURAL RESOURCES OVERVIEW

Boise and Shoshone Districts

1982

SOUTHWESTERN IDAHO
CLASS I CULTURAL RESOURCES OVERVIEW

for the

BUREAU OF LAND MANAGEMENT
BOISE AND SHOSHONE DISTRICT, IDAHO

Contract No. YA-553-CT1-1095

VOLUME 1

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December 1982

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PART 1 - CULTURAL RESOURCES MANAGEMENT SUMMARY

1.1 Introduction

This Class I Inventory Report provides an overview of the cultural resource data base for the Boise and the Shoshone Bureau of Land Management Districts in southwest Idaho. Volume 1 contains summary descriptions of present-day and prehistoric environments, past and ongoing research in archaeology, ethnography, and history, and provides discussions of the prehistory, ethnography, and history of the study area. There are 3209 prehistoric and 244 historic sites recorded in the Boise District; and, 491 prehistoric and 29 historic sites recorded in the Shoshone District. The prehistoric record begins 15,000 years ago; archaeological data continuous from this time to the first Euro-American visits in AD 1811 may exist at some sites. Recommendations for the management of the cultural resources and for future research are included in Volume 1. Volume 2 exists as a separate document for each of the two districts, and accompanies site summary tables, which describe the recorded sites in each. Volume 2 describes the extant site record systems, site classifications and definitions, and significant sites formally listed on national, state, and local registers. The reader is encouraged to consult the basic report for detail beyond that offered in this summary.

1.2 Orientation

The study area includes all lands within the Shoshone District and all lands, public and private, within the Bureau of Land Management's (BLM) Boise District with the exception of the Cascade Resource Area (see Figure 1). In the Boise District, the Resource Areas discussed in the study are Bruneau, Jarbidge, and Owyhee; in the Shoshone District they are the Bennett Hills and Monument Resource Areas. (See Part 3 - Environmental Overview for a description of physiography, climate, geology, soils, vegetation, and wildlife in the study area.)

The Bureau of Land Management is required to identify, evaluate, and protect cultural resources on public lands under its jurisdiction and to insure that Bureau-initiated or Bureau-authorized actions do not inadvertently harm or destroy non-federal cultural resources. These requirements are mandated by the Antiquities Act of 1906; the Reservoir Salvage Act of 1960 as amended by P.L. 933-191; the National Historic Preservation Act of 1966 as amended; the National Environmental Policy Act of 1969; and Executive Order 11593 (1791); the Archaeological Resources Protection Act of 1979 (ARPA); and the Federal Land Policy and Management Act of 1976 (FLPMA).

The Bureau of Land Management is mandated under Section 202 of the Federal Land Policy and Management Act of 1976 to undertake the formulation of land use plans. The inventory data generated will be used in making land use classifications.

1.3 Cultural Resource Investigations and Research Background

1.3.1 Summary of Past and Current Work

1.3.1.1 Discussion

1.3.1.1.1 Ethnographic Research

There were four stages of ethnographic research on the Northern Paiute and Western Shoshoni. In the first, travelers through the study area in the early and middle nineteenth century supplied numerous biased and confusing accounts of Native Americans, especially those they encountered along the Snake River. Steward (1938) has collected and interpreted many such accounts.

The second stage initiated professional anthropological research. It began with Robert Lowie's fieldwork among native people of the region in 1908 (Lowie 1908, 1959) and culminated in the 1930s when Julian H. Steward recorded information on middle Snake River Shoshoni (1941) and Fort Hall Shoshoni and Bannock (1943), and Omer Stewart (1941) interviewed members of Northern Paiute "bands".

The third stage took place in the 1950s and 1960s. These scholars, as well as others doing research among the Northern Paiute and Shoshoni, were called to testify before the U.S. Indian Claims Commission. Robert and Yolanda Murphy (1960) interviewed Shoshoni and Bannock at the Fort Hall and Duck Valley Reservations. Steward (1970) and Stewart (1966, 1970) relied on their past ethnographic research and on analysis of ethnohistoric accounts.

Just before World War II, an ethnographer named Sven Liljeblad came from Sweden to Idaho to study the Bannock and Shoshoni. His 1957 paper on Indian Peoples of Idaho is referenced frequently by researchers working with data from the study area. Present day researchers are dependent on Liljeblad for much areal-specific data and interpretation not available in any other sources (Liljeblad 1957, 1960, 1972).

The most recent stage illustrates the trend in Native American research to write histories, rather than ethnographics, of Native American groups. These focus on the post-Euro-American contact period, and on events rather than elements of culture, but are a valuable resource in reconstructing post-contact Native American-Euro-American relations and the changes in Native American life. B. Madsen's works on the Bannock (1958) and Northern-Shoshoni (1980) cover events in the study area.

1.3.1.1.2 Prehistoric Site Survey and Excavation

The first systematic archaeological research in the study area occurred in the 1920s and 1930s when the Museum of the American Indian-Heye Foundation, sent Louis Shellback (1930, 1967) and Godfrey Olsen (1940) to survey the Snake and Bruneau River drainages. Charleton Laird excavated Pence Duerig Cave on the Snake River in 1937 (Gruhn 1961c).

The next spate of activity was sponsored by the River Basin Surveys Columbia Basin Project in 1947-1953. Under the direction of the Smithsonian Institution and funded by the National Park Service (NPS), fifteen proposed reservoir sites in Idaho were surveyed, including American Falls Reservoir, just east of the study area (Swanson n.d.), and Anderson Ranch Reservoir, in Elmore County (Daugherty and Riddell 1947).

In 1957, Dr. Earl H. Swanson, Jr. was the first to establish a systematic survey program to determine the extent and nature of Idaho's cultural resources. His arrangements resulted in Swanson, Alan Bryan, Donald Tuohy, and others surveying the Salmon and Snake River systems in 1958 (Swanson, Tuohy and Bryan 1959). Ruth Gruhn excavated Wilson Butte Cave and provided the first chronological cultural sequence, as well as evidence of the antiquity of people in the study area (Gruhn 1959, 1069a, 1961a, 1961b, 1965).

The second major excavation in the study area was at the Dean site, on Brown's Bench near Salmon Falls Creek (Bowers and Savage 1962, Barnes 1964). The site had quantities of cultural material, which revealed a long time span of occupation in the area, but lacked absolute dates. Shutler and Shutler's (1963) excavation at Deer Creek Cave just south of the Idaho state line on the Jarbidge River provided another useful chronology for the area.

Swanson and the Idaho State College Museum undertook a second large-scale survey project in 1959, both north and south of the Snake River in southwestern Idaho. His expressed purpose was to find the boundary zone between Plateau and Great Basin cultures. Based on the survey data, he concluded that the Snake River was the boundary. Although his conclusion has been rejected by researchers with more recent data, his work provided one of the first models of regional prehistory. This project recorded many varied sites and was the first real attempt to reconstruct prehistoric lifeways in Idaho (Swanson 1965a, 1966a; Swanson, Bryan and Powers 1962; and, Swanson, Powers and Bryan 1964).

Swanson and Tuohy both surveyed several more proposed reservoir areas (Swanson, Bryan and Tuohy 1959 and Tuohy n.d. 1958a and b). The only findings of note were at the Guffey Reservoir location along the Snake River downstream from Grandview to Walter's Ferry (Tuohy n.d. and Tuohy and Swanson 1960). This area was revisited in 1971 and 1977 (Keeler and Koko 1971, Statham 1971, Murphey 1977c).

A different aspect of aboriginal culture came to light when both Robson Bonnichsen and Ruth Gruhn excavated burial sites along the Snake River. The Rattlesnake Canyon Cremation (Bonnichsen 1964) was a late Archaic site with two different burial layers and multiple grave goods. The Mecham site (Gruhn 1960b) was a Middle or Late Archaic burial also with extensive grave goods. Subsequent survey and excavation along the Snake River has been restricted to contract projects prior to highway construction and inundation from damming or irrigation, etc. Several excavated sites revealed new information on the prehistoric inhabitants of the area. Green's research at Givens Hot Springs revealed an occupational sequence beginning 5000 years ago and running through 700 years ago. Eight house structures with hearths were found, six of which have been described (Green 1982). Mark Plew test excavated four campsites in the Snake River Canyon near Bliss, Idaho (Plew 1981c). One of the sites was C-14 dated from 830 + 140 AD to 1630 + 140 AD, the first late Archaic date from the western canyon. Excavations at the Hagerman Fish Hatchery (Pavesic and Meatte 1980; Lothson and Virga 1981), Big Foot Bar (Plew 1980a, 1980b), the Narrows site (Ames 1976), and Givens Hot Springs (Green 1982:personal communication) have revealed possible or probable house structures.

Research in upland areas shifted from southwestern to eastern Idaho in 1961 with the onset of the Birch Creek project. Although outside the study area, the project, including major excavations at the Bison and Veratic rockshelters, developed a temporal sequence for the area dating from 1000 BP.

Until 1967, the only information published about the Owyhee Uplands (west of Salmon Falls Creek and south of the Snake River) was Thomas Lynch and Lawrence Olsen's (1964) analysis of materials from Columbet Creek Rockshelter. Beginning in 1967, many drainages in the Owyhee Uplands have been surveyed. To date, portions of the Jordan Creek (Pavesic 1967), Saylor Creek (Bucy 1971a, Pavesic and Moore 1973, and Geer 1977), Bruneau River (Pavesic and Hill 1973), Salmon Falls Creek (Tucker 1976a, 1976b), Devil's Creek (Murphey 1977a, 1980), Castle Creek (Metzler 1976b, 1977), and Owyhee River (Plew and Woods 1981a) drainage systems have been surveyed. The Reynolds Creek watershed close to the Snake River has been studied and reported by Jeanne Moe (1982). The drainage systems of two tributaries to the Owyhee River have been surveyed rather thoroughly: Battle Creek (Plew 1977e, 1980c), and Deep Creek, with its tributaries, Camas and Pole Creeks (Norquist and Moore 1975, and Plew 1976a, 1977c, 1977e, 1978a, 1979b, 1980c).

Mark Plew's work around the Battle, Pole, Deep, and Camas Creek area used survey data to model a much more complete picture of prehistoric economic settlement patterns in the area (Plew 1980c). The excavations at Nahas Cave in 1979 and 1980 (Plew 1979d, 1980e, 1980f, 1981a) revealed occupations spanning at least 6000 - 250 BP.

An overview of research related to the study area must include mention of the significant work conducted at Dry Creek (Webster 1978), Nahas Cave (Plew, various dates, see above), and Dirty Shame (Aikens, Cole, and Stuckenrath 1977). All are rockshelters, each has a significant cultural record, and each provides a piece of the interpretive puzzle of the study area's prehistory.

Nahas and Dry Creek are both of direct local relevance, and provide somewhat parallel data. Shared by all three sites are data on the introduction of the bow and arrow in western North America approximately 3000 years ago, much earlier than formerly thought.

Archaeological investigations in the Shoshone District north of the Snake River have been recent and few, with the exception of Wilson Butte Cave and various amateur site finds. This area includes Camas Prairie, known ethnographically to be a major gathering place (in both senses of the word). The Simon site (Butler 1963, Butler and Fitzwater 1965) is a Paleo-Indian tool cache on the Prairie. Unfortunately, most of the area is under cultivation; it is inaccessible to archaeological research or, as a result of cultivation, sites have been destroyed. Warburton and Hanson (1979a, 1979b) have attempted to build and test a predictive site location model for the area.

Thomas Cinadr (1976) has done the same thing for the Mt. Bennett Hills to the south, with a greater degree of success, presenting and testing several predictive models. His research, a BLM Class II Inventory, is helping fill in a blank space in the area's prehistoric settlement picture.

1.3.1.1.3 Historic Research

There have been very few reports which deal specifically with the historic sites (as opposed to events) in the study area. Surveys on Soldier Creek revealed a camp at a ford in the creek (Ostrogorsky 1978). Survey and testing for the Wiley Dam Project on the Snake River revealed a possible Chinese campsite (Ostrogorsky 1981). Roderick Sprague (1977) did some subsurface testing at the site of the old mining town, Silver City, and recommended further research. Bill Statham is conducting an on-going survey project at Silver City.

Approximately 80-90 percent of the Oregon Trail and its alternate routes have been traced in the study area (Idaho State Historical Society 1981). Information has been gathered from sources such as diaries and reportings by citizens in the area (Cramer 1976; Meacham 1979).

1.3.1.2 Cultural Resource Research and Investigation

Project Summaries

The report section 4.1.2 presents in summary form short descriptions of projects conducted within the project area which relate to its cultural resources. These summaries were drawn primarily from materials in the State Historic Preservation Office, Boise.

1.3.2 Collections

There are two major facilities housing historic and prehistoric collections from the Boise and Shoshone Districts. These facilities are the Regional Archaeological Centers for southwestern and southeastern Idaho in Boise and Pocatello, respectively (SWIRAC and SEIRAC). Collections from the Boise District are housed and catalogued by county at the State Historic Preservation Office (SHPO) in Boise, except for Twin Falls County which goes to Pocatello. Those from the Shoshone District fall into the southeast region and are housed and catalogued at the Idaho State Museum of Natural History, Idaho State University, in Pocatello. Survey and excavation project collections generally are found at these locations, although some exceptions to this statewide system are known to exist.

A number of small museums, libraries, and historical societies, as well as private individuals, also possess cultural resource collections from the study area. These collections exist in a wide array of cataloguing order and accessibility. They frequently are of reduced research value because they are difficult to gain access to and because records accompanying them often lack reliable information regarding provenience.

The report, sections 4.2.2 through 4.2.6, presents a summary of cultural resource collections from within or adjacent to the study area. Provided are brief descriptions of the most pertinent available information on site catalogues, maps, photographs, newspapers, and collections.

1.3.3 Present Research Orientations

Present research orientations are considered here as research questions within a traditional archaeological framework. They form the basis for research designs within the study area. Principal research questions and orientations are:

1. Development of regional and local cultural chronologies;
2. Subsistence, land use, and settlement pattern studies;
3. Plateau-Great Basin relationships;
4. Shoshonean expansion and the Fremont presence;
5. Early introduction of the bow and arrow;
6. Lithic material source identification; and,

7. Archaeological documentation of the ethonographic record.

1.4 Cultural Resource Narrative

1.4.1 Native Americans in Southwest Idaho

1.4.1.1 Introduction

The following narrative discusses the occurrence and nature of occupancy of the Native Americans of southwest and southcentral Idaho, from about 14,500 years before present (BP) to the period of Euro-American exploration and colonization in the nineteenth century. The evidence from which this account is structured comes from archaeological survey and excavation data and both travelers' and trained ethnographers' accounts of Native Americans observed or interviewed in the nineteenth and twentieth centuries.

The study area is comprised of two basic physiographic areas, the Snake River Plain and the Owyhee Uplands (see Figure 3). In terms of floral and faunal resources, it can be divided into three basic areas: the Owyhee Uplands (OU), the Snake River Canyon (SRC), and the Snake River Plain (SRP). The SRP can be subdivided into the SRP, the Mt. Bennett Hills (MBH), and Camas Prairie (CP).

1.4.1.2 Cultural Chronology

There have been very few scientifically conducted excavations of stratified sites in or around the study area which have yielded Carbon-14 dates. (See Figure 10 and the summary of prehistoric excavations found elsewhere in this section.) Because there have been so few reliably dated sites in the study area, no one has yet attempted a culture chronology of southwest Idaho. Archaeologists use more general Great Basin chronologies to interpret data from the study area.

Based solely on the changes in projectile point styles, some broad patterns can be used to describe three periods. In Period 1 (15,000 - 7000 BP) projectile points were large, lanceolate types. In Period 2, (7000 - 3000 BP) lanceolate points continued to appear, but they were supplanted gradually by smaller side and corner-notched or eared points. In Period 3 (3000 - 150 BP) a second major change occurred sometime between 3000 and 2500 BP. A noticeable reduction in size and weight of corner-notched, side-notched, and triangular projectile points at this time is thought to mark the first use of the bow and arrow in the area. (See Part 5 for a detailed description of the environment and cultural record of these periods.)

One major event to cause culture change was the arrival of the horse, sometime between 1690 and 1700 AD. The influence of the horse was strongest to the north and east of the study area, and did not result in many changes in the material culture of southwest Idaho. However, the Rattlesnake Canyon cremation (Bonnischsen 1964) contains European copper. Horse-mounted Shoshoni first were described in historic times along the upper Missouri River, where they were trading for copper pots, knives, and beads. Euro-American trade goods reached the study area before the Euro-Americans themselves.

1.4.1.3 Lifeways

In attempting to recreate the lifeways of the Native Americans in the study area, two sources of information can be used, the ethnographic and the archaeological records. The ethnographic data reflect an accurate portrayal of the Numic adaptation, one which was more energy and labor-intensive than cultural adaptations which preceded it. Earlier cultures relied more on hunting and less on seed collecting and processing than did the later Numic culture (Bettinger and Baumhoff 1982). However, the differences are a matter of emphasis, and the ethnographic data provide a good basis for understanding what may have occurred before the arrival of the Numic peoples.

The great advantage of the archaeological record is that it does trace cultures over long periods of time, and can record both change and stability over time and space. Because it deals with the material remains of a culture, the data are always available for new and different configurations and interpretations, whereas we must depend on the existing writings and interpretations of the ethnographers as the only description of an old way of life which is gone forever. On the other hand, the archaeological record is limited only in preserving the material and usually non-perishable aspects of Native American life. It is, therefore, biased toward technology and weak in portraying cultural behavior, socio-political, and religious forms. Interpretation of liveways from material objects alone is also difficult because archaeologists cannot witness people using the objects they recover.

It becomes obvious that to arrive at an accurate picture of prehistoric Native American lifeways in the area for all but the well-recorded short-lived Numic presence, one must compare and contrast the ethnographical and archaeological data. (See Section 5.1.3 for a discussion of prehistoric social systems and settlement and subsistence patterns based on the ethnographic record and archaeological data.)

1.4.2 History

1.4.2.1 Historic Themes

1.4.2.1.1 Aboriginal Life and the Fur Trade, 1810-1839

During the eighteenth century, French fur hunters were the only Europeans who had an interest in exploring a water route to the Pacific Ocean west of the Continental Divide. One such party (the Verendrye) encountered Plains Indians in the North Dakota area who spoke of their enemies the Snakes. That name was used by all the early explorers and pioneers, but in modern times these Indians are now recognized as the Shoshoni tribe. The various Shoshoni speaking groups ranged from the western Plains across the Divide, and in the Snake River Valley.

The primary change in Native American traditional ways occurred after the introduction of the horse to the study area in the early eighteenth century. Several large herds of Spanish horses entered the Native American trade network and were traded along the west flank of the Rockies and Wasatch Mountains. They reached Idaho in the Fort Hall area by 1700, well before they came to Plains tribes (Pavesic 1982:personal communication). They probably spread to the Snake River Plain within the study area soon thereafter (Haines 1970; Young 1979).

Among the Northern Shoshoni in the Snake Valley, some groups accepted the horse earlier and used it more extensively than others. Those that did utilize horses adopted other traits of the well-developed Plains Indian model. Along with the advantages in hunting and gathering that the horse allowed, there was also an increase in inter-tribal warfare, particularly with the traditional enemies, the Blackfeet, to the north. The Blackfeet also had acquired firearms from the French trappers. Because of pressure from the Blackfeet, the Northern Shoshoni had retired from their former extent north into Canada and lived primarily in the Snake Valley.

During this time, some Northern Paiutes had begun to settle in the Snake Valley and were accepted by, but distinct from, the Northern Shoshoni. The Paiutes tended to adopt usage of the horse with the same interest as the pro-horse Shoshoni. Eventually this group of Northern Shoshoni and Paiutes, who accepted the horse and the mobile band type of organization it allowed, were referred to as the Bannock Indians.

In 1810, John Jacob Astor founded the American Pacific Fur Company and a year later built Ft. Astoria at the mouth of the Columbia. Some sixty men, including Donald MacKenzie and Robert Stuart, accompanied Wilson Price Hunt's expedition from St. Louis to Astoria in 1811 (Boreson, Moody, and Murphey 1979:120; Stuart 1935:281). On a return trip with messages, Stuart led a group back through the Snake country in the summer of 1812 and met a band of Shoshoni near the mouth of the Owyhee River in the Ft. Boise area (ibid.). These expeditions initiated the fur trade which was to continue in the Snake area for several decades.

MacKenzie returned in 1816 to the Columbia outpost to re-establish the Snake River trade. By 1818, he had expanded his pelt collection activities from Boise to the upper Snake and Yellowstone areas (Idaho State Historical Society 1976:23; Madsen 1980:24). The trappers followed a migratory cycle much like the Indian and provided the natives with access to European/American supplies in trade for pelts. A band of Iroquois trappers had entered the Snake region with MacKenzie in 1818 and stayed in the area until 1836 (ibid.). Under MacKenzie's leadership, four more expeditions were mounted through 1824, although the last three were made in the name of the Hudson's Bay Company, which merged with the North West Company in 1821. One of these, the Alexander Ross party, came into Sun Valley by way of Trail Creek and the Big Wood River to Camas Creek and traveled northwest across Camas Prairie (Young 1979:4).

When Peter Skene Ogden took over the Snake expeditions for the Hudson's Bay Company in 1824, he encountered competition from American trappers who were moving their operations west from the Rockies. General William Ashley's Rocky Mountain Fur Company was founded in 1822 in St. Louis, and Jedediah Smith led a party of trappers to the Snake region in 1824. The next decade saw the greatest reduction in the beaver population because of the two competing trapping organizations.

The American trappers' greatest problems were supplies and communications. To overcome these obstacles and be more competitive, the Rocky Mountain Company established a regular system of annual summer rendezvous' and trade fairs. Several rendezvous' were held in the Wind River-South Pass area in the 1830s.

Nathaniel Wyeth, who had an 1834 Ham's Fork rendezvous supply contract which was dishonored by the Rocky Mountain Company, moved his supplies to the Ft. Hall area and built the original Ft. Hall to service the American trappers (Madsen 1958:50ff). Even though the beaver were almost gone, the British established Ft. Boise the same year to counterbalance the American fort. Wyeth's Ft. Hall failed because of the decline in beavers, and the Hudson's Bay Company took over its operation in 1838.

1.4.2.1.2 Overland Migration and Settlement, 1840-1859

The second period of the transition of Idaho from aboriginal land to an American state occurred during the middle decades of the nineteenth century.

In 1834, Jason Lee explored the Willamette Valley in western Oregon and in 1838 returned to the Midwest to raise funds for his Oregon mission. His lecture tour inspired the travel of a party from Peoria, Illinois, to Oregon. They opened the wagon route of the Oregon Trail through the Snake Valley west of Ft. Hall. In the following year, the wagon route was completed from Ft. Boise to western Oregon.

The Oregon Trail in Idaho was along the Snake River between Ft. Hall and Ft. Boise. The western stretch of the trail split at the Three Island Crossing where the trail continued northwest to Boise or along the southern side of the Snake. In between, there were only campsites and Indians. Hudson's Bay Company kept the forts open for the travelers even though the fur trade had vanished. As more people passed through, other routes were also explored. In 1852, Tim Goodale led a party through Camas Prairie on the old trader's route. This shortcut to Boise became known as Goodale's Cutoff. During the same year Ft. Hall was bypassed to avoid flooding and to save time. At Thousand Springs, another river crossing was used heavily after 1851 (Idaho State Historical Society 1981:124).

By the mid-1850s, resentment and mistrust had built up between the Indians and the emigrants. In 1854, Indians attacked the Ward party on the trail near Middleton, Idaho, and only two small boys survived (Boreson, Moody, and Murphey 1979:133; Haines 1973:319-320). In the same year, more were killed near Ft. Boise (ibid.; Drew 1973:20-21). The following year, Granville O. Haller led a retaliatory expedition against the Boise Indians and traveled across Goodale's Cutoff. This action stimulated more Indian hostility and Ft. Boise was closed and abandoned. In 1856, Ft. Hall was left isolated by the closure of the forts on either side of it, and it too was abandoned.

1.4.2.1.3 The Mining Frontier and Snake Indian Wars 1860-1879

During the previous two decades, the Oregon Trail had been heavily traveled and routes were refined, but little settlement had taken place in the study area. As the army withdrew east during the Civil War, Forts Boise and Hall were manned by volunteers from the northwestern states who had little success in dealing peacefully with the Indians. It was during this time, when the military was absent, that the first influx of settlers moved into Idaho.

The stimulus for settlement was precious metals. Gold in Boise Basin apparently was known to a Hudson's Bay Company trapper as early as 1844 and rumors of the discovery of gold by an emigrant party just west of the Owyhees in 1845 stimulated further mining exploration in the Owyhees (Young 1982). E. D. Pierce discovered gold near the town that bears his name in 1860 and the Idaho gold rush began. In 1862, Moses Splawn discovered gold in the Boise Basin. Splawn returned with more men to work the area later that year near Centerville (Ostrogorsky 1981:18; Chaffee 1927:53). Because of the sudden influx of miners and the Indian problems, Congress established a new Ft. Boise near Boise City in 1863, even though the Civil War was still in progress.

South of the Snake River, Michael Jordan discovered gold in the Owyhees. During just one year, a gold quartz lode was found at Whiskey Gulch above the future site of Silver City. Boonville replaced Happy Camp where the miners lived. Later that year, the Orofino and Morning Star deposits were located and the boom was in full swing. The towns of Silver City and Ruby City sprang up over night and became major centers of population in Idaho. The rich

Poorman mine was found in 1865 and jolted the economy of Owyhee again (Owyhee County Ref. Series 200 1964; Idaho State Historical Society 1964).

After the construction of new Ft. Boise, a camp for the Boise Shoshoni was set up by the post. While some resided there and became dependent on the army, many others refused and continued the hostilities. The Owyhee hinterlands (excluding the Silver City/Jordan Creek area) provided refuge for the Indians who refused reservation life. The miners of Silver City at first bought wild meat from the Indians, but soon the game gave out and whites replaced the Indians in providing food to the miners. Some Indian women were hired by miners to do domestic chores, and ranchers hired Indians, men and women, for low wages to do various jobs. The army hired Indian scouts and interpreters as did Reservation Agents (Young 1982). Boise had become the principal city as a supply depot between the Idaho City and Silver City mines as well as the major Oregon Trail settlement between Kansas City and Portland.

In 1864, ranchers were attacked in Jordan Valley and Michael Jordan was killed in the following chase (Boreson, Moody, and Murphy 1979:141). The increasing American population of Idaho caused even more problems with the Indians. Because of the more frequent raids and attacks, the army at Boise sent out into the field companies of troops to show a military presence. Following the Jordan Valley incident, some temporary military camps were set up at points along the roads.

The army sent General George Crook to Idaho to reduce the Indians to reservations. His campaigns became known as the Snake War of 1866-1868. Crook's success was based on his earlier experiences fighting California's Pit River Indians, and on his use of innovative techniques to combat the guerilla-style fighting used by the Indians. In Idaho, he used the method of winter campaigns and destruction of food reserves to seriously weaken the Indian resistance. Crook's intensive and effective campaign was the first severe setback for the southern Idaho Indians but it did not lead to a lasting peace.

Mining in the Boise Basin and Owyhee district continued through the decade. The mines near Silver City used a great number of Chinese workers for mining and support labor. The Chinese laborers were readily available from the California mines but many that moved to Silver City came from the Boise mines. The mines required both labor and food for the workers. The Chinese provided the extra human labor necessary to keep the mines operating. Silver City boasted a large enough Chinese population to establish a distinct Chinatown. Their occupation was significant in that they introduced irrigation systems which permitted intensive food production in the region around Marsing and Reynolds Creek. Cattle and sheep also were important resources to the mines. Con Shea brought the first Texas cattle into the region in 1867 and thereafter ranches were common in Jordan Valley, the Oreana/Sinker Creek area, and the Juniper Mountain area (Young 1979).

This new population, its industry, business, and livelihood, depended entirely on the overland routes which could be rendered passable. The mines stimulated the first network of roads other than the emigrant trails. In 1863 John Fruit built his commercial ferry on the Snake River at Walters Ferry. By 1865 the Idaho Stage Company used this crossing. The route went from there along Reynolds Creek to Silver City, then along Jordan Valley to Oregon and ended at Chico, California. The second Boise-Silver City connector crossed the Snake at Givens Hot Springs then followed Succor Creek to Cow Creek and serviced Silver City and Jordan Valley (Young).

New mines in the Owyhee Mountains were opened on Flint and South Mountains after smelters were brought in to handle the ores there. The development at Bullion City was less intensive than at Silver City. The first smelter arrived in 1874, but the collapse of the Bank of California in 1875 hindered the operations. While Silver City almost closed down immediately with the collapse, Bullion City continued on a smaller scale for several decades.

Camas Prairie had seen increasing travel along Goodale's Cutoff during the 1860s. In addition to emigrant traffic, there also were many cattle drives through the prairie (Ryan 1975:17ff). In the 1870s Charles Babington built a log cabin and stage stop on Corral Creek and a few other ranches were built in the region (Nelson 1937:20). This increasing use of Camas Prairie led to the Bannock War of 1878. The Bannock War consisted of several skirmishes in the study area which represent the last major Indian resistance to American settlement in the region.

1.4.2.1.4 The Railroad and Galena Mines 1880-1889

The final phase of the mining frontier was initiated in the Wood River Valley after the reduction of the Bannock and Sheepeater Indians. In 1880 Dan Scribner discovered a thick galena deposit rich in silver at Broadford which was later named the Minnie Moore Mine. The town of Hailey grew up in 1881 with the influx of some 5000 people to the new mining district (Blanchard 1981:3). In addition to the silver, there also was gold to be found west of Hailey where the Big Camas and Black Cinder mines exploited the Hailey Gold Belt. West of Hailey, the towns of Gilman City, Bullion, Doniphan, and Gold Belt serviced nearby mines. In addition to Chinese workers, Irish miners also were common in the region (ibid.).

Railroad construction prior to 1880 terminated at several points near Idaho, but none went through Idaho. The Oregon Short Line (OSL) built by Union Pacific finally provided service in the 1880s. By 1882 the Oregon Short Line reached American Falls. By 1884 the rail had linked Idaho with the continent and provided the needed transportation services to bring in supplies and to export the products.

1.4.2.1.5 Early Statehood, 1890-1930

Idaho became the 43rd state in 1890. After the enactment of the Carey Act of 1894, which assisted in the reclamation of desert lands, there were several major canal and irrigation projects. The two centers of these irrigation projects closest to the study area are the Boise Valley and around Twin Falls. Both of these were successful in developing the foundation for the modern agricultural base in Idaho. Within the study area, major secondary agricultural centers which grew out of the irrigation works include Gooding, Bruneau, and Jerome. Camas Prairie was occupied most heavily after 1910 when small farms moved in and their owners irrigated the land (Ryan 1975:25).

Another minority ethnic group did move into the region during this time period. The Basques who had immigrated to the American West in the late nineteenth century got to southwestern Idaho in the early statehood years. As emigrants they took the jobs which were available, often only sheepherding. The Basques desired to incorporate themselves into the extant community. The

Basques herded sheep in Owyhee County and presently have a significant urban population in Boise (Idaho State Historical Society 1976:227; Bieter 1957).

1.4.2.2 Historic Lifeways

During the historic period in southern Idaho, mining and ranching were the two primary lifeways expressed in the settlement pattern. The early fur trappers, prospectors, and emigrants did little more than camp in different places throughout the study area. When precious metals were discovered in the 1860s, the opening of the mines caused a flurry of settlement wherever the deposits were found. In most cases, when the ore played out the people moved on. Silver City turned into a ghost town after the mining stopped. Ranches were first established to supply foodstuffs for the miners. They sometimes took on additional functions along roads and stage lines. Because the ranches were first built on good land with water, they frequently continued on after the miners left. The ranch was a rural subsistence type of settlement, whereas the mining town was a dependent urban center.

1.4.2.3 Contemporary Culture

The contemporary culture of Idaho is primarily an intensification of its irrigation based third stage of settlement. Agriculture, ranching, and mining are still the primary industries in the state. The population has increased, but the state ranks forty-first with only about 900,000 people. Mountain Home is the largest town between the Boise and Twin Falls population centers. The rest of the study area is very sparsely populated today, approximately one person per square mile.

With the growing importance of irrigation agriculture, the demand for labor has continued. While the Basques provided migrant labor beginning in the late nineteenth century, Mexican migrants became predominant on the large farms of the twentieth century. During World War II some 10,000 Japanese were relocated in a 68,000 acre camp on the lava beds near Minidoka. Shortly after the establishment of the camp, the Japanese were allowed to earn wages, and they soon joined in the regular cycle of migrant work (Glaser 1967).

The Indians of southern Idaho were placed on several different reservations, including Ft. Hall and Duck Valley. Because of the cultural disintegration the tribes experienced between 1850-1880, the specific cultural stocks and homelands have been obscured through the historic period. The traditional meeting grounds at Boise have been completely taken over by American interests although the Ft. Hall Reservation is the location of an aboriginal meeting and trade center. The Indians also lost the land in Camas Prairie.

The Taylor Grazing Act of 1934 became the most significant federal involvement in the management of rangelands in Idaho. The act was designed to control unchecked grazing of open ranges. In 1946, the Taylor Grazing Service and the General Land Office merged to form the Bureau of Land Management which today is responsible for planned management of public lands under the greater population pressure of contemporary times.

Federal Land Policy and Management Act (FLPMA), passed in 1976, provided the basis for comprehensive planning within the Bureau of Land Management. As the mission statement for the Bureau, it mandates multiple use and sustained yield of resources as the guiding principle. Under the Act, lands are to be regularly inventoried and classified, present and future land use is to be described and planned for, and mangement goals developed with plans for their implementation. The multiple use concept includes protection of the quality of lands and resources having scientific and recreational values within which lie resources having historic and archaeological value (Tripp 1982:personal communication).

1.4.2.4 Federal Government in the West

The role of the federal government in the west has evolved as the western lands were gradually occupied by Americans. The first role was military in nature when the U.S. Army was called in to settle occupation disputes between emigrants and Native Americans. This activity was primarily reactive, and, while it only responded to short-term needs, it did, however, effectively establish American cultural dominance over Native Americans. This succession of the land control principals allowed the federal government to adopt a more active management role in planning for long-term goals.

The earliest federal land management activities began with the establishment of the General Land Office (GLO) in 1812. The GLO oversaw the disposal of public domain lands beginning in the Old Northwest (Midwest) and its work proceeded westward as lands were surveyed and opened for settlement. In the arid west and in Idaho, the first settlers occupied the choicest lands which offered fresh water, grazing land, timber, and arable soils. After the first years of mining and settlement, most of the naturally choice districts were settled. Various kinds of Congressional legislation were proposed and enacted in the late nineteenth and early twentieth centuries to assist in the development and increase the productivity of western lands. The adoption and successes of the various Acts has led to differential significance in separate sections of the west. Different regions were able to take advantage of different projects.

In the study area, the early timber acts (Timber Culture Act of 1873; Timber and Stone Act of 1878) and the first Desert Land Act of 1877 had little influence on the history of the region. The important mining law of 1872 and the Mineral Leasing Act of 1920 became less significant because of the closure of the majority of the mines in the region. The most significant nineteenth century act was the second Desert Land Act of 1894 sponsored by Senator Carey of Wyoming and commonly called the Carey Act. The federal-state cooperative system was developed under the Act to help initiate and complete successful irrigation and reclamation projects. The spirit of the generally unsuccessful Desert Land Acts was continued into the twentieth century with the development of the Department of the Interior's United States Reclamation Service which began in 1902. The first decades in this century saw the development of the main population centers as well as the agricultural and ranching economy. The Carey Act and reclamation projects allowed the farmers to develop and utilize lands with the abundant water supply from the Snake River and other major drainages. Outside the irrigated zones, however, the ranchers and sheepherders were vigorously competing over the available rangeland. Because this problem was common throughout much of the west, Congress responded to the situation with the Taylor Grazing Act of 1934 which provided restrictions on the use of public grazing lands in order to control overgrazing. The Act required that ranchers who used the rangelands have a fixed base of operation rather than being entirely nomadic. In 1946 the Taylor Grazing Service and the General Land Office functions were combined into the Department of Interior's Bureau of Land Management. The BLM now manages public lands and performs a variety of control and usage functions as well as planning projects.

While the Taylor Grazing Service and then the BLM have managed to control overgrazing of fragile rangelands and today continue to plan for long-term goals, other acts and agencies have dealt with the problems caused by the agricultural production after irrigation. The harvest of agricultural produce required human labor in excess of that available in the region. Thus, migrant farmworkers were used heavily throughout the Snake Valley. These workers came from the Dust Bowl areas of the 1930s as well as from minority populations.

In 1933 the Federal Emergency Relief Act (ERA) attempted to provide some help for the homeless. The Farm Security Administration (FSA) developed out of the Act. By 1941 the FSA had accomplished the construction of two camps near Caldwell and Twin Falls to provide minimally sufficient, but healthy, residences for emigrants. During World War II the FSA and the Immigration Service cooperated to allow Mexican nationals to work the fields. Also during this time, the FSA and the War Relocation Administration planned the Japanese relocation camp at Minidoka. After the relocation period, many Japanese temporarily became migant workers, until employment opportunities and public opinion permitted their reintegration with mainstream society.

1.5 Cultural Resource Synthesis

1.5.1 Prehistoric Use

Prehistoric human use and occupation of the Bureau of Land Management's (BLM) Class 1 Overview Study Area, the Boise and Shoshone Districts, began at least 15,000 years ago.

At that time, grasses dominated the landscape. The climate was cooler and drier than at present, and winters were longer. Later in this early period, the climate became wetter. Grasslands and small lakes were present where sagebrush and dry creeks exist today, and forests covered higher elevations more densely and with some different species than are present now.

Animals that fed upon the luxuriant plant growth no longer exist in the study area. Large herbivores, including musk ox, camels, elephants, horses, bison, sheep, and sloth; omnivores, such as the grizzly bear; and predators and scavengers associated with them, all may have been hunted by prehistoric people. Nearly all ethnographically recorded cultures of hunters and gatherers consumed more vegetable foods than products of the hunt. We should suppose this to be the case for the early inhabitants of the study area, even in the absence of data, because for people around the world vegetable products generally have been more reliable than game. The picture of life for the people in the study area between 15,000 and eight or nine thousand years ago is that of a small population of hunters and gatherers living in small bands in a relatively rich environment. The culture was well-adapted to the requirements of the environment. Some surpluses probably existed which could be stored, and life was not as taxing as it later became.

Beginning eight to nine thousand years ago, less rain fell in the project area. By seven thousand years ago, the trend of reduced rainfall and climatic warming had radically altered the landscape, the communities of creatures and plants living upon it, and the cultural adaptations required to sustain human life. Population density probably decreased, or if it did not, at least the land area required per person to provide a basic livelihood increased. The warming and drying occurred slowly enough that people could change their ways to meet its challenge; however, the full impact upon the native inhabitants of the volcanic ash rain which fell when Mt. Mazama exploded 6700 years ago is not known.

Subsistence pursuits in the Owyhee drainage included collection of salmon and camas, while those practices further east included bison. The potentials of each microenvironment were exploited; each was different and each required specialized knowledge held by the local group to maximize its potential. The people using each valley had a long history there; they were pragmatic and knowledgeable, sensitive to environmental and climatic changes, and flexible in their responses to the distinct set of resources available to them.

The cultural adaptation in place at that time provided the pattern for those which followed. Predominantly a wide-ranging, hunting and gathering subsistence adaptation, it utilized an acute knowledge of the resource landscape and annual timetable of seed, root, tuber, and animal concentrations. People, based in temporary camps for most of each year, had to be where and when the food and material resources appeared. They grouped together when and where there was sufficient food and water to support a gathering, and divided into smaller family units when resource density was thin. Rabbits, antelope, deer, rodents, fish, shellfish, and insects provided meats when they were available, but the mainstay, as usual, was the vegetable resource of storable seeds, nuts, and roots. Fish was an extremely important resource to local groups in central and western Idaho; bison provided an equivalent resource, although a necessarily different lifeway, on the eastern Snake River Plain and in the Brown's Bench area. The landscape was not uniform in appearance, and it was not a uniform provider of resources. Continuing as before, each localized area provided the resources of a unique set of microenvironments; no two groups lived in the same way.

A landscape similar to that of today was in place across most of the study area by 3000 years ago. The warming climate had cooled somewhat by this time. Those local areas which had been abandoned during the driest part of the earlier climatic episode were reoccupied and used as the environment permitted. The bow and arrow appeared in the study area, possibly the location of its regional development and diffusion in western North America.

A new population of Native Americans moved into the study area 700 years ago displacing the residents. The new adaptation was more labor-intensive and exploited more kinds of resources than did the earlier cultures.

The arrival of the horse in 1690-1700 changed Native American cultures; the arrival of Euro-Americans in the early 1800s ended them.

1.5.2 Historic Use

Traditional Native American lifeways changed after the introduction of the horse in the late eighteenth century. Euro-American trappers and explorers encountered native cultures in the process of rapid change: their mobility was increased, their effective ranges were expanding as fast as their herds' food requirements, and intra-group and inter-tribal contacts were accelerating. Following the horse came trade goods, and then the trappers and explorers from a different culture.

Although each local residential group of Native Americans was named and known to the others, the recent changes created three larger groups with shared lifeways. The Boise and the Ft. Hall Shoshoni, groups named for the sites of inter-tribal meeting grounds, had a plateau cultural focus with some cultural input from the Plains groups they knew of and traded with. The Bruneau or western Shoshoni lived with a cultural focus toward the south, toward the Great Basin. Unlike their two neighbors to the north, they did not adopt the horse, and were not met as often by the incoming Euro-Americans.

Following the explorations of Lewis and Clark north of the study area, the party of Robert Stuart, returning to St. Louis from the new American Pacific Fur Company's post at Astoria, met Shoshoni near the mouth of the Owyhee River in 1812. The trappers carried word of the pelt potential, and the fur trade existed in the Snake River area for several decades. Interactions between the American trappers and the Native Americans were erratic--some were disastrous and others well managed by all parties.

Competition from the Hudson's Bay Company trappers had not only greatly reduced the beaver population by the 1820s, but induced a brutal scorched earth policy on the part of the British. By the mid 1830s, the fur trade had come and gone, diseases introduced by the Euro-Americans had decimated local Native American populations, the larger composite groups had fissioned, and the way toward in-migration and settlements, no matter how many bodies had paved it, was complete.

The Oregon Trail, conceived of and traveled in the late 1830s, was formally surveyed for the U.S. government in 1843 by John C. Fremont. Overland travel and settlement in the Oregon territory was encouraged as a political strategy designed to coerce the establishment of a stable border between the U.S. and Great Britain. The border became a reality in 1846. Thousands of emigrants crossed the Snake River Valley on their way to Oregon, but few attempted to settle. A Mormon colony from Salt Lake City, Franklin, was the first American town within the borders of present-day Idaho.

Other routes west were explored, some of which produced resentments between Native Americans and emigrants. Feuds and retaliations escalated into the period of the American Civil War, when gold was discovered in the Boise Basin and later in the Owyhees. Out of work miners from California, escapees from both combatant groups in the Civil War, and others flocked to the new gold fields.

Because of increasing pressure from the newcomers, Native Americans were involved in frequent raids, which led to an increased military presence in the study area. When this tactic failed to allay the problems, the army sent General George Crook to Idaho to force the Native American population onto reserves. Crook's intensive and severe campaign, 1866-1868, brought natives to the Ft. Hall reservation and to a reservation at the south fork of the Boise River.

Mining stimulated the construction of roads in the late 1860s, river crossings linked local population centers, and Idaho was effectively connected with Oregon, California, Utah, and the east. New mining centers opened, and food production including the introduction of limited irrigation systems became a local industry keeping pace with the growth of the population. Ranches were established in the study area after 1867 when first cattle and then sheep were brought in.

While these events were occurring in the Owyhee region, Camas Prairie settlement had just begun. Emigrant traffic supported the first settlers, followed by the establishment of ranches. New friction regarding land use resulted in the Bannock War of 1878, the last major Native American resistance to settlement in the region.

The last phase of the mining frontier began in the Wood River Valley with the discovery of galena and silver deposits in 1880. Hailey was the center of the action, and other towns grew to service the mines exploiting the Hailey gold belt to the west. Railroad construction had not yet entered Idaho. However, by 1884 the Oregon Short Line (Union Pacific owned) had connected Idaho with the rest of the country. Soon, new towns sprang up along railroad extensions, and the opportunities opened to the new population by the stable transportation led to vision of stability and wealth through the link to exterior markets. Growth required an expanding market place if ranching and agriculture were to move beyond the local demand.

Statehood was achieved in 1890. The ability to produce for an expanded market was made possible by the Carey Act of 1894 which made the area attractive for intensive irrigation agriculture. The railroad made delivery of the product possible, brought the engineers and materials necessary to the construction, and to support the work force.

The modern history of the study area originated from this point in time, and is characterized by development and refinement of trends begun in the 1890s--intensive agriculture, extensive use of the non-agricultural land for ranching, and subsurface mining--a stable, broad-based diversified economy.

1.6 Research Directions, Management Options, Data Base, Values

1.6.1 Research Directions

The goal of historic and prehistoric or archaeological research is the explanation of adaptive strategies. Research directions related to this goal include the following: development of local and regional chronologies, definition of functional site types and season of use, temporal and cultural relationships, and models of subsystems.

1.6.2 Cultural Resource Management Options

Part 8 describes options within and in addition to existing Management Framework Plans.

1.6.3 The Cultural Resource Data Base

The recorded data base consists of: (1) site forms which systematically describe and locate sites as they are found, either as a result of specifically authorized projects or as the public comes forward with data; (2) project reports which document selected data about sites for which forms have been filed; (3) unpublished or otherwise presently inaccessible data about known sites existing as notes and collections held by researchers and the public, old letters and photographs, and other unaccessioned archival material.

Table 1 displays the number of recorded historic and prehistoric sites for each of the two districts within the project area, as of March 1, 1982.

Table 1

Recorded Sites: Prehistoric

BLM District	County	Number of Sites	District Total
BOISE			3,209
	Ada	84	
	Elmore	329	
	Owyhee	2,653	
	Twin Falls	153	

BLM District	County	Number of Sites	District Total
SHOSHONE			491
	Blaine	48	
	Butte	2	
	Camas	71	
	Elmore	62	
	Gooding	179	
	Jerome	25	
	Lincoln	49	
	Minidoka	10	
	Power	45	

Project Area Total			3,700

Recorded Sites: Historic

BLM District	County	Number of Sites	District Total
BOISE			244
	Ada	24	
	Elmore	63	
	Owyhee	153	
	Twin Falls	4	

BLM District	County	Number of Sites	District Total
SHOSHONE			29
	Blaine	4	
	Butte	0	
	Camas	0	
	Elmore	12	
	Gooding	10	

Table 1 (Continued)

BLM District	County	Number of Sites	District Total
SHOSHONE (Cont.)	Jerome	0	
	Lincoln	1	
	Minidoka	0	
	Power	0	
Project Area Total			273

1.6.3.1 The Recorded Data Base: Boise Distict as of March 1, 1982

There are 3453 site forms on file with the SHPO which record sites in the Boise District. Of these, 3209 record prehistoric sites, and 244 record historic sites.

1.6.3.2 The Recorded Data Base: Shoshone District as of March 1, 1982

For the Shoshone District, 520 site forms have been filed with the SHPO. Of these, 491 record prehistoric sites, and 29 record historic sites.

1.6.4 Cultural Resource Values

Unlike other resources that BLM manages such as timber or minerals, cultural resources have little or no economic value, so they cannot be measured in terms of dollars and cents. The true value of cultural resources is based on an intangible quality--our heritage as a people. Cultural resources represent a portion of our heritage and thus they give us a sense of meaning as individuals and as members of American society. Cultural resources are unique and significant and as such they deserve protection and preservation because they are of value to all Americans. In addition, certain cultural resources hold special religious and social significance for Native Americans, including Eskimos, Indians, and Aleuts.

Another value associated with cultural resources lies in their ability to provide scientific information on the prehistory and history of an area. Inventory and excavation of cultural resource sites help contribute to the overall knowledge of the subjects and to an understanding of human interaction with the environment.

Many of the cultural resources managed by BLM have value as interpretive sites and are of interest to the public. It is the responsibility of BLM to provide information about cultural resources, enabling people to understand what they are, what they mean, how to protect them, and how to enjoy them.

1.7 Volume 2

Volume 2 accompanies the site summary tables for each district and describes data collection, site record systems, site attributes, and formal recognition systems.

PART 2 - ORIENTATION

2.1 The Study Area

The study area includes all lands within the Shoshone District and all lands, public and private, within the Bureau of Land Management's (BLM) Boise District's Cascade Resource Area (Figure 1). In the Boise District, the Resource Areas discussed in the study are Bruneau, Jarbidge, and Owyhee; in the Shoshone District they are the Bennett Hills and Monument.

That part of the study area within the Boise District includes all of Owyhee County, part of Ada County, part of Elmore County, and part of Twin Falls County. The Shoshone District's portion of the study area includes parts of Elmore, Camas, Blaine, and Power Counties, and all of Gooding, Lincoln, Jerome, and Minidoka Counties.

Major rivers in the study area are the Snake, Owyhee, Bruneau, and Wood Rivers and their tributaries. The cities of Boise, Nampa, Caldwell, and Twin Falls are immediately adjacent to, but not within, the study area. Further discussion of the natural characteristics of the study area may be found in Part 3 - Environmental Background.

2.2 Reasons and Goals for the Study

The BLM is collecting and organizing data on the resources within its districts. Included in this research program is the collection of data on the cultural resources, ". . . those fragile and non-renewable evidences of human activity, occupation and endeavor as reflected in sites, structures, artifacts, ruins, works of art, architecture and natural features that were of importance in human events" (Project RFP:20).

This report, Volume 1, provides an overview and synthesis of the existing prehistoric and historic data for the study area. Volume 2 of the project report series is the narrative accompanying the historic and prehistoric site summary tables. These tables summarize existing data on site forms held in the files of the State Historic Preservation Office, Boise, Idaho.

Authorization for the project, general and specific, originated in federal legislation, as follows:

General Mandates. The Bureau of Land Management is required to identify, evaluate, and protect cultural resources on public lands under its jurisdiction and to insure that Bureau-initiated or Bureau-authorized actions do not inadvertently harm or destroy non-federal cultural resources. These requirements are mandated by the Antiquities Act of 1906; the Reservoir Salvage Act of 1960 as amended by P.L. 933-191; the National Historic Preservation Act of 1966 as amended; the National Environmental Policy Act of 1969; and Executive Order 11593 (1971); the Archaeological Resources Protection Act of 1979 (ARPA); and the Federal Land Policy and Management Act of 1976 (FLPMA).

Specific Mandates. The Bureau of Land Management is mandated under Section 202 of the Federal Land Policy and Management Act of 1976 to undertake the

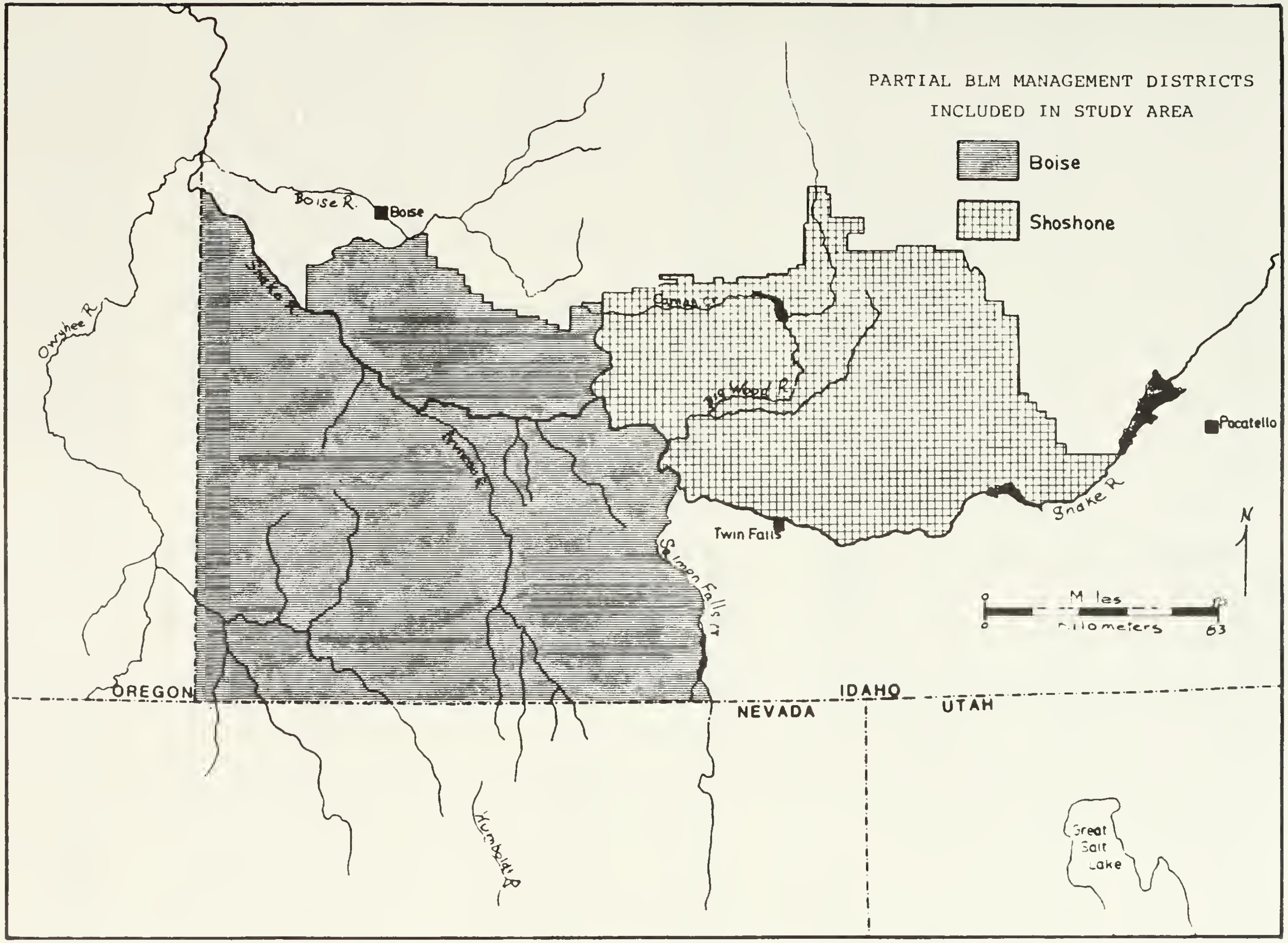


Figure 1 Study Area Boundaries

formulation of land use plans. The inventory data generated shall be used in making land use classifications.

2.3 Theoretical Orientation and Underlying Assumptions

The report is predominantly a secondary research compilation of data. It breaks little new theoretical ground, but it does when possible assemble sometimes disparate ideas and facts into study area-specific coherence. Gaps in primary data are not filled, but are identified where such are recognized.

Prehistoric and historic contexts within which to plan, study, conduct, and evaluate project-related impacts are provided. For other than this basic framework, the researcher, planner, and manager must consult primary sources.

The project makes two major contributions. First, it compiles an extensive research bibliography specifically relating to the study area. This is found at the end of Volume 1. Second, the site summary tables for the Boise and Shoshone Districts provide, in tabular form, a listing of site-specific cultural attributes for the more than four thousand sites in the study area. This list could assist archaeological and historical researchers and land use planners and could be the first step toward a planned automated data storage and retrieval system.

The bibliographic entries and site data includes material available before 01 September 1981. Site data reported and summarized can be no better than that provided in site reports and on individual site forms. The data have not been tortured; they are as we found them.

2.4 Methods for Compiling Data

2.4.1 Methods

Research assistants, under the supervision of the Project Director, located available documents for review and noted the existence of others related to the project needs. The data collection proceeded as a standard library research/literature review.

Bibliographic research included searches of existing topical bibliographies, library catalogs, periodical indexes, indexes of current research, theses and dissertations listings, social science and anthropological indexes, the National Technical Information Service indexes, and personal sources. The Library of Congress was contacted for information, recommended citations were received from knowledgeable people at the Idaho State Historic Preservation Office (SHPO) and from the Library of the Idaho State Historical Society and State Archives. Dr. Max Pavesic and Mark Plew suggested additional resources when they reviewed the bibliography. The BLM's report on the Oregon Trail provided other necessary listings.

Telephone conversations provided information about museum collections, some bibliographic holdings, and systems of formal site recognition by state, county, and local offices.

To compile a complete set of site records, the research staff made telephone and written contact with the SHPO, the Project Consultant Dr. Max Pavesic, the Contracting Officer's Authorized Representative (COAR) at the inception of the project John Hanson, and the Boise District Archaeologist Margaret Wyatt. The COAR and Margaret Wyatt reported the BLM site files to be incomplete, and all of those people contacted said the only complete file in the State was held at the State Historic Preservation Office in Boise, capably managed by Glenda Torgeson. We elected to search only the SHPO's files. Site record data were compiled in Boise by Professional Analysts' research assistant, Steve Nelson, with the assistance of Glenda Torgeson of the SHPO and Jane Dye, a Boise State University student. The research assistant searched the site records and prepared maps. Ms. Torgeson made office space available, answered questions, and gave assistance. Ms. Dye provided tactical support by copying site forms.

The first task in compiling site record data was to determine which sites were inside the study area. Mr. Nelson performed an inventory of site numbers by examining the SHPO quad maps and determining sites within the study area boundaries using maps provided by the BLM. These site records were then pulled from SHPO files which are organized chronologically by county and photocopied by Ms. Dye. Mr. Nelson created mylar overlays with the site locations from the SHPO's quad maps.

Site summary tables were created after the mapping process in Boise was complete. Professional Analysts' production staff compiled these tables from information on the photocopied site forms.

2.4.2 Problems and Resolutions

No unexpected problems arose in the process of compiling the bibliographic data. Searches sometimes seemed interminable and relatively fruitless, but at other times uncalled-for presents in the form of data appeared through serendipity.

Researchers marvelled at the unevenness of the data quality, the differences in levels of reported understandings about prehistory and history, and the enormity of the records and the area involved.

In the midst of the "Data Processing Revolution" the data search took more hands, minds, and time than anticipated, sometimes appearing to be subject to the same vicissitudes as those plaguing medieval monks. Some collections were not formally housed, others were in remote locations with no phone connections, and still others were easily accessible.

Most of our research problems were met by skilled researchers and unknown kind people.

Problems encountered in compiling the site record data were mainly of two types. SHPO site records are organized by county. The BLM study area boundaries follow neither county nor quad map boundaries. To inventory all sites in the study area, it was necessary to compare carefully the SHPO quad maps locating site numbers, with the BLM district boundaries.

Other problems stemmed mainly from incomplete, illegible, inconsistent, or inaccurate site records. These problems were alleviated as fully as possible through the efforts of Mr. Nelson, Ms. Torgeson, and Ms. Dye.

Specific problems and exceptional situations encountered are as follows:

- All ownership color coding of sites on the 7 1/2 minute and 15 minute quads was taken from 30 minute quads provided by the BLM. Site forms were consulted for ownership only when an interpretation problem arose;

- The county code for some sites were found inconsistent on the original SHPO quad maps. In this case, the county code was included with the site number on the overlays. The SHPO also was notified of the discrepancy; and,

- Site forms existed for sites not on the SHPO's maps and therefore not copied for the BLM overlays. The SHPO was notified of the discrepancy and the sites were placed on the BLM overlay.

2.5 Tasks and Level of Effort

2.5.1 Research Staff and the Division of Labor

Project Director - Elliott A. Gehr, Senior Analyst with Professional Analysts, designed and supervised the overall research effort, in conjunction with the primary research assistants. He identified tasks, assigned researchers, and allocated labor hours; coordinated the field research effort with the in-house research; assisted authors and reviewed sections of the overview as they were created; coordinated review by the consultants; collaborated with the consultants and the COAR on the creation of Part 8; contributed to Parts 3, 5, 6, 7, and 8; authored the Abstract, Part 1 and Part 2 of Volume 1; wrote Part 3 of the Volume 2 narrative and made all revisions following the BLM review; directed and conducted the field reconnaissance of potential nominees to the National Register of Historic Places (NRHP); advised the graphic artist on charts and maps; and wrote many of the progress reports.

Program Manager - Kathryn M. Grijalva, Production Manager - Professional Analysts, acted as liaison among the research team, the BLM Contracting Officer's Authorized Representative (COAR), the BLM Contracting Officer (CO) in Denver, and the Administrative Services of the Contractor, Professional Analysts. She assisted the Project Director with the project budget and research personnel management. She was part of the team which examined the more than 4000 site forms, designed the method for the extraction and coding of their data for the site summary tables, and wrote some of the progress reports.

Raymond L. Davis, Controller - Professional Analysts, took over the management of the project beginning 01 September 1982, and performed many of the same tasks as did Ms. Grijalva. He is responsible for the final production quality control for the printed volumes.

Research Assistant - Evelyn Lee, Junior Analyst - Professional Analysts, researched and wrote Part 3 (Environmental Background); all but Part 3 of the Volume 2 narrative; and researched all of the history in Volume 1, Part 5.2. She reviewed reports for Volume 1, Part 4.1, and collected data on collections. She assisted the cartographer in the compilation and checking of site locations, and she coded the majority of the site form data for the site summary tables. Additionally, she constructed many of the graphics for the report.

Cartographer - Steve Nelson, Social Science Research Assistant and Cartographer at Professional Analysts, mapped the site locations of the more than 4000 sites in the study area onto mylar overlays of USGS quads. He created the majority of the maps in the report, Volume 1, and assisted with the logistics of the research in Boise. He provided primary coding of site form data for the site summary tables.

Research Assistant - Gretchen Johnson, Research Assistant in Archaeology and Anthropology - Professional Analysts, constructed the vast majority of the bibliography in Prehistory and History. She authored Part 4.1 (narrative), Part 5.1, and Part 6 of Volume 1. She also provided liaison between several field researchers in Idaho and the project staff, and arranged for the acquisition of many needed research documents.

Research Assistant - J. Don Merritt, Senior Analyst - Professional Analysts, wrote Parts 5.2 and 5.3 of Volume 1 and assisted the Project Director in the field reconnaissance of potential NRHP sites in the study area.

Consultant - Max Pavesic, Chairman of the Department of Anthropology, Sociology, and Criminal Justice, Boise State University; critically reviewed the draft report; made available to the research staff his and the late Earl Swanson's libraries; requested and asssisted Mark Plew's contributions to Part 4.3, and his collaboration on Part 8 of Volume 1 with the Project Director and the COAR.

Consultant - James E. Fitting, former Cultural Resources Division Manager for Professional Analysts, critiqued Part 8 of Volume 1 and assisted in the initial planning of the project.

Consultant - Terry Strong edited the final version of Volume 1 Parts 2, 3, 4, 5, and 8 exclusive of quotations, tables, and figures.

2.5.2 Task-Specific Level of Effort

Table 2 shows the level of effort by project personnel for classes of tasks. The following descriptions of each task class will assist the reader to understand how the project was conducted.

Project Management - included 1) meetings, phone calls, and correspondence with the Contracting Officer (CO) and the Contracting Officer's Authorized Representative (COAR); 2) research planning meetings between the Project Director and the Research Staff; 3) supervision of research work in progress;

Table 2

DIRECT LEVEL OF EFFORT

Through 27 November 1982	Project Director	Research Associates	Graphic Artist/ Cartographer	Totals
Volumes 1 and 2 PROJECT MANAGEMENT	317	20		337
Volumes 1 and 2 DATA REVIEW AND COLLECTION	71	468	17	556
REPORT PREPARATION AND WRITING	211	356	60	627
Site Summary Tables COMPILATION OF KNOWN KNOWN SITE DATA	42	117	371	530
Volumes 1 and 2 TOTAL LABOR HOURS	641	961	448	2050
Fieldwork FIELD RECONNAISSANCE: NRHP SITES	148	120	36	304
Over all Direct Level of Effort* TOTAL PROJECT DIRECT LEVEL OF EFFORT	789	1081	484	2354

*Excludes word processor data entry, consultant input, and production time.

4) meetings with the Program Manager and Administrative Services pursuant to budget allocations, labor allocations, monthly progress and problems; and, 5) contacts and discussions with consultants regarding their scopes-of-work and consultant agreements.

Data Review and Collection - constructing the bibliography and checking the accuracy of the entries, reading in all topic areas, note-taking in all topic areas, arranging for data acquisition, correspondence in pursuit of data for the report, creating and checking graphic and tabular data, contact with holders of pertinent collections and assembly of related data, discussion with consultants regarding data collection, and discussion with the COAR on data questions.

Report Preparation and Writing - draft and final writing of report narratives; review and corrections; preparation of graphic and tabular data accompanying the narratives.

Compilation of Known Site Data - collection of study area-specific site forms; interpretation and coding of site form data for entry on site summary tables; plotting of all site locations on mylar overlays of USGS quads; plotting all site locations on BLM planimetric maps; checking site summary tabular entries and correcting incorrect data discovered on the existing site forms; counting historic sites by county; and counting prehistoric sites by county.

Field Reconnaissance of Selected Sites - the COAR for the contract (BLM Boise District Archaeologist), in concert with the former Shoshone District Archaeologist, selected sites for visitation to determine if the sites existed; if they existed, what was the nature of each; and did each qualify as eligible for the NRHP. Field report writing and site mapping are included in the level of effort hours.

PART 3 - ENVIRONMENTAL OVERVIEW
BOISE AND SHOSHONE DISTRICT

Introduction

An understanding of environmental considerations contributes greatly to an understanding of man's prehistoric and historic activities in any specific location. Climatic regime, availability of resources, physiography, and geology strongly affect the number of persons, their duration of stay, the kinds of activities in which they participate, and the cultural evidence they leave behind. The environment also influences the accessibility, visibility, and condition of the remaining cultural resources.

The Boise and Shoshone BLM Districts are located in southwestern Idaho in semi-arid, generally flat, recent volcanic terrain with predominantly sage-grassland vegetation. This unique area has an active recent geologic history which has strongly influenced the past and present environment. This chapter presents the available descriptions of the current and prehistoric physiography, climate, geology, soils, flora, and fauna.

3.1 Physiography

The study area is within the Columbia Intermountain Province. Five distinguishing characteristics of the study area are: 1) extensive lava formation; 2) semi-arid climate; 3) vegetation; 4) the Snake River; and, 5) the Snake River Plain. Malde (1965) argues that age and chemical composition of lavas differentiate this region from the Columbia Plateau Province; however, the area's total hydrologic and geologic character suggests that, though the region may be transitional, it most appropriately belongs in the Columbia Intermountain Province.

The Boise and Shoshone BLM Districts are comprised of three major physiographic provinces: the Snake River Plain, the Owyhee Mountains and the Basin, and Range Province (Figure 2).

3.1.1 Snake River Plain

The Snake River Plain is a relatively level trough which has been sinking and filling with lava and sediment for several million years (Figure 3). It is bordered on the north by the Smokey and Pioneer Mountains and on the south by the Basin and Range Province. Relatively few drainages interrupt the flat landscape of the plain north of the river. Present within the study area are the Wood River and its tributaries, Camas Creek and the Little Wood River. The section of Wood River between its confluence with the Little Wood River and its entrance to the Snake River once was known as the Malad River. Bennett Creek, Danskin Creek and the Boise River form portions of the northern border of the province.

Notable features of that part of the Snake River Plain within the study area include Camas Prairie, the Mount Bennett Hills, Craters of the Moon, the Thousand Springs area, and the Snake River Canyon. Each of these features has unique characteristics which are potentially significant in this study. Camas Prairie is an east-west trending valley drained by Camas Creek which empties

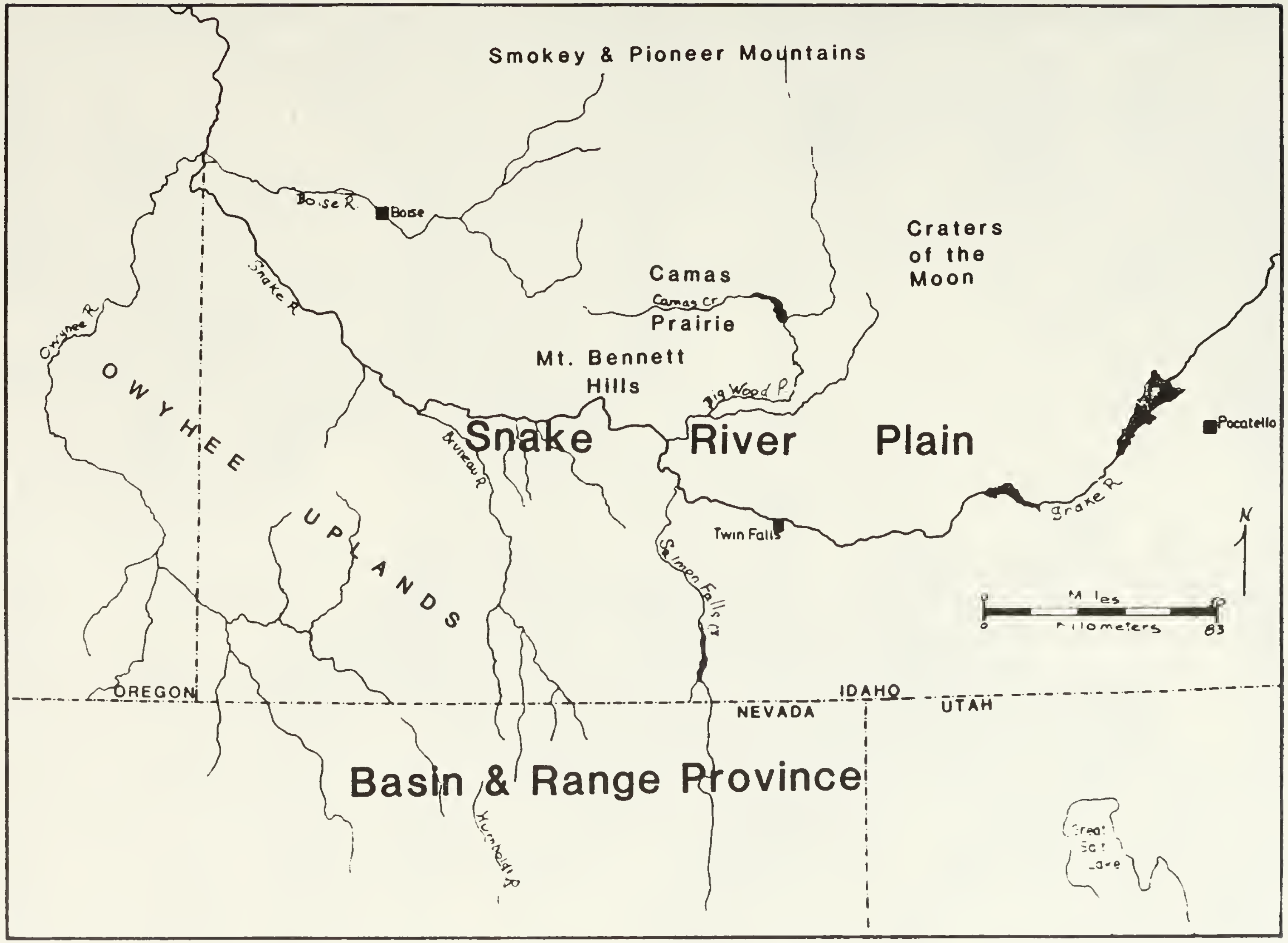


Figure 2 Physiographic Features of the Study Area

Figure 3 Physiography of the Study Area (Raisz, 1941)

to the east into Wood River. It is bordered on the north by the Soldier Mountains and on the south by the Mount Bennett Hills. At an elevation of 5065 ft, this moist prairie has, in historic times, supported large quantities of the edible camas plant (see Part 3.5.3 for further discussion of this plant's significance).

Mount Bennett Hills is the only notable area of broken land in the western Snake River Plains north of the river. Reaching an elevation of approximately 7000 ft, this volcanic relief separates Camas Prairie from the surrounding Plain and interrupts the very recent Snake River Plain basalts with pre-tertiary rhyolitic formations (Russell 1902). Bennett Creek, King Hill Creek, Clover Creek, and Thorn Creek supply at least seasonal surface water as they flow south and empty into the Snake River.

Craters of the Moon is a unique area of very recent volcanic activity. Young volcanic features originate from an area 19 mi south of the Pioneer Mountains called the Great Rift, which is comprised of a large number of fractures and nineteen cinder cones aligned approximately north-south. Lava dated at 460 to 1500 years before present (BP) flowed from these cones and covered portions of the Snake River Plain. Some flows may be even younger. Many layers of basalt are interbedded with river and lake deposits, creating a porous matrix with extremely high water storage capacity.

The Snake River and its canyon is a major physiographic feature of Idaho. In the study area the river drops from above 4500 ft to 2200 ft elevation. It originates in the Teton Range of western Wyoming and flows west across the southern part of the state, then north and west. The river lies close to the southern edge of the Snake River Plain, and 40 to 50 mi south of the Smokey and Pioneer Mountains. These mountains receive heavy winter precipitation and are the major source of water entering the Snake River in eastern and central Idaho. An important and unique feature of the Snake River Plain is that water flowing from the mountain valleys does not reach the Snake River in tributary drainages, but disappears from the surface and enters the Snake River Aquifer, one of the largest groundwater sources in the world. Water sinks, in a southwesterly direction, to enter the Snake as springs on the north bank of the river.

The Thousand Springs area between Twin Falls and Glenns Ferry on the Snake River (see Figure 3) is a prime example of such springs. This source contributes more water to the flow of the Snake than any other down the course of the river in the study area. These conditions result in very low and patchy surface water availability on the Plain, which is consistent through the seasons. Considered in association with the evidence of very recent and recurring volcanic activity, these characteristics make the Plains an undesirable habitation area and enhance the value of the river and its canyon for all inhabitants.

3.1.2 Basin and Range Province

The Basin and Range Province is represented only in the extreme southern portion of the study area. It covers a vast region (see Figure 2) that includes portions of Oregon, Nevada, and Utah. The province is characterized by north-south trending block-fault lava mountains which frequently enclose small, internally draining basins. The classic province characteristics are less pronounced within the study area where, except for steep block-fault slopes, the terrain is rolling and interrupted by steep canyoned streams. These include the Jarbidge and Bruneau Rivers, and Sailor and Salmon Falls Creeks, which all flow north toward the Snake River.

3.1.3 The Owyhee Uplands

The Owyhee Uplands in the southwest corner of the state extend into southeastern Oregon. Reaching an elevation of about 8000 ft, this area is a remnant of upper Miocene basalt (McKee 1972). The province is delineated by three mountain ranges--the Silver City Range, South Mountain, and Juniper Mountain, which form a north-facing basin drained by the Owyhee River. The Owyhee uplands province is less faulted than the Basin and Range Province surrounding it. Instead, the upland lava plains are dissected by numerous canyons which frequently expose underlying granites and schists and either drain into the Owyhee River or flow directly into the Snake.

Hydrologic characteristics of the uplands are dominated by the Owyhee River and its tributary drainages. Perennial streams include Squaw Creek, Hardtrigger Creek, Wilson Creek, Reynolds Creek, Robert Creek, Sinker Creek, and Castle Creek, all of which originate on the northern flank of the mountains and drain directly into the Snake River. Flowing west into the Owyhee River are Cow Creek, Trout Creek, and Pleasant Valley Creek, while Deep Creek flows south into the Owyhee River.

3.2 Climate

3.2.1 Present

The study area is located about 40 degrees north latitude, east of the Coast and Cascade Ranges, and immediately west of the Rocky Mountain Cordillera. Elevation generally increases from west to east and with increasing distance from the Snake River. Differences in temperature, precipitation, and evaporation in the study area are mainly the result of differences in elevation and exposure and only secondarily due to differences in latitude.

The predominating western air flow brings marine air from the North Pacific during most of the year. The Rocky Mountains shield this area from the extremes of continental interim climates, although occasional winter spells of dry, very cold weather do occur. Generally, air masses moving from the west have been cooled and have lost their moisture during passage over the Cascade and Coast Ranges before they reach the study area. Cyclonic winter storms bring most of the annual precipitation between November and January. A secondary precipitation peak which originates in Gulf Coast storms occurs in May and June. July through October is typically very dry. Average annual precipitation ranges from 26 to more than 30 cm with a characteristically large annual variation.

Rapid evaporation, a high proportion of sunny days, wide fluctuation in daily temperature extremes, and low annual precipitation summarily characterize the study area climate.

Tables 3 through 6 give a sample summary of temperature, precipitation, and snowfall for selected representative locations in the study area which are indicated in Figure 4.

3.2.2 Prehistoric

The workings of the planetary weather processes just now are being computer simulated in such a way that continental forecasts are reasonably workable, achieving a large-scale day-by-day predictive reliability of about 85 percent. Reliable prediction today requires observation and measurement of multiple combinations of variables including solar radiation, atmospheric and planetary retention and reradiation of heat, ocean temperatures, movement of eddies through the ocean and atmosphere, the movement of major discrete air masses (Pacific, Arctic, and Gulf), regional physiography, frontal system edge effects, earth rotation, solar wind and flares, and the behavior of the jet stream. Each variable operates at a different rate of speed relative to every other variable which together create short-term weather conditions and long-term climatic conditions. Projections into past climatic conditions are, therefore, somewhat speculative. Table 7 summarizes general paleoenvironments in southeastern Oregon, very near the study area.

The question of the meaning of the Holocene climatic sequence proposed by Antevs (1948; 1955) arises in the archaeological literature under many guises (Moratto 1978; Mehringer 1977; Grayson 1977; Butler 1972a; Harper and Alder 1972; O'Connell and Hayward 1972; Bedwell and Cressman 1971; Fagan 1974; Davis and Elston 1972; Aschmann 1958; Bright 1966; Follett 1967, O'Connell and Ericson 1974; Baumhoff and Heizer 1965; Swanson 1972; and others). Antevs provided a climatic model based on temperature deviation from that of the present. His model describes a cool period, the Anathermal, early in the Holocene, followed by a warming period, the Altithermal, followed by a cooling return to temperatures similar to those of today, the Medithermal. The model is a long-term, smoothed, trend simplification of many short-term episodic fluctuations in temperature.

No model, whether Antevs' or any other, can be applied without consideration of regional, local, and microenvironmental conditions which affect climate and its expression on the landscape. For example, Antevs indicates the presence of warm air during the Altithermal. Warm air can hold more moisture than cool air. Warm moist air, moving across high mountains, can lose the moisture held in it through precipitation, becoming dry cool air which recirculates, warms, and picks up new moisture. The precipitation can be accumulated as ground water or streams in the mountains which then could be delivered great distances, depending on the permeability of the ground surface and subsurface materials, as well as ground water gradients. As a result, desert areas can have springs, and occasionally these springs flow abundantly in the face of a

Table 3

Selected Weather Recording Stations in the Study Area

Recording Station	Elevation	Location*
Fairfield	5065	Camas Valley
Grasmere	5126	Central Owyhee County
Three Creek	5420	Southeast Owyhee County
Minidoka	4280	Central Snake River Plain
Sun Valley	5821	Pioneer Mountains
Bruneau	2525	North Central Owyhee County
Soldier RS	5755	Camas Valley/ Soldier Mountains
Twin Falls	3770	Snake River Plain

*See Figure 5 for locations

Source: NOAA, Environmental Data Service

Table 4

Inches of Precipitation: Median, Monthly and Annual Totals, 1931-1965

Recording Stations	No. of Years	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg.
Bruneau	12	.52	.36	.20	1.52	.86	.83	.17	.00	.19	.27	1.00	.52	6.44
Fairfield Ranger Station	18	2.30	1.99	1.26	1.06	1.18	.85	.20	.13	.28	.52	1.82	1.68	13.27
Grasmere	12	.39	.47	.68	.50	1.57	1.12	.05	.27	.22	.19	.62	.63	6.71
Minidoka Dam	19	.75	.53	.54	.72	1.04	.62	.25	.24	.29	.47	.72	.70	6.87
Sun Valley	29	1.74	2.07	1.10	.79	1.49	1.20	.50	.56	.47	.88	1.50	1.60	13.90
Three Creek	26	.99	.91	1.05	1.40	2.07	1.35	.35	.20	.50	.71	1.07	.84	11.44

Source: Pacific Northwest River Basins Commission (PNRBC) 1969.

Table 5

Inches of Snowfall: Mean, Median, Greatest, Least Monthly and Seasonal Totals 1931-1965

Recording Station	No. of Years	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Seasonal
Soldier Ranger Station	18													
Mean		0.1	1.9	16.1	33.3	34.5	30.3	14.8	3.0	1.8	0.0	0.0	0.0	136.0
Median		0.0	0.0	13.0	26.5	30.0	26.0	16.0	3.8	0.0	0.0	0.0	0.0	--
Greatest		1.5	8.5	53.0	80.0	79.6	86.0	42.0	12.7	13.0	T	0.0	0.0	232.5
Least		0.0	0.0	0.0	4.0	5.5	5.0	0.0	0.0	0.0	0.0	0.0	0.0	72.2
Three Creek	24													
Mean		0.1	2.0	7.0	13.8	15.3	12.3	13.5	5.9	2.5	0.1	0.0	0.0	72.5
Median		0.0	1.0	6.5	12.0	13.4	11.0	13.5	4.5	1.0	0.0	0.0	0.0	--
Greatest		2.0	8.5	18.5	37.0	33.0	29.7	40.5	22.0	18.4	2.0	0.0	T	112.1
Least		0.0	0.0	0.0	3.9	T	1.3	2.0	T	0.0	0.0	0.0	0.0	32.5
Twin Falls	35													
Mean		0.0	0.1	1.1	3.4	6.7	2.5	2.2	0.4	0.3	0.0	0.0	0.0	16.7
Median		0.0	0.0	T	2.7	5.3	1.1	2.0	T	0.0	0.0	0.0	0.0	--
Greatest		T	3.1	5.5	18.2	21.7	9.0	12.5	6.0	5.0	T	0.0	0.0	44.4
Least		0.0	0.0	0.0	T	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0

Source: PNRBC 1969.

Table 6

Average Monthly Maximum and Minimum Temperature in ^{o}F 1964-1977

Recording Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg.
Three Creek	39.3	43.0	46.8	56.2	65.4	73.5	86.6	85.8	75.4	62.8	49.0	40.5	60.7
	12.2	16.8	20.0	25.6	32.7	37.7	41.9	39.7	33.3	25.9	21.0	14.9	26.9
Bruneau	41.2	48.9	56.3	65.6	76.4	85.8	94.4	89.5	81.6	69.6	52.0	41.7	65.7
	23.3	26.1	28.9	36.2	43.2	51.5	56.6	54.3	45.2	37.9	30.0	24.2	37.5
Twin Falls	37.6	44.8	50.9	59.2	69.8	77.6	87.9	85.7	76.3	64.5	50.6	39.6	62.1
	19.7	23.5	26.7	32.9	41.5	48.9	54.8	52.2	43.1	33.9	28.3	21.3	35.1

Source: PNRBC 1969.

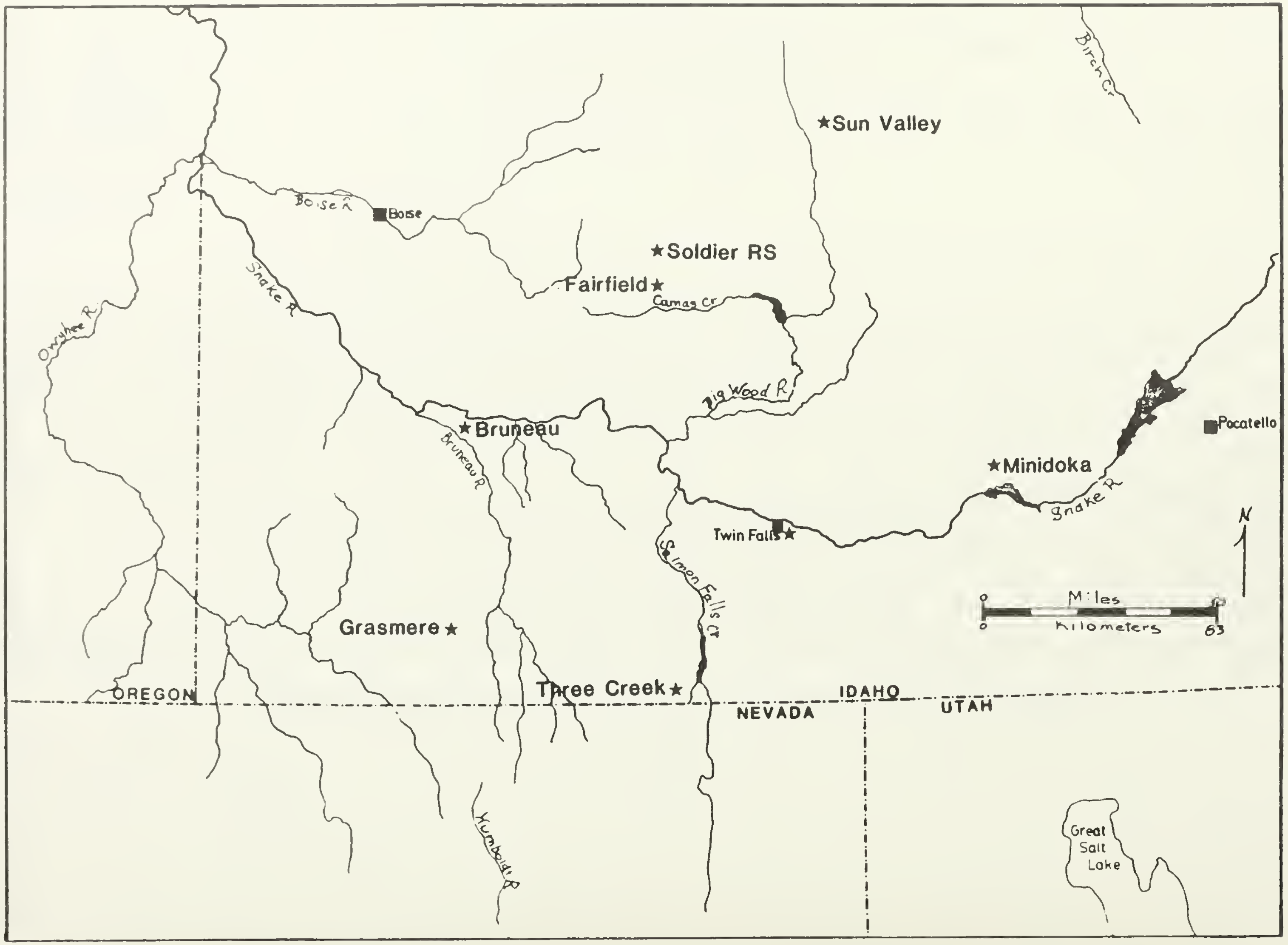


Figure 4 Representative Climate Stations for the Study Area (USDI-NOAA)

Era	Period	Epoch	Millions of Years Ago	Climate	Flora	Fauna
Cenozoic	Quaternary	Holocene (Recent)	present	6-10 " precipitation; hot dry summers; moderately cold winters; 30° to 100°F; cooler, more humid conditions at higher elevations	sagebrush; at higher elevations are juniper, pine, mountain mahogany, fir	ground squirrels, mice, jackrabbits, rats, skunks, moles, antelope, shrews, pikas, coyotes, raccoons
		Pleistocene	.01	very cold; glaciers in the mountains	no data available for southeastern Oregon	mammoths, musk oxen, camels, mastodonts, horses, rhinoceros
	Tertiary	Pliocene	2-3	cool, semi-humid; 20" precipitation	grasslands	camels, horses, shrews, mammoths, rhinoceros, moles, rabbits, beaver, ground squirrels, foxes, antelope, elephants, wolves, hyena dogs, musk oxen, fish, freshwater gastropods
		Miocene	12	50-60" precipitation; 30°to 90°F; considerable topographic relief; beginning of drier climate	forests of birch, chestnut, maple, walnut, laurel, oak, sycamore, poplar, pine, willow, elm	shrews, horses, antelope, camels, rhinoceros, tree and ground squirrels, beaver, pocket mice, moles, mastodons, weasels, martens, rabbits, fish
		Oligocene	26	mild humid climate; 40" precipitation	redwood forests with dogwood, pepperwood, alder, hazel, tan oak; bordering forests with ash, cherry, madrone, pine, palmetto, rose, ginkgo, willow, maple, avocado, lancewood	giant pigs, peccaries, horses, camels, weasels, wolves, squirrels, beaver, saber-toothed cats, turtles
		Eocene	37-38	mild humid , semi-tropical climate, low relief	temperate forests of redwood, alder, tan oak, and elm in highlands; avocados, figs, cinnamon, persimmons, and pecans in lowlands	horses, rhinoceros, camels, squirrel-like rodents
		Paleocene	53-54	tropical	trooical forests	no data availaole for southeastern Oregon
			65			

*compiled from Axelrod 1950; Baldwin 1976; Dorf 1936; Eubanks 1966; Gazin 1932; Graham 1962; Hutchison 1966, 1968; Johnson 1961; Scharf 1935; Shotwell 1963, 1967a, 1967b, 1968, 1970; Williams 1948; Wilson 1938

Table 7 Geologic Sequences and Paleoenvironments of the Owyhee Plateau; from Cultural Resources Consultants,Inc.(1979)

local lack of rainfall. Springs, however, are not immutable. Tectonic movements can open and close springs permanently or intermittently (Aschmann 1958: 33). Streams may flow year-round, disappear into groundwater aquifers, or evaporate seasonally.

Glaciers can form upon the flanks of a sufficiently high mountain during a warming period by accumulating precipitation. Glacial advances during the warming Altithermal, which took advantage of just such a process, are recorded in Alaska (Heusser 1960:185). While the heat of the Altithermal in desert areas of the Great Basin may have dessicated some low altitude lakes (Bedwell and Cressman 1971), greater than average precipitation due to warmer air and its increased capacity for carrying moisture can and did occur in the northern California Sierra Nevada and southern Cascade Ranges. This supplied a ground water system with an abundance of water which appeared miles away in a rain-free area during the Altithermal temperature maximum (O'Connell and Hayward 1972).

Archaeological literature has dealt with these and similar cases as though they were paradoxes instead of explainable phenomena referable to controllable local data (O'Connell and Hayward 1972; Harper and Alder 1972). Some researchers in the eastern Great Basin have found the Altithermal to be either a time of nearly unchanged conditions (Jennings, various dates), or of changes so severe that parts of the western Great Basin was abandoned (Baumhoff and Heizer 1965), or at least specific sites (Aikens, Cole, and Stuckenrath 1977). Others have suggested that native peoples remained in the general area but modified their adaptations and changed their intensity of use of specific occupation areas (Fagan 1974; O'Connell and Hayward 1972; O'Connell and Ericson 1974; Bense 1972; Gehr, et al. 1978).

All of these researchers may be correct for specific interpretations of individual sites; however, their extrapolations to the whole of the basin are limited by the inadequacy of the samples. The archaeological samples from which the disparate climatic data were drawn probably do not measure comparable phenomena. A cave used only in the fall may contain climatic data vastly different from an open spring site used only in summer at the peak of the annual heat and drought, or a valley bottom winter village site chosen for protection.

The point is that there is and was great variation within and among local climates, and therefore, probably equally broad variations in past human responses to the conditions posited in Antevs' Neothermal climate model. It is a model meant to be bent by local realities.

Antevs' model is in agreement with the accumulated worldwide paleoclimatic climatic data shown in Figure 5. The study area climate was probably following the course of worldwide trends. Although its chronology has been modified by radiocarbon data, Antevs' model of the Neothermal appears justified in its overall approach once an understanding of local deviations is developed.

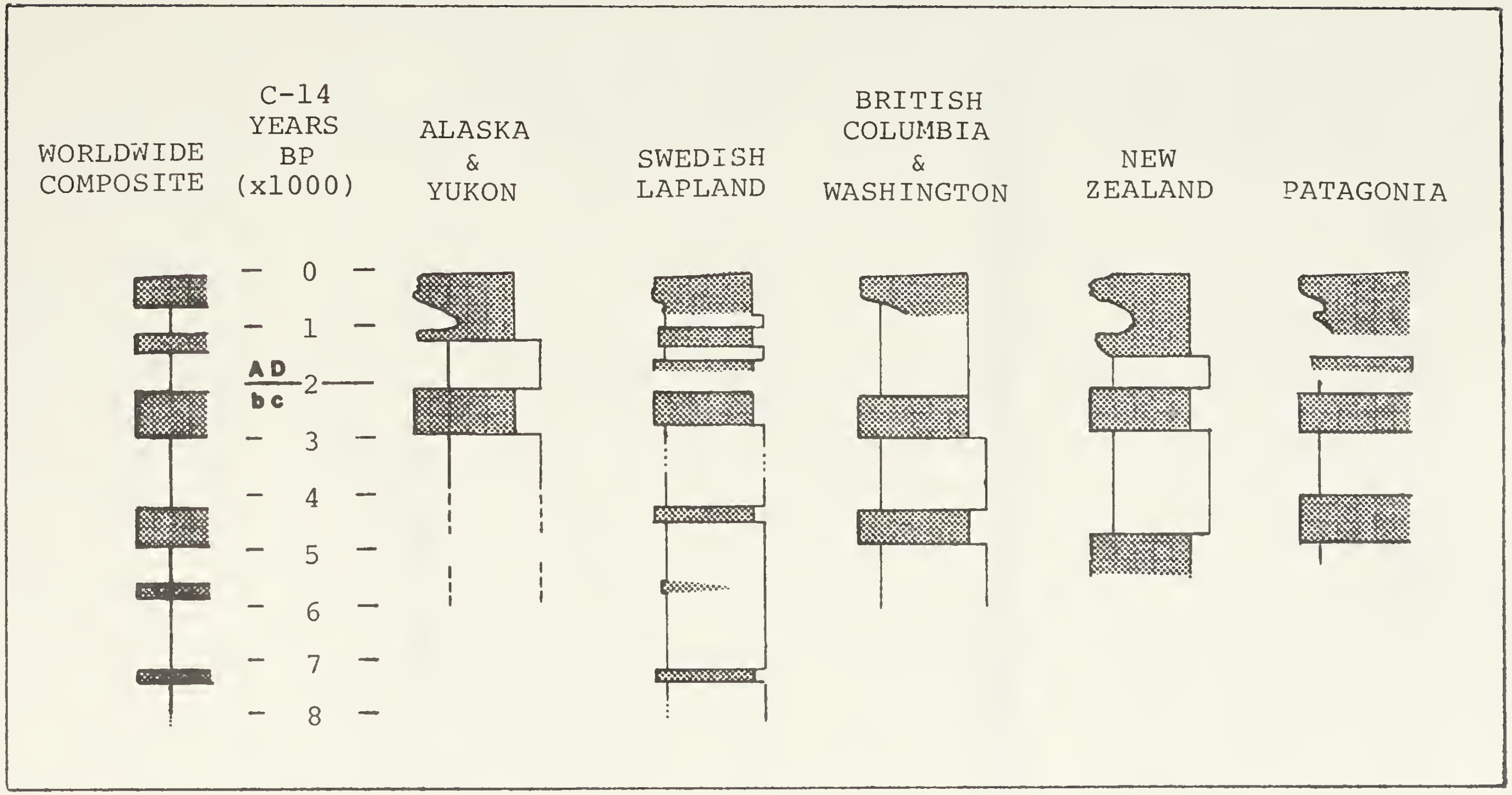


Figure 5 : Worldwide Climate Change. The shaded bars represent cooling and the unshaded bars represent warming as measured at several selected glacial study areas. Data taken from Denton & Karlén (1977:108).

The earliest of the Holocene climatic periods, the Anathermal (about 15,000 to 7000 radiocarbon years BP), had temperatures lower than those of today yet higher than those of the preceding Pleistocene (Table 8). The period probably was somewhat more moist, overall, than the present. Although cooler air under local conditions could well have been drier, slower evaporation rates due to cooler temperatures could have made more water available to the landscape. In general, the Anathermal climate was somewhat more moist and cool than the present one. There was a comparatively lush grassland steppe cover over much of the land, and more extensive and dense forests than at any time since then. As a result of prolific vegetative cover, soils probably were resistant to erosional processes. Larger forms of some animals, such as the bison, were present in large numbers until they were replaced by smaller forms adapted to the Altithermal. The Anathermal climate produced a more attractive and richer environment than any which followed. A dramatic change occurring about 7000 years BP, shows up in pollen records, small mammal remains, and archaeological deposits. The dual events which caused the apparent change were the eruption of Mt. Mazama and the increasing temperature associated with the Altithermal.

Antevs represents the Altithermal (7000-3000 BP) climatic period as distinctly warmer and more dry than both the preceding Anathermal and the following Medithermal periods. Some researchers believe that the species composition of small mammal populations remained essentially stable over the past 12,000 years, but that the Altithermal clearly reduced the total population by diminishing the carrying capacity of the land (Butler 1972:5). During the Altithermal, dessication led to the extinction of some megafauna; others survived in diminished ranges or migrated elsewhere. River flows diminished. The density of vegetation covering the soil also diminished, and soils became more susceptible to erosion. During the Altithermal, forest and steppe zone belts were several hundred meters higher than they are now, greatly reducing the range of both ponderosa and juniper. Probably the quantity of bluebunch wheatgrass and other forage was reduced significantly. Pluvial lakes evaporated from their basins, migratory waterfowl found new nesting places, and the decentralization of resources characteristic of the preceding Anathermal was reversed. For all life forms, the centralizing focus was upon the limited availability of water. Sessile forms survived only where there was sufficient ground water or captured precipitation; mobile species either moved to functioning springs or abandoned areas in which there was no water. Moving with changing vegetational zones toward slightly higher elevations could have been a sufficient response for some modes of life.

The Mazama ashfall occurred about 6700 BP, prior to the Altithermal temperature peak. The project area is at the eastern limit of the ashfall (Figure 6). Its effects have been reported and speculated upon in the professional literature. Conclusive evidence of its effects in the project area depends on future work which might show the length of time over which the ash fell. If it dropped over a short period of time, perhaps several years, it might have been catastrophic for many small life forms on land and in streams (Bedwell and Cressman 1971). The ashfall could have provided a water-retaining evaporation-reducing mulch, enhancing the growth of some larger steppe vegetation (Mehringer, et al. 1977:257). If, on the other hand, the pumice and other

HOLOCENE ENVIRONMENTAL CHRONOLOGY				
	Years BP	Relative Climatic Sequence	Dominant Flora	Dominant Fauna
ANATHERMAL	15,000 10,500	cool, moist	steppe shrub Artemesia sp	Large Mammals camel musk ox sloth mammoth bison deer sheep antelope
	10,500–7000	warm, moist	coniferous forest grassland prairie	
ALTITHERMAL	7000–3000	warm, dry	steppe shrub Artemisia sp	Small Mammals & bison antelope deer sheep
MEDITHERMAL	3000–1000	cool, moist	grassland prairie	Small Mammals & bison antelope deer sheep
	1000–700	warm, dry	steppe shrub Artemesia sp	
	700–400	cool, moist	grassland prairie	
	400–present	warm, dry	steppe shrub Artemesia sp	

Table 8 Prehistoric Environments in the Study Area

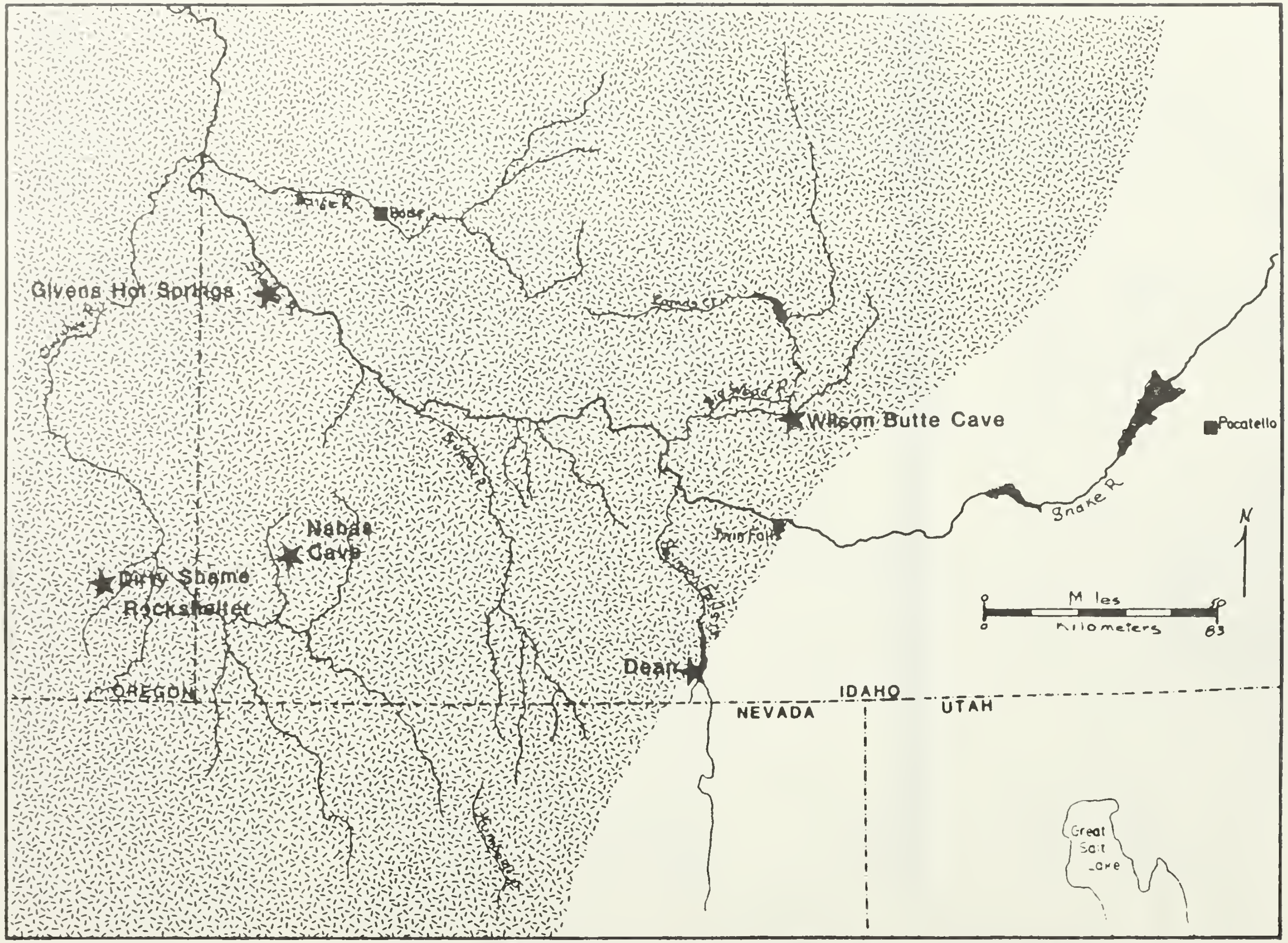


Figure 6 Approximate Limits of Mazama Ash in the Study Area (Fryxell 1965)

☆ ■ Archaeological Sites With Long Prehistoric Occupation Sequences debris dropped over a period as long as one hundred years, its devastation or enhancement of the environment may have been less dramatic.

By 3000 BP, the Altithermal climate had cooled; Antevs describes the following Medithermal period as a return to temperatures similar to those of today. The descriptions of the land as seen by the first Euro-American explorers should prove cogent. Their observations must be modified, though, by climatologic data derived from other sources. Some sources indicate that short-term episodic fluctuation of weather patterns was the norm, with cycles of wet and dry years. Cycles also may have lasted several hundred years, broken occasionally by different conditions (O'Connell and Hayward 1972; Davis and Elston 1972). Between AD 900 and 1250, a worldwide warming trend has been associated with rapid culture change in many areas. Following this warmup is the "Little Ice Age", AD 1250-1850, which was a worldwide cooling (see Figure 5). In the Great Basin, this is the period of the "Numic expansion." Some researchers provide data which show that, for the northern Great Basin near the project area, the 600 years following the warm period have also been increasingly arid (Harper and Alder 1972; Aikens, Cole, and Stuckenrath 1977).

Holocene climatic conditions in the study area reflected Antevs' model within the context of two unique physiographic features, variations in elevation and the proximity of high mountain ranges.

The high mountains to the north, west, and south interrupted moist marine air flows, captured precipitation, and distributed it to lower elevations. Arid climatic conditions did not result in a local absence of water because the streams and groundwater aquifers originating in the mountains continued supplies. In the upper Snake River Plain, south of the Pioneer Mountains and Craters of the Moon National Monument unique geologic factors result in no streams traversing the surface. However, ground water aquifers fed by water from the mountains flow beneath the surface toward the Snake River. This unusual geologic foundation, which was undergoing formative processes during the Holocene, would have resulted in a similar absence of surface drainages in this area whatever the climate.

Rain shadow effects are another factor relating climate and local topography. A general increase in precipitation may not be measurable at specific locations where mountains have interrupted the flow of moist air. Concurrently, at other locations where mountains trap saturated clouds the effects of a wetter climatic period may be exaggerated. Recognizing such localized expressions of general trends provides a more realistic view of the effects of major climatic regimes. A more precise understanding of Holocene climatic conditions in the study area includes the acknowledgement of much greater variation and more frequent exceptions than any model has produced. The implications are that local phenomena must be examined in their own contexts, and that conflicting patterns of local and regional conditions describe accurately the realities of microclimates.

3.3 Geologic History

3.3.1 Precambrian Era to Recent Times

During the Precambrian Era (Table 9), most of southern Idaho was covered by shallow marine seas. Streams flowed through parts of the study area, particularly near the south and east borders of the Boise District. Throughout the Cambrian, the marine waters in the western part of the study area subsided, and the uplands in the east expanded. These seas and uplands and their associated sedimentary rock formations continued to expand and contract, uplift, and fold through the Paleozoic Era.

Near the end of the Jurassic Period, in the Mesozoic Era, the seas retreated from Idaho for the last time. The uplift of central Idaho continued at an accelerated rate in early Mesozoic times. In the late Mesozoic, major folding and faulting of sedimentary rocks occurred which had been laid down in the Paleozoic and Mesozoic eras.

As the Cenozoic Era began, the uplift of the Idaho Batholith and central Idaho mountains continued. Block faulting in the sedimentary crustal rocks formed the Pioneer Mountains just north of the study area. During the early and middle parts of the Tertiary Period, downwarping and faulting resulted in the structural low of the Snake River Plain. The topographic features of the study area, including the trough of the Snake River Plain and the central and southeastern Idaho mountains had been formed by the end of the Oligocene. All during the early Tertiary, the erosional cycles which were interspersed with structural processes, deposited eroded materials into the Plain which was also being cut and channeled by rapidly moving water.

With the Miocene came increasing volcanism, which dammed drainages on the Plain and formed lakes in which fine-grained sediment accumulated. These lakes were then flooded again with lava, re-damming drainages, in a recurring cycle which resulted in the interbedded basalt and sediment character of the Plain. During this epoch, the Owyhee Uplands rose from what is considered Columbia Plateau basalt. Later Miocene rhyolitic and basalt flows capped these mountains.

Volcanism and alluvial sedimentary deposition continued through the Pliocene; intermittent volcanism has continued on the Snake River Plain until recent times. The Cascade and Rocky Mountains were uplifted gradually during the late Cenozoic. Climatic influences during the Pleistocene epoch resulted in the formation of pluvial and glacial lakes. The subsequent erosion and sedimentary deposition is visible today on the surface of some lands in the study area. Basalt flows in Middle and Late Pleistocene times dammed the Snake River, formed several Pre-Bonneville lakes, and deposited a thin, continuous layer of gravel over the valley floor.

Two major events of the Late Pleistocene contributed to the present day landscape of the study area. These were the catastrophic outflow of water from Lake Bonneville and the succession of lava flows which filled ancient canyons and deflected the Snake River into its present course at the south edge of the Snake River Plain.

GEOLOGIC TIME SCALE

ERA	SUBDIVISIONS: PERIOD	SUBDIVISIONS: EPOCH	APPROXIMATE AGE BEFORE PRESENT, MILLIONS OF YEARS
Cenozoic	Quaternary	Holocene (Recent)	0.015
		Pleistocene	2-3
	Tertiary	Pliocene	10-13
		Miocene	25
		Oligocene	36
		Eocene	58
		Paleocene	63
Mesozoic	Cretaceous	Many epochs recognized	135
	Jurassic		180
	Triassic		230
Paleozoic	Permian		280
	Pennsylvanian*		310
	Mississippian*		340
	Devonian		400
	Silurian		430
	Ordovician		500
	Cambrian		570
Precambrian	No subdivisions recognized worldwide		3,500+

*Outside the United States, the Mississippian and Pennsylvanian Periods are not recognized as such, the two together comprising the Carboniferous Period

Table 9 Geologic Time Scale (McKee 1972)

The outflow from Lake Bonneville resulted in the filling and overflow of American Falls Lake and scouring of loess and surface deposits to form the Lake Channel region. For a short time, this overflow doubled the drainage of the Snake River. It is quite possible, given the late Pleistocene date of this event, that the earliest human inhabitants of the study area felt its effects. Volcanism has been the major visible geologic process in the study area during recent times. The Great Rift associated with Craters of the Moon was the source of volcanic flows as recently as 400 to 1500 years BP. Mount Mazama ashfall reached portions of the Owyhee Uplands and Snake River Plain and influenced soil character there.

3.3.2 Sources of Geologic Material Useful to Prehistoric Inhabitants

Obsidian, ignimbrite (vitrophyre), rhyolite, basalt, and cryptocrystallines were rock materials useful to prehistoric inhabitants. Basalt is commonly, even ubiquitously, present in the study area. The Owyhee Uplands are a major source of rhyolite. Sources of ignimbrite and obsidian are present in three locations in the study area (see Sappington 1981a and b for review). Owyhee obsidian nodules occur over a broad portion of Owyhee County. Obsidian and ignimbrite are present in Camas Prairie near Fairfield. A location in the vicinity of American Falls is a source of well-characterized ignimbrite.

Plew and Woods (1981b) discuss cryptocrystalline quarry locations in the Owyhee uplands of southwest Idaho.

3.3.3 Historic Mining Geology in the Study Area

Gold and silver mines have been present in several locations in the study area. Two major areas are the Wood River Mining Region in the valley separating the Smokey and Pioneer Mountains, and the Owyhee Mining Region in northwestern Owyhee County (Figure 7).

3.4 Soils

Regional and local soil characteristics result from interacting factors such as climate, topography, and available parent rock. With few exceptions, the study area contains arid and semi-arid soils which support sagebrush and grassland (Figure 8). These soils are derived mainly from volcanic parent materials which often give rise to a stony surface above a hardpan horizon. Finer-grained, poorly drained soils are scattered throughout the area on ancient lake deposited sediments.

Much of the Snake River Plain has soils suitable for dryland irrigated agriculture. Camas Prairie is very suitable for agriculture in areas where the high water table can be managed.

3.5 Vegetation

Climate and soils strongly influence the basic parameters of vegetation density, diversity, and composition. Prehistoric vegetation in the study area has varied from the swamps and marshes of the Cretaceous Period to the tropical forests of the Miocene. Recent plant communities reflect the climatic dessication of the study area which occurred after world-wide climatic changes

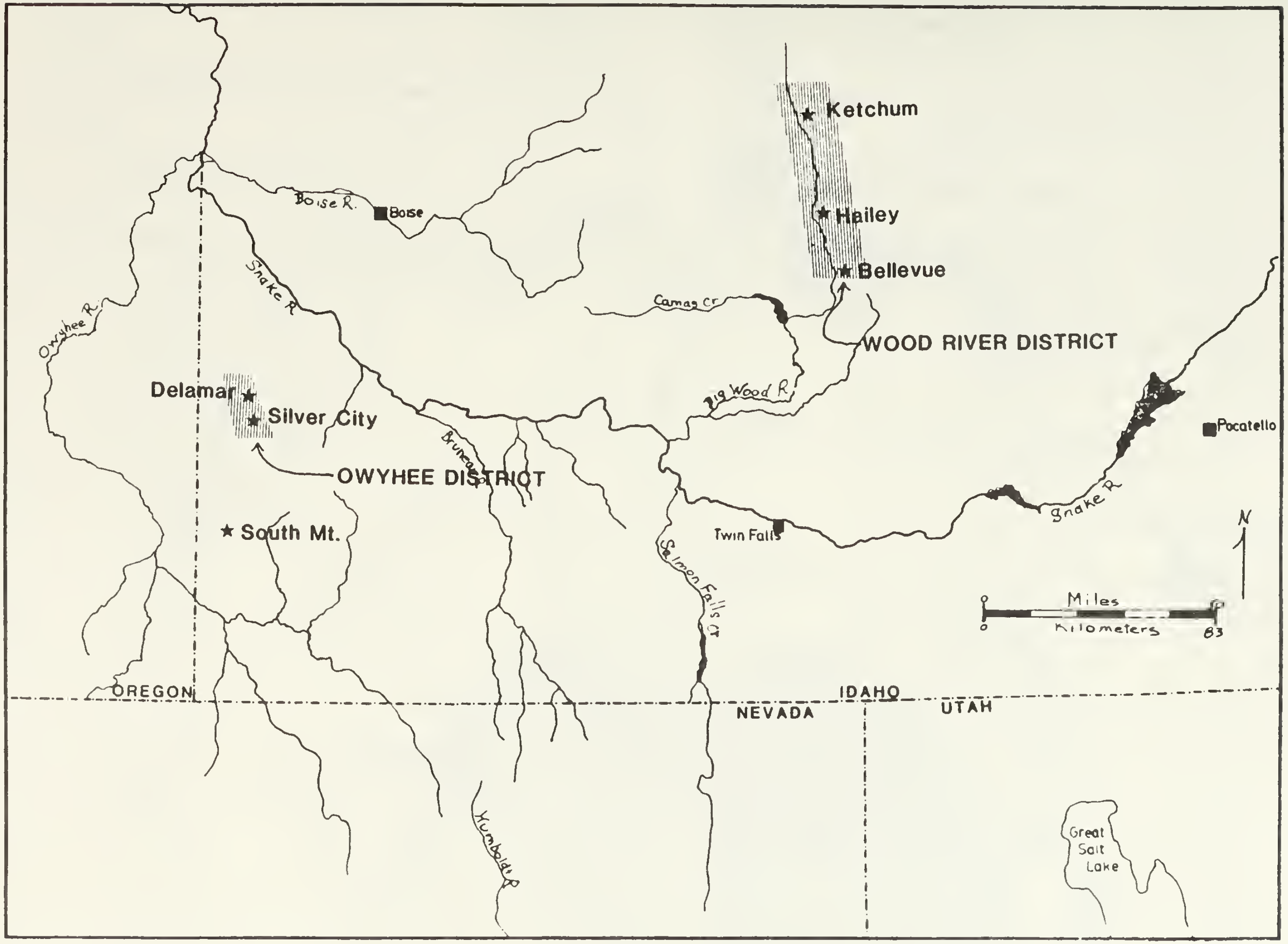


Figure 7 Sites of Historic Mining Activity in the Study Area (ISHS 1970)

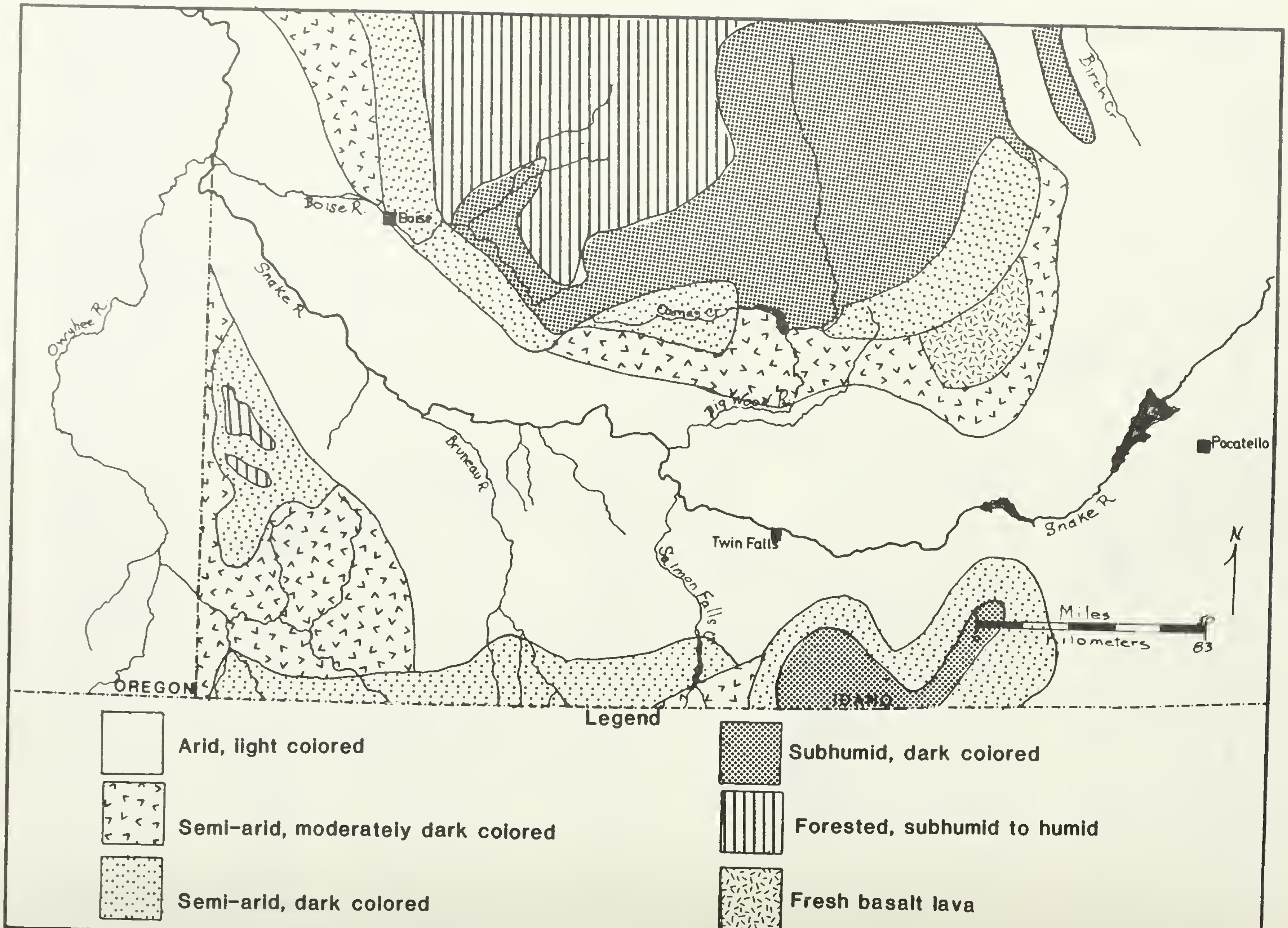


Figure 8 General Soil Types in the Study Area (Ross & Savage 1967)

and the uplift of the Cascade Mountains interrupted the flow of moist marine air.

3.5.1 Prehistoric Vegetation

Cyclical fluctuations in Holocene vegetation characteristics reflected Holocene climatic shifts (see Table 8). Consideration of local conditions and microenvironmental contexts are essential to an accurate analysis.

Pollen records from central Idaho suggest that the beginning of the Holocene (15,000 - 10,500 BP) was cool and dry. _Artemisia_ pollen is most abundant. A warmer, moister regime began at about 10,500 BP, reaching a maximum at 10,000 BP. Coniferous trees and rich grasslands also were abundant during that time and remained present through the period before the fall of Mazama ash at about 7000 BP. _Artemisia_ pollen again predominated at around 7500 BP. Prairies and grasslands alternated with _Artemisia_ shrub steppe as the characteristic vegetation, especially on the Snake River Plain, during the warming and cooling vacillations of the Anathermal and Altithermal. Vegetation, such as that present now, has been recurring in the study area in cycles over the last 3500 years.

3.5.2 Present Vegetation

The Snake River Plain supports semi-desert shrub steppe vegetation (Figure 9). Historic influences such as cattle and sheep grazing altered the density and species composition of the plant communities; but, the primeval dominant species were _Artemisia tridentata_ (big sage) and tall bunchgrasses such as _Agropyron spicatum_. Additional shrubs include _Purshia tridentata_, _Tetradymia canescens_ and _Eriogonum_ sp. Common grasses include _Poa sandbergii_, _A. arbuscula_ (low sage) shadscale, juniper, _Koeleria cristata_, _Stipa_ sp., _Agropyron dasytachyum_, and _Oryzopsis hymenoides_. A variety of forbs also are characteristic, including _Balsamorhiza sagittata_, _Lupinus_ sp., _Crepis_, _Agoseris_, and _Calochortus_.

Before grazing altered the vegetation on the Plain, competition by the grasses and forbs limited the size and density of sagebrush. When the Plain was settled, however, unmanaged grazing nearly eliminated the preferred grasses and forbs and released the sagebrush from competitive pressure. Sagebrush now occurs in increased size and density, in comparison to its pre-settlement state. Few of the native grasses thrive amid the dense sagebrush stands. Instead the introduced _Bromus tectorum_ (cheat grass) dominates.

3.5.3 Camas

A plant of special value to prehistoric inhabitants of the study area was camas (_Camassia quamash_). Detailed studies (Benson _et al._ 1973) have confirmed its highly nutritious attributes. Other recent research (Statham 1982) which provides biogeographic data for the study area suggests that camas is present in high densities at altitudes between 5000 and 7000 ft on very moist

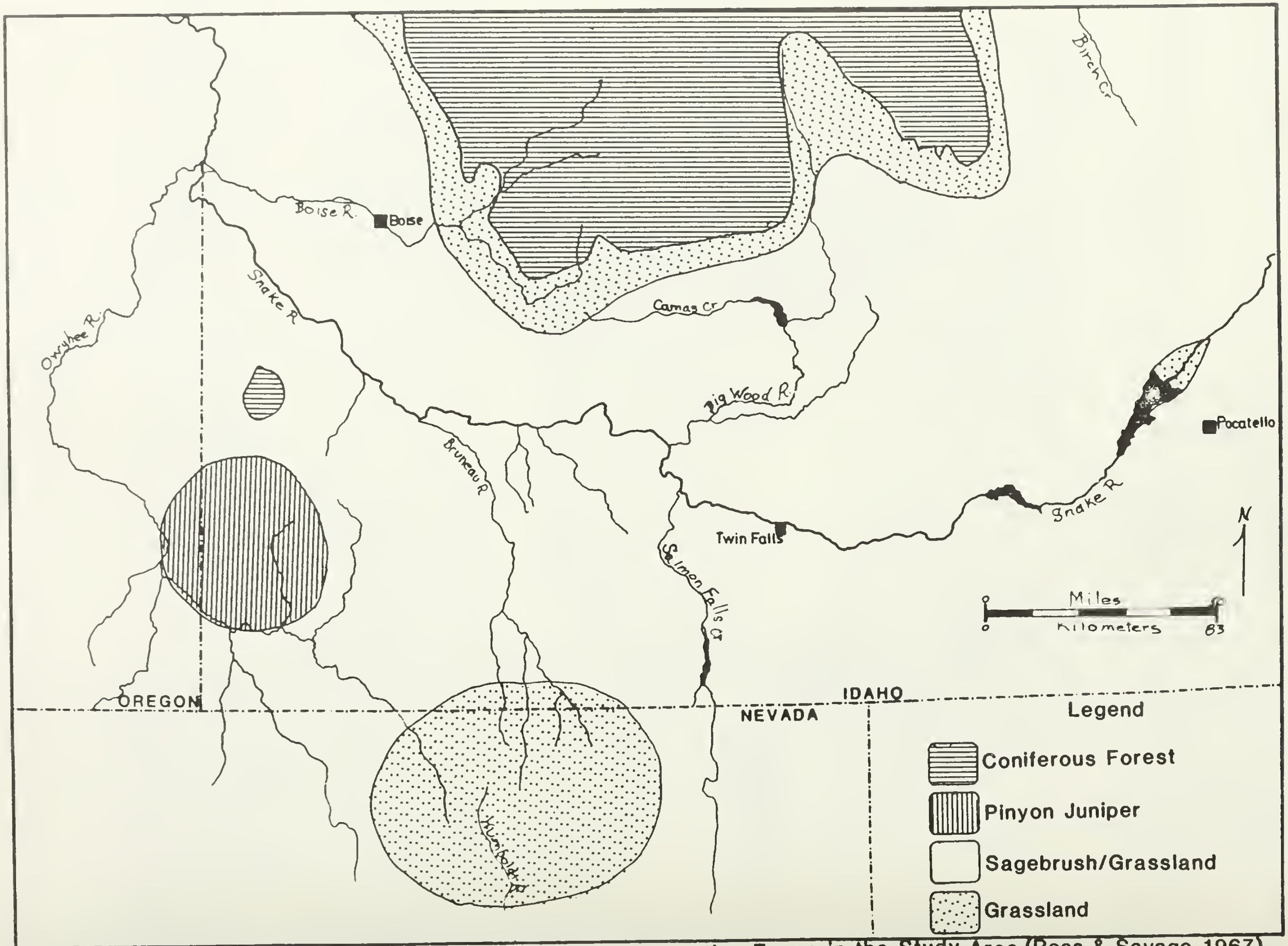


Figure 9 Generalized Vegetation Zones in the Study Area (Ross & Savage 1967)

(Molisol) soils. Camas appears infrequently on the Snake River Plain, but is present in adjacent valleys. Its Holocene distribution would have fluctuated with the regional climatic and local conditions which limit it. Many other plants were known and used by prehistoric inhabitants. A checklist of such plants found in southwest Idaho and some notes on their value (Packard 1970) is presented in the Appendix.

3.6 Fauna

3.6.1 Prehistoric

Large prehistoric mammals inhabited the study area throughout the Holocene (see Table 8). Early Holocene (15,000-10,000 BP) mammal populations included the camel, mammoth, sloth, musk ox, and associated predators and scavengers. A sudden and massive extinction of these megafauna occurred about 10,000 BP. Bison, deer, mountain sheep, and antelope remained until historic times.

Because of the extensive information linking bison and prehistoric Native Americans, a body of literature (Butler 1978b) has arisen to describe the presence and distribution of this mammal species in the study area.

Salmon and sturgeon in the Snake River provided another important food resource. Hydrologic determinants of fish distributions in the study area have fluctuated enormously with changes of climate, interruptions of stream flow due to volcanism and tectonic activities, and other dynamic stream processes. A complete history of these events during the Holocene is unavailable for the study area, but the importance of fish as a food resource to early inhabitants is evident from archaeological data.

3.6.2 Historic Fauna

Early explorers and trappers often kept unsystematic notes on the wildlife they observed. Later expeditions were organized for the specific purpose of biological inventory (Merriam 1891) in the study area. Extermination of bison and the near-extermination of beaver and antelope in the study area occurred in the mid-1800s.

Today the animal life of the study area includes many birds and small mammals. A notable raptor breeding area exists in the Snake River Canyon. Attempts are being made to preserve this area, and it has been designated the Snake River Birds of Prey Natural Area.

Mammals characteristically present today include cottontail rabbits (*Sylvilagus nuttallii*), jack rabbits (*Lepus californicus*), pygmy rabbits (*Sylvilagus idahoensis*), ground squirrel (*Spermophilus* sp.), badger (*Taxidea taxus*), mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), marmots (*Marmota flaviventris*), striped skunk (*Mephitis mephitis*), red fox (*Vulpes vulpes*), and porcupine (*Erethizon dorsatum*). Elk (*Cervus canadensis*), black bear (*Ursus americanus*), otters (*Lutra canadensis*), and antelope (*Antilocapra americana*) are rare and found in limited habitats. Species diversity has been reduced in the last fifty years by land use practices such as grazing and burning.

3.7 Summary

For prehistoric inhabitants, the most significant environmental features of the study area were the availability of surface water, the distribution and abundance of plant and animal food resources, and sources of tool-making material.

Water availability in the study area is a quality imparted both by the climate and the geologic formations found there. The climatic regime during the period of human occupation has varied from cold to warm and from semi-arid to arid. At no time has there been a general abundance of precipitation. The distribution of water sources was, therefore, a major consideration for all inhabitants. The virtual absence of surface drainages on portions of the Snake River Plain limited the plain's usefulness and at the same time enhanced the value of the Snake River Canyon and all of the drainages in the area.

The distribution and abundance of plant and animal food was patchy and also was influenced strongly by the presence of water. Camas and other important plant foods were seasonally abundant in specific locations. Large game animals also may have been a seasonal resource; fishing for salmon definitely was limited to specific times and locations. Changes in climate brought alterations in local hydrology and altered the availability of these resources in time and space. As a result, many portions of the study area may have alternately been used and abandoned for their resources or lack of resources.

Tool making materials are present and locally abundant. Basalt, rhyolite, obsidian, ignimbrite, and cryptocrystallines are all present in the study area, and could have been obtained and/or traded within short distances for other valuable resources.

PART 4 - CULTURAL RESOURCE INVESTIGATIONS AND RESEARCH BACKGROUND

This section discusses pertinent past and current cultural resource and ethnographic projects which have been carried out within the study area. Also included are the Cultural Resource Research and Investigation Project Summary forms, arranged alphabetically by Principal Investigator(s).

4.1 Summary of Past and Current Work

4.1.1 Discussion

4.1.1.1 Ethnographic Research

There were four stages of ethnographic research on the Northern Paiute and Western Shoshoni. In the first, travelers through the study area in the early and middle nineteenth century supplied numerous biased and confusing accounts of Native Americans, especially those they encountered along the Snake River. Steward (1938) has collected and interpreted many such accounts. The Euro-American travelers were eyewitnesses, but were untrained observers living in a cultural milieu which said that Indians were dirty savages. Most of these travelers had just passed through the Northwestern Plains, with their impressive bands of mounted warriors with eagle feather head dresses. Small wonder that they were not impressed with small groups of nearly naked people living as impoverished refugees in their own land. As a result of the "scorched earth" policy practiced by the British Hudson's Bay Company in competitive retaliation against successful trappers from the United States in the early 1800s, native people in southern Idaho saw their food base destroyed and their cultural life disrupted. Travellers assumed that what they saw was life as it always had been. In using these accounts to recreate aboriginal life styles, one also must remember that, because of the routes taken by early Euro-Americans, the Native Americans usually were observed only along major rivers during late spring, summer, and early fall. Those aspects of Native American life which were not observed were not considered.

Professional anthropological research began in the second stage. Robert Lowie's fieldwork among native people of the region in 1908 marked its beginning (Lowie 1908, 1959) and it culminated in the 1930s when Alfred Kroeber initiated the Culture Element Survey from his base at the University of California, Berkeley, to collect comparative data from Native American groups throughout western North America. Kroeber's students set out with lists of over 2000 culture traits ranging from technological items to religious practices, with the intention of seeking out the oldest and best-informed people in each society and recording their knowledge on each of the traits (Jorgensen 1980). Julian H. Steward recorded information on middle Snake River Shoshoni (1941) and Fort Hall Shoshoni and Bannock (1943). Omer Stewart (1941) interviewed members of Northern Paiute "bands", including the Tagotoka and Kao'agai in the study area (see Figure 18 in Part 5).

The resulting Culture Element Distribution lists (perjoratively called "laundry lists" by many anthropologists) (Jorgensen 1980) have many obvious weaknesses. Informants usually were interviewed through an interpreter for six days (Steward 1941, 1943; Stewart 1941). Although the researchers talked to elderly people, none of the informants had been alive before 1850, and most had been on reservations far from their homelands for most of their lives. Besides the questionable statistical validity of "samples of one", it is difficult to know whether the informant was relating details of pre- or post-contact life. Both Steward and Stewart worked extensively among Great Basin Native Americans, however; and their lists, along with their other published reports (Steward 1937, 1938, 1939; Steward and Wheeler-Voegelin 1974; Stewart 1938, 1939, 1966, 1970) provide the most detailed anthropological information on the Native Americans of southwest Idaho. The lists are an excellent tool for use in comparing ethnographic with archaeological data. Whatever their shortcomings, the lists were the result of a monumental effort in salvage ethnography that no other researchers undertook.

The third stage occurred in the 1950s and 1960s. Scholars and others doing research among the Northern Paiute and Shoshoni, were called to testify before the U.S. Indian Claims Commission. The Commission had been formed by President Harry Truman in 1947 to establish the aboriginal territorial boundaries of the different Native American groups and then compensate them for lost lands (B. Madsen 1980). Anthropologists had to establish territorial limits for each "tribe" and its various "bands". Robert and Yolanda Murphy (1960) interviewed Shoshoni and Bannock at the Fort Hall and Duck Valley Reservations. Steward (1970) and Stewart (1966, 1970) relied on their past ethnographic research and on analysis of ethnohistoric accounts. These reports contain valuable information, but reflect the dilemma of the concerned anthropologist in this legal controversy. If they presented a true picture of nomadic family groups ranging over wide territory, with no concept of land ownership or tribal organization, the Native Americans would not be compensated for lands which had patently been stolen from them. These accounts are most appropriately used only as a supplement to earlier works.

Just before World War II, an ethnographer named Sven Liljeblad came from Sweden to Idaho to study the Bannock and Shoshoni. His 1957 paper on Indian Peoples of Idaho is referred to frequently by researchers working with data from the study area. Present day researchers are dependent on Liljeblad for much areal-specific data and interpretation not available in any other sources (Liljeblad 1957, 1960, 1972). Unfortunately, his 1957 paper has never been published and access to it is limited.

The most recent stage in Native American research illustrates the trend to write histories rather than ethnographies of Native American groups. These histories focus on the post-Euro-American contact period, and on events rather than elements of culture, and they are a valuable resource in reconstructing post-contact Native American-Euro-American relations and the changes in Native American life. B. Madsen's works on the Bannock (1958) and Northern Shoshoni (1980) cover events in the study area.

4.1.1.2 Prehistoric Site Survey and Excavation

The first systematic archaeological research in the study area occurred in the 1920s and 1930s when the Museum of the American Indian-Heye Foundation sent Louis Shellback (1930, 1967) and Godfrey Olsen (1940) to survey the drainages of the Snake and Bruneau Rivers. Charleton Laird excavated Pence Duerig Cave on the Snake River in 1937 (Gruhn 1961c). These three projects never have been reported adequately (Plew 1980b:10).

The next spate of activity was sponsored by the River Basin Surveys Columbia Basin Project in 1947-1953. Under the direction of the Smithsonian Institution using funds from the National Park Service (NPS), fifteen proposed reservoir sites in Idaho were surveyed including American Falls Reservoir just east of the study area (Swanson n.d.), and Anderson Ranch Reservoir, in Elmore County (Daugherty and Riddell 1947). Very few sites were found. In 1953, the functions of the surveys project were transferred to the NPS, who contracted necessary survey work out to local colleges and universities.

In 1957, Dr. Earl H. Swanson, Jr. was appointed director of the new Idaho State College Museum. He established a systematic survey program to determine the nature and extent of Idaho's cultural resources. His arrangements for the aforementioned NPS contracts resulted in Swanson, Alan Bryan, Donald Tuohy, and others surveying the Salmon and Snake River systems in 1958 (Swanson, Tuohy and Bryan 1959). They located 650 sites in all (including Wilson Butte Cave and the Birch Creek caves) and excavated a small rockshelter in the study area (Tuohy and Swanson 1960). Ruth Gruhn excavated Wilson Butte Cave for her Ph.D. dissertation and provided the first chronological cultural sequence and evidence of the antiquity of the inhabitants of the study area (Gruhn 1959, 1960a, 1961a, 1961b, 1965). Gruhn also excavated sites 10-OE-120 and 10-OE-128 in Owyhee County near the Snake River (Gruhn 1964). Although the sites were damaged by field leveling activities, they were stratified deposits of campsites with a great deal of mussell shell debris. The two deposits were similar in every way except styles of projectile points. Instead of adopting Jenning's (1957) Desert Culture concept of little change in economic pursuits through time, Gruhn proposed these sites as evidence of two contemporaneous groups from different cultures. She drew the same conclusions, for the same reasons, about Wilson Butte Cave and Pence Duerig Cave (Gruhn 1961c: 17).

The second major excavation in the study area was at the Dean site, on Brown's Bench near Salmon Falls Creek (Bowers and Savage 1962, Barnes 1964). The site contained cultural material which revealed a long time span of occupation in the area, but lacked absolute dates. Perhaps because of this, later analyses of the cultural resources in the study area have neglected the Dean site. Shutler and Shutler's (1963) excavation at Deer Creek Cave just south of the Idaho state line on the Jarbidge River provided another useful chronology for the area.

Swanson and staff from the Idaho State College Museum undertook a second large-scale survey project in 1959, both north and south of the Snake River in southwestern Idaho. His expressed purpose was to find the boundary zone between Plateau and Great Basin cultures. Based on the survey data he concluded that the Snake River was the boundary. Although his conclusion has been rejected by researchers with more recent data, his work provided one of the first models of regional prehistory and stimulated further research and debate. This project recorded many varied sites and was the first real attempt to reconstruct prehistoric lifeways in Idaho (Swanson 1965a, 1966a; Swanson, Bryan and Powers 1962; and, Swanson, Powers and Bryan 1964).

Swanson and Tuohy both surveyed several more proposed reservoir areas (Swanson, Bryan and Tuohy 1959 and Tuohy n.d., 1958a and b). The only findings of note were at the Guffey Reservoir location along the Snake River downstream from Grandview to Walter's Ferry (Tuohy n.d. and Tuohy and Swanson 1960). In 1968, Virginia Cox of the Anthropology Department at Boise State University directed limited excavations at a site near the Guffey Bridge in what is now the Birds of Prey Natural Area. For eight weekends students dug several 4 m x 4 m pits and an 8 m long trench. Artifact density was greatest in those areas already severely damaged from excavations conducted by a previous owner. This area was revisited in 1971 and 1977 (Keeler and Koko 1971, Statham 1971, Murphey 1977c). A total of 433 sites were recorded by the different researchers, but an unknown number of sites undoubtedly were recorded more than once. The area, which includes the spectacular Wees Bar petroglyph field (Tobias 1976, 1981), is so rich in cultural resources that it was listed in the National Register of Historic Places as the Black Butte-Guffey Butte Archaeological District in 1978. Murphey concluded on the basis of surface finds that the Snake River valley had been inhabited at least since 10,000 BP, and that evidence of use before 4500 BP is scarce (Murphey 1981).

A different aspect of aboriginal culture came to light when both Robson Bonnichsen and Ruth Gruhn excavated burial sites along the Snake River. The Rattlesnake Canyon Cremation was a late Archaic site with two different burial layers and multiple grave goods (Bonnichsen 1964). The Mecham site was a Middle or Late Archaic burial with extensive grave goods (Gruhn 1960b). The usefulness of examining burial sites is that they often provide information missing at habitation sites. This includes data on social structure and status differences, beliefs about an afterlife, and specific artifact associations. Data on trade links for exotic materials may only appear as grave goods, and can identify specific sources of cultural influences.

Subsequent survey and excavation along the Snake River has been restricted to contract projects prior to highway construction and inundation from damming or irrigation projects. Most surveys recorded few sites, and those found were usually of the same types as previously recorded sites (Butler, Epperson and Tucker 1976; Ostrogorsky and Plew 1979; Plew 1980c; and Reed and Reed 1980). Several excavated sites have revealed new information on the prehistoric inhabitants of the area. Green's research at Givens' Hot Springs has revealed an occupational sequence beginning 5000 years BP and ending 700 years BP. Eight house structures with hearths were found, six of which have been described (Green 1982). Some new data, including those on other possible house structures, require further testing and evaluation to determine their value. Mark Plew test excavated four campsites in the Snake River Canyon near Bliss, Idaho (Plew 1981c). One of the sites was C-14 dated from 830 ± 140 AD to 1630 ± 140 AD, the first late Archaic date from the western canyon. Although none of the excavated sites have the extensive stratigraphic sequences of sites peripheral to the study area, excavations at the Hagerman Fish Hatchery

(Pavesic and Meatte 1980; Lothson and Virga 1981), Big Foot Bar (Plew 1980a, 1980b), the Narrows site (Ames 1976), and Givens Hot Springs (Green 1982:personal communication) have revealed possible or probable house structures. Although Swanson (1965a) claimed there were Plateau style pithouses in the area, these structures resemble Great Basin house types: dish or basin shaped, with hearths and sometimes postholes (Plew 1980b:39). It is also possible, as Plew (1980b:39-40) points out, that many depressions thought to be house structures are formed by natural causes or by pothunting. (Many sites along the Snake River have been heavily vandalized.) Future research on house structures should answer questions both about Plateau and Great Basin influences and about permanency of settlement along the Snake River. Elton Bentley's study, Geomorphic Processes of the Snake River, correlates landform and site location in a predictive model for the lands adjacent to the Snake River (Bentley n.d.).

While work along the Snake River has been quite constant through the years, emphasis in upland area work shifted from southwestern to eastern Idaho in 1961 with the beginning of the Birch Creek project. Although outside the study area, the project, including major excavations at the Bison and Veratic rockshelters, developed a temporal sequence for the area dating from 11,000 BP. The Birch Creek Project was a deductive study which tested by specific questions the idea of a "Numic Homeland" in the area (Swanson and Bryan 1964; Swanson, Butler, and Bonnichsen 1964; Swanson 1972). This was explicitly a test of hypotheses in opposition to the Numic expansion theory held by others (see 4.3.1.2, p. 4-77).

Until 1967, the only information published about the Owyhee Uplands (west of Salmon Falls Creek and south of the Snake River) was Thomas Lynch and Lawrence Olsen's (1964) analysis of materials from the Columbet Creek Rockshelter, a site excavated by an amateur. Provenience generally was unrecorded but does show the variation of cultural assemblages over time. Many drainages in the Owyhee Uplands have been surveyed since 1967. To date, portions of the Jordan Creek (Pavesic 1967), Saylor Creek (Bucy 1971a, Pavesic and Moore 1973, and Geer 1977), Bruneau River (Pavesic and Hill 1973), Salmon Falls Creek (Tucker 1976a, 1976b), Devil's Creek (Murphey 1977a, 1980), Castle Creek (Metzler 1976b, 1977), and Owyhee River (Plew and Woods 1981a) drainage systems have been surveyed. The Reynolds Creek watershed close to the Snake River has been studied and reported by Jeanne Moe (1982). Sample plots were examined and prehistoric and historic site distributions were recorded and analyzed. The drainage systems of two tributaries to the Owyhee River have been surveyed rather thoroughly: Battle Creek (Plew 1977e, 1980c), and Deep Creek, with its tributaries, Camas and Pole Creeks (Norquist and Moore 1975 and Plew 1976a, 1977c, 1977e, 1978a, 1979b, 1980c).

These surveys have recorded 1269 sites spread throughout the entire region. In general, they have not been designed to sample the land between drainages, nor as exhaustive exercises in the reconstruction of regional culture history; they have been conducted as preliminary surface examinations in programs with limited funding and should be understood as such.

Mark Plew's work around the Battle, Pole, Deep and Camas Creek area has made a good beginning at rectifying these omissions. He has used survey data to model a much more complete picture of prehistoric economic settlement patterns in the area (Plew 1980c). The excavations at Nahas Cave in 1979 and 1980 (Plew 1979d, 1980e, 1980f, 1981a) revealed occupations spanning at least 6000 - 250 BP. The final site report on the cave is not complete yet, but eventually it should prove an invaluable aid in reconstructing prehistoric lifeways in the Owyhee Uplands. Jack Young's Class II Inventory of the Owyhee, Bruneau, and Jarbidge Resource areas in the Boise District located and described 1044 sites. He developed a predictive model of site distribution in these resource areas (Young 1982). Sharon Metzler reported her research at Bachman Cave in the Owyhee Uplands (1977) and described a cultural sequence of occupation which appears to have been continuous for the last 6000-7000 years.

An overview of research related to the study area must mention the significant work conducted at Dry Creek (Webster 1978), Nahas Cave (Plew, see various dates above), and Dirty Shame (Aikens, Cole, and Stuckenrath 1977). Each site is a rockshelter, each has a significant cultural record, and each adds a piece to the interpretive puzzle of the area's prehistory. Nahas and Dry Creek are both of direct local relevance and provide some parallel data. All three sites provide data on the introduction of the bow and arrow to western North America approximately 3000 years BP, much earlier than formerly believed. The cultural sequence at Nahas is somewhat longer than at Dry Creek, stretching back in time to 6000 years BP.

Dirty Shame Rockshelter is situated southwest of South Mountain near Jordan Valley, Oregon, on a tributary of the Owyhee River called Antelope Creek. Excavation in the early 1970s (Aikens et al. 1977) produced quantities of lithic and perishable cultural material and material suitable for C-14 dating. The latter shows that the site was occupied from 9500 to 400 BP with one long hiatus. It has provided a wealth of information about a previously unresearched part of the Owyhee Plateau.

With the exception of Wilson Butte Cave and discoveries by amateurs, archaeological investigations in the Shoshone District north of the Snake River have been recent and few. This area includes Camas Prairie, known to be a major Native American gathering place (in both senses of the word). The Simon site (Butler 1963, Butler and Fitzwater 1965) is a Paleo-Indian tool cache on the prairie. Cultivation of most of the site area has destroyed many sites and made the rest inaccessible for archaeological research. Warburton and Hanson (1979a, 1979b) have attempted to build and test a predictive site location model for the area.

Thomas Cinadr (1976) has presented and tested several predictive models for the Mt. Bennett Hills to the south, with greater success. His research, a BLM Class II Inventory, helps fill a blank space in the picture of the area's prehistoric settlement. Jack Young has prepared a Step 3 Unit Resource Analysis of the cultural resources in the Sun Valley Resource area (1980), a preliminary inventory of sites which also describes site distribution.

The remainder of the Shoshone District is part of the Snake River Plain, a flat volcanic lowland which experienced widespread basalt flows as recently as 400 years ago. Although the area was covered with vegetation and probably supported human life in the past, evidence has been covered by lava flows. In the western part of the Plain, the flows are not as recent; the area is covered now by sagebrush. Reported prehistoric sites are few, and in some counties no historic sites have been recorded away from the Snake River. Mario DeLisio's research on the Snake River Plain at Clover Creek recovered evidence of a housepit village. Although not reported in great detail by DeLisio, the data has been re-examined by B. Robert Butler and the findings presented as a paper (Butler 1982). Jenna Gaston, State Highway Archaeologist, directs an on-going site identification, mitigation, and salvage program throughout the two districts.

4.1.1.3 Historic Research

Although contract archaeological surveys require recording historic as well as prehistoric sites, few reports from the study area have dealt specifically with historic sites as opposed to events in the study area. Surveys on Soldier Creek revealed a camp at a ford in the creek (Ostrogorsky 1978). Surveys and tests for the Wiley Dam Project on the Snake River revealed a possible Chinese campsite (Ostrogorsky 1981). Roderick Sprague (1977) did some subsurface testing at the site of an old mining town, Silver City, and recommended further research. Bill Statham is conducting an on-going survey project at Silver City.

Approximately 80-90 percent of the Oregon Trail and its alternate routes in the study area have been traced (Idaho State Historical Society 1981). The trails and associated historic sites apparently have not been surveyed systematically, but quite complete information has been gathered from sources such as diaries and citizen reports (Cramer 1976; Meacham 1979).

Madelaine Buchendorf directs projects emanating from the Oral History Center in Boise under the sponsorship of the Idaho State Historical Society. The primary focus of the program is public outreach, through training programs in the collection of oral history. Much of the existing collection of oral history and that planned for the future is in conjunction with historic site survey.

Active programs also exist in Jerome County and Owyhee County, through their respective historical societies. Folklore archives are maintained at the College of Idaho in Caldwell and at Boise State University. Sandy Rikoon of the Oral History Center is assembling a folklore center and archives to be housed at the State Historical Society.

4.1.2 Cultural Resource Research and Investigation Project Summaries

The following pages describe in summary form projects conducted within the study area which relate to its cultural resources. The summaries are based primarily on materials in the State Historic Preservation Office, Boise.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Test excavation of The Narrows Site, Elmore County

2. Principal Investigator(s): Ken M. Ames

3. Sponsoring Institution: Idaho Division of Highways

4. Dates of Field Work: April, 1976

5. General Location of Field Work: North bank of Snake River, Elmore County.

6. Purpose of Field Work: To determine eligibility for National Register, and salvage cultural material and information.

7. Field Procedures and Techniques: Test excavations two x two meters within site boundary, one x two meters outside, followed by salvage. Area opened was one hundred and one square meters. Half the total site surface was opened to at least forty centimeters.

8. Project Results: Recovered lithic tools and debris, primarily basalt and chalcedonies of local origin. Obsidian rare. Sixty-one artifacts recovered, including six projectile points and six projectile point fragments, drill, three bifaces, seven scrapers, fourteen cores, and fourteen utilized spalls and cobbles.

9. Evaluation of Project: The Narrows Site is a small and diffuse portion of the site that is the north bank of the Snake, between Hammett and Glenn's Ferry. Projectile point typology suggests sporadic and transitory use of the area over the last 5500 years.

10. Records (i.e., reports, notes, and collections):

(1976) Ames, Ken M.
The Narrows Site, Elmore County, Idaho, Preliminary Report, Boise State University, Boise.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archeological and geological investigations at the Dean Site on Browns Bench, Twin Falls County, Idaho.

2. Principal Investigator(s): Alfred W. Bowers

3. Sponsoring Institution: University of Idaho - National Science Foundation.

4. Dates of Field Work: 1955, 1957 & 1958 - survey and testing.
1959 - excavation.

5. General Location of Field Work: Southwestern Twin Falls County, at headwaters of Cedar Creek.

6. Purpose of Field Work: Establish chronological sequence for area, show influence of geological and environmental factors.

7. Field Procedures and Techniques: Purposive survey of area. Testing in areas of high artifact density - arbitrary nine-inch levels. Excavation - trenching to ten feet b.s., regular excavation by six-inch levels.

8. Project Results: 22,159 artifacts of stone and pottery recovered (18,000 were worked chips, flakes or rejected cores). 95.8% were obsidian. Three loci were identified. No permanent structures, very little ash, charred wood or animal bone. Heavy seasonal occupation spanning 10,000 - 2,500 BP. 2,500 BP - 1,800 AD - only sporadic occupation.

9. Evaluation of Project: Good data recovery. Lack of C-14 datable material is a handicap to interpretation. The oldest material, that underlying what was excavated, was not retrieved as part of the excavation. The excavation units were not backfilled and unauthorized collection of Paleo-Indian material commenced after Bowers departed.

10. Records (i.e., reports, notes, and collections):

(1962) Bowers, Alfred & Savage, C.N.
Primitive Man on Browns Bench, His Environment & His Record.
Idaho Bureau of Mines & Geology Information Circular 14, Moscow, Idaho.

(1964) Baines, Paul
Archaeology of the Dean Site, Twin Falls County, Idaho.
Report of Investigations 25. Washington State University Laboratory of Anthropology. Pullman.

Artifact collections in University of Idaho Anthropological Laboratory.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Cultural Resource Inventory of Pan Alberta Pipeline ROW in Oregon and Idaho.

2. Principal Investigator(s): Michael S. Burney.

3. Sponsoring Institution: Northwest Pipeline Corporation.

4. Dates of Field Work: Summer, 1980

5. General Location of Field Work: Northeastern Oregon and Southern Idaho.

6. Purpose of Field Work: Archeological inventory associated with Pipeline EIS.

7. Field Procedures and Techniques: Pedestrian survey of ROW.

8. Project Results: Three sites in Idaho unavoidably impacted. Excavations and mitigation undertaken separately. Includes Snake River Crossing SIte (10-EL-400), Buick Site (10-EL-401).

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections): Curatorial agreements with University of Oregon, Eugene, ISU, Pocatello, and Idaho Archaeological Center, Boise.

(1980) Reed, Wm G., Reed, Kate O'Brien
A Cultural Resource Inventory of 350.9 miles of the Pan Alberta Natural Gas Pipeline Looping Route in Idaho and Oregon, Vol. 1. Western Cultural Resource Management, Inc., Boulder, Co.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archeological Testing of the Snake River Crossing Site (10-EL-400).

2. Principal Investigator(s): Michael Burney
Marcus Grant

3. Sponsoring Institution: Northwest Pipeline Corporation, SLC

4. Dates of Field Work: June & October, 1980

5. General Location of Field Work: Along Snake River, near Glenns Ferry, Elmore County.

6. Purpose of Field Work: Evaluate significance of site as mitigation associated with natural gas pipeline construction through site, determine National Register eligibility.

7. Field Procedures and Techniques: June: two 1 x 1 meter test unit, placed within pipeline ROW. No randomization. Excavation in ten centimeter levels and screened with ¼ inch mesh, sixty - eight centimeters depth. October: two 2 x 2 meter test pits excavated to fifty centimeters.

8. Project Results: Lithic material found to a depth of fifty-five centimeters. Four stratigraphic units located. No diagnostic evidence obtained. Site not recommended for National Register nomination.

9. Evaluation of Project: Conclusions based on speculation. Research design of limited value.

10. Records (i.e., reports, notes, and collections):

(1980) Grant
(1980) Nechtwey & Hall

(1980) Reed, W.G. & Reed, K.O.
A Cultural Resource Inventory of 350.9 Miles of the Pan Alberta Pipeline Looping Route in Idaho and Oregon, Volumes I & III. Unpublished. WCRM, Colorado.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archeological survey of proposed Guffey-Swan Falls Reservoirs, southwestern Idaho.

2. Principal Investigator(s): B. Robert Butler, Idaho State University Museam

3. Sponsoring Institution: Idaho Water Resources Board.

4. Dates of Field Work: June & July, 1971

5. General Location of Field Work: Snake River Canyon, between Walter's Ferry and Grandview.

6. Purpose of Field Work: To locate and evaluate cultural resources prior to inundation.

7. Field Procedures and Techniques: Three-man crew surveyed by truck, boat and on foot. Daily notes kept, sketch maps and photos made of each site.

8. Project Results: One hundred and four sites found, concentrated in eleven localities. Includes both prehistoric and historic. Prehistoric large open terrace sites, rock shelters, occupation sites near perennial springs, small campsites near intermittent drainages, petroglyph fields. Historic: old Guffey townsite, bridge, stone houses.

9. Evaluation of Project: Good report includes brief site descriptions. Many sites extensively vandalized prior to survey.

10. Records (i.e., reports, notes, and collections):

(1971) Keeler & Koko

See also Tuohy (n.d.) and Tuohy & Swanson (1960)

All notes, photos and collections are curated at the Idaho State University Museum, Pocatello.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Mt. Bennett Hills Project

2. Principal Investigator(s): B. Robert Butler

3. Sponsoring Institution: Bureau of Land Management and Idaho State University Museum of Natural History

4. Dates of Field Work: Summers of 1974 and 1975

5. General Location of Field Work: Mt. Bennett Hills, between Camas Prairie to the north, and Snake River to the south

6. Purpose of Field Work: Reconnaissance archaeological survey to collect a representative sample of the cultural resources available in the area.

7. Field Procedures and Techniques: 1974: Intuitive survey samples, including full sections and banks of drainage. 1975: Stratified random sample survey of full sections.

8. Project Results: One thousand and eighty artifacts and twenty-six pottery sherds were collected (263 projectile points, 796 cores cores and flake tools and 23 ground stone objects). Evaluation of various models predicitng site locaitons is included. Human exploitation of area since 9000 BC is postulated.

9. Evaluation of Project: Adequate

10. Records (i.e., reports, notes, and collections):

(1976) Cinadr, Thomas J.
Mt. Bennett Hills Planning Unit: Analysis of Archaeological Resources. Idaho State University Museum of Natural History rchaeological Reports 6. Pocatello.

(1974) Polk, Ann
Mount Bennett Hills 1974. Report on file, Idaho State University Museum. Pocatello.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Cultural Resource Inventory of Midpoint-Hunt 230 KV Transmission Line, Jerome County, Idaho.

2. Principal Investigator(s): B. Robert Butler

3. Sponsoring Institution: Idaho Power Company

4. Dates of Field Work: 1978

5. General Location of Field Work: Jerome County, Idaho

6. Purpose of Field Work: Cultural resource clearance for proposed transmission line.

7. Field Procedures and Techniques: Survey of ROW.

8. Project Results: No sites found.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):

(1978b) Butler

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Cultural Resource Inventory prepared for the Idaho Water Resource Board.

2. Principal Investigator(s): B.R. Butler, T.W. Epperson, G.C. Tucker.

3. Sponsoring Institution: Idaho Water Resource Board (IWRB).

4. Dates of Field Work: May & June, 1976

5. General Location of Field Work: Owyhee County

6. Purpose of Field Work: A study by the IWRB to determine land use alternatives.

7. Field Procedures and Techniques: Survey on foot and with vehicle. Survey along rim above Snake River and Saylor Creek and edge of plateau.

8. Project Results: One site found.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections): (1976) Butler, B.R., Epperson, T.W., Tucker, G.C.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: An archaeological survey of the south slope and base of DeLamar Mountain, Owyhee County, Idaho.

2. Principal Investigator(s): Mario Delisio

3. Sponsoring Institution: R.W. Beck & Associates

4. Dates of Field Work: July, 1974

5. General Location of Field Work: Owyhee County, Idaho, twelve miles from Oregon.

6. Purpose of Field Work: To discover archaeological sites which may be threatened by impending mining activities.

7. Field Procedures and Techniques: Walking survey of impact area with emphasis on locating and searching water resources.

8. Project Results: Unclear. Lithic material found.

9. Evaluation of Project: Results not clear.

10. Records (i.e., reports, notes, and collections):

(1974) Delisio, Mario

See bibliography

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archaeological investigations at Eagle Rock (10-PR-134) and survey of surrounding area.

2. Principal Investigator(s): Mark & Claudia Druss.

3. Sponsoring Institution: CH_2M Hill Company of Boise.

4. Dates of Field Work: November & December, 1981

5. General Location of Field Work: Power County, along Snake River.

6. Purpose of Field Work: To determine the location, nature and significance of historic and prehistoric sites in locations to be impacted by hydro-electric dam.

7. Field Procedures and Techniques: 10-PR-134 is south of the river and outside of study area. In addition, an intense survey was conducted on north side of the river.

8. Project Results: Three historic and thirty-seven prehistoric sites, including campsites, quarries, rock shelters, hearths, a possible pithouse, workshops, and possible historic mill. In addition, extinct Pleistocene fauna recovered.

9. Evaluation of Project: Adequate. Report seen is preliminary draft.

10. Records (i.e., reports, notes, and collections):
(1981) Druss, Mark and Druss, Claudia
Archaeological Investigations at Eagle Rock. Preliminary Report. CH_2M Hill Co., Boise.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archaeological survey for the Bicentennial plus one seeding.

2. Principal Investigator(s): William P. Geer

3. Sponsoring Institution: BLM, Boise District

4. Dates of Field Work: September - December, 1977

5. General Location of Field Work: Owyhee County, Saylor Creek drainage system.

6. Purpose of Field Work: To locate cultural resources, and to flag sites for project avoidance during reseeding.

7. Field Procedures and Techniques: Each section was transected eight times in random wandering pattern using a motorcycle.

8. Project Results: Located forty-one sites, including three which were previously recorded. Twnety-six sites were lithic scatters only. Thirty-six typable artifacts recovered - indicate use of area 8500 BP to historic times. Most debitage was white crypto-crystalline. Most sites on ridges near drainages.

9. Evaluation of Project: Field sampling techniques probably biased, but survey required in short time with only one field surveyor.

10. Records (i.e., reports, notes, and collections):

(1977) Geer, William P.
Preliminary Report on the Archaeological Survey for the Bicentennial Plus One Seeding. Report on file, BLM, Boise.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Givens Hot Springs Excavation Project (10-OE-1689, 10-OE-60).

2. Principal Investigator(s): Tom Green

3. Sponsoring Institution: Idaho State Historical Society

4. Dates of Field Work: 1979-1982

5. General Location of Field Work: Givens Hot Springs, near Snake River, fifty miles south-west of Boise, Owyhee County.

6. Purpose of Field Work: Salvage archeology prior to construction, locating house structures.

7. Field Procedures and Techniques: Every item provenienced to ascertain activity areas and house areas. Six of eight house structures excavated.

8. Project Results: Eight structures with associated hearths, trash deposits, and other features. Primary fauna remains - deer, rabbits, river mussels. Occupation from 5000 BP to 600-1200 AD.

9. Evaluation of Project: Final evaluation and report in progress.

10. Records (i.e., reports, notes, and collections):

(1982) Green

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Test excavations at two sites in south-west Idaho.

2. Principal Investigator(s): Ruth Gruhn

3. Sponsoring Institution: Idaho State College Museum

4. Dates of Field Work: 1964

5. General Location of Field Work: Near Marsing, at confluence of Squaw Creek and Snake River, Owyhee County.

6. Purpose of Field Work: Salvage archeology prior to field leveling

7. Field Procedures and Techniques: Excavation of one x two meter test pits in arbitrary 15-30 centimeter levels.

8. Project Results: Both sites: Three stratigraphic zones, two with cultural material. Burned earth overlaid by charcoal, shell and bone fragments. Artifacts in 10-OE-129: Humboldt through desert side - notched points. Knives, scraper, drill, pestle fragments, bone awl points. 10-OE-128 burial - flexed, possible young adult, with bone point associated.

9. Evaluation of Project: Sites heavily damaged by erosional and field leveling activities. Many artifacts studied were recovered by landowner.

10. Records (i.e., reports, notes, and collections):

(1964) Gruhn

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Excavation of Wilson Butte Cave, south-central Idaho.

2. Principal Investigator(s): Ruth Gruhn

3. Sponsoring Institution: Idaho State College Museum - Peabody Museum of Harvard University.

4. Dates of Field Work: 1959, 1960

5. General Location of Field Work: Northeastern Jerome County, west-central Snake River Plain

6. Purpose of Field Work: Establish cultural chronology and answer questions about prehistory of the region.

7. Field Procedures and Techniques: Three meter squares, arbitrary ten centimeter levels. Artifacts provenienced; trowel and dust-pan used; frequent collapse of side walls made stratigraphic control difficult.

8. Project Results: C-14 dates of cultural material range from 14,500 + 500 BP to 425 + 150 BP. Seasonal, sporadic occupation, apparently as hunting camps - no basketry, woven blankets or milling implements recovered. Appears to show more Northwestern Plains influence than Plateau or Great Basin.

9. Evaluation of Project: Site value lies mostly in early C-14 date; cultural material was sparse and often not provenienced. Point typology and many of Gruhn's conclusions now out of date. Site heavily potted prior to excavation. However, this research provided the first detailed prehistoric chronology in the Snake River Basin, and remains one of the longest cultural sequences on the North American continent.

10. Records (i.e., reports, notes, and collections):

(1959) Gruhn, Ruth
(1960a)
(1961a)
(1961b)
(1965)

See bibliography for full citations.

Collections held by Idaho State College Museum.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archaeological testing of the Buick Site (10-EL-401), Elmore County

2. Principal Investigator(s): David Hall
Nancy Nachtwey

3. Sponsoring Institution: Northwest Pipeline Corporation/ Western Cultural Resource Management, Inc.

4. Dates of Field Work: June, 1980

5. General Location of Field Work: North bank of Snake River, near Glenn's Ferry, Idaho

6. Purpose of Field Work: To assess the site's significance.

7. Field Procedures and Techniques: Two 1 x 1 m test units placed within proposed pipeline ROW. No randomization of samples. Ten centimeter levels were excavated and screened, using ¼ inch mesh.

8. Project Results: Heavily disturbed sediment above undisturbed sediment contained waste material from 1955 pipeline construction, as well as nondiagnostic cultural materials. No cultural material found in undisturbed sediments.

9. Evaluation of Project: Adequate

10. Records (i.e., reports, notes, and collections):

(1980) Hall, David M. and Nachtwey, Nancy J. An Archaeological Testing of the Buick Site (10-EL-401). Elmore County, Idaho, Western Cultural Resource Management, Inc., Boulder, CO.

Collection housed with Idaho State University Museum.

See also Tuohy, 1959.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Acculturation among the White Knife Shoshone of Nevada

2. Principal Investigator(s): Jack & Martha Harris

3. Sponsoring Institution: Columbia University

4. Dates of Field Work: 3.5 months in 1937

5. General Location of Field Work: Duck Valley Reservation in Idaho and Nevada

6. Purpose of Field Work: To study process and effects of acculturation for the Social Science Research Council

7. Field Procedures and Techniques: Unknown. No informants listed, none quoted.

8. Project Results: Standard reservation ethnography.

9. Evaluation of Project: Ethnocentric bias toward acculturation. Presents a detailed picture of White Knife Shosnone lifeways.

10. Records (i.e., reports, notes, and collections):

(1940) Harris, Jack
The White Knife Shoshone of Nevada. In Acculturation in Seven American Indian Tribes, ed. by Ralph Linton, pp. 39-116. D. Appleton-Century Co., New York.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Oregon Trail Cultural Resource Study

2. Principal Investigator(s): Idaho State Historical Society

3. Sponsoring Institution: Bureau of Land Management

4. Dates of Field Work: Archeological field investigations took place over three months in the summer of 1980, limited to prehistoric sites. Historic field research segmented over many years.

5. General Location of Field Work:

   N/A

6. Purpose of Field Work: Inventory and diary checks for management resolve

7. Field Procedures and Techniques: Samples/40 acre based on air photos and known sites. Some random selection.

8. Project Results: Compilation of site and historic information on the Oregon Trail between Casper, Wyoming and Old Fort Boise, Idaho, including complete map sets of major and alternate routes. The report included data derived from diary research.

9. Evaluation of Project: Excellent

10. Records (i.e., reports, notes, and collections):
    (1981) Idaho State Historical Society

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Excavation of Pence-Duerig Cave, southern Idaho.

2. Principal Investigator(s): Charleton G. Laird

3. Sponsoring Institution: University of Idaho, Southern Branch (now Idaho State University).

4. Dates of Field Work: 1937

5. General Location of Field Work: North rim of Snake River Canyon, near Twin Falls.

6. Purpose of Field Work: Unknown

7. Field Procedures and Techniques: Unknown

8. Project Results: Artifacts suggest a late prehistoric age, recovered from uppermost layer. Artifacts include small triangular corner-notched or side-notched points, mortars and pestles, manos and metates, wooden artifacts, basketry, leather moccasin.

9. Evaluation of Project: Incomplete.

10. Records (i.e., reports, notes, and collections):
    (1961c) Gruhn

    Collection stored at Idaho State College Museum

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archaeological investigation in the Graveyard Point area, southwestern Idaho.

2. Principal Investigator(s): Frank Leonhardy
Ruth Ann Knudson

3. Sponsoring Institution: University of Idaho/Pacific Power and Light

4. Dates of Field Work: March, 1980

5. General Location of Field Work: Owyhee County, Idaho

6. Purpose of Field Work: Determine significance of sites and the potential for adverse impacts of PP&L transmission line construction.

7. Field Procedures and Techniques: Systematic and unsystematic surface collecting.

8. Project Results: Minimal prehistoric use of area. Stone resource is product of geological processes, not prehistoric use.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):

(1980) Moe, J.M., Eckerle, W.P., Knudson, R.

(1981) Leonhardy, F.C. and Knudson, R.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: The Castle Creek Survey, Owyhee County, Idaho
The Brown Creek Survey

2. Principal Investigator(s): Sharon Metzler

3. Sponsoring Institution: Funded by the Bureau of Land Management, operated as Boise State University and Washington State University joint-field school.

4. Dates of Field Work: Summer, 1976

5. General Location of Field Work: Northern Owyhee County, drainages of Castle, Brown, Hart & Pickett Creeks.

6. Purpose of Field Work: To provide BLM with a data base for resource management.

7. Field Procedures and Techniques: Intensive sample survey. Fifty meter transects of drainages and uplands. Cultural material collected for analysis. Some random samples, some judgment samples.

8. Project Results: Ninety open sites located in selected areas of the drainage, one rock shelter found - destroyed by vandals. Of open sites, fifteen are quarries, thirty-one are hunting lookout sites, thirty-five are camp sites. Seven are unknown function. Sites range in elevation from 2,500 to 8,000 feet. Habitation of study area for the last 9,000 years is hypothesized.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):

(1976) Metzler
(1977) Metzler

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Cultural Resource Inventory of the Devil's Creek drainage area, Owyhee & Twin Falls Counties, Idaho.

2. Principal Investigator(s): Kelly Murphey

3. Sponsoring Institution: Bureau of Land Management

4. Dates of Field Work: September, 1975

5. General Location of Field Work: Owyhee & Twin Falls Counties in south-central Idaho.

6. Purpose of Field Work: Archaeological site inventory for land management plans.

7. Field Procedures and Techniques: Survey of drainages and rims along Devil's Creek. Amateurs' artifact collections from the study area were examined.

8. Project Results: 230 sites, 711 archaeological specimens. Much evidence of erosion and damage to sites. Prioritization of sites and recommendation for National Register District. Projectile point styles show habitation of area for last 10,000 years.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):

(1977) Murphey, Kelly A.
An Archaeological Inventory of Devil's Creek, Owyhee and Twin Falls Counties, University of Idaho Anthropological Research Manuscript Series 35. Moscow.

(1980) Murphey, Kelly A.
The Taylor Pocket Site - A Late Paleo Indian Hunting Technology in south-central Idaho. Paper presented at Eighth Annual Meeting of Idaho Archaeological Society, Boise.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: A re-survey of Swan Falls/Guffey reservoir area.

2. Principal Investigator(s): Kelly Murphey

3. Sponsoring Institution: Bureau of Land Management

4. Dates of Field Work: 1977

5. General Location of Field Work: Middle Snake River, near Swan Falls, from Walter's Ferry to Grandview.

6. Purpose of Field Work: Intensive archaeological reconnaisance of proposed archaeological National Register District.

7. Field Procedures and Techniques: Intensive walking survey.

8. Project Results: 225 sites, 94% within one hundred meters of the Snake River. 82% prehistoric. Evidence indicates continual use of study area from 8,000 - 10,000 BP, but is scanty before 4,500 - 2,500 BP.

9. Evaluation of Project: Adequate, but unsystematic

10. Records (i.e., reports, notes, and collections):

(1977) Murphey, Kelly
A Resurvey of Swan Falls/Guffey. Paper prepared for Fifth Annual Meeting of the Idaho Archaeological Society, Boise State University, Boise.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Cultural Resources survey of middle Snake River

2. Principal Investigator(s): Kelly Murphey

3. Sponsoring Institution: Unknown

4. Dates of Field Work: 1978-80

5. General Location of Field Work: Snake River Canyon, from Marsing to Shoshone Falls, Idaho

6. Purpose of Field Work: To inventory all sites along Snake River, including rock art.

7. Field Procedures and Techniques: Unknown

8. Project Results: Twenty-eight petroglyphs located, with 112 distinct motifs recognized.

9. Evaluation of Project:

10. Records (i.e., reports, notes, and collections):
(1981) Murphey

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Shoshone Bannock Subsistence & Society

2. Principal Investigator(s): Robert & Yolanda Murphy

3. Sponsoring Institution: U.S. Department of Justice

4. Dates of Field Work: 1954-57

5. General Location of Field Work: Fort Hall & Duck Valley Reservations

6. Purpose of Field Work: To collect information of interest to Indian Land Claims cases.

7. Field Procedures and Techniques:

   Six weeks at Fort Hall.
   One week at Duck Valley.
   Interviewed all the oldest people they could find.

8. Project Results: Good, particularly the ethnohistory

9. Evaluation of Project: In 1950's, it was hard to find anyone who remembered the "old days." Therefore they relied heavily on ethnohistorical sources. All research related to land claims cases is possibly biased toward proving land "ownership", and therefore some inaccuracies appear.

10. Records (i.e., reports, notes, and collections):

   (1960) Murphy & Murphy

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Camas Creek Survey

2. Principal Investigator(s): W. Norquist
T. Moore

3. Sponsoring Institution: Great Basin Chapter, Idaho Archaeological Society.

4. Dates of Field Work: 1975?

5. General Location of Field Work: South-central Owyhee County, Idaho.

6. Purpose of Field Work: "Help to fill in a small part of the blank spaces on the archaeology map."

7. Field Procedures and Techniques: Survey and excavation of a small test pit.

8. Project Results: Six sites recorded, one rock shelter with pictographs excavated to sixty centimeters. More than one-hundred & fifty metates scattered in Camas Field, indicating use of Camas or similar food source.

9. Evaluation of Project: Difficult to evaluate methods, due to lack of information given in report.

10. Records (i.e., reports, notes, and collections):

(1975) Norquist, Wm. and Moore, T.
Archaeological Survey of Camas Creek, Owyhee County, Idaho. Report of the Great Basin Chapter of the Idaho Archaeological Society, Caldwell.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archaeological survey of Bruneau Canyon region.

2. Principal Investigator(s): Godfrey J. Olsen

3. Sponsoring Institution: Museum of American Indian, Heye Foundation.

4. Dates of Field Work: 1937

5. General Location of Field Work: Bruneau Canyon, Owyhee County

6. Purpose of Field Work: Location of archaeological sites.

7. Field Procedures and Techniques: Surface survey of seventy miles along Bruneau River, one mile wide on each side. Other survey along Snake River nearby. Four-month field season. Sites mapped and charted.

8. Project Results: Ten caves, numerous shelters and caches - on Bruneau River. Along Snake River, over two hundred camp, village, quarry and burial sites recorded.

9. Evaluation of Project: No field notes--survey information non-existent; recovered artifactual material is deposited at the Heye Foundation, Museum of the American Indian, Bronx, NY.

10. Records (i.e., reports, notes, and collections):

    (1940) Olsen, Godfrey J.
    Contains some notes regarding fieldwork. Final report was never published.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Survey of Camp Three Forks site on Soldier Creek, Idaho.

2. Principal Investigator(s): Michael Ostrogorsky

3. Sponsoring Institution: Idaho State Historical Society

4. Dates of Field Work: September, 1978

5. General Location of Field Work: Owyhee County, on Soldier Creek

6. Purpose of Field Work: To determine integrity of the site and potential for historical archaeological investigations.

7. Field Procedures and Techniques: Not stated.

8. Project Results: The site shows a surprising degree of archaeolgocal integrity and high potential for historical archaeology.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):

(1978) Ostrogorsky, Michael
Archaeological Survey of Camp Three Forks Site of Owyhee Soldier Creek, Idaho. Report on file, Idaho State Historical Society, Boise.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archaeological Investigations at Historic Sites in the Snake River Canyon, near Bliss, Idaho.

2. Principal Investigator(s): Michael Ostrogorsky.

3. Sponsoring Institution: EDAW, Inc., San Francisco/Idaho Power Company.

4. Dates of Field Work: Fall, 1980

5. General Location of Field Work: Gooding & Twin Falls Counties, along Snake River, south of Bliss, Idaho.

6. Purpose of Field Work: Determine significance of previously recorded sites, plan mitigation measures.

7. Field Procedures and Techniques: Test excavations using trowel, shovel and ¼ inch screen, with arbitrary ten centimeter levels.

8. Project Results: Documented historic significance and determined National Register eligibility. Site probably is a Chinese camp.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):

(1981) Ostrogorsky, Michael
Archaeological Investigations at Historic Sites in the Snake River Canyon near Bliss, Idaho. Idaho Archaeological Consultants Report 6. Boise.

(1979) Ostrogorsky, Micheal and Plew, Mark.
Cultural Resources Evaluation of the Proposed Wiley and Dike Reservoir in the Snake River Canyon near Bliss, Idaho. Idaho Archaeological Consultants, Technical Report.

(1980) Plew, Mark, and Ostrogorsky, Michael
Interim Report on Phase II, Archaeological Investigation in the Proposed A.J. Wiley Dam Project near Bliss, Idaho.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Cultural Resource Evaluation of the proposed Wiley & Dike Reservoirs in the Snake River Canyon near Bliss, Idaho.

2. Principal Investigator(s): Michael Ostrogorsky
   Mark Plew

3. Sponsoring Institution: EDAW, Inc.

4. Dates of Field Work: November, 1978

5. General Location of Field Work: Snake River Canyon, near Bliss, Idaho. Gooding, Twin Falls and Elmore Counties.

6. Purpose of Field Work: Cultural resource inventories associated with reservoir project EIS's. Identify cultural resources, make recommendations for further work.

7. Field Procedures and Techniques: Parallel survey transects along floodplain and terraces of Snake River.

8. Project Results: Thirty-seven historic and prehistoric sites. Historic: trash dumps, placer mining activity, foundations, wells, homesteads, bridge foundation, road bed, corral. Prehistoric: campsites, possible villages, lithic scatters, rock alignments.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):
    (1979) Ostrogorsky & Plew

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: The Bruneau Canyon Survey

2. Principal Investigator(s): Max Pavesic

3. Sponsoring Institution: Bureau of Land Management

4. Dates of Field Work: Fall, 1971; August, 1972

5. General Location of Field Work: Owyhee County, Idaho

6. Purpose of Field Work: Provide information useful in determining the future status of the river and its tributaries, for future preservation and proper management.

7. Field Procedures and Techniques: Two-man crews surveyed canyon on foot, and two-man crew used vehicle to survey rim. A complete inventory of sites was attempted--logistically and financially proved impossible.

8. Project Results: Recorded rockshelters, open sites, lithic scatters, located two prehistoric baskets and drying racks in a dry cave. A total of one hundred and seventy-three sites recorded.

9. Evaluation of Project: No map of survey area included in report. Otherwise adequate. Complete set of survey photos with all sites marked filed with BLM, Boise District.

10. Records (i.e., reports, notes, and collections):

(1973) Pavesic and Hill

See bibliography

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: An archaeological survey and assessment of Pacific Power & Light Company's proposed 500 KV Transmission Line: Jordan Valley, Oregon to Midpoint, Idaho.
2. Principal Investigator(s): Max G. Pavesic
3. Sponsoring Institution: Pacific Power & Light Company
4. Dates of Field Work: August - October, 1977
5. General Location of Field Work: Elmore, Gooding, Jerome, Owyhee and Twin Falls Counties.
6. Purpose of Field Work: To locate, identify and evaluate all archaeological, paleontological and historic resources located within the proposed ROW boundaries. Also, to relocate sites found by David L. Cole.
7. Field Procedures and Techniques: A survey team of two walked within the 175 ft. ROW. Areas of high potential were carefully checked. All new access roads also were checked.
8. Project Results: Recorded six archaeological sites and one paleontological locality. Recommendations for mitigation measures included.
9. Evaluation of Project: Adequate.
10. Records (i.e., reports, notes, and collections):

(1977) Pavesic, Max
An Archaeological Survey and Assessment of Pacific Power & Light Company's Proposed 500 KV Transmission Line: Jordan Valley Oregon to Midpoint, Idaho.

(1975) Cole, D., et al.
Report on Survey of the Pacific Power and Light Company 500 KV Transmission Line from Malin, Oregon to Midpoint, Idaho for non-renewable resources. Report on file, University of Oregon Museum of Natural History. Eugene.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archaeological survey of the proposed Jordan Creek Reservoir site, southwestern Idaho

2. Principal Investigator(s): Max Pavesic

3. Sponsoring Institution: Bureau of Reclamation, Boise

4. Dates of Field Work: March, 1967

5. General Location of Field Work: Owyhee County, Idaho

6. Purpose of Field Work: Obtain additional geological information and photographs.

7. Field Procedures and Techniques: Three day survey on foot and with four wheel drive vehicle.

8. Project Results: Adequate.

9. Evaluation of Project:

10. Records (i.e., reports, notes, and collections):

(1976) Pavesic, Max

1. Project Title: Archaeological survey and test excavations at the National Fish Hatchery Locality, Hagerman Valley, Idaho.

2. Principal Investigator(s): Max Pavesic - 1979
Harvey S. Rice - 1980

3. Sponsoring Institution: U.S. Army Corps of Engineers, Walla Walla District

4. Dates of Field Work: Fall, 1979, Phase I
November, 1980, Phase II

5. General Location of Field Work: Gooding County, Hagerman Valley, adjacent to the Snake River.

6. Purpose of Field Work: To assess archaeological potential prior to disturbance by construction activities. To identify the nature and depth of culture bearing deposits and locate buried cultural features.

7. Field Procedures and Techniques: 1979: A six-person field crew completed 41 hand-excavated 1 x 2 m pits, six 2 x 2 m pits, 4 backhoe trenches of 1 x 3 to 1 x 16 m, and 52 auger holes 90 cm in depth. 1980: Testing of one cultural area located by Pavesic and Meatte - 1 x 2 m test pits placed in judgmental, random sample. Excavated in arbitrary 10 cm levels to bedrock, or 100 cm. Survey of alternate construction sites.

8. Project Results:
1979: five or six buried features, indicating the presence of prehistoric dwellings, lithic artifacts, bone, shell, pottery, ash and charcoal. Possibility is demonstrated of identifying and excavating an entire village site, probably AD 850-1350.
1980: materials recovered, including lithic, bone, shell, groundstone and historic material.

9. Evaluation of Project:
1979: Adequate - good. Future C-14 dates necessary for full evaluation.
1980: Adequate; no attempt made to interpret information recovered; earlier report by Pavesic and Meatte used extensively.

10. Records (i.e., reports, notes, and collections):

(1980) Pavesic, Max and Meatte, D.
Archaeological Test Excavations at the National Fish Hatchery Locality, Hagerman Valley, Idaho.

(1981) Lothson, Gordon and Virga, Keith
Archaeological Test Excavations, Phase II. Testing at the Hagerman National Fish Hatchery. Hagerman Valley, Idaho. Eastern Washington University Reports in Archaeology and History, 1-2. Cheney, WA.

See bibliography for full citation.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archaeological Inventory Survey of Saylor Creek, Unit II. Deadman Flat

2. Principal Investigator(s): Max Pavesic

3. Sponsoring Institution: Bureau of Land Management

4. Dates of Field Work: October & November, 1972

5. General Location of Field Work: Elmore & Owyhee Counties, between Saylor and Deadman Creeks.

6. Purpose of Field Work: To inventory prehistoric antiquities in the study area, and preserve them from destruction by agricultural development under the Desert Land Entry Act.

7. Field Procedures and Techniques: Meandering survey on foot. Areas showing archaeological promise were checked more thoroughly.

8. Project Results: Thirty-three sites found - fifteen in Owyhee County, thirteen in Elmore County. Five sites were outside but adjacent to the study unit. Two paleontological sites were also noted.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):

(1973) Pavesic, Max and Moore, Joseph
Deadman Flat: An Archaeological Inventory Survey of Saylor Creek, Unit II, Report on file, Bureau of Land Management, Boise.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archaeological survey of the Sheaville to De Lamar Power Line ROW, Owyhee County, Idaho

2. Principal Investigator(s): Max Pavesic
George Ruebelmann

3. Sponsoring Institution: R.W. Beck & Associates, Denver

4. Dates of Field Work: October, 1974

5. General Location of Field Work: Owyhee County, Idaho

6. Purpose of Field Work: To locate all surface indications of antiquities which would be adversely affected by the power line development.

7. Field Procedures and Techniques: Walking survey of ROW.

8. Project Results: Ten sites located, nine prehistoric and one historic. Seven sites were on the ROW, three adjacent. Intensive excavations recommended for prioritized sites. Three additional prehistoric sites located later during survey of adjacent Wagontown Historic Site.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):

(1974) Pavesic, M.

See bibliography.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Multiple surveys and small test excavation in south-central Owyhee Uplands, Owyhee County.

2. Principal Investigator(s): Mark Plew

3. Sponsoring Institution: Indiana University Museum, BLM, Boise State University, Idaho State Historical Society, College of Southern Idaho.

4. Dates of Field Work: 1975-1979

5. General Location of Field Work: South-central Owyhee Uplands, southwestern Idaho. Deep Creek and Battle Creek drainage systems.

6. Purpose of Field Work: (1) Identify and describe archaeological sites and functions; (2) regional chronology; (3) formulation of descriptive settlement model, by intensive study of a delimited region; (4) evaluate ethnological validity of the model.

7. Field Procedures and Techniques:
Research strategy after Struever (1968). General survey strategy: 15-20 m transects of one mile wide strips of land, 50% collection. Test excavation of selected sites using 1 x 1 m units. Survey along and between drainages.

8. Project Results: 560 sites recorded - 90% prehistoric, 10% historic. Twelve test sites excavated - 1,157 artifacts, 15,524 pieces of debris recovered. Projectile point types range from Humboldt to Cottonwood.

9. Evaluation of Project: Good. Synthesis of data to build refined typology, settlement pattern for area.

10. Records (i.e., reports, notes, and collections):

(1980) Plew, Mark
Archaeological Investigations in the south-central Owyhee Uplands, Idaho. Archaeological Reports 7, Boise State University, Boise.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archaeological survey of Field Group and Little Valley DLE's.

2. Principal Investigator(s): Mark G. Plew

3. Sponsoring Institution: Bureau of Land Management

4. Dates of Field Work: September, 1976

5. General Location of Field Work: Owyhee County, Idaho

6. Purpose of Field Work: To determine presence of cultural resources and their significance.

7. Field Procedures and Techniques: Parallel fifty meter transects across area.

8. Project Results: One site found - a very small lithic scatter.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):

(1976) Plew, Mark
Archaeological Survey of Field Group and Little Field DLE's. A letter report to George Ruebelmann, BLM.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archaeological excavations at Nahas Cave, south-west Idaho.

2. Principal Investigator(s): Mark G. Plew

3. Sponsoring Institution: ?

4. Dates of Field Work: May-June, 1979
June, 1980

5. General Location of Field Work: On Pole Creek, near confluence with Deep Creek, Owyhee County, Idaho.

6. Purpose of Field Work: To build a cultural chronology and settlement and use pattern for the area.

7. Field Procedures and Techniques: Unknown

8. Project Results: Cultural material throughout 140 centimeter deposit. Four cultural zones identified, with occupation spanning at least 5990 $\pm$ 170 BP to 260 $\pm$ 50 BP. Artifact assemblage and faunal remains suggest use of site as hunting camp. Limited groundstone assemblage through all levels. Remains of steelhead trout suggest at least one spring occupation.

9. Evaluation of Project: Good - provides much needed cultural sequence for Owyhee Uplands.

10. Records (i.e., reports, notes, and collections):

(1979d) Plew
(1980f) Plew, In Masterkey
(1981a) Plew, In Idaho Archaeology 4(3)
(1980) Plew
(1980) Plew & Woods

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: An archaeological survey of Lye Lake Ranch near Bliss, Idaho.

2. Principal Investigator(s): Mark Plew

3. Sponsoring Institution: Idaho State Historical Society

4. Dates of Field Work: March, 1980

5. General Location of Field Work: Gooding County, near Bliss, Idaho.

6. Purpose of Field Work: Reconnaissance of area prior to leveling acreage for irrigation.

7. Field Procedures and Techniques: Non-random ground search

8. Project Results: No sites found

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):

(1980) Plew, Mark
An Archaeological Survey of the Lye Lake Ranch near Bliss, Idaho. Report on file, Idaho State Historical Society, Boise.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. **Project Title:** Archaeological survey and test excavations of four Nature Conservancy Land Tracts in the Snake River Birds of Prey Natural Area, Idaho.

2. **Principal Investigator(s):** Mark G. Plew

3. **Sponsoring Institution:** Nature Conservancy

4. **Dates of Field Work:** February & May, 1980

5. **General Location of Field Work:** Along Snake River, Ada and Elmore Counties. Excavations at Big Foot Bar area.

6. **Purpose of Field Work:** Thorough surface reconnaissance and subsurface testing, analyze cultural resources, make recommendations for maintenance, protection and need for more study. Determine relative age of occupation and relationship to ethnographic models.

7. **Field Procedures and Techniques:** Inventory survey - ground survey teams using ten to fifteen meter parallel transects. Photographs taken and survey site forms filled out on site. Test excavation: Nine 1 x 2 meter, and two 1 x 1 meter test pits, arbitrary ten centimeter levels.

8. **Project Results:** Eleven prehistoric and three historic sites located, all in the river floodplain. Excavations of prehistoric sites revealed ten artifacts, with only limited use of area at all but 10-AA-166. 10-AA-166 contains distinct hearths and possible house structure, exposure was not completed.

9. **Evaluation of Project:** Adequate.

10. **Records (i.e., reports, notes, and collections):**

(1980a) Plew, Mark
An Archaeological Evaluation of the Nature Conservancy Land Tracts in the Snake River Birds of Prey Natural Area, Idaho. Project Reports 2, Idaho Archaeological Consultants, Boise.

(1980b) "

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Phase II, prehistoric archaeological investigations in the proposed A.J. Wiley Dam Project, near Bliss, Idaho.

2. Principal Investigator(s): Mark Plew - Idaho Archaeological Consultants

3. Sponsoring Institution: Idaho Power Company

4. Dates of Field Work: 1980

5. General Location of Field Work: Owyhee County, near Bliss

6. Purpose of Field Work: To evaluate sites found in 1978 survey re: necessity for mitigation, impact, etc. To establish area chronology, locate reported aboriginal village.

7. Field Procedures and Techniques: Test excavations of four sites. Units shovel-shaved, features trowel-excavated. All material screened. Flotation and carbon samples collected.

8. Project Results: C-14 dates from 10GG1 range from 830±140 AD to 1630±140 AD - first late archaic dates from west Snake River Canyon. Only sites 10GG1 and 10TF352 yielded significant cultural material. They were campsites, with significant numbers of projectile points and faunal remains.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):

(1981c) Plew, Mark
Archaeological Test Excavations at Four Prehistoric Sites in the western Snake River Canyon near Bliss, Idaho. Project Reports 5, Idaho Archaeological Consultants, Boise.

(1981b) Historic Resources and recording of sites during Fall, 1980 inspection are in a separate volume.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archaeological investigations in the Owyhee River Country

2. Principal Investigator(s): Mark Plew
James Woods

3. Sponsoring Institution: IHS

4. Dates of Field Work: July & August, 1981

5. General Location of Field Work: Owyhee County, Idaho

6. Purpose of Field Work: To record and describe sites within and adjacent to the east and south forks of the Owyhee River for evaluating their potential as winter encampments.

7. Field Procedures and Techniques: Sections of the canyon and adjacent rimrock areas were surveyed.

8. Project Results: Twenty-three sites recorded. Nine of those were historical. Minimal use area. Prehistoric sites include rock alignment, rock cairn, five isolated lithic scatters, seven rock shelters, two Rose Springs projectile points.

9. Evaluation of Project: No map of study area included. Otherwise adequate.

10. Records (i.e., reports, notes, and collections):

(1981) Plew, Mark and Woods, J.
Archaeological Investigations in the Owyhee River Country. Paper presented to the Ninth Annual Conference of Idaho Archaeological Society.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Cultural resources survey of the C.J. Strike Power Plant - Bruneau Bridge Substation 138 KV Transmission Line Project

2. Principal Investigator(s): George Ruebelmann

3. Sponsoring Institution: Idaho Power Company

4. Dates of Field Work: December, 1974

5. General Location of Field Work: Owyhee County, Idaho

6. Purpose of Field Work: Monitor construction activities

7. Field Procedures and Techniques: On foot and by vehicle

8. Project Results: No sites found

9. Evaluation of Project: Adequate

10. Records (i.e., reports, notes, and collections):

(1974) Ruebelmann

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Survey in Owyhee and Ada Counties; excavation of Cave No. 1, Owyhee County.

2. Principal Investigator(s): Louis Shellback

3. Sponsoring Institution: Museum of the American Indian, The Heye Foundation, New York.

4. Dates of Field Work: August, 1929

5. General Location of Field Work: Bank of the Snake River - cave is south of Melba, Owyhee County

6. Purpose of Field Work: Basic research

7. Field Procedures and Techniques: Planned excavation, exact techniques unknown. Apparently dug in arbitrary levels, sometimes up to two feet deep at one time. Excavated down to possible Mt. Mazama ash layer. Site had previously been vandalized.

8. Project Results: Harpoon points, net sinkers, fish hooks, fish lines recovered. Large number of fish vertebrae and forked sticks - possible seasonal fishing station. Numerous firepits (ash concentrations) from surface to 53"b.s. Woven mat at 19" b.s. - Plains-style backrest.

9. Evaluation of Project: Adequate. Techniques reflective of state of knowledge in 1929. Current research on fish remains being undertaken by Pavesic, W. Statham, and W. I. Follett. First scientifically excavated site in southwest Idaho.

10. Records (i.e., reports, notes, and collections):

(1930) Shellback, Louis

(1967) Shellback, Louis - This consists of Shellback's full notes, as edited by Earl H. Swanson, Jr.

Collections and photographs at Museum of the American Indian, New York. Part of the collection donated to Idaho Historical Society, Boise.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Excavation of Bachman Cave, Owyhee County

2. Principal Investigator(s): 1972/73 - Jason Smith
1976 - Sharon Metzler

3. Sponsoring Institution:
1972/73 - BSU, Idaho Archaeological Society and WSU
1976 - Idaho Archaelogical Society

4. Dates of Field Work: 1972/73; 1976

5. General Location of Field Work: On Hart Creek, near Oreana, Idaho.

6. Purpose of Field Work:

7. Field Procedures and Techniques: Unknown.

8. Project Results: Site was heavily vandalized in early 1900's. Evidence of occupation from ca. 6000 - 1500 BP. Cultural deposit more than 5.5 meters deep. Faunal remains indicate use as a primary butchering camp, but few associated artifacts have been found. Evidence for primary lithic manufacture.

9. Evaluation of Project: Project report not available. The effort put into this excavation was of questionable value, as site had been practically destroyed in the past.

10. Records (i.e., reports, notes, and collections):
(1977b) Metzler

No formal site report at this time.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Historical archaeological testing at Silver City, Idaho

2. Principal Investigator(s): Roderick Sprague

3. Sponsoring Institution: Bureau of Land Management

4. Dates of Field Work: Spring, 1977

5. General Location of Field Work: Owyhee County, Idaho

6. Purpose of Field Work: Environmental impact statement

7. Field Procedures and Techniques: Non-random selection and excavation of 3 x 3 ft. testing sites.

8. Project Results: Silver City still has a rich potential for recovery of scientific information despite destruction and modification. Author makes several suggestions for better maintenance and mitigation of local culture.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):

    (1977) Sprague, Roderick

    See bibliography.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: The Narrows & Oasis Archaeological Survey

2. Principal Investigator(s): Roderick Sprague

3. Sponsoring Institution: Idaho Department of Water Resources/ Laboratory of Anthropology, University of Idaho.

4. Dates of Field Work: September, 1981

5. General Location of Field Work: Owyhee and Elmore Counties, south of Hammett, Idaho.

6. Purpose of Field Work: Compliance with National Historic Preservation Act of 1966.

7. Field Procedures and Techniques: Standard BLM Class III survey techniques, but the rims of the plautau areas were covered more intensively than elsewhere.

8. Project Results: Two sites and six isolated finds were located.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):

(1981) Palmgren, Lois M.
The Narrows and Oasis Archaeological Survey.
Report on file, Office of State Archaeologist, Boise.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Survey of a portion of the Guffey Reservoir Area

2. Principal Investigator(s): William P. Statham

3. Sponsoring Institution: Boise State College Anthropology Club

4. Dates of Field Work: Spring, 1971

5. General Location of Field Work: Owyhee and Ada Counties, Snake River

6. Purpose of Field Work: To record resources, and as a student training exercise.

7. Field Procedures and Techniques: Walking survey, lithic and bone selectively collected; all pottery collected.

8. Project Results: An index of refraction dating of cave deposits (6700 BP). About thirty sites recorded.

9. Evaluation of Project: A tentative, student's quality research. No map with report.

10. Records (i.e., reports, notes, and collections):
(1971) Statham, W.P.

Collection housed at the Idaho State University Museum

See bibliography.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Culture Element Distributions among Northern and Gosiute Shoshone

2. Principal Investigator(s): Julian H. Steward

3. Sponsoring Institution: Bureau of American Ethnology

4. Dates of Field Work: 1936

5. General Location of Field Work: For Western Shoshone and Bannock - Fort Hall Reservation, Idaho.

6. Purpose of Field Work:
   (a) Ethnographic reconnaissance
   (b) Analyze functional relationships of cultural elements
   (c) Ascertain types of Shoshone socio-political groups.

7. Field Procedures and Techniques: One informant, Bohogue Shoshone, 64 years old. Six days' interview. One informant, Bannock, 84 years old, assisted by a woman of mixed Shoshone Bannock descent. Six days' interview.

8. Project Results: Information collected on 2,933 culture elements, compared to Shoshone to the northeast and southeast in Utah.

9. Evaluation of Project:

10. Records (i.e., reports, notes, and collections):

(1943) Steward, Julian H.
Anthropolocy records 8:3

(1938) Steward

See bibliography.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Culture Element Distribution among Nevada and south Idaho Shoshone

2. Principal Investigator(s): Julian H. Steward

3. Sponsoring Institution: University of California, Social Science Research Council

4. Dates of Field Work: 1935

5. General Location of Field Work: For Snake River Shoshone: Owyhee Reservation.

6. Purpose of Field Work:
   (a) Ethnographic reconnaissance
   (b) Analyze functional relationships of culture elements
   (c) Ascertain types of Shoshone socio-political groups.

7. Field Procedures and Techniques: Culture element list based on Driver's for S. Sierra Nevada. To collect data on Snake River Shoshone, one informant interviewed for up to six days. Informant was full blood Shoshone, lived near Bliss, ca. 1874 - 1900.

8. Project Results: Information collected on 2,742 culture elements, compared with Shoshone to the south. General picture of Great Basin gathering and some hunting culture, with great emphasis on salmon fishing added.

9. Evaluation of Project: Method of collection and use of culture element lists is currently a matter of controversy. Problems of one informant only who had been on a reservation in a different area for 35 years, etc. Still, a general picture emerges which seems to be accurate, and indeed is all we have.

10. Records (i.e., reports, notes, and collections):

    (1941) Steward, Julian H.
    Anthropology Records 4(2)

    (1938) Steward

    See bibliography

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Culture Element Distributions among Northern Paiute

2. Principal Investigator(s): Omer Stewart

3. Sponsoring Institution:

4. Dates of Field Work: Summer, 1936

5. General Location of Field Work:

6. Purpose of Field Work: To describe and compare elements of culture among different Northern Paiute bands.

7. Field Procedures and Techniques: Related to study area: one male informant of Tago"to"kər "band", 85 years old, interviewed, as well as his 80 year old wife, of the Koa'aga'i "band."

8. Project Results: Culture elements collected for eleven "bands," two of which inhabited the western portion of study area: Tagotoka and Koa'aga'i. Typical picture of Great Basin Desert culture, but some differences from more southerly "bands" noted, i.e., salmon fishing, water-related animals eaten, no nut gathering, etc.

9. Evaluation of Project: Validity of culture element lists doubtful. Stewart himself admits problems. Still, it's all we have.

10. Records (i.e., reports, notes, and collections):

(1941) Stewart, Omer

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archaeological survey of south and central Idaho.

2. Principal Investigator(s): Earl H. Swanson

3. Sponsoring Institution: Idaho State College

4. Dates of Field Work: 1958

5. General Location of Field Work: Snake & Salmon River Systems

6. Purpose of Field Work: Locate cultural resources in proposed reservoir inundation areas.

7. Field Procedures and Techniques:

8. Project Results: 650 sites located, including Wilson Butte Cave and Birch Creek area sites. 8,000 artifacts collected.

9. Evaluation of Project:

10. Records (i.e., reports, notes, and collections):
(1959) Swanson, Tuohy & Bryan

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Saylor Creek Survey, Unit I

2. Principal Investigator(s): Earl H. Swanson, Jr.
Max Pavesic

3. Sponsoring Institution: BLM and Idaho State University Museum

4. Dates of Field Work: July & September, 1971

5. General Location of Field Work: Southwestern Idaho, including locations in Owyhee, Elmore, Twin Falls Counties.

6. Purpose of Field Work: First phase of an archaeological site inventory of federally owned lands in anticipation of Desert Land Entries.

7. Field Procedures and Techniques: General reconnaissance to determine settlement patterns, intense search in productive areas and spot check of less suitable locations.

8. Project Results: Twenty-nine sites located, twenty-five within Saylor Creek District. 126 artifacts found. Recommendations were made for further testing some sites.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):

(1971) Bucy, D.R.

See bibliography

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archaeological explorations in southwestern Idaho.

2. Principal Investigator(s): Earl Swanson

3. Sponsoring Institution: American Philosophical Society/Idaho State College Museum.

4. Dates of Field Work: 1959

5. General Location of Field Work: Parts of Owyhee, Ada, Cassia, Elmore and Twin Falls Counties.

6. Purpose of Field Work: To ascertain the archaeological character of southwestern Idaho and attempt definition of a prehistoric Plaueau-Great Basin boundary zone.

7. Field Procedures and Techniques: Unknown

8. Project Results: 143 sites recorded - rock shelters, camps, rock rings, pictograph & petroglyph localities, quarries, workshops, possible burial sites. Intensive occupation of upper reaches and founding springs of streams, lesser occupation on lower reaches, dense occupation along Snake River. Concluded Snake River was Plateau-Great Basin boundary in prehistoric times - had moved north by 19th Century.

9. Evaluation of Project:
Most conclusions have since been discounted--adequate for the time, in fact, good. Pioneering effort!

10. Records (i.e., reports, notes, and collections):

(1964) Swanson, Powers & Bryan

(1965) Swanson.
American Antiq. & 1966 addendum.

(1962) Swanson, Bryan & Powers

Data and distribution maps on file at Idaho State University Museum.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Recording of the Wees Bar Petroglyph Field, southwestern Idaho.

2. Principal Investigator(s): Nelle Tobias

3. Sponsoring Institution: BSU and Idaho State Historical Society supported publication; research self-funded.

4. Dates of Field Work: 1970's

5. General Location of Field Work: In Snake River Canyon, south of Melba, Owyhee County, Idaho.

6. Purpose of Field Work: Recording of petroglyphs before destruction. It should be noted reservoir not constructed, hence petroglyphs not inundated.

7. Field Procedures and Techniques: Twenty acre area gridded into 100 ft. squares, each boulder numbered. Petroglyphs both photographed and traced onto clear polyethylene sheets.

8. Project Results: At least ninety boulders of varying sizes have petroglyphs. They extend 2,000 feet east-west and ca. 300' north-south, and are grouped in at least three clusters.

9. Evaluation of Project: As Tobias is an amateur, no conclusions offered. Thorough work of recording; report has comprehensive set of designs.

10. Records (i.e., reports, notes, and collections):

(1976) Tobias
(1981) Tobias, Nelle

See also Erwin, 1930.

All field notes, drawings and photographs on file at the Southwestern Idaho Regional Archaeological Center, Idaho State Historical Society, Boise.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Salmon Falls Creek Study

2. Principal Investigator(s): Gordon C. Tucker
B. Robert Butler

3. Sponsoring Institution: BLM, Idaho State University Museum

4. Dates of Field Work: Summer, 1975

5. General Location of Field Work: Twin Falls County, Salmon Creek drainage

6. Purpose of Field Work: To determine potential for cultural resources of area in conjunction with study to designate as special recreation area.

7. Field Procedures and Techniques: Backpack survey of canyon and east and west rims, parallel transets of fifty meters, so that area of one hundred meters on each rim covered by survey.

8. Project Results: 7,700 artifacts, seventy sites, divisible into three different regions.

9. Evaluation of Project: Adequate. Statistical tests and conclusions lack tight control.

10. Records (i.e., reports, notes, and collections):

(1976a) Tucker, Gordon C.
(1976b)

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Survey of the Long Tom Reservoir

2. Principal Investigator(s): Donald Tuohy

3. Sponsoring Institution: National Park Service/Idaho State College Museum

4. Dates of Field Work: June, 1958

5. General Location of Field Work: Elmore County

6. Purpose of Field Work: Determine extent of cultural material in reservoir inundation areas.

7. Field Procedures and Techniques: Survey

8. Project Results: No sites found.

9. Evaluation of Project: Adequate. No map of study area shown.

10. Records (i.e., reports, notes, and collections):

(1958) Tuohy, D.R.
An Archaeological Survey of the Long Tom Reservoir, Elmore County. Report on file, Idaho State University Museum, Pocatello.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Archaeological survey in southwestern Idaho and northern Nevada

2. Principal Investigator(s): Donald Tuohy

3. Sponsoring Institution: Nevada State Museum/National Park Service.

4. Dates of Field Work: 1962

5. General Location of Field Work: Pipeline corridor from Reno to Mountain Home, Idaho.

6. Purpose of Field Work: Clearance for pipeline construction.

7. Field Procedures and Techniques: Pedestrian surface survey for right-of-way corridor and adjacent areas; limited subsurface testing of three sites, 10-EL-53, 10-EL-56, 10-OE-145.

8. Project Results: In Owyhee Uplands - 38 sites: campsites, rock alignments, petroglyphs.
Dense site distribution east of Battle Creek.

9. Evaluation of Project: Good

10. Records (i.e., reports, notes, and collections):

(1963) Tuohy
Nevada State Museum, #8

(1980) Reed, William G. and Kate O. Reed
A Cultural Resource Inventory of 35°, 9 miles of the Pan Alberta Natural Gas Pipeline Looping Route in Idaho and Oregon, Vol. I, III, and IV. Western Cultural REsource Management Inc., Boulder, Colorado for Northwest Pipeline Corporation, Salt Lake City.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Cultural resources survey of proposed Guffey Reservoir area, southwestern Idaho.

2. Principal Investigator(s): Donald Tuohy and Christopher Hulse, Idaho State College Museum

3. Sponsoring Institution: National Park Service

4. Dates of Field Work: June & July, 1958

5. General Location of Field Work: Snake River Plain from Walter's Ferry to Grandview.

6. Purpose of Field Work: Location and evaluation of sites before inundation.

7. Field Procedures and Techniques: Thirty mile long area surveyed by three men from an open jeep. No islands explored.

8. Project Results: Seventy-four sites - fifty are campsites, eleven are habitation sites (house depressions, stratified middens), ten rock shelters, two petroglyph areas (including Wees Bar).

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):

Tuohy (n.d.)

(See also Keeler & Koko 1971, and Tuohy & Swanson 1960)

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Test excavation of Rock Shelter 10-AA-15, southwest Idaho.

2. Principal Investigator(s): Donald Tuohy
Earl H. Swanson, Jr.

3. Sponsoring Institution: National Park Service

4. Dates of Field Work: 1959?

5. General Location of Field Work: Just downriver from Swan Falls.

6. Purpose of Field Work: Sample testing of a stratified site found on 1958 survey for proposed Guffey Reservoir.

7. Field Procedures and Techniques: Two-week period. Site mapped, one meter grid staked out, two trenches excavated at right angles to each other. Excavated in seven levels.

8. Project Results: Four occupation levels, no C-14 dates. Only seventy-three artifacts, mostly waste flakes, recovered. Seven projectile points ranging from Pinto to Desert Side Notched. Eleven potsherds, apparently Shoshone Ware.

9. Evaluation of Project: Adequate for testing. Report is sketchy.

10. Records (i.e., reports, notes, and collections):

(1960) Tuohy & Swanson

See also Tuohy (n.d.)

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Preliminary surface survey of Flintstone's Retreat Hunting Complex, Mt. Bennett Hills.

2. Principal Investigator(s): Claudia Taylor Walsworth
Timothy P. Hubbard

3. Sponsoring Institution: BLM, Shoshone District

4. Dates of Field Work: Summer, 1981

5. General Location of Field Work: Bennett Hills, south-central Idaho.

6. Purpose of Field Work: Develop theory of human occupation of area.

7. Field Procedures and Techniques: Examination and surface mapping of five activity loci.

8. Project Results: Surface features variety of dense and sparse lithic scatters, rock features and petroglyph panels. Butchering activity indicated. Projectile points found have age range 600-1630 AD. Stone blinds overlooking waterhole. Postulated antelope corral.

9. Evaluation of Project: Adequate.

10. Records (i.e., reports, notes, and collections):
(1981) Walsworth, Claudia and Hubbard, Timothy P.
Flintstone's Retreat - A Communal Hunting Complex in the Bennett Hills of southern Idaho. Report on file, Bureau of Land Management, Shoshone, Idaho.

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. **Project Title:** Class II inventory of Sun Valley Planning Area, Shoshone District, BLM

2. **Principal Investigator(s):** Miranda Warburton
John Hanson

3. **Sponsoring Institution:** BLM, Shoshone District

4. **Dates of Field Work:** 1978 & 1979

5. **General Location of Field Work:** Southern Camas & Blaine Counties

6. **Purpose of Field Work:** Discovery of cultural resources in a previously uninventoried area.

7. **Field Procedures and Techniques:** 5.2% stratified sample survey of areas of low to moderate relief, and drainage areas. Fifty meter transects. Surface survey only. 12,600 acres surveyed.

8. **Project Results:** Two ignimbrite quarries, one major campsite, several possible base or hunting camps, small surface scatters. Most reliable predictors for site location: soil type (rich, medium to fine textured), water (within 100 meters), slope (slight rises just above water source).

9. **Evaluation of Project:** Adequate. Final report not yet available. Survey made difficult by intensive use of area by Euro-Americans.

10. **Records (i.e., reports, notes, and collections):**
Warburton & Hanson
(1979a) Idaho Archaeology
(1979b) Paper presented NWAC

CULTURAL RESOURCE RESEARCH AND INVESTIGATION PROJECT SUMMARY

1. Project Title: Class II cultural resource inventories of Owyhee, Bruneau and Jarbidge Resource Areas

2. Principal Investigator(s): J.M. Young

3. Sponsoring Institution: Boise District BLM

4. Dates of Field Work: 1976 - 1981

5. General Location of Field Work: Southwest Idaho, north and south of Snake River, ca. 4,280,000 acres.

6. Purpose of Field Work: Determine cultural resources in the area, assess negative impacts, develop and verify predictive model of site distribution.

7. Field Procedures and Techniques: Stratified random sample survey of one-section units in Owyhee Resource area, based on broad, ecological zones. Sample survey of Bruneau and Jarbidge areas based on predictive model developed from Owyhee area results. Thirty meter transects, and intuitive search.

8. Project Results: Elevation, slope and proximity to perennial water are best predictors of cultural resource site occurrence. High sensitivity elevation is generally 5600 - 5800 ft. Major drainages are high density areas. A total of 1044 sites located and described.

9. Evaluation of Project: Good. Each site described but no tabulations made.

10. Records (i.e., reports, notes, and collections):
(1982) Young, J.M.
Preliminary Report on a Class II Inventory, Boise District, Idaho. Report on file at BLM, Boise.

4.2 Collections

4.2.1 Discussion

The two facilities which house the major collections from the Boise and Shoshone Districts are the Regional Archaeological Center for southwestern Idaho, in Boise, and the Regional Archaeological Center for southeastern Idaho in Pocatello (SWIRAC and SEIRAC). Collections from the Boise District except for Twin Falls County, which goes to Pocatello, are housed and catalogued by county at the SHPO in Boise. Collections from the Shoshone District are part of the southeast region and are housed and catalogued at the Idaho State Museum of Natural History, Idaho State University, in Pocatello. Survey and excavation project collections are found with some exceptions at these locations.

A number of small museums, libraries, historical societies, and private individuals, also possess cultural resource collections from the study area. The cataloguing order and accessibility of these collections vary extensively. Difficulties of access and lack of reliable information regarding provenience frequently reduce the research value of the collections.

The following summary of cultural resource collections from within or adjacent to the study area briefly describes the most pertinent available information.

4.2.2 Catalogues - Historic Sites

1981 Oregon Trail Cultural Resource Study; Fort Casper, Wyoming, to Fort Boise Hudson's Bay Company (HBC), Idaho. Idaho State Historical Society, Boise, for the BLM.

1980 Statewide inventory of historic sites and buildings. Listed by county. Idaho State Historical Society, Boise.

1973 Haines, Aubrey L. Historic resource study. Historic sites along the Oregon Trail. Denver Service Center, NPS, Denver.

4.2.3 Maps

1981 Oregon Trail Cultural Resource Study, Fort Casper, Wyoming, to Fort Boise (HBC), Idaho. Accompanying 7 1/2' USGS quad maps.

General Land Office Plats, BLM, Public Affairs Office, Federal Building, Boise.

4.2.4 Photographs

Idaho State Historical Society Photograph Collection. Idaho State Historical Society, Boise.

Twin Falls Public Library Photograph Collection, Twin Falls.

BLM Miscellaneous Photograph Collections. Includes many uncatalogued photos not primarily of cultural resource value and systematically filed Recreation Division Collection. BLM, Boise.

4.2.5 Newspapers

1956 Spence, Melville R.
Bibliography and Union List of Idaho Newspapers 1862-1955. University of Idaho, Moscow.

Newspapers from the study area include:

Idaho Daily Statesman
Hailey Times
Arco Advertiser
The Gooding Leader
Jerome North Side News
Segregation News
Minidoka County News
Pioneer Record
Owyhee Avalanche
Owyhee Chronicle
Times-News
Buhl Herald
Idaho Evening Times
Twin Falls Daily News

4.2.6 Collections

Southwestern Idaho Regional Archaeological Center (SWIRAC):

Historic Museum Collection. Idaho State Historical Society, Boise.

Archaeological Collection. Idaho State Historical Society, Boise.

Southeastern Idaho Regional Archaeological Center (SEIRAC):
Historic Museum Collection. Major archaeological collections, Idaho State Museum of Natural History, Pocatello.

Wilson Butte Cave Collections. Southeastern Regional Archaeological Center, Idaho State Museum, Pocatello.

Bison and Veratic Rockshelters Collections. Southeastern Regional Archaeological Center, Idaho State Museum, Pocatello.

Herrett Museum. Amateur historic and prehistoric collections. College of Southern Idaho, Twin Falls.

Twin Falls Historic Museum. Amateur historic and prehistoric collections. Twin Falls.

Owyhee County Museum. Predominantly amateur historic and prehistoric collections. Murphy.

Hailey Museum. Predominantly amateur historic collections. Hailey.

Elmore County Historic Foundation. Predominantly amateur historic collections. Mountain Home.

Minidoka County Museum. Predominantly amateur historic collections. Rupert.

Dirty Shame Rockshelter Collection. Prehistoric. Museum of Natural History, University of Oregon, Eugene.

Nahas Cave Collection. Prehistoric to be housed by Southwestern Regional Archaeological Center in Boise. Currently held by archaeologist M. Plew for on-going research.

Dry Creek Cave Collection. Prehistoric. Held privately by site landowner.

10-GG-1. Prehistoric. Early collections held at Southeastern Regional Archaeological Center, Idaho State Museum, Pocatello. Recent excavation material held by archaeologist M. Plew for on-going research.

Dean Site. Amateur prehistoric artifact collections. Herrett Museum, College of Southern Idaho, Twin Falls.

Extensive private collections are held by Mr. Jerry Lee Young of Hollister, Mr. Kelley Murphey of Castleford, and Mr. Al Perry of Marsing.

4.3 Present Research Orientations

Present research orientations are considered here as research questions within a traditional archaeological framework. The questions form the basis for research designs within the study area.

4.3.1 Research Questions and Orientations

1. Development of regional and local cultural chronologies;

2. Subsistence, land use, and settlement pattern studies;

3. Plateau-Great Basin relationships;

4. Shoshonean expansion and the Fremont presence;

5. Early introduction of the bow and arrow;

6. Lithic material source identification, and;

7. Archaeological documentation of the ethnographic record.

4.3.1.1 Development of a Cultural Chronology

A primary goal of southwestern Idaho archaeology is the development of regional and area specific chronologies as a necessary preliminary step for the interpretation of area settlement patterns and other aspects of prehistory. Only a few sites now provide chronological control for the Snake River Plain. These are Wilson Butte Cave (Gruhn 1961), Dry Creek Rockshelter (Webster 1978), and Nahas Cave (Plew 1981a). The sites are stratified cave and rockshelter deposits. In a riverine environment, Givens Hot Springs (Thomas Green n.d.), the National Fish Hatchery Site (Pavesic and Meatte 1980; Lothson and Virga 1981), Clover Creek (Butler 1982; DeLisio 1979), and sites 10GG1 and 10TF352 near Bliss are important (Plew 1981c). All have yielded useful radiocarbon chronologies.

Researchers also are refining analytic processes and interpretations using obsidian hydration measurements, obsidian sourcing, and ignimbrite samples. James P. Green is working on obsidians from central and southern Idaho; Max

Pavesic and Thomas Green are working on obsidians from western Idaho. Joseph Gallagher is analyzing ignimbrite from southern Idaho. Lee Sappington is coordinating much of the obsidian and vitrophyre sourcing in Idaho (1981 a,b).

4.3.1.2 Subsistence, Land Use, and Settlement Pattern Studies

Most present studies attempt to solve site distribution problems by looking at regularities across the entire array of prehistoric and historic site-environment relationships. These basic studies have been a necessary first step for effective management. However, site distribution for any culture and for any period of time is the more complex product of the aggregate of a culture's adaptive strategies including subsistence, land use, settlement patterns, ideology, and demography. Chronology is vital as a limiting parameter in such studies because sites and site components can be divided and grouped according to time of use. This temporal stratification is requisite to the detection of land use and settlement patterns which accurately reflect a culture's adaptation and which contrast it with the adaptation of any other group.

Within the Boise and Shoshone Districts several methodologically-oriented strategies have been used to predict site location. Within the Boise District these studies include work by Young (1982), Metzler (1976, 1977), Moe (1982), Bentley (n.d.), and Plew (1980c).

Metzler (1976, 1977) used intuitive and random sampling techniques to investigate the Brown's and Castle Creek drainages in Western Owyhee County. A major emphasis of the investigations was the identification of sites within defined elevational/vegetational zones. Moe's Reynolds Creek study used 40 acre study plots scattered throughout the watershed and correlated sites with special environments (1982). Young's Class II inventory of the Owyhee, Bruneau, and Jarbidge Resource areas related the sites to environmental factors. A discriminant analysis which provided associations between these factors and sites permitted Young to build a predictive model of site distribution for the unsurveyed portions of the resource areas.

Elton Bentley's study correlates landform and site location in a predictive model for the lands adjacent to the Snake River in both the Boise and Shoshone Districts (Bentley n.d.).

In the Shoshone District, Cinadr (1976) used a variety of sampling techniques (*e.g.*, intuitive, inventory, random, and random stratified) to evaluate the comparative usefulness of sampling schemes. The results are inconclusive due to sample size (Cinadr 1976:55). A test of the ethnographic model was made on a random sample of sections in the Shoshone District (Warburton and Hanson 1980), but the results were inconclusive.

Jack Young has prepared a Step 3 Unit Resource Analysis of the cultural resources in the Sun Valley Resource Area (1980). This preliminary inventory of sites describes site distribution and relates sites to special environmental factors.

Systematic excavations are required in most cases to provide samples which yield data on site function. A few prehistoric sites representing specific functions or special uses within the context of the whole of a culture's adaptation have been identified. Pavesic and Meatte (1980) describe a fish procurement site at Hagerman on the Snake River. Plew (1980) has developed a site location model based upon definition of activity areas within micro-environmental zones for the southcentral Owyhee Uplands. The model is concerned with description of site function and commensurate physiographic associations.

Major archaeological sites along the Western Snake River Plain traditionally have been viewed as winter encampments or villages. This interpretation is based largely on the local ethnographic record. Plew (1981c) recently has suggested temporal and probable special use of sites along the river over the last 4000-5000 years. These sites include probable winter encampments, fishing stations, and mussel collecting areas (Plew 1981c:166-174).

4.3.1.3 Plateau-Great Basin Relationships on the Snake River Plain (Including Variability of House Type)

A major cultural-historical problem in Idaho prehistory concerns the question of Plateau influences on the cultures of the Snake River Plain (Swanson 1965a). Swanson (1965a) suggested that the Snake River was a natural boundary between the Great Basin and Plateau. On the basis of limited evidence (Bonnichsen 1964; Tuohy 1958; Swanson 1959) Swanson also suggested a Plateau presence on the Snake River Plain. This presence was based on a few traits including Plateau semi-subterranean housepits and villages, Plateau type points (specifically Columbia Valley Basal Notched and Wallula Stemmed points), and isolated artifacts such as a Plateau-like maul from the Bliss, Idaho area (Swanson 1965a:36). Pavesic (1971, 1974), the chief opponent of this view, has argued that morphological similarities in material culture within the area were too great to provide a meaningful basis for defining a Plateau presence. Additionally, the projectile points referred to by Swanson (1965) more recently have been referred to using Great Basin terminology following the work of J. P. Green (1972). Green was the first researcher to systematically utilize Great Basin type designations for Idaho projectile points and to correlate Idaho site collections (Butler 1978; Cinadr 1976:37; Metzler 1976:22; Neudorfer 1976:25; Plew 1979b; Webster 1978).

Though arguments for Plateau intrusions on the Snake River Plain are unconvincing, the presence of houses and housepit villages along the Western Snake River have been documented. Recent investigations have uncovered house features at the Givens Hot Springs site (Thomas Green n.d.), at Big Foot Bar in the Birds of Prey Natural Area (Plew 1980b), and at the National Fish Hatchery locale near Hagerman, Idaho (Pavesic and Meatte 1980). Each of these three sites has provided evidence of houses or house floors similar to house structures of California and the Great Basin (e.g., O'Connell and Ericson 1974). Two large Plateau-like housepits have been excavated at the Givens Hot Springs site (Thomas Green, personal communication). Determination of the presence and absence of house features, nature of individual structures, and the definition of possible villages are important and unresolved problems in the area's of prehistory (see Pavesic and Meatte 1980).

4.3.1.4 Shoshonean Expansion

The arrival of Numic (Shoshonean) speakers into Southern Idaho is an important and unresolved issue. Based upon lexico-statistical models (e.g., Lamb 1958), Numic speakers are believed to have migrated from the Southwestern Great Basin about AD 900, moving through Nevada and Western Utah into Idaho around AD 1200-1300. This model has been criticized for lack of archaeological documentation and because it assumes that in this case one can tie specific prehistoric artifact assemblages to a reconstructed language. It presents researchers with an elegant and probably testable hypothesis; however, at this stage in its evolution it is subject to support or discredit by differing explanations. The question is of concern to Idaho prehistory in view of Swanson's (1972) contention that the Northern Shoshoni developed *in situ* in Birch Creek Valley. Recent investigations have documented the archaeological validity of the Numic expansion model in Eastern Nevada and Western Utah (Madsen 1975). Butler had voiced his opposition to the migrationist model, arguing that existing data do not support recent proposals outlined by Wright (1978) (Butler 1979:8). However, after Butler's recent examination of Fremont and Numic data his opposition changed to support for the Numic migrationist model (Butler 1982:1). He cites data from Wilson Butte Cave and the Dean site which suggest that Numic speakers may not have arrived in southern Idaho until after the middle of the sixteenth century. He offers a hypothesis which suggests that because of changing environmental conditions, Numic people and culture spread into southern Idaho and replaced a declining Fremont culture (Butler 1982:13,16).

Bettinger and Baumhoff (1982) have created an economic model for the Numic expansion. The model clearly states the requirements for successful competition among prehistoric cultures in the Great Basin and more importantly describes why the Steward ethnographic model is directly applicable only to Numic culture, and not to those it replaced. From their data there no longer should be any question regarding the reality of Numic expansion, nor of its position in time, nor the way it came about (Bettinger and Baumhoff 1982:485-503).

4.3.1.5 The Fremont Presence in Southern Idaho

Madsen (1979) states that Fremont culture has not yet been defined in an explicit way, and that there is significant debate about Fremont origins. He describes three possibilities:

1. Fremont culture was an extension of the Anasazi north of the Colorado River (Morss 1931; Gunnerson 1969; Berry 1975);

2. Fremont culture was derived from an *in situ* archaic base with some overlying traits from the Southwest (Wormington 1955; Jennings *et al.* 1956; Aikens 1970; Marwitt 1970); and,

3. Fremont culture was derived from the Northern Plains, and acquired some southwestern traits (Aikens 1966; Sharrock 1966) (Madsen 1979:712).

Since Fremont culture itself remains to be defined, the presence of Fremont cultural traits and the nature of the Fremont incursion in southern Idaho is the subject of much discussion.

Fremont materials have been noted in Idaho (e.g., Aikens 1966:3; Bowers and Savage 1962:18), but largely ignored. Plew described similarities between Southern Idaho ceramics and Northern Fremont variants and suggested possible Fremont-Shoshonean contacts as well as Fremont incursions into southeastern Idaho (Plew 1979b:332). A new pottery type, Southern Idaho Plain, was described. This ware was seen as separate from Shoshonean types and similar to the Fremont Great Salt Lake Gray ware (Plew 1979: 332).

Butler has assembled evidence in support of a Fremont presence, and a Fremont culture frontier in southern Idaho. He describes a Fremont occupation along the southern margin of the Snake River Plain with possible horticulture in the Twin Falls-Hagerman area. Butler cites as evidence eighteen basketry fragments, a few pot sherds, including two painted sherds--purportedly Ivie Creek Black on White--and two corn cobs without kernels (1979b).

Butler (1979b, 1980a) has emphasized the recovery of eighteen basketry fragments of Fremont origin from three sites in southern Idaho. These remains include those recovered from Jackknife (Swanson and Sneed 1971) and Little Lost River Cave No. 1 (Fichter et al. 1954) at the southern end of the Lemhi range and Pence-Duerig Cave (Gruhn 1961) along the north side of the Snake River Canyon near Twin Falls. James Adovasio (1970, 1980), an expert on western basketry, has identified these specimens in two separate analyses as Fremont. That Fremont basketry should be found in southern Idaho is as plausible as the presence of Fremont-like ceramics. The basketry remains from Pence-Duerig Cave are questionable since proveniences are unavailable and the deposits are undated. However, it is noteworthy that large lanceolate and small, probably late, side-notched points were found (Gruhn 1961b). Eight basketry specimens from Little Lost River Cave (Fichter et al. 1954) are associated with Early Archaic points which pre-date the Fremont occupation. The third site from which Fremont type basketry has been recovered is Jackknife Cave (Swanson and Sneed 1966). Specimens recovered from Layers 1, 2, and 3 span the period AD 1110 ± 125 (WSU 134) - AD 1790 ± 135 (WSU 135). There were significant disturbances in the upper half of the deposit (Swanson and Sneed 1966:47).

Butler recently has reinterpreted the Dietrich Phase of the Wilson Butte sequence, suggesting that Wilson Butte Plain ware is a Fremont pottery (Butler 1980c). It was suggested previously that Wilson Butte Plain ware was a Fremont type pottery (Plew 1979b; Aikens 1966).

Recently, Plew (1981c) has described Southern Idaho Plain and Shoshonean type potteries from 10GG1 near Bliss, Idaho. These finds are significant because the types occur together in secure contexts. Many postdate the end of Great Salt Lake Fremont, which may support the idea of transmission of Fremont traits by expanding Numic peoples; however, Butler defines Fremont culture itself as post-Archaic and pre-Numic (Butler 1982:2). Holmer, a researcher participating in the examination and analysis of ceramics from southern Idaho said ". . . we just can't tell for sure the difference between Fremont and Numic ceramics in the northeastern Great Basin" (Butler 1982:17).

All that seems clear at present is that this research is in its infancy; that more questions than answers will appear in the near future; that useful hypotheses will be proposed; the problem will be resolved eventually; and that the resolution may involve the transmission of Fremont traits by several distinct cultural adaptations across several centuries. The hint of an answer regarding Fremont-Numic relationships may lie in Butler's work (1981, 1982) and Bettinger and Baumhoff's model (1982:498).

4.3.1.6 Introduction of the Bow and Arrow

The introduction of the bow and arrow, or its independent re-invention and development in North America, is marked by the appearance of small lightweight projectile points in archaeological contexts. Fenega, an accomplished archer and archaeologist, suggested that projectile points weighing less than 3.5 gm were best suited to use with arrows, and those "projectile points" which weighed more than 3.5 gm were dart (atl-atl) points or knives (Fenega 1953). Thomas' recent work supports a similar ending (Thomas 1978). Although the bow and arrow pictured in Mesolithic pictographs in the Old World predates known New World use by millenia, no link between the two traditions has been found. This in and of itself suggests that the Old World population which crossed to the New World came before the bow and arrow was invented and that they invented it themselves, independently. The questions have been who, where, and when?

The questions gain pertinence when relationships between Archaic cultures and Fremont cultures are discussed. Although Aikens (1976) pointed out that the assumption linking the introduction of pottery and the bow and arrow with the appearance of Fremont culture at 1500 BP was unproven, little data to refute this assertion existed (Webster 1980:64). In fact, most researchers examining many data sources throughout the Great Basin were in agreement that the bow and arrow appeared 1500 years ago (Hester 1973).

At two stratigraphically well-controlled archaeological investigations, data retrieved suggested the appearance of the bow and arrow 3000 years ago at the end of the Early Archaic. Both sites are in southwestern Idaho. Early arrow point-bearing strata have been excavated at Dry Creek Rockshelter in the Boise Foothills (Webster 1978; 1980) and at Nahas Cave in the Owyhee Uplands (Plew 1981a).

The appearance of the bow and arrow seems not to have supplanted the atl-atl, but instead to have added a good tool to the repertoire of hunting implements of Late Archaic cultures (Webster 1980:65). Webster and Plew have provided data which support the less-securely provenienced arrowhead data from Danger and Hogup Caves in the eastern Great Basin (Aikens 1970; Jennings 1957), and from Dirty Shame Rockshelter (Aikens 1976) just west of the study area on the Owyhee Plateau and directly related to the Owyhee Uplands.

4.3.1.7 Lithic Material Source Identification

Identification of quarries or other sources of stone for tools and adornment has provided two categories of data:

1. Baseline data for obsidian hydration chronologies; and,

2. Trade connections for obsidian and other lithic materials.

Since volcanic glasses from different sources can be individually "fingerprinted" according to precise relationships among the constituent elements of each, hydration rates special to each source can be measured and controlled. When hydration measures for each source are correlated with radiocarbon dates or dendrochronological placement of associated materials, useful dating scales will be created which can bridge gaps in presently available chronologies.

Knowing the sources of these materials one can postulate trade links and routes which were used to transfer materials from their sources to their final, recovery location. When quarry sources are found for other materials, including cherts and other cryptocrystalline silicates and basalts, similar trade data can be developed.

Obsidian sourcing has utilized x-ray flourescence and x-ray diffraction studies; other materials have been described using spectroscopic analyses.

4.3.1.8 Archaeological Documentation of the Ethnographic Record

A major concern of Idaho archaeology is documentation of the ethnographic model based upon the work of Julian Steward (1938); (Butler 1978; Pavesic and Hill 1973; Plew 1976; Swanson 1965; Tuohy 1963). It provided a basis for Jennings' (1957) Desert Culture concept of the Great Basin. The major difficulty lies in its widespread application to diverse archaeological settings representing different cultural ecosystems at different points in time. Other investigators (Heizer and Napton 1970) have observed local deviations in the Lovelock area of Nevada and in Northwestern Utah (Dalley 1976). Aikens' "Regional System of Cultural Ecology" has defined local adaptive systems (1970).

Though the Steward Model reflects recent and general aboriginal subsistence, it must be subjected to archaeological testing in specific settings. Though its general application as a cultural-ecological model is important, the specificity in its application remains questionable (see e.g., Warburton and Hanson 1979:4-5 and Plew 1980a:8-13). A non-statistical analysis of the model's applicability in the southcentral Owyhee Uplands shows little deviation from Steward (Plew 1980:80-82). In general, the ethnographic analog often provides needed clues for archaeological interpretation and model building.

Steward's model, and any other, must be appropriately tested. Such tesing can occur only when the reality represented by the model is understood. Steward and others collected information on recent cultural adaptations. Differences between them are controllable and can be referred to specific environmental and cultural differences within a relatively small span of time; however, any model derived from ethnogrpahic sources will be inaccurate when times depth intervenes or a different and unaccounted for cultural adaptation directs human choices. Steward specifically, and others who ethnographically documented the Shoshoni and Paiute, described a cultural adaptation in existence for no more and probably for much less than 700 years in the study area. Cultures which this Numic adaptation replaced had different energy budgets and demographic structures than their successors and thus differed in their adaptations (Bettinger and Baumhoff 1982). The Steward model is of extraordinary usefulness when describing the Numic adaptation; it also provides keys and clues for interpreting how cultures prior to the Numic adaptation may have lived, and how they differed from the most recent native adaptation.

PART 5 - CULTURAL RESOURCE NARRATIVE

5.1 Native Americans in Southwest Idaho

5.1.1 Introduction

The following narrative discusses the Native American occupancy of southwest and southcentral Idaho, from ca. 14,500 years before present (BP) to the period of Euro-American exploration and colonization in the nineteenth century. The evidence from which this account is structured comes from archaeological survey and excavation data and travelers' and trained ethnographers' accounts of Native Americans as observed or interviewed in the nineteenth and twentieth centuries. Because the accounts predate BLM district boundaries, pertinent data from outside the study area are included.

This chapter is divided into two parts. The first, a tentative cultural chronology for the study area, presents changes and continuities in projectile point style, site types, climate, and cultural assemblages. The second part is a discussion of Native American lifeways. Northern Paiute and Western Shoshoni ethnographic data form the basis for a model of protohistoric subsistence and settlement patterns and social structure. Archaeological data and discussion are used to describe prehistoric lifeways.

The study area is comprised of two basic physiographic areas, the Snake River Plain and the Owyhee Uplands (see Figure 3). In terms of floral and faunal resources, it can be divided into three basic areas: the Owyhee Uplands (OU), the Snake River Canyon (SRC), and the Snake River Plain (SRP). The SRP can be subdivided into the SRP, the Mt. Bennett Hills (MBH), and Camas Prairie (CP). Each area had a different set of potential resources for the Native American subsistence base, as described in Chapter 3. These divisions are used in both parts of this chapter in building tentative models for subsistence/settlement patterns.

5.1.2 Cultural Chronology

5.1.2.1 Background Discussion

Few scientifically conducted excavations of stratified sites in or around the study area have yielded C-14 dates (Figure 10). Sites with C-14 dates include Dirty Shame rockshelter (Aikens et al. 1977), Nahas Cave (Plew, various dates), and Deer Creek Cave (Shutler and Shutler 1963) in the Oywhee Uplands; Lydle Gulch (Sappington 1982) and Dry Creek Cave (Webster 1978) on the northern edge of the western SRP; Givens Hot Springs on the southern edge of the western SRP (Green 1982); Wilson Butte Cave (Gruhn 1961) on the SRP; and site 10GG1 in the SRC (Plew 1981c). With the exception of 10GG1, each site has a fairly long cultural sequence.

Most sites' features and assemblages show change over time. Archaeologists analyze and organize cultural assemblages and strata into meaningful units to interpret the data, as well as compare data with that from other sites. These divisions are often arbitrary and/or intuitive--similar to locating the dividing line between red and yellow on the color spectrum. So-called "lumpers" might not divide the two colors at all, and "splitters" might decide there are

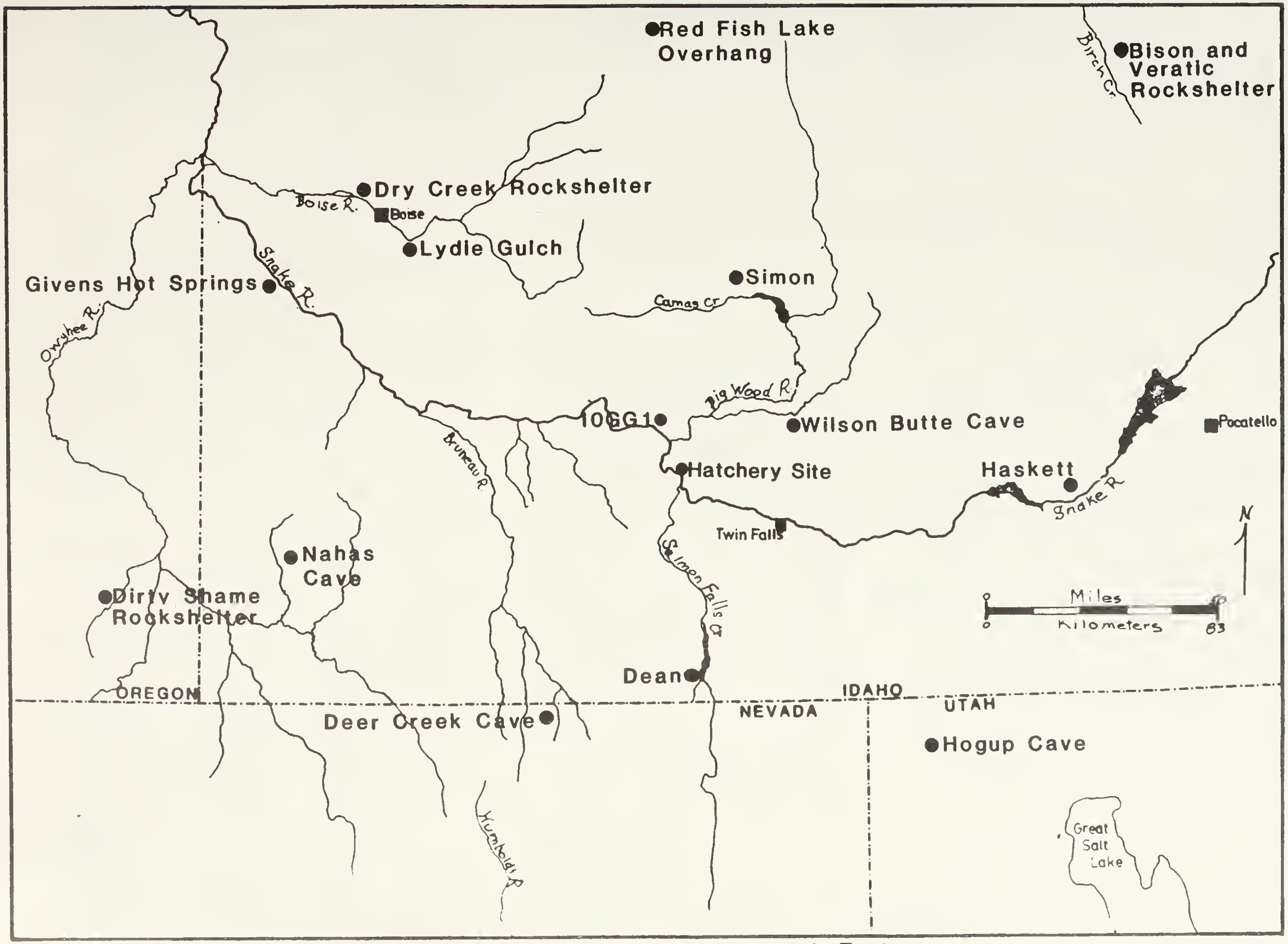


Figure 10 Major Sites Discussed In Text

three colors: red, orange, and yellow. Besides the difficulty in partitioning a continuum, different archaeologists have different criteria for cultural divisions; and when the criteria and rationale are not stated in reports, data comparisons become unreliable, or problematic.

The selected sequences of cultural phases or zones proposed by several archaeologists in the region are shown in Figure 11 are based on different sets of criteria. Aikens' zones I-VI at Dirty Shame rockshelter are based on differences in the total cultural assemblage over time. There were no clearly delineated stratigraphic levels, but a sequence of C-14 dates allowed ordering of different cultural manifestations. Plew's Camas Creek phases I-IV are based on a surface survey of a 200 sq mi area in the south-central Owyhee Uplands (Plew 1980c:28-31). He cross-dated sites based on C-14 dated projectile point sequences from Great Basin sites to the south (see Hester and Heizer 1973). His phases are validated by data and C-14 dates from Nahas Cave (Plew, various dates). Further evaluation of these proposed phases must await publication of the final report on excavation of Nahas Cave.

Gruhn's (1961a) proposed assemblages (Wilson Butte I-Vb) at Wilson Butte Cave presume and are based upon a series of short occupations of the cave separated by sterile strata, rather than clearly observed differences in the assemblages. Gruhn named only one assemblage, W. B. VI or the Dietrich Phase, perhaps because it was the only assemblage with enough data to make clear inferences about the culture of the inhabitants (ibid.:122). Swanson (1972), on the other hand, discovered a more continuous occupation at both Bison and Veratic rockshelters in the Birch Creek Valley. His phases are based strictly on morphological changes in projectile points. Butler's (1978) cultural periods, which are intended for southeastern Idaho, are based on a combination of environmental and cultural data, including projectile point sequences. These periods are relevant because they result from the most recent of only two attempts to develop a synthesis of the prehistory of Idaho on a regional level (Swanson, 1974, is the other).

No one has attempted a culture chronology for southwestern Idaho. There is a paucity of data in the region from which to build a chronology. There is a wealth of cultural material on and in the ground, but only a few excavated sites have been excavated, and only a few of those have C-14 dates. Therefore, archaeologists have elected to use Great Basin chronologies in interpreting data from the study area for two reasons. First, the material culture and implied lifeways of southwestern Idaho resemble those of the Great Basin more than those of the Plateau to the north or the Plains to the east. Second, debates over the possiblities of "Numic Expansion"--the hypothesized arrival of Shoshonean peoples in the study area from the southwestern corner of the Great Basin--and of Fremont influences or migration into the study area, both within the last millenium, currently overshadow most of the other research questions concerning the study area (see Bettinger and Baumhoff 1982; Butler 1979a, 1980a, 1980c, 1981a, 1981b; Madsen 1975, 1980, and Plew 1979e, 1980e, 1980h, 1981e, etc.). These debates focus attention on the area south of the study area and legitimize continued use of Great Basin projectile point sequences as a guide for southern Idaho sites.

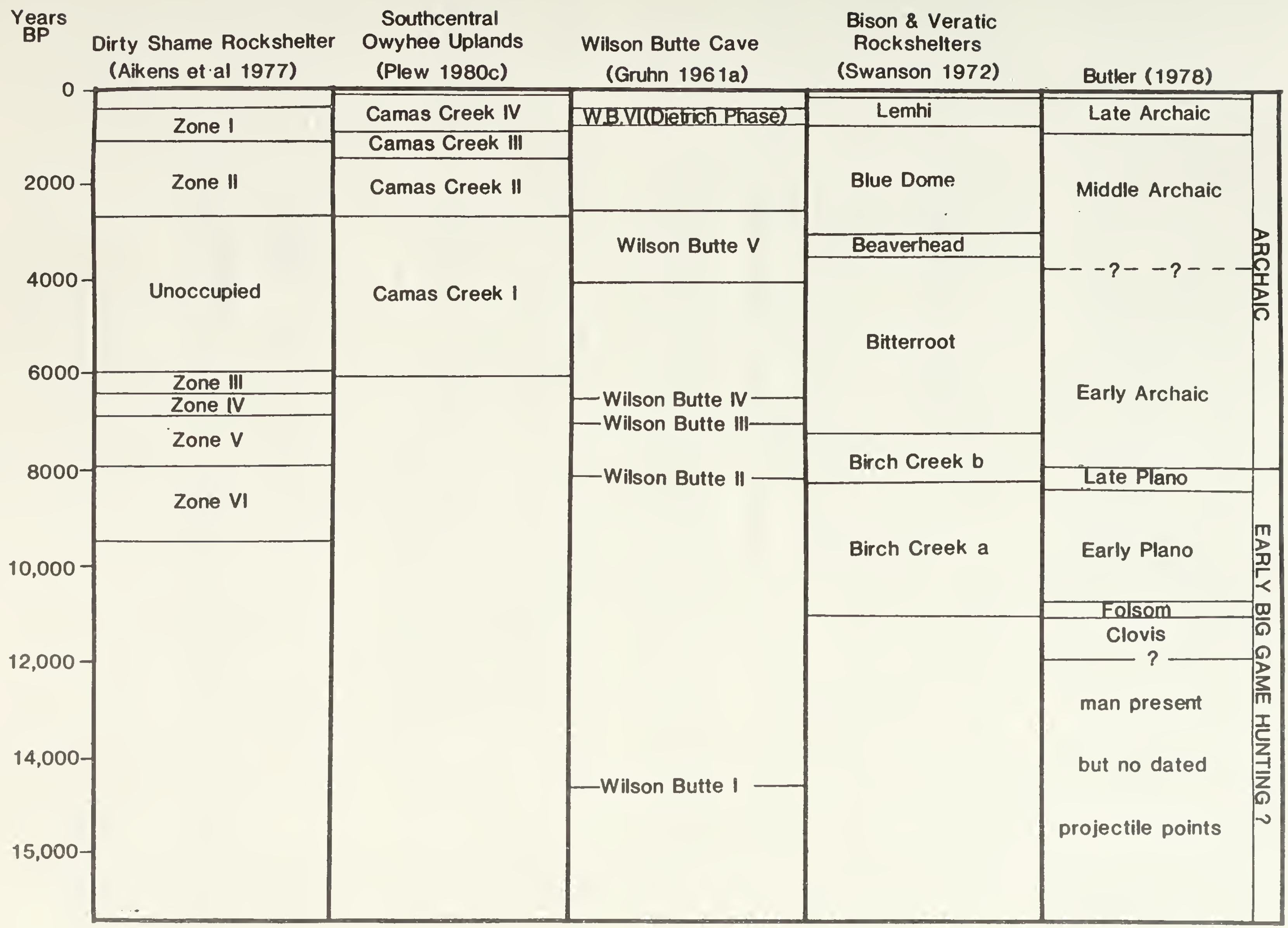


Figure 11 Named Cultural Sequences

If one remembers that people have lived in the study area since at least 14,500 BP and that only some parts of the material culture have changed since 1000 BP (coincidental with the hypothesized Numic expansion), a culture history model of the prehistory of the study area based on data within the area itself becomes more important. An ideal model of a cultural system reflects changes and continuities in the economic or social patterns of behavior. Unfortunately, archaeologists have limited material remains with which to reconstruct these lifeways. Not only are the remains difficult to interpret, they have been subjected to destructive natural forces and relocation subsequent to their creation.

A site assemblage may include only stone artifacts, because all organic cultural material has decomposed. Furthermore, the stone artifacts themselves are confusing. Does the appearance of grinding stones mean preparation of plant food? Not necessarily, says Steward (1943), who reports that Shoshoni pulverized dried meat on metates. Do the different styles of "projectile points" have functional significance? Are they all projectile points? Are they representative of technological changes alone, or do they signal adaptive changes in subsistence, settlement, demography, ideology, and symbolism? Weights and neck widths are clearly significant of technological changes, but what of stylistic variability within weight classes? Have styles crossed cultural boundaries? The discussions of these questions have been productive.

Studies which recreate past physical environments are a substantial advance. Some cultural adaptation models are based on changes in the environment. However, while environment may limit change or set parameters it is not the sole determinant of cultural patterns. People made choices.

Because of the lack of validated adaptive models or a well-defined cultural chronology for the study area, a necessary initial step for this discussion is the comparison of correlations between projectile point sequences and available radiocarbon dates from the sites discussed previously (Figure 12). Evident patterns and groupings can then be tested against chronologically ordered regional environmental periods and site distribution and assemblage patterns. Only after these factors have been examined can a hypothesized cultural chronology for the area be formed.

Based solely on the changes in projectile point styles, some broad patterns are evident (see Figure 12). Until ca. 7000 BP, projectile points were large, lanceolate types (i.e. Clovis, Haskett, and Humboldt series). Though lanceolate points continued to appear after 7000 BP, they were supplanted gradually by smaller but still large side- and corner-notched or eared points (i.e. Northern side-notched, also called Bitterroot side-notched, and the Elko and Pinto series). The second major change, which occurred sometime between 3000 and 2500 BP, was a noticeable reduction in the size and weight of corner-notched, side-notched, and triangular projectile points. This change at this time is thought to mark the first use of the bow and arrow in the area. Whatever the reasons, differences in projectile point size and style do exist in the archaeological record (see Holmer 1978 for another view of this data).

Figure 12
Projectile Point Sequences

Legend

Humboldt

Humboldt basal notched

Humboldt concave base

Northern side-notched

Elko corner-notched

Elko side-notched

Elko eared

Pinto

Rose Spring-Eastgate

Desert side-notched, Cottonwood, Bliss

site unoccupied

point style present but in much reduced frequencies

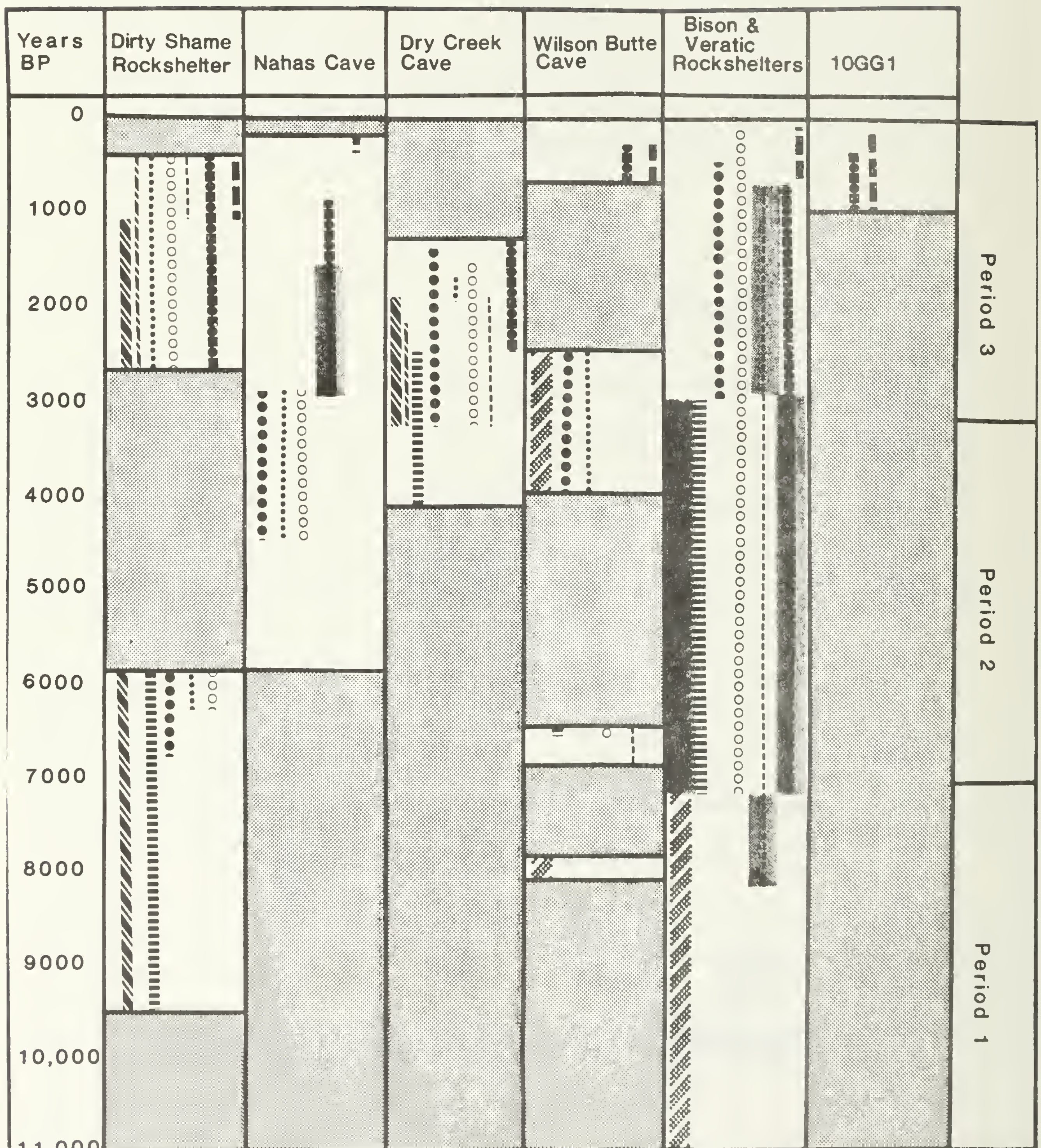


Figure 12 Projectile Point Sequences

The three major changes in projectile point form will be used as the organizing principles for data in this chapter. The three resulting periods will be called Period 1 (15,000-7000 BP), Period 2 (7000-3000 BP), and Period 3 (3000-150 BP). Each period will be discussed briefly below in terms of environment and the cultural record--both site types and assemblages. Figures 13 through 17 present the data in chart form. Two cautionary notes are necessary here. First, the data for these charts are culled from cultural resource surveys and excavation reports rather than from individual site forms themselves. The vast majority of site forms for sites in the project area provide only locational information and a vague idea of the type of site. Second, once the projectile point sequence has been established tentatively, both this author and authors of the cited research reports have cross-dated sites to correspond to the basic outline in Figure 12. Thus, if a surface site has only Humboldt points, it is considered a Period 1 site, even though Humboldt points are reported for later dates. Only data which can be dated are included in Figures 15 and 16. Because many reports gave no indication of the temporal placement of sites located, Figure 17 is a composite of site types and assemblages by region for the entire time period.

5.1.2.2 Period 1 (15,000-7000 BP)

The first definite evidence of people in the study area is at Wilson Butte Cave on the Snake River Plain (SRP), dated at 14,500 ± 500 BP (Gruhn 1961a). (A lower stratum containing bone, possibly altered by humans, was dated 15,000 ± 800 BP). At that time, the climate was much cooler and moister than it is today. There were glaciers in the mountains to the north, and the SRP was covered with extensive shallow lakes, marshlands, parklands, forests and artemisia. Intermittent lava flows periodically dammed the Snake River, changing its course and flooding surrounding areas. Camel, horse, mammoth, and Bison antiquus, all now extinct, were present and hunted by Native Americans (Butler 1978a). Microfauna from Wilson Butte Cave were boreal, wetland species such as the Uinta and Townsend's ground squirrel. From 15,000- 10,000 BP, the weather remained cooler than at present and varied cyclically between moist and dry. Toward the end of that period, the now extinct megafauna began to disappear. The only certain evidence of human occupation in southern Idaho is on the SRP and highlands to the north, at Wilson Butte Cave, the Wasden site (Butler 1971), Jaguar Cave (Dort 1975), and the Bison and Veratic rockshelters (Swanson 1972). Haskett and other early lanceolate projectile points have been found in surface survey in both the Owyhee Uplands (OUs) and the Snake River Canyon (SRC), but are not dated.

From 10,000-7000 BP, North American glaciers retreated as the climate warmed, and effective precipitation decreased. Forests retreated and were replaced by sagebrush/grassland vegetation. Pleistocene megafauna became extinct. Evidence of human habitation by 9500 BP has also been found at Dirty Shame rockshelter, Deer Creek Cave, and the Dean site in the OU. Humboldt projectile points in lower levels at site 10TF352 show that people were camping along the Snake River during this period. At Wilson Butte Cave, people were hunting modern bison, and although the presence of bone in cultural deposits does not prove human diet, people may have been capturing northern pocket gopher, Uinta, and Townsend's and Richardson's ground squirrels (taphonomic

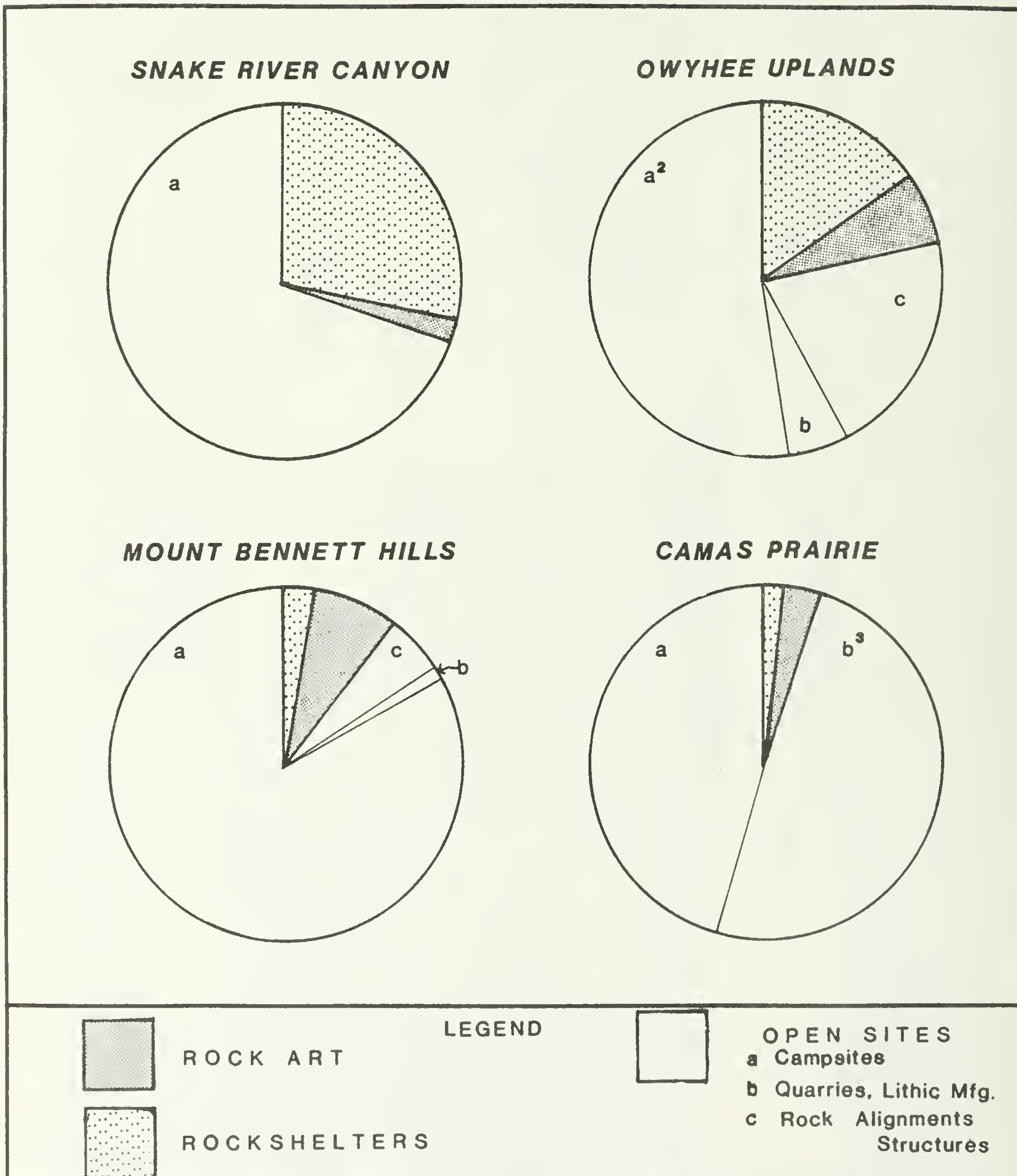


Figure 13 Site Types by Physiographic Area[1]

NOTES

1. Site types tabulated from selected available survey reports.
2. Of these, 44% were on canyon rim, 56% on river terraces.
3. These were lithic scatters with no other debris. Possibly some are temporary campsites.

Figure 14

Artifacts Present at Sites; Ordered by Physiographic Area

(Sources are survey and excavation reports cited in Chapter 3.1)

Artifact Type	Snake River Canyon	Owyhee Uplands	Snake River Plain	Mt. Bennett Hills (survey only)	Camas Prairie (almost no information available)
Chipped Stone*	proj. points, util. flakes (O); drills, knives, blades, cores, scrapers (c); bifaces (C,O, B); flakes (O)	proj. points, bifaces, retouched blades (O); knives, scrapers, drills (C); denticulates (B); spokeshaves (C,O); cores (C,O, B); choppers (C); flakes (C,O)	proj. points, knives, (I); scrapers, drills, gravers, cores (C); util. flakes, flakes	proj. points, gravers, (I) bifaces, crescents, cores, spokeshaves, util. flakes (B); scrapers, drills, blades (C); teshoa (Q); flakes	proj. points (C - Simon site)
Ground-stone	slab metates (B); basin and hopper mortars (B); manos, pestles (B); bowls, net sinkers, shaft straightener (S,P); hammerstones (Q); bead, pipe (S); stone balls (C,B)	basin and hopper mortars (B); pestles?; hammerstones (Q); shaft smoothers (S); stone balls (B,C); metates, manos	slab metates, manos, hammerstone, shaft smoother (B); tubular pipes	manos, metates, incised cobble (B); pestles (A,S); hammerstone (Q); pendant blank (D)	
Pottery	Shoshoni ware, Southern Idaho Plain, pipe frags, figurines	Shoshoni ware, Southern Idaho Plain, figurines	Wilson Butte Plain, unbaked cigar-shaped objects	Shoshoni ware, Wilson Butte ware?	Southern Idaho Plain?

A = andesite; B = basalt; C = cryptocrystalline; D = diatomite; I = ignimbrite; O = obsidian; P = pumice; Q = quartzite; S = sandstone;

*Predominant material noted

Figure 14 (cont.)

Artifact Type	Snake River Canyon	Owyhee Uplands	Snake River Plain	Mt. Bennett Hills (survey only)	Camas Prairie (almost no information available)
Textiles	woven matting, fish line, basketry	cordage, woven matting, netting, twine, sandals, coiled basketry, leather pouch	1- and 2-ply cordage, knotted sagebrush bark, hide moccasin		
Wood	beads, rings, disks, cylinders, hoopers, fish hoods, bow frags, arrow shafts, fire drills, forked sticks	shafts, peg, fire drill tip, cylinder, promontory peg	arrows, fire drill shafts, game counters, cylinders, notched points		
Shell	beads, pendants		beads		
Bone	beads, rings, disks, plain and incised tubes, dice, tools/flakers, proj. points (polished), elk teeth pendants, awls, needle		awls, rubbing tools, flakers, dice, tubes, or beads		
Food Sources in Cultural Context	fresh water mussels, deer, bison, antelope, varied small animals, seeds, berries, fish, crayfish	mussels, seeds, roots, antelope, deer, bison, sheep, varied small mam mals (esp. rabbit, porcupine, marmot), steelhead trout, crayfish	camel, horse, bison, antelope, deer, rabbit		

Figure 15

Inventory of Major Site Types By Time Period

(Years BP) Period	Snake River Canyon	Owyhee Uplands	Snake River Plain	Mt. Bennett Hills	Camas Prairie
(150) 3 (2700)	Open: with house structures; without house structures. - mussel shell middens - fishing camps - campsites - quarries Rockshelters - campsite - burial Petroglyphs	Open: without house structures. - small campsites - large winter encampments - rock alignment complexes - lithic mfr. - quarries - butchering Rockshelters Petroglyphs	Open: without house structures. - heavy occupation Rockshelter - hearths - burial	Open: without house structures. - lithic scatters - rock alignments Petroglyphs	Occupied?
2 (7000)	Open: with house structures; without house structures. - quarries Rockshelters - campsite - burial	Open: - sparse lithic scatters - quarries - butchering	Rockshelter - hearths	Open: - lithic scatters	Occupied?
1	Open: without house structures (lithic scatters).	Open: - lithic mfr. - hunting campsites - lithic scatter - bison jumps Rockshelters	Open: - temporary campsites	Open: - lithic scatters	Open: - lithic scatter - tool cache

Figure 16

Site Assemblages Over Time

(Years BP) Period	Snake River Canyon	Owyhee Uplands	Snake River Plain	Mt. Bennett Hills	Camas Prairie
	chipped stone-small arrow points, lanceolate points, scrapers, bifaces, flakes (obsidian), drills, graver knives, cores	1100 BP-no sandals or shelters groundstone-manos, metates, mortars, pestles	chipped stone small arrow points, few knives, many scrapers, cores, flakes	chipped stone: large and small notched and stemmed knives, scrapers, utilized flakes	
	pottery	pottery-both Shoshone and So. Idaho Plain ware	Bone awls, rubbing tools, comb wood tools, arrow points firedrill shafts, gaming pieces	pestle pottery	
	hearths, moccasins				
(700) 3	musselshell middens basketry, rabbit fur cordage bone proj. point, awls, needle, beads pipe, incised pottery-Shoshone ware >80%, So. Idaho Plain <20% clay figurines mano, mortar/pestle metate, red ochre berries bone-deer, crayfish jackrabbit, bison, fish vertebrae, antelope, badger, bobcat, coyote	wood-shaft, peg, cylinders textiles, pole and thatch structures chipped stone-medium and small notched and stemmed proj. points, scrapers, drills, bifaces, utilized flakes basketry-coiled, twine, leather pouch antelope, deer, rodents, camas, biscuitroot, seeds clay figurines	mano, pottery, figurines, moccasins bison, deer, antelopes, rabbits, sage hen		Occupied
(2700)			2700-700 BP chipped stone-medium and small notched, shouldered proj. points, knives, drill, scrapers, flakes bone, bead ornament clay figurine abraders freshwater molluscs fish (some), deer, rabbit, marmot, badger		

Figure 16 (cont.)

(Years BP) Period	Snake River Canyon	Owyhee Uplands	Snake River Plain	Mt. Bennett Hills	Camas Prairie
(2700)	chipped stone-medium and small notched proj. pts., cores, knives, scrapers, flakes	chipped stone-lanceolate, large notched proj. pts.	4000-2700 BP chipped stone-medium, notched or stemmed proj. pts., some small notched pts., waste flakes, drill, cores, graver, spokeshave, flakes, awl		
2	stone pipe	wood-firedrills, cylinders manos, metates	milling stones-mano metate mortar bison, antelope, deer, bighorn sheep	Occupied	Occupied
(4000)	bone tubes	sandals, nets, woven mat	7000-4000 BP chipped stone-large notched and eared proj. pts., many knives, scrapers, waste flakes		
(7000)	shell beads mussel shells	grass lined pits	bone tools bison		
1	proj. pts.-lanceolate, large side-notched bison	chipped stone-lanceloate and large notched and eared proj. pts. sandals matting, netting, cordage large mammal bones mussel shell	chipped stone-lanceolate pts., knives, scrapers, cores, flakes groundstone-mano camel, bison	Occupied	proj. pts.-Plano lithic debitage
(10,000)					
1 (15,000)	lanceolate, Clovis-like proj. pts.		chipped stone-no evidence	knives	no evidence

Figure 17

Site Types in Each Physiographic Region
(No chronology implied)

	Snake River Canyon	Owyhee Uplands	Snake River Plain (Cinadr Survey)	Mt. Bennett Hills (Cinadr Survey)	*Camas Prairie (Cinadr Survey)
	72% open (8% w/house struc.) (62% w/o house struc.) - fishing stations - lithic scatters - shell middens - rock alignments 2% pictographs/ petroglyphs	85% open 52.5% campsites - 44% on rim - 56% on stream-side or terraces 5.5% quarries, lithic mfr. 20.8% rock align-ments 6.3% petroglyphs	rockshelters campsites without house structures quarries	97% open 85% lithic scatter 1% quarry 5% rock align- 6% petroglyphs/ pictographs	97% open 85% lithic scatter 8% quarry 4% petroglyph
	28% rockshelters	15% rockshelters		3% rockshelter	3% rockshelter

*(Percentages based on 1980 BLM survey only)

study of the bones could answer this). At Deer Creek Cave, bighorn sheep, marmot, porcupine, and wood rat comprise the bulk of animal remains. At Dirty Shame rockshelter, cottontail rabbits constitute 75 percent of skeletal remains. Both Dirty Shame and Wilson Butte Cave contained grinding implements dating from this time, but it is impossible to tell whether they were used to grind seeds, meat, pigments, fruits, or all of these.

5.1.2.3 Period 2 (7000-3000 BP)

By the beginning of Period 2, people were apparently well established in all the physiographic and biotic provinces in southern Idaho. During this period corresponding to the Altithermal the climate was warmer and probably drier than that of today. Since 3000 BP the environment has generally been similar to today's. Although the sites in the study area generally show a relatively unbroken occupation, Dirty Shame rockshelter has a long hiatus in occupation, from 5900-2700 BP. During Period 2, more varied site types appear. Rock alignments are numerous at high elevations, campsites become larger along the rivers, and the first identified burial remains date to this period. One pithouse at Givens Hot Springs, near Marsing, is more than 4000 years old. As Figure 16 shows, the cultural assemblage during this period is much more extensive than earlier ones. Although this may be partially a factor of preservation, as in the case of wood artifacts, there is also an obvious increase in varieties of groundstone implements, bone tools, and the first non-economic artifacts (wooden cylinders). Fresh water mussel shells and fish are exploited along the rivers. In the uplands, deer, bighorn sheep, antelope, and bison are hunted. At Wilson Butte Cave, there are remains of bison, antelope, northern pocket gopher, marmot, and Townsend's ground squirrel. Analysis of human coprolites spanning the years 6800-400 BP at Dirty Shame rockshelter offer a rare chance to be certain of the Native American diet (Hall 1977). The diet changed little over time. Meat included shellfish, crayfish, fish, small mammals, antelope, termites, and ants. Plants eaten included wild onion, sego lily, goosefoot, sunflower seeds, prickly pear, wild cherry, and wild rosehips.

5.1.2.4 Period 3 (3000-150 BP)

Period 3 begins with the first occurrence of small projectile points, probably arrow points, in the study area. The general trend toward smaller projectile points has been continuous since 7000 BP. This was a time of dense and recurrent occupation which is marked by house structures in campsites along the Snake River (Pavesic and Meatte 1980; Plew 1980; and Green 1982:personal communication) and by a pole and thatch structure at Dirty Shame rockshelter.

A more noticeable change occurs throughout the Great Basin between 1000-700 BP. Desert side-notched and Cottonwood series projectile points suddenly appear at dated sites. Pottery appears for the first time. At Dirty Shame rockshelter, sandals and house structures are no longer evident. Some of these new traits are attributed to the arrival of Numic speaking people. One change in subsistence activities associated with their arrival was an increased emphasis on rabbit collection. The faunal remains at Wilson Butte Cave during the Dietrich Phase are 22 percent rabbit, up from 7 percent in the previous assemblage.

The next major event to cause culture change was the arrival of the horse, sometime between 1690 and 1700 AD. As will be seen in the next chapter, the influence of the horse was strongest to the north and east of the study area, and it did not result in many changes in the material culture of southwest Idaho. However, the Rattlesnake Canyon cremation (Bonnichsen 1964) contains European copper. Horse-mounted Shoshoni first were described in historic times along the upper Missouri River, where they were trading for copper pots, knives, and beads. Euro-American trade goods reached the area long before the Euro-Americans themselves.

5.1.3 Lifeways

5.1.3.1 Introduction

In attempting to recreate the lifeways of the Native Americans in the study area, two sources of information, ethnographic and archaeological records, can be used. Both sources have strengths and weaknesses. Ethnographies generally provide little time depth and therefore may not be reliable descriptions of adaptations to earlier physical and cultural environments. Earlier environments were different. Paleoclimates were not steady-state replicas of the present climate; humans changed the landscape, the composition of the native animal and plant communities, and the demographics of their own populations; and humans made choices in their responses to all of the foregoing. None of these differences will explicitly appear in ethnographic data, although some will be embedded in the described adaptive strategies as the surviving end results of a lengthy culture history.

Archaeological data, although occasionally provding the basis for elaborate environmental, climatic, technological, and settlement descriptions, are usually lacking behavioral and ideological components. The data are so empirically oriented and reported that choices available to prehistoric people, from which they selected a particular pattern of adaptation, are rarely described and discussed. Certainly only a small fraction of cultural life lies in the archaeological record. Archaeologists need the ethnographic data to suggest alternative cultural intepretations of archaeologial data, and ethnographers need archaeological data to suggest the variation in adpative strategies practiced in the past which led to and may help explain the adaptation they recorded.

The first Euro-Americans to travel in the region, the Astoria party of 1811, (Lewis and Clark crossed Idaho far to the north of the study area), had the advantage of observing Native American life firsthand. Although the acquisition of the horse around 1700 AD had drastically changed the subsistence and social practices of Shoshoni and Bannock in southeastern Idaho, it is possible that the activities the Astoria party observed in southwestern Idaho had been going on unchanged for as long as the Numic speakers had been there, at least several hundred years. Later travelers, such as Bonneville in 1832 (Irving 1843), Farnham (1843), Fremont in 1842 (1845), and Wyeth as reported in Schoolcraft (1851), also witnessed Native Americans in the area. While these reporters witnessed Native Americans firsthand, their accounts suffer from several drawbacks. These men were interested, but ethnographically untrained observers, and often were biased in their views. For the most part, they traveled only along the Snake River and only during dry weather. Their accounts, therefore, portray only a portion of the annual subsistence round, and perhaps only a portion of the different groups of people living in the study area.

Trained ethnographers such as Julian Steward, Omer Stewart, Robert and Yolanda Murphy, and Sven Liljeblad knew what questions to ask of informants and how to organize their data into a coherent picture of Native American lifeways; however, they did their fieldwork in the 1930s-1950s, after the Northern Paiute and Shoshoni had been on reservations with a drastically changed lifestyle for over fifty years. The ethnographers attempted to recreate the Native American life of pre-Euro-American contact from respondents' memories, apparently assuming that before then, their culture had been frozen in one form, rather than having been a dynamic system that continually re-adapted through time. Most importantly, these data are all we will ever have to work with. No new data can be collected; the data base has been destroyed; the cultures exist no longer.

The great advantage of the archaeological record is that it does trace cultures over long periods of time, and can record both change and stability over time and space. Because it deals with the material remains of a culture, the data are always available for new and different configurations and interpretations, whereas we must depend on the existing writings and interpretations of the ethnographers as the only description of an old way of life which is gone forever. On the other hand, the archaeological record is limited in only preserving the material and usually non-perishable aspects of Native American life. It is, therefore, biased toward technology and weak in portraying cultural behavior, socio-political, and religious forms. Interpretation of lifeways from material objects alone is also difficult because archaeologists cannot witness people using the objects they recover.

For interpretation of the study area data, one might apply Jenning's concept derived from Steward's ethnographic model, of a Desert Culture which is based on a relatively unchanging lifestyle for the last 8000 years (1957:280). The model describes a sparse population of small sociopolitical groups in a migratory seasonal hunting and gathering round of non-specialized, intensive exploitation of the total environment. Caves and rockshelters with bark or grass beds sometimes were used for shelter. Small seeds were harvested and prepared with special techniques. The artifact inventory included basketry, cordage, netting, matting, various chipped stone projectile points, flat milling stones with cobble manos and basin milling stones. Although, as Jennings himself admits (1973), his Desert Culture concept has somewhat outlived its usefulness, it has been used in the past as a theoretical model by archaeologists working throughout the Great Basin including the southern Idaho region.

Some researchers think that the Desert Culture concept is valid as a broad idea of Great Basin life, at least as some Numic groups lived it (Bettinger 1978:28). However, it was not the only viable adaptation, there being other equally successful solutions to the problems of human adaptation, even in very similar environments (ibid 1978:36-40). Environment alone did not provide the constraints; owing to different culture histories, groups selected different adaptive strategies from more than one possibility (ibid 1978:38-9).

It becomes obvious that to arrive at an accurate picture of prehistoric Native American lifeways in the area for all but the well-recorded short-lived Numic presence, one must compare and contrast the ethnographical and archaeological data. This method is, of course, not a new one. Catherine Fowler's (1977) excellent article on models in Great Basin prehistory discusses old and new uses of models:

> The persistent reliance of archaeologists on Shoshonean (Numic) ethnographic data, and particularly the ethnographic and ethnologic interpretations of Julian Steward (1938), is rather remarkable. Steward's (1938) model has been for Basin archaeologists--as well as for Basin ethnographers--a cornerstone for analogy. It is, in fact, the only major ethnologic model. The concept of the Desert Culture, or Desert Archaic, alive if not always so well, is its direct heritage. Modern students of settlement and subsistence systems also find much of value in Steward. It is in many respects a living testimony to Steward's foresight and to his depth of presentation that so many have found his data useful. Problems of extending this data beyond its stated limits are now generally recognized (e.g. for the western and lake basins), but until new models are developed for additional areas, it stands as the major pivot point. If Steward has taught us anything, however, it is the importance of local or micro ecology which should be the principal basis for modeling and analogies (Fowler 1977:37).

Several projects in southern Idaho have attempted to accomplish this. Earl Swanson, Jr.'s Birch Creek project (1972), was one of the first attempts at local systems modeling. Although many scholars disagree with his proposed Numic homeland in the northern Rocky Mountains, and the overwhelming importance he placed on climatic change causing cultural change (ibid.:34), Swanson built a useful basic model for southern Idaho prehistory. This was especially important in a region that had been (and still is, all too often) involved in an ideological tug-of-war between those who wanted southern Idaho to be part of Plateau culture, and those who wanted it to be a part of the Great Basin. The data do not often speak for themselves, but instead, there are active advocates speaking for particular (if occasionally overlapping) sets of data.

Swanson divided central and southern Idaho into two regional cultures, beginning 8000 BP (Swanson 1974c). He said that the Bitterroot pattern existed generally above 5000 ft a.m.s.l. and was characterized by big game hunting. Cultural manifestations include tipi rings, village sites, pictographs, and side- and corner-notched points. According to Swanson the South Hills culture was active at elevations below 5000 ft along the SRP, and in surrounding uplands. It was characterized by more balanced hunting and gathering activities. There were fewer villages, petroglyphs instead of pictographs, and stemmed and concave base lanceolate projectile points. Current data disproves Swanson's model, based as it was on simple geographic determinism and paying little attention to land use involving complementary resource distribution and procurement systems.

Another example of model building is on a smaller regional scale. Mark Plew (1980c) has followed O'Connell in Surprise Valley and Thomas in the Reese River Valley (C. Fowler 1977) in building a site-catchment model for a roughly 200 sq mi area in the central Owyhee Uplands. This type of model is micro-ecological, matching physiographic and resource variables to site types. It is used both for site prediction models and to understand aboriginal site placement and use of natural resources (Plew 1980c:66, 71).

Basic associations between site locations and natural environmental factors have been isolated in the process of site inventory in the study area. Jack Young's Class II Inventory of the Owyhee, Bruneau, and Jarbidge Resource areas in the Boise District located and described 1044 sites. From this data he developed a predictive model of site distribution in these resource areas, which found elevation, slope, and proximity to perennial water sources the most useful predictors of site location (Young 1982). A similar set of natural environmental factors for site location prediction were isolated in the Sun Valley Planning Unit of the Shoshone District (Young 1980). Jean Moe sampled the Reynolds Creek watershed in the Owyhee Resource area and developed a set of predictors for the unsampled remainder of the watershed (Moe 1982). Sharon Metzler's survey of Castle Creek in the Owyhee Resource area found water to be the main factor determining site location (Metzler 1977). Thomas Cinadr's extensive survey samples in the Mount Bennett Hills planning unit also provide site predictive data (Cinadr 1976).

The broad overview nature of this report allows only a rough testing of the archaeological data against the ethnographic models. The first section of this chapter following this introduction is a presentation of ethnographically gathered data on subsistence and settlement patterns for both Northern Paiute and Shoshoni combined. This information represents the protohistoric and late prehistoric adaptation of Numic speakers. The reasons for using these ethnographic data are:

1. They are the most complete picture we have of functioning native societies in the study area;

2. Some aspects of the adaptations they describe probably represent an accurate description of some prehistoric lifeways (Bettinger 1978);

3. They are elements of a massive null hypothesis for archaeological research and interpretation. Knowing these data, we should be able to better compare and

contrast them with archaeological data, and eventually explain the differences and similarities.

The ethnographic data is taken mainly from Julian Steward's (1941, 1943) Culture Element Distribution lists on the Snake River Shoshoni and Ft. Hall Shoshoni and Bannock, Omer Stewart's (1941) list on the Tago toka "band" of Northern Paiute, Robert and Yolanda Murphy's work among the Shoshoni, and various interpretations of their data by these authors. Unless otherwise noted, the traits discussed held true for all Northern Paiute and Shoshoni groups in the study area. It is interesting to note that a rough count of Bannock traits shows a fifty-fifty split between other Northern Paiute and Shoshoni cultural traits.

This information is used to build a model of regional variation in activity patterns based on the division discussed in the previous chapter: Owyhee Uplands (OU), Snake River Canyon (SRC), Snake River Plain (SRP), Mt. Bennett Hills (MBH), and Camas Prairie (CP). The second section builds a model for socio-political systems. The third section uses the archaeologic data presented in the section on Cultural Chronology (5.1.2) to test the ethnographic models by region. This is followed by a description of prehistoric lifeways prior to the Numic incursion into the study area.

Presented in this manner, the information on the study area's inhabitants should answer several questions: 1) what were the patterns of lifeways immediately prior to Euro-American colonization?; 2) in what places and at what points in times, do the ethnographic and archaeologic records diverge?; 3) do the different physiographic regions represent different use areas in a transhuman pattern by one culture group, or do differences mean different culture groups? Many questions will remain unsolved for the present because of gaps in both the ethnographic and archaeologic record.

5.1.3.2 Social Systems: Ethnographic Data

5.1.3.2.1 Cultural and Linguistic Boundaries

The resources of the study area were used in historic times by Northern Paiute, Western Shoshoni, Northern Shoshoni, Nez Perce, White Knife Shoshoni, and others. Permanent residents in the study area are assigned to the Koa'-aga'itoka (salmon eaters) or Tagotoka (tuber eaters) "bands" (Stewart 1939), various groups of Western Shoshoni, and mounted Bohogue Shoshoni and Bannock (Steward 1943). Their approximate territories are shown in Figure 18. The Indian Claims Commission (see section 3.1) has stimulated a great deal of effort by anthropologists to delineate the boundaries of culture groups in the area. As many of the groups had relatively similar cultures and subsistence adaptations and were highly mobile and intermixed, this matter of boundaries is extremely confusing.

The necessity of social groups in the Basin-Plateau area to confine themselves to familiar territory in order to locate resources, including water precluded indefinite and random wandering in strange terrain.

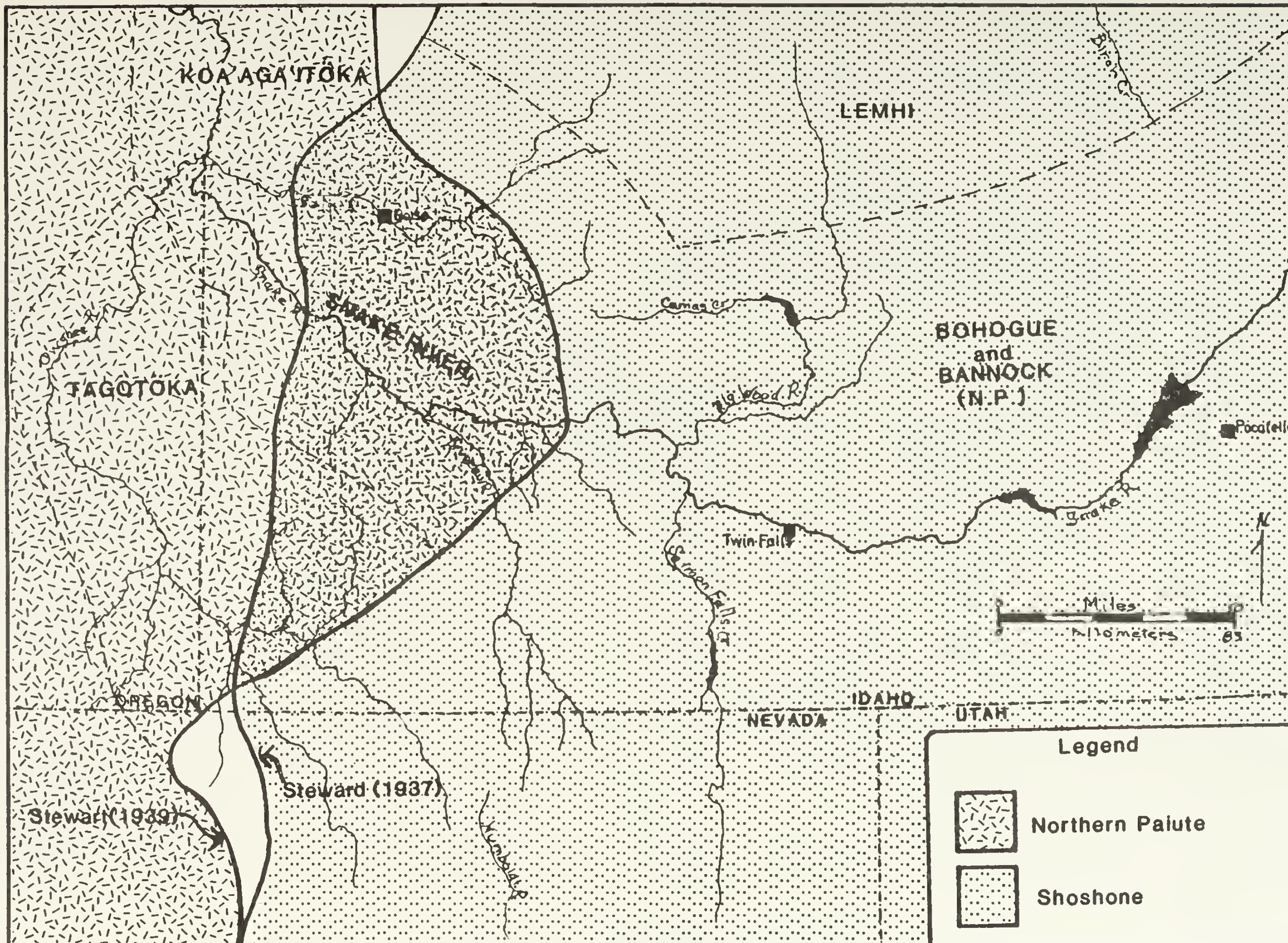


Figure 18 Ethnographic Distribution per Steward (1937) and Stewart (1939)

That a group exploited roughly the same territory each year, however, did not always imply exclusive claims to or defense of its resources. An informant's statement that "this was our territory; we owned it" almost invariably is followed by the further statement that anyone was free to use the resources. In fact, while the small family clusters of Western Shoshoni traveled during the summer, they exchanged information with other clusters concerning the whereabouts of seeds and game and especially about the prospects for the pine nut harvest in different mountains (Steward 1970:122).

The first basic division of people in the area is between the Northern Paiute and the (Western) Shoshoni. The division is primarily a linguistic one, but is based also on cultural and territorial similarities (Stewart 1939:129). Both groups are linguistically part of the Numic family of the Aztec--Tanoan phylum (Figure 19). The Northern Paiute in Idaho speak the Paviotso language of the Monish genus (the Northern Paiute in Oregon often were called "Paviotso"). The Shoshoni in Idaho speak one of two Shoshoni dialects of the Shoshoni language and genus. The two groups were aware of the differences--when a Northern Paiute family cluster met a Shoshoni family cluster, they spoke different languages--and their territories, although overlapping, were in two different geographical areas; however, if one accepts the Numic expansion model (to be discussed later) the situation is a result of migration and history, rather than national and territorial awareness.

"Numic expansion" is a linguistic model proposed by Lamb (1958) to explain the linguistically widespread and remarkably uniform existence of Numic speakers in and around the Great Basin. He believed that Numic speakers originated in the Death Valley area of California, <u>ca.</u> 5000 BP. and developed separate dialects over the years.

> The separation of Kawaiisu-Ute and the rest of Numic may be placed in the neighborhood of two thousand years ago; and this was followed very soon thereafter by the separation of Monachi-Paviotso from Panamint-Shoshoni. This gives us three Numic languages occupying only a small part of the Great Basin, until perhaps around one thousand years ago. At about this time, for some reason, there began a great movement northward and eastward, which was to extend the domain of Numic far beyond its earlier limits.
>
> . . . within each of the three languages, Paviotso, Shoshoni, and Ute, dialectic differences are so slight that one can only with the greatest difficulty imagine that they could have occupied the vast areas in which we find them for more than a few centuries. Since these languages spread out from a southwestern corner, the most likely conclusion, from the linguistic evidence, is that much of the northern and eastern part of the Great Basin was not occupied by speakers of the present Numic languages at the time Columbus discovered America. And

Fowler&Fowler(1971), Goss(1977), Jorgensen (1980)

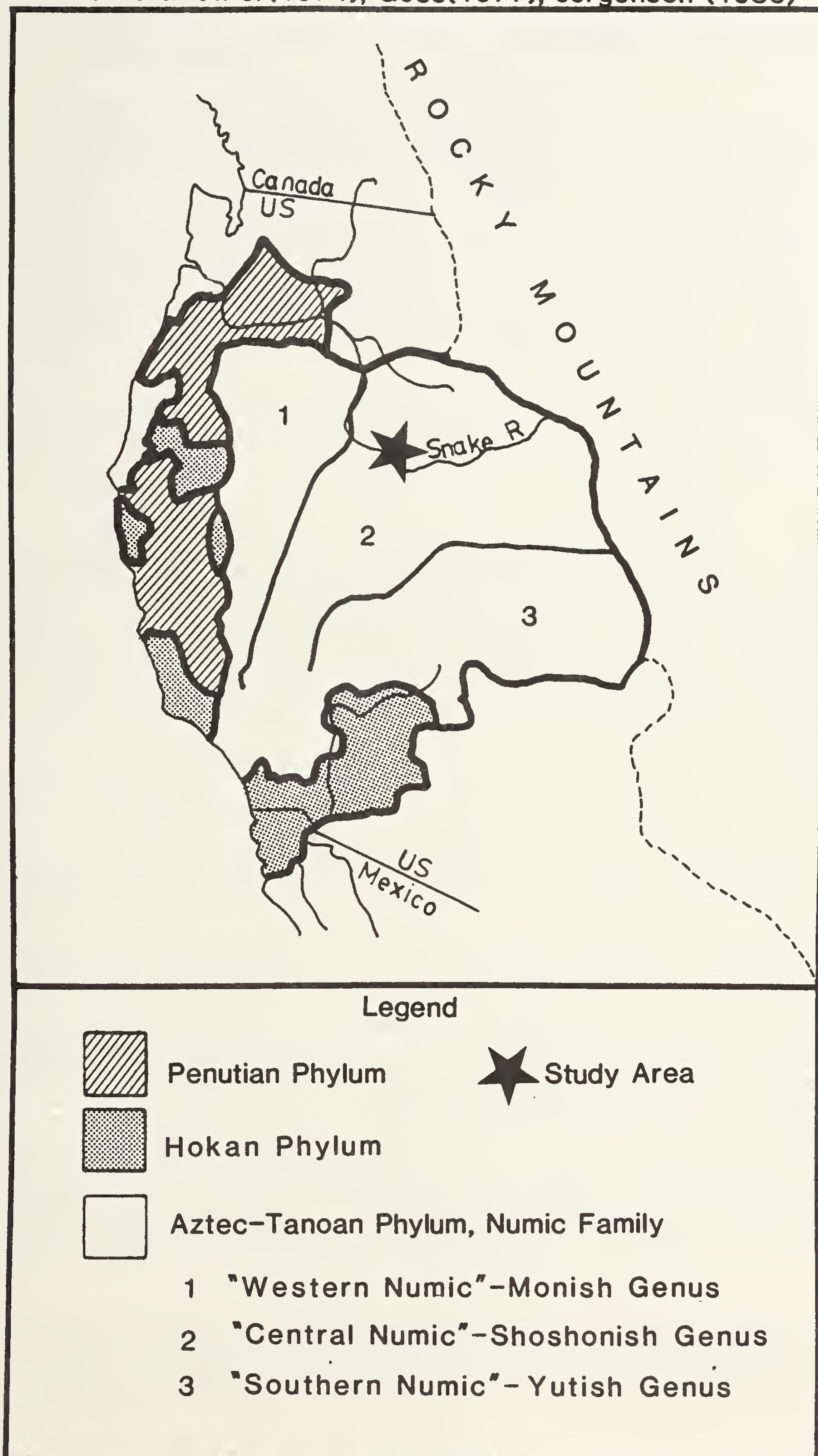


Figure 19 Linguistic Groups in the Great Basin and Surrounding Areas

> as of around 1000 years ago and earlier, the major part of the Great Basin is unaccounted for linguistically.
>
> This area may have been occupied by speakers of languages which moved elsewhere, or the languages may have become extinct. Some of the languages which became extinct would, of course, have been Utaztekan, but they could just as well, or perhaps more likely have been languages related to Kohan, Zuni, Keres, Algonkian or even some stock now totally extinct. The people who inhabited this large unaccounted-for area may have moved out, or they may have remained, and adopted the new languages (Lamb 1958:99-100).

Proponents of this theory believe that Shoshoni speakers arrived in Idaho 1300 AD or later and attempt to provide archaeological evidence to support this linguistic evidence (Gruhn 1961; Butler 1978a, 1981, 1982; Madsen 1975; Madsen and Berry 1975; Wright 1978).

Lamb's theory is not accepted universally. As mentioned earlier, Swanson (1972) believed Shoshonean speakers had developed locally for the last 8000 years. His theory is based on archaeological evidence which is true for most of southern Idaho; there is no abrupt change in culture at ca. 1300 AD. Pottery and perhaps Desert side-notched points dating from that time are additions to site assemblages, but all other activity patterns and material culture remain the same, or rather show the same gradual change that they have for 14,000 years.

James Goss has attacked Lamb's theory on linguistic grounds. He sees a home base for Numic speakers in the central Great Basin ca. 8000 BP. From there, different peoples spread to the north, south, east, and west. The broad geographic expanse of one dialect is due to the nomadic habits of the people (Goss 1977).

Earlier, Catherine Fowler's work presented cultural mechanisms which could have led to very close relationships among Numic dialects, and yet placed the people in the area for thousands of years. She thinks that semi-nomadic subsistence patterns, low population density, and local group exogamy among the Numic speakers are characteristics which contribute to skewing the lexicostatistical conclusions (Fowler 1972:107).

Bettinger and Baumhoff present an expansionist model which supports the time frame suggested by Lamb. They reason that the Numic language spread occurred through population movement which, because ". . . of competitive advantages inherent in their adaptive strategies. . ." displaced resident groups (1982: 486).

As the estimated boundary lines in Figure 19 show, there is a zone about 100 miles wide where both Northern Paiute and Shoshoni often were found. Shoshoni probably never penetrated Oregon beyond the Blue Mountains (Steward 1938:172).

The Northern Paiute (other than the Bannock) probably never ventured farther east than Shoshone Falls.

The identity of the Native Americans living in the general area of eastern Oregon and western Idaho is seriously confused. The aborigines were not distinguishable by culture, for to early observers all seem to have been foot-tribes living in a country with apparently few and dispersed resources. Shoshoni-Comanche was spoken by most of the Native Americans of Idaho, although the Bannock spoke Paiute. The Mono-Paviotso or Northern Paiute language was spoken in Oregon (Stewart 1941; Jorgensen 1980). "Snake", "Diggers", "Bannocks", and other terms were used without regard to language to identify the groups that scattered through eastern Oregon and western Idaho. The term "Paiute", which designates Mono-Paviotso speaking people of Nevada, eastern California, and Oregon, became widely applied to the Oregon people only after about 1860. In eastern Idaho and Wyoming, the "Snake" referred to the Shoshoni, but this seems not to have been the case in Oregon.

There was evidently an extremely broad zone of intermixture and interpenetration of the unmounted Paiute and Shoshoni in the general area to the west and perhaps to the east of the Snake River, but it is impossible to delimit this zone by showing where the people spoke only Paiute or Shoshoni. Another source of confusion is that mounted Shoshoni and Bannock from the Fort Hall area farther east in Idaho apparently moved along the Snake River and across into eastern Oregon to take salmon (Steward and Wheeler-Vogelin 1974:14). In this zone of contact, bilingualism and intermarriage were common and there was no intercultural hostility (Steward 1970:124). Along the northern edge of Shoshoni territory, there was some mixture with Nez Perce, but changing physiography, subsistence practices, and culture made this boundary line a much sharper one than that between the west Shoshoni and Paiute.

Most ethnographers make divisions of one sort or another among groups within both the Northern Paiute and Shoshoni. As Steward mentioned, family clusters tended to exploit the same general territory year after year. Local families would then interact more with neighboring families than with family clusters farther away. This situation did lead to recognized local distinctions native people drew among themselves and still make today.

Both the Shoshoni and Northern Paiute territories have been subdivided, but among the Western Shoshoni and Northern Paiute, the emphasis clearly is upon the territory rather than upon any unified group of people occupying it. The extent of the people so designated depended upon the extent of the geographical feature or food in question. A name might apply to a single village, a valley, or a number of valleys. Some Snake River Shoshoni vaguely called all Nevada Shoshoni "Pine Nut Eaters". Furthermore, several names might be used for the same people. This system of nomenclature served in a crude way to identify people by acquired, new names (Steward 1939:262).

Some of these names are plotted on Steward's 1938 maps (Figure 20). A sample of Shoshoni names are listed below, with the source of information:

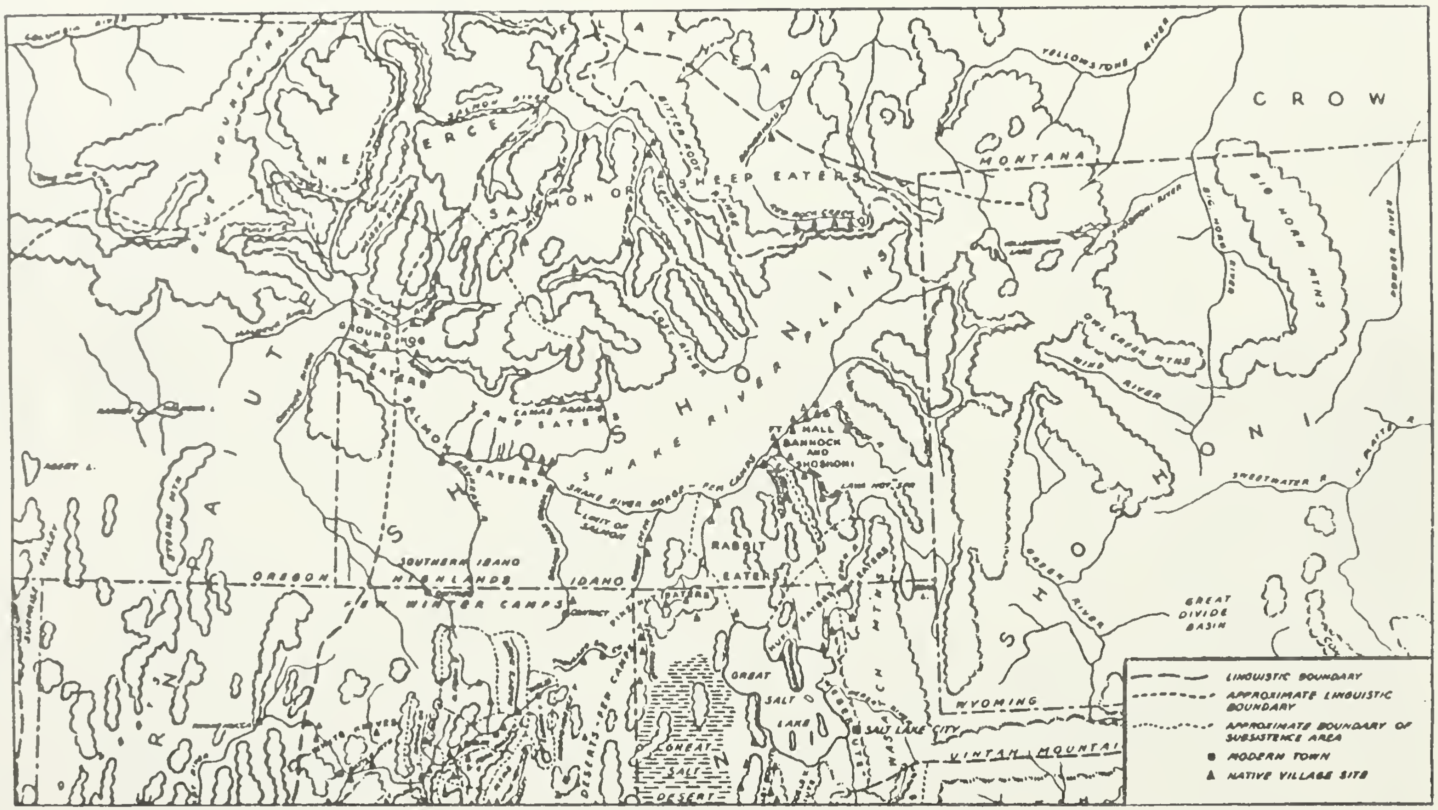


Figure 20 A Portion of the Basin/Plateau Area (Steward 1938)

Agaideka'a - salmon eaters (Murphy and Murphy 1960:321)
Tukudeka'a - mountain sheep eaters (Liljeblad 1972:18)
Kutsundeka'a - buffalo eaters (Liljeblad 1972:18)
Ku'embe-rika - squirrel eaters (Lowie 1908:206-208)
Wa'ra-rika - seed eaters (Lowie 1908:206-208)
Ya'handika - groundhog eaters (Lowie 1908:206-208)

Steward (1939) has divided the Northern Paiute into "bands", but prior to Euro-American influence, it is extremely doubtful that the Northern Paiute had any band organization. More probably, the two "bands" he places in southwestern Idaho, the Koa'aga'itoka (salmon eaters) and Tagotoka (tuber eaters), are names for resource areas. The salmon eater area centers on the Boise River, while the tuber eater area is in the drier region to the south.

The native inhabitants of the study area did not accord each other free and equal use of the resources of the area. Local groups controlled unique sets of resources, prompting trade. Especially productive fishing sites and those which had required the construction and maintenance of weirs and scaffolding by the local residential group, for example the fishery at Hagerman, were zealously restricted, with groups from the east bypassing it to get to areas where they could conduct their own fishing (Pavesic 1982: personal communication). However, groups shared some resources at some localities. At Camas Prairie the camas bulbs were shared among all who came; at some fisheries less productive than the one at Hagerman the salmon were shared (Pavesic 1982: personal communication).

The Snake River Plain itself was a thoroughfare used by Northern Paiute, Northern and Western Shoshoni, Nez Perce, Cayuse, Walla Walla, and other groups. As in so many other aspects of life, the coming of the horse had an impact on aboriginal territories. Most important, at about that time (ca. 1700 AD) or later, a group of Northern Paiute broke off with their people and went to live permanently with the newly-horsed Shoshoni of south-central and southeastern Idaho, whom Steward calls Bohogue Shoshoni. No one is sure just how or why these Northern Paiute, or Bannock, made the move. They joined the Shoshoni on buffalo hunting expeditions, stayed on the Snake River Plain, gradually intermarried, and became socially and politically integrated with the Bohogue Shoshoni.

These mounted bands had a strong economic impact on the horseless Shoshoni and Northern Paiute. They were able to range much farther in their annual subsistence round and pack up more salmon, roots, and meat to take home (Steward and Wheeler-Voegelin 1974:9; Pavesic 1982:personal communication). They were also organized into larger groups for some tasks during the year. The unequal distribution of the horse may appear to have created a horseless underclass, but some portions of the study area could not have supported many horses. The horse may have proved to be a hindrance, at least part of the year to some aspects of a collecting economy in the deeply dissected portions of the study area. Among mounted Native Americans, the horse was a symbol of wealth. For some groups this medium of exchange soon became inflated, and people spent a lot of time managing their investments. Groups made different cultural choices about the horse; some profited, others did not. The one mounted group which was avoided by horseless people was the slave-capturing party.

5.1.3.2.2 Residential and Political Systems

The social structures of the Northern Paiute and Western Shoshoni in southwest Idaho are remarkably similar. Their linguistic relationship, as discussed previously, argues a common ancestry, but environmental factors are doubtlessly more responsible for the similarities. Steward's and Wheeler-Vogelin's statements about the Northern Paiute hold for the Shoshoni in the area as well:

> The nature of most primitive societies is determined by a combination of social as well as economic factors. Culturally prescribed forms of marriage, kinship, recreation, ritual, and other interpersonal relationships inherited from forebears and borrowed from neighbors ordinarily determine in part the nature of local group structure and cohesion. The demands of Northern Paiute economic life, however, were so stringent as to nullify social factors as primary determinants of the nature of local groups, and there are few people in the world whose socio-political patterns had to conform so closely to the demands of subsistence activities (1974: 46).

Because of the relatively sparse occurrence of resources in the area, aboriginal population density was extremely low. Steward (1938:47-49, 147) estimates a density in southwest Idaho of one person per 13.5 sq mi, based on informants' information and government reports. This is the same figure reported by Alexander Ross (1866, in Steward 1938) for the Bruneau River area. Ross estimated the population density along the Snake River to be one person per 4 sq mi, and the Snake River Plain around Fort Hall supported only one person per 34 sq mi. Although these figures were collected in the mid-nineteenth century, after decades of disease and depredation had severely reduced native populations, their proportions reflect the difference in richness of the resource areas.

The Northern Paiute and Western Shoshone populations not only were low in number, they were scattered in small, diffuse groups for most of the year, concentrating in larger groups only for the winter. The group that lived together was a sort of extended family. Fowler (1965) calls them "kin-cliques", usually of fifteen to twenty people, who would split into smaller groups during periods of scarcity. Steward (1938) uses the term "cluster of families", meaning two to five nuclear families--usually siblings and their families--living with their parents. These clusters tended to remain in close association, constituting a fairly permanent subsistence unit (ibid.). There was no stable extended family organization.

> The reasons for this were compelling and are to be found in the organization of labor. The region supported only

> a sparse population, and the inhabitants had to scatter to exploit every possibility and to avoid intrusion upon the subsistence activities of others. Neither game nor vegetable foods were to be found with predictability in a delimited area, and a disposition towards mobility was a factor in survival. Cooperative activities were infrequent, and the peregrinations of each family caused the composition of group endeavors or of winter camps to shift from year to year. There was not a complete turnover of memberships by any means, but it was sufficient to prevent internal segmentation on some fixed principal, whether of locale or kinship, from arising. Looked at more positively, the Shoshoni of one valley were welcome in the next, and their hosts could anticipate reciprocity. The interchange of people was so great, in fact, that it is difficult to speak of hosts and guests, for today's residents were yesterday's visitors, and could be tomorrow's emigres (Murphy 1970:158).

Steward and Wheeler-Vogelin describe the same situation for the Northern Paiute as a

> . . . net-like pattern of interfamilial relationships. Any family was involved from time to time with families living on all sides of it and these latter with families living in places around it, and so forth. Throughout the whole Northern Paiute territory, there was a continuous, but impermanent, linkage of family with family rather than a series of economic frontiers bounding subsistence groups who habitually associated and cooperated within delimitable areas (1974:44).

These periodic aggregations of larger groups occurred either when cooperation in subsistence techniques was necessary, or for purposes of trade and socializing. Groups gathered for communal rabbit, antelope, deer, or mountain sheep drives, usually in the fall, and for the spring and early fall salmon runs. These endeavors were usually led by a temporary "chief" or shaman. The Northern Paiute in Idaho depended on a shaman's magic during antelope drives; during rabbit and waterfowl hunting the most experienced hunter led the group. Fishing was not a communal activity in the northern Great Basin (Steward 1941). It was communal, however, along the Snake River where the resourse was rich and dependable. Families held their own fisheries, although they did occasionally confer use rights to relatives. Shoshoni in southwestern Idaho took part in communal mountain sheep and rabbit hunts with leaders (Steward 1941). Shoshoni on the Snake River Plain also had communal antelope, bison, and waterfowl hunts with temporary leaders, and an antelope shaman (Steward 1943). Along the Snake River, cooperation in building dams and fences prior to fishing was necessary; but one of Steward's informants (1938:171) does mention hunt chiefs with dream powers for fishing, as well as antelope and deer hunting in northern Nevada. Apparently this does not hold true farther north. It is important to remember that these opportunistic aggregations occurred at different times and places each year, with different leaders and shifting memberships. They did not seem to lead to any sense of permanent or political ties (Steward and Wheeler-Vogelin 1974:44), although the existence of patrilineal bands is suggested by Steward's (1938) data (Pavesic 1982: personal communication). Steward denies that this was the case, however (Steward 1970:147).

Two areas in or near the study area were major annual gathering places. Liljeblad (1960:26-27) speaks of an inter-tribal rendezvous along the Snake River near the mouths of the Boise, Payette, and Weiser Rivers, just north of the study area. At least after the arrival of the horse, Umatilla and Cayuse came from the west, Nez Perce came from the north, Northern Shoshoni came from the east, and Northern Paiute came from the south and west. Trading, ceremonial dancing, and gambling, as well as fishing and camas gathering, took place.

The use of Camas Prairie (see Figure 3) as a gathering place is better substantiated by written accounts. Shoshoni from the east and west, as well as Northern Paiute and probably other Native American groups, gathered there in spring and summer for camas root gathering and festivities (Murphy and Murphy 1960:232) after the salmon runs. Afterwards, the groups separated to fish or hunt to the south and east or to gather berries in the nearby hills. Although few historic accounts discuss the "festivities", it is assumed that dancing and gambling took place.

> Apart from marriage bonds between the scattered families, the Northern Paiute had few integrating factors of a purely social nature. Whenever possible, they danced the circle dance and played numerous games, many of them involving gambling. But these recreational activities could not of themselves draw people together in one place. Gambling and dancing took place only when there was sufficient food to support an appropriate number of persons, most often in late summer or fall. Recreation, therefore, was quite incidental to economic activities, and, like the latter, it generally involved different groups of people on different occasions. In other words, people who happened to be together for rabbit or antelope hunts, who were drawn to areas of abundant seeds or fish, or who wintered near the pine nut or seed harvest might visit, dance, and gamble together so long as the food lasted (Steward and Wheeler-Vogelin 1974: 48).

This quote holds true for the Western Shoshoni as well. It is assumed that these gatherings would have fostered a sense of group identity among Northern Paiute and among Shoshoni, as they would have noticed language and cultural similarities and differences and exchanged news on good hunting or gathering areas and mutual friends and relatives.

These large gatherings were organized by a temporary director, who assigned camping places and organized the acquisition and distribution of food. There was also a leader of the dances (Steward 1938:169-170).

Most informants mentioned "chiefs" of villages or other groups living together, but is doubtful that such a formally recognized office existed before Euro-American influence. Undoubtedly, each family cluster had one man who made final decisions about subsistence activities, etc., but there were not strong associated sanctions (Steward and Wheeler-Voegelin 1974:296-304).

> The individual, the family, or the group of families that elected to change leaders within an area or to shift from one area to another did not give up vested rights and prerogatives. And, given the loose nature of Shoshoni social strucure and the diffuse and widespread network of social relationships, the person or group seeking a change could usually count upon acceptance elsewhere (Murphy and Murphy 1960:334).

Two events in North American history (Murphy and Murphy 1960:334) changed this political system. The Shoshoni and Bannock in the eastern part of the study area always had depended more on hunting, especially of buffalo, and less on gathering than groups to the south and west. With the arrival of the horse, they could hunt more efficiently, and visited the Plains Indians, with their band organization, more often. These Shoshoni and Bannock gradually developed a political organization similar to that of Plains groups, with a chief to direct the hunt, and warriors to guard the horses and deal with Plains and other northern tribes.

> Chiefs acted in consultation with councils of distinguished men and lesser chiefs, and the familiar Plains role of camp announcer is also present among the Shoshoni. The chief in any area achieved his status through general consensus and recognition of his high prestige. Generosity, wisdom, bravery, and skill in hunting were key criteria for the selection of headmen. The position was neither hereditary nor for life. Although it is not possible to speak of a chief being "deposed", many a chief was replaced by a man whose star was in the ascendancy. And it was also possible for two or three men to have almost equivalent claim to the role within the same district. Despite the non-hereditary nature of the office, we sometimes find it shared by brothers, or sometimes one brother succeeded another. Such cases may be explained as the result of general family prestige or of common upbringing and ideals of conduct (Murphy and Murphy 1960:334).

Because of this mobility, band organization was fluid, and the basic unit was still the camp group. Band members joined together for festivities, trade, the annual trek over the mountains for buffalo, and during hostilities with other North Americans and Euro-Americans (Steward and Wheeler-Vogelin 1974).

The actual immigrations of Euro-Americans not only brought these bands together, but caused a similar development among the Northern Paiute of Oregon and southwest Idaho.

> Northern Paiute bands are those which were recruited by various chiefs during the Indian wars, and which, owing to their fluctuating membership and shifting territories, could not be bounded and were not aboriginal. . . In cross-cultural perspective, these Northern Paiute and other Shoshonean militaristic bands were somewhat similar to the predatory mounted bands which developed in response to white settlement in many other areas. Serious reduction of native resources, dislocation of native population aggregates, acquisition of horses, and the introduction of livestock and ranches which could be raided amalgamated local groups under persuasive leaders. Predatory activities were combined with other band functions, especially hunting, in such widely separated societies as the Tehuelche and Peluche of Patagonia, the Comanche, and other tribes of the Plains, some of the Apache, and the Ute. The Northern Paiute predatory bands had brief duration, partly because they had never had a subsistence basis in big game hunting (Steward 1970:142-144).

The Shoshoni of southwestern Idaho, who did not have the horse, also apparently did not organize for resistance, but retained their aboriginal lifestyle until the reservation period.

> The reservation system tended to tighten political organization and to define groupings more closely, since reservation membership did constitute a vested interest and government legitimation and stabilization of a central chieftaincy restricted the choices open to the individual (Murphy and Murphy 1960:334).

5.1.3.2.3 Economic Systems

Among both Northern Paiute and Western Shoshoni, each family member filled a vital role in the self-sufficient economic unit that was the family. There was very little specialization, and division of labor was primarily sexual:

Men	Both	Women
hunting fishing implements rodent catching net and cord mfr. stone implement mfr.	insect gathering (Northern Paiute) fire tending (Northern Paiute)	seed gathering (Shoshoni) wood and water carrying fire tending (Shoshoni), grinding, cooking, basket mfr.
	skin preparation, clothing and blanket mfr.	weaving
	pottery house mfr. (Shoshoni)	house mfr. (Northern Paiute)

> In a few instances certain men may have been skilled flint chippers and bow makers or women skilled potters who traded their wares, but such specialization was not sufficient for self-support. Trade, as a vital factor of any economy requires that some members of the society be able to acquire such a surplus of essential goods that they can support other individuals who devote a large proportion of their time, if not all their time, to certain activities which, alone, would not support them. In this area, surpluses of any kind were infrequent and fortuitous. Commerce of any note was carried on only in the western and northern peripheries (Steward 1938:44).

There were some trading activities at the annual gatherings at the mouths of the Boise and Payette Rivers and at Camas Prairie. Umatilla and Cayuse traded goods such as shell beads from the Pacific Coast, Nez Perce traded horses, Northern Shoshoni and Western Shoshoni from eastern Idaho traded buffalo hides and meat, and Northern Paiute from Oregon traded obsidian. Even the Shoshoni and Northern Paiute of Idaho sometimes had a surplus of camas or yampa. About one-half bushel of the roots or tubers would purchase a colt from the Nez Perce. Three deer hides would purchase a horse (Steward 1938:45).

5.1.3.2.4 Life Cycle

Pregnant women were confined for thirty days prior to birth in a special domed willow birth house. Most rituals surrounding a birth were geared to impart strength and vigor to the child. Both Northern Paiute and Shoshoni informants said that abortion and infanticide of illegitimate, deformed, or unwanted children took place. Orphans, on the other hand, were adopted. Unlike many aboriginal societies, very little ritual attended a child's coming of age. Girls were confined for thirty days (Snake River Shoshoni say ten days) at first menstruation. Northern Paiute and Bannock girls had to work hard and perform many chores during this period, while being instructed on proper conduct. Shoshoni girls had no such requirements. During subsequent menstruations, women were confined for five to seven days, avoiding meat, fish, the sick, men, and dancing. Northern Paiute boys were lectured by their father at puberty, while Shoshoni and Bannock did not observe the occasion at all. Boys in all groups were forbidden to eat their first kill of any species (Stewart 1941).

Marriage and subsequent residence rules were variable. All groups permitted polygamy, and only the Bannock denied polyandry. Marriage between any blood relatives was taboo for the Northern Paiute and Snake River Shoshoni while the Shoshoni and Bannock near Ft. Hall apparently allowed it for relationships more distant than first cousins. Northern Paiute gave reciprocal presents, but no groups had a well-established bride price, and marriage by abduction seems to have been a common occurrence. Post-marital residence was variable, and indeed, a couple might live with both sets of parents at one time or another as the family clusters shifted and re-grouped. Divorce could occur for varied reasons (Steward 1941).

> Marriage patterns of the Northern Paiute failed completely to integrate social units definable either by territory or membership. The principal control of marriage was closeness of relationship which was reckoned, much as among people of the modern United States, through both family lines and not by geographically defined groups. Marriage bonds, however, had enormous importance because they alone constituted the only permanent connections between families of different localities.
>
> Marriage created permanent ties between localities. Paiute marriages were as much alliances between families as matings of a man and woman for procreational and subsistence purposes. Ideally, several marriages were contracted between two families, brothers and sisters marrying sisters and brothers, and if a spouse died the family provided a substitute if possible (Steward and Wheeler-Voegelin 1974:46-47).
>
> The loose bilaterality of the Shoshoni was ideally adapted to their mode of existence. Our data show some tendency toward matrilocality, but Steward states that, in Idaho, this is true primarily of the early years of marriage, after which the couple could exercise a bilocal option (Steward 1938:214). The direction of the choice depended on such situational factors as the prestige of either mate's parents or their wealth in horses. In any event, there was no marked preferential weighting of either line. Our informants reported that the married couple often shifted back and forth for varying periods of time. Ultimately, the mounted

> Shoshoni may be just as profitably looked on as neolocal, as were the Western Shoshoni, for the couple did not necessarily live with or adjacent to either mate's parents. People were quite free to join other relatives or to associate closely with unrelated persons. This, and the periodic splitting up and reamalgamation of larger groups, inhibited any development of large, solidary nuclei of bilateral kinsmen. Relationships were traced bilaterally and widely, but ties were amorphous and weak. Lacking bounded and corporate kin groups, persons were highly individuated and possessed maximum geographical mobility (Murphy and Murphy 1960: 334).

Only the Shoshoni of the Fort Hall area and the Bannock had kin avoidances, which consisted of restrained in-law relationships. The avoidances may have occurred as a result of post-horse Plains influence, under which the Shoshoni and Bannock organized into larger bands and living groups. Among most groups in the area, kinship relations were a unifying factor, important economically.

> In Northern Paiute subsistence activities, it was small groups of related families who traveled together. If there was a choice as to what part of the country should be exploited, preference was given to an area where there were relatives. Marriage bonds, however, like economic associations, had no reference to territorial frontiers. The kinship relations created through marriage extended continuously from one locality to another through the entire territory. Along the Shoshoni boundary, inter-marriage across the linguistic zone served, along with economic interpretations, to create an area of mixed subsistence and kinship connections.
>
> Northern Paiute kinship relations were thus not only adapted to the forms of cooperation and association entailed by economic activities, but they served to reinforce them (Steward and Wheeler-Voegelin 1974:46).
>
> When the people of different localities were placed on reservations and thus segregated to some extent, these new groupings out across native kinship bonds. Individuals and families, consequently, frequently move today from one reservation to another to visit relatives (ibid.:45).

When a person died, the corpse was washed, adorned, and wrapped in a blanket. A male relative directed the burial, which seems to have been in any convenient place, but preferably in rocks in the mountains. The body was extended.

Only the Northern Paiute mentioned occasional cremation. No informant mentioned burials in rockshelters, although Lowie (1908:214) reports Lemhi Shoshoni placing corpses in crevices in rocks. Deceased children and adults were treated alike. Their houses were burned. Northern Paiute burned personal possessions as well; the Shoshoni and Bannock buried them with the corpse. Among the mounted Shoshoni and Bannock to the east a man's best horse was killed, and the others were given away. Relatives mourned by cropping their hair and gashing their legs.

5.1.3.2.5 Religion and Ritual

There is not a great deal of information in the ethnographic literature about Northern Paiute and Western Shoshoni belief systems. Much must be inferred from data on ritual and other ceremonies. There is a tendency among anthropologists to treat belief systems as static, when in fact they are as dynamic as any other part of life. When different cultures come into contact, beliefs and strategies intermingle to meet individual and group needs. The Bannock obtained gambling charms from the Ute and Wyoming Shoshoni, borrowed scalp dances from Plains cultures, and adopted the Sun Dance (Madsen 1958; Wells 1980:22-23).

The Shoshoni prayed to Ap (father), who was a vague being, with characteristics little known to Steward's informants (1943:286). Most Shoshoni and Northern Paiute individuals had a guardian spirit which had come to him/her in a dream. These spirits were also prayed to with varying degrees of success. The Shoshoni, Bannock, and Northern Paiute believed in audible ghosts, who were not feared, in a soul, and in an afterworld which would divide bad from good people. Shamans were men or women who had received a greater amount of power in unsought dreams or had inherited it from a relative. Other people relied on them to take care of healing, charms, and related needs; however, their position in society hinged more on success than any blanket belief; unsuccessful shamans were not paid and ceased practicing their craft if the failures continued. Northern Paiute shamans in the study area could decline a case if they so desired; this was not allowed in other groups or among Northern Paiute to the south.

This pragmatic approach is prevalent among the Northern Paiute and Shoshoni groups in southern Idaho and the rest of the Great Basin. Of the Shoshoni, Steward wrote:

> Ritual was everywhere exceedingly limited and practically none attached to economic activities. There were no group ceremonials, except as the round dance was thought incidentally to bring rain, crop fertility, or general well-being. The main ritual was at birth, girl's puberty (boys had no puberty rites), and death. These were entirely individual affairs involving only the family, except where the annual mourning ceremony was introduced to the Death Valley and Owens Valley regions and the Sun Dance to the Northern Shoshoni. The rites were most like those of California, except that many elements were extremely variable (1938:45).

The situation was very similar for the Northern Paiute:

> Among the Great Basin Shoshoni, including the Northern Paiute, the complete absence of collective or group ceremonialism left no role for a priest or ceremonial leader. Curing shamans, often known as "medicine men", were the principal religious functionaries. Moreover, a person became a shaman through the largely fortuitous circumstance of receiving the supernatural power which enabled him to cure in dreams. The shaman did not fill a prescribed office in a band organization, and therefore did not serve to integrate a territorial or other social unit (see Park 1939, on Shamanism).
>
> A somewhat related type of religous functionary was what is generally called the "antelope shaman". This kind of shaman was thought to possess supernatural power over antelope, a power which was believed to have been acquired in dreams. His supernatual power enabled him to charm antelope into corrals during collective antelope drives but not to cure sick people. Since the power to charm antelope was not a matter of special office in a definable socio-political group and since sufficient antelope to warrant a shamanistic hunt occurred rarely in any locality, the shamans led very different groups from year to year. Within a broadly limited area, they controlled the hunts of people from different localities and in different places (Steward and Wheeler-Voegelin 1974:50-51).

Shamans ideally also intepreted visions, doctored the sick, foretold the future, and controlled weather. Northern Paiute shamans made offerings of foods, tobacco, and shell beads. Among Shoshoni and Bannock, offerings were not made by anyone.

The only full group "rituals" were the dances. These were performed only at festivals when family clusters joined together, perhaps one to three times a year (Steward 1938:45). The Northern Paiute performed only the circle dance (common to all Great Basin aboriginal cultures).

> While the ubiquitous circle dance, held whenever enough people were assembled, was essentially recreational, there is slight evidence that in certain localities it was ascribed a minor supernatural significance. Among the Shoshoni and Paiute of northern Nevada and Oregon, this dance was supposed to have a beneficient effect on nature in general (Steward and Wheeler-Vogelin 1974:51).

It helped make seeds grow, rain fall, and rabbits easier to catch (Stewart 1941). The Shoshoni and Bannock also performed this dance, but only the

Bannock ascribed any power to it. The Bannock and Ft. Hall Shoshoni performed other dances as well: the bear dance for pleasure, the "rabbit" dance before rabbit hunts. scalp dances, and war dances. The latter two may have been borrowed from Plains cultures in the post-horse period. The Sun Dance was introduced to the Ft. Hall reservation in 1900 or 1901. Steward says this dance was performed to cure sickness, and did not include self torture, as it did among the Shoshoni in Wyoming (1943:290).

5.1.3.3 Subsistence and Settlement Patterns: Ethnographic Data

> It is important to an understanding of the entire Shoshonean culture that it was stamped with a remarkable practicality. So far as its basic orientation is definable, it was "gastric." Starvation was so common that all activities had to be organized toward the food quest, which was carried on mostly by independent families. Whether other fundamental drives could have been implanted is not known. They had not been except among the eastern groups, Shoshoni and Ute, who attached some importance to warfare. Others carried on activities which were largely devoid of ritual, and of prestige value (Steward 1938:46).

Steward's statement about the importance of food procurement in Shoshonean society is perhaps too strong. However, as Stewart (1941:361) points out, resource scarcities for the Northern Paiute (and indeed the Western Shoshoni) had two very definite results: 1) people learned to eat nearly everything edible, although most of the time most of them did not have to; and, 2) to varying degrees, groups had to range far and wide in the yearly subsistence quest because of differential availability and stability of food resources. Both these facts will be evident repeatedly throughout the following section. Ethnographic reports of subsistence activities and their environmental correlates are arranged by basic food groups: gathering, hunting, and fishing.

5.1.3.3.1 Gathering

There is no information on the actual caloric importance of plant over animal foods for the Northern Paiute and Shoshoni in the northern Great Basin; however, the margin of survival was narrow enough that every available edible resource seems to have been exploited at one time or another. Roots, seeds, leaves, and insects will be considered "gathered" foods. The Appendix lists plant foods available in the study area.

Root, berry, and seed gathering was a principal activity from spring to early fall, often carried out by the women while men hunted or fished. In the northern Great Basin, the relative proportion of tubers and berries is greater than seeds and permits a longer harvesting period (Steward 1938:19). It did not require communal effort; indeed, plant yield was usually too low to provide food for more than one family cluster in a site-catchment area (Steward and Wheeler-Vogelin 1974:39). Some roots and seeds could be dried and stored, but horseless people could not carry many supplies with them. Sometimes caches were made, but the people could not guarantee they would return to collect the stored food at any particular time.

Gathering tools included wood digging sticks, conical seed baskets, stone seed knives, and seed beaters. Plants were stored in grass-lined pits, bark, or skin bags. Seeds were parched, then ground into meal with manos and metates. Berries were dried and pulverized.

> In a very rough way, these [gathering] activities divided the year into four periods. In early spring, when stored foods were running low, people eagerly awaited the first growth of new plants to stave off starvation. The first edible plants were those whose stems or leaves were cooked or eaten raw as "greens." They occurred along streams, near lakes and in low hills, where snow had first disappeared and warmth had come earliest.
>
> By early summer, seeds of herbaceous and other plants had begun to ripen, some in the desert valleys, but most in the moist hills. These required that people leave their winter villages, if they had not already done so, and trek sometimes considerable distances. In a moist year a number of families might go into valleys to favored localities, but, as water had to be carried in ollas, their stay was limited to a few days or a couple of weeks at the most. When other seeds began to ripen in the mountains they moved back into the hills. Sometimes, if information reached them that certain species were abundant in another range, the entire family crossed one or more valleys, traveling 30 or 40 miles to procure the harvest. They preferred, however, to remain near their winter village so that any cached seeds would be within a convenient distance of it. The harvest period in any locality was delimited because the seeds of most species fell off the plants within a few days or weeks after ripening.
>
> Later in the summer edible roots began to mature. These could be dug at leisure provided the stems did not wither beyond recognition. With a few berries, they provided foods during late summer. If roots were not available, however, stored seeds had to last the summer out.
>
> Gathering, therefore, entailed erratic movements of the Indians. Individual families wandered from spring to fall as the promise of foods was greater in one locality or another. Though members of a winter village tended to go to the same localities, they often separated when

> foods were too scarce or foregathered, perhaps with people from other villages, at places of plenty. If foods near home were abundant they cached them in accessible locations in the mountains and returned home for winter. But often winter found them in distant ranges, associated with people from various localities (Steward 1938:19-20).

Northern Paiutes who had wintered along the Snake River Canyon gathered yampa (the Shoshoni word for the Snake River is yam-pa-nah, "the stream where yampa grows"), tui, boina, other seeds, and roots in the spring (Steward 1938:167). People wintered in other areas as well, but the only other mention of spring gathering is that some roots were available along the Boise River (Murphy and Murphy 1960:319).

The summer gathering at Camas Prairie is thoroughly covered by the ethnographic accounts. Roots collected include camas, yampa, pasigo, and tobacco root. The main food eaten by the assembled people during the gathering was gray ground squirrel (Steward 1938:167). This was apparently not a single encampment, but families were so crowded on the prairie that a great deal of social interaction took place (Murphy and Murphy 1960:319). Camas and other roots grow in many other parts of the study area, including the Owyhee River Valley; it is not clear how many of the people went to Camas Prairie every year. It was certainly considered an important area. The Bannock insisted that Camas Prairie be part of the reservation proposed in the 1860s, and Euro-American settlers' pigs rooting on the camas grounds was said to be the cause of the Bannock War of 1878 (Madsen 1958).

Ogden reported other summer gathering activities in the area (quoted in Steward and Wheeler-Vogelin 1974:207). He mentions Native Americans along the Snake River collecting and storing ants and locusts. At one time or another Shoshoni also ate roasted cicadas, crickets, grasshoppers, and caterpillars (Steward 1940, 1941). Prickly pear was roasted, sego lilies were collected, and wild rosehips were eaten whole.

In late summer to early fall, people returned to the Snake River and its tributaries to fish, carrying some of the stored roots there to cache for the winter. This was the time seeds and berries were ready to harvest. There are some reports that Shoshoni and Northern Paiute who wintered in the study area traveled south of the Humboldt River to collect pine nuts (Murphy and Murphy 1960:332), but this resource was not very important in the study area. In the Owyhee Uplands, hape and sowik (roots), chokecherries, and serviceberries were collected. In the Mt. Bennett Hills, people collected these plants as well as sunflower and goosefoot seeds and Indian ricegrass (Steward 1938:168).

Steward reports that at one time irrigation horticulture was practiced along the Snake River (Downs 1966:45). It was certainly not practiced at the time of Euro-American colonization. Both the Northern Paiute and Snake River Shoshoni gathered wild tobacco and knew of or practiced field burning to encourage growth (Stewart 1941 and Steward 1941).

5.1.3.3.2 Hunting

Native Americans in the study area hunted and ate bison, elk, deer, antelope, mountain sheep, bobcat, rabbits, waterfowl, sage hens, pine chickens, and several varieties of rodents. While ethnographic reporters concentrated on large game animals, all were important in the aboriginal diet. Small mammals were roasted whole in fires or earth ovens, dried, and pulverized on metates. The meat of larger animals was boiled in baskets, dried in strips, or broiled.

Procurement techniques differed for different animals. Small mammals and birds, and indeed some larger animals, were taken by individual hunters whenever opportunity presented itself. Spring-pole traps, deadfalls, brush blinds, skewers, and disguises were used. Communal drives for antelope, rabbits, and sometimes mudhens were held in the fall and usually lasted about two weeks.

Rabbit nets owned by different men were joined end to end, and rabbits were driven into them. The fur was used for robes and bedding (Steward and Wheeler-Vogelin 1974:31-32, 34). Antelope were hunted by the surround method, using brush corrals (ibid:31), or driven past hunters waiting in ambush (Steward 1941). Mountain sheep and deer were either hunted individually or driven past camouflaged or hidden hunters.

According to Stewart (1938:167), the larger game animals were not found along the Snake River in any significant numbers. Most hunting occurred in the highlands both north and south of the Snake River. Murphy and Murphy (1960: 322) mention that families may have gone habitually either north or south every fall to hunt, but did not go both ways. Antelope, deer, and mountain sheep were common in the Owyhee Uplands; bison were present in the study area and not extinct until 1832 (Figure 21). Deer, elk and bighorn sheep were hunted in the Mt. Bennett Hills and mountains north of Camas Prairie (ibid: 322). Shoshoni along the Boise River hunted deer, elk, bear, and some bighorn sheep (ibid:319).

At one time the Snake River Plain apparently supported large herds of bison, numerous antelope, and mountain sheep (Davis 1939). Most of this area of higher elevation is outside the study area, but was used by groups from the study area. By 1830 the bison was extinct on the Snake River Plain. By 1850, the buffalo had been hunted to extinction throughout Idaho. Ethnographic observers witnessed buffalo hunting only after the introduction of the horse. Hunting was in small groups before 1850, but the trip over the Rocky Mountains after that time was a large and long communal undertaking.

5.1.3.3.3 Fishing

The route along the Snake River of most travelers crossing the study area produced accounts laced heavily with reports of salmon fishing activities, and, perhaps resulted in over-generalizations on fishing practices; certainly fishing was very important. However, as we have stated before, and contrary to the quotations below, access to places in the study area which required a

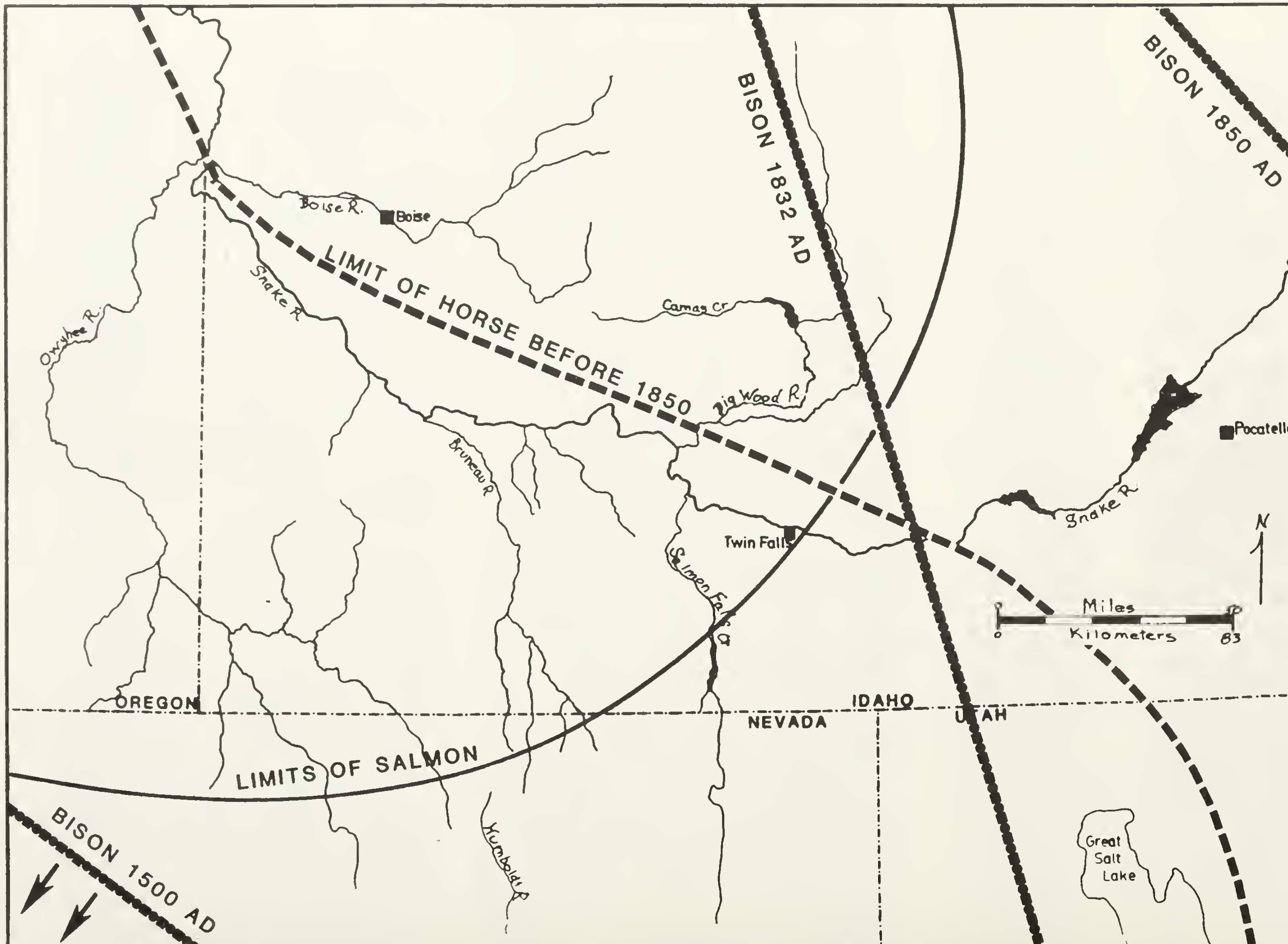


Figure 21 Faunal Resource Distribution after Steward (1938)

large labor investment to construct and maintain weirs was strictly controlled, such as at the Hagerman fishery (Pavesic 1982:personal communication).

> Throughout most of the Great Basin, fish was a supplement rather than a staple food. In certain of the larger streams, fish had considerable importance, but instead of constituting a locally owned resource, they were taken seasonally by people from far and wide. Possibly if techniques for preserving and storing fish had been well developed, local communities would have defended their fishing streams against trespass. In any event, fish were merely a seasonal food, not a basic resource affording provision for the whole year. When fish ran, all people were welcome to take them (Steward and Wheeler-Voegelin 1974:34).

> The first "salmon," probably the steelhead, _Salmo gairdneri_, came about March or April and were called tahma agai (tahma, spring + agai, salmon). These were caught both by people who had wintered on the river and by others who had stayed at Camas Prairie near their caches of dried roots but returned to the river in spring for fishing.

> A second run of salmon came in May or June, called taza agai (Taza, summer). This is probably _Oncorhynchus + schawytscha_ (Walbaum), Chinook salmon. These were speared in pools under falls (Steward 1938:167).

> In the fall there was another run of salmon . . . called kua agai (from kuep, fence, referring to the fish weir) or yu:va agai (yu:va, fall). These could also be taken with hooks (_ibid_.168).

Salmon was not the only fish caught; trout also made anadromous runs. Trout, suckers, and whitefish could be found in most permanent streams in the area. Chinook salmon, sturgeon, lamprey, and redfish could be found in the Snake River only to Shoshone Falls (see Figure 21, limits of salmon). The fish, when caught, was either eaten fresh or air dried. Fish bone, like most small animal bone, was ground and eaten (Steward 1940, 1941).

All groups used willow fence weirs with attached baskets to catch fish. The Northern Paiute also used harpoons and spears, but not hooks or nets. The Shoshoni and Bannock used bone hooks, nets with floats and net sinkers, and stone dams.

> The principal fishing technique that called for collective endeaver was the making of fish weirs. This did not require as many men or as much coordination of effort as the antelope and rabbit drives. No special

> leader for fishing is mentioned among the Northern Paiute. In most regions, especially on the Columbia River, the Indians were scattered along the shores, or small villages were found near fish dams. The significance of dams for social organization was probably not great (Steward and Wheeler-Vogelin 1974:36).

The fish weirs stayed where they were used. Steward (1937:630) feels that repeated use of these weirs by their builders resulted in group ownership of fishing places. Some of these places were on the Bruneau River, and at Glenn's Ferry and Salmon Falls near Hagerman on the Snake River (Murphy and Murphy 1960:322).

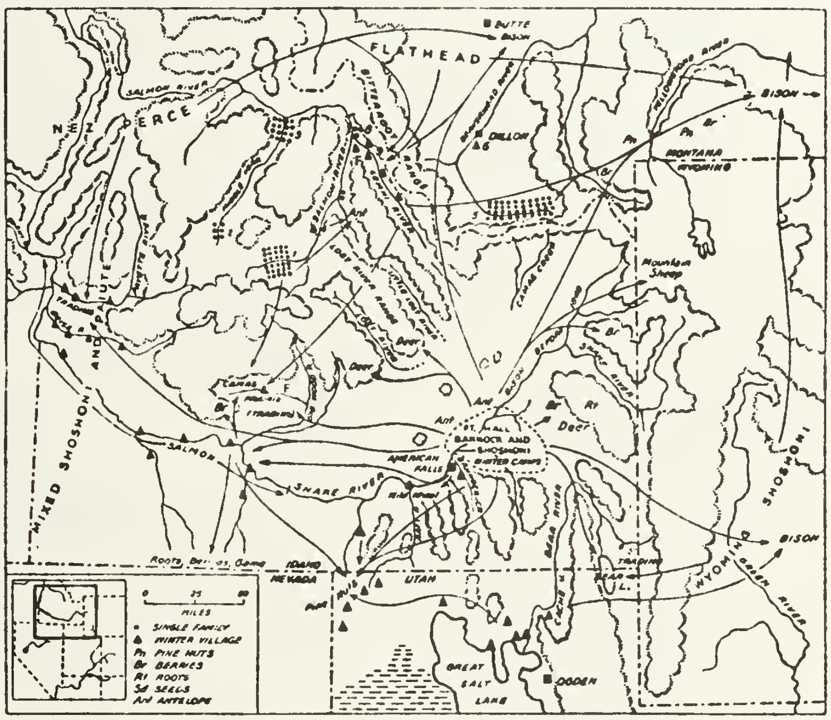
The Boise River also had anadromous fish runs; even the mounted Shoshoni and Bannock traveled that far to fish. Salmon were caught on the Owyhee River as well; if the catch was particularly good, people wintered there instead of on the Snake or Humboldt Rivers (Steward 1938:168).

The major routes of Euro-American travelers through the area were along the Snake River and through Camas Prairie, the areas where the most aboriginal activity and heaviest population density is recorded. While traveler reporters certainly did see large groups of Native Americans at Camas Prairie, they rarely left the main routes, thus collecting no comparable data on activities in other areas. Not all Northern Paiute and Shoshoni in southwest Idaho wintered along the Snake River, fished for salmon at Shoshone Falls, went to Camas Prairie in the summer, went to the mountains to hunt in the fall, and then travelled back to the Snake River. The availablility of camas, salmon, and other foods suggests that many family clusters must have spent the entire annual subsistence round in much smaller geographic areas.

Both Steward (1938) and Murphy and Murphy (1960) foster this misconception with their maps of villages and subsistence areas (Figures 22 and 23). They record village sites remembered by informants well after Euro-American incursion in the area. One village was at the present site of Boise (Murphy and Murphy 1960:319); two were on the Snake River below the present town of Hagerman; one was near Bliss (Steward 1938:165-166). Steward (1970:120) claims later that winter villages were in mountains or at spring sites along the feet of mesas, where both water and floral and faunal resources were available.

> The principal determinants of winter quarters were considerations of survival--abundance of stored seeds (in Nevada, particularly pinenuts (sic), which were harvested in the fall) and hunting opportunities. North of the pinenut (sic) zone, the local abundance of other fall seeds and of roots was the critical factor. Additional determinants of winter residence were presence of water, and of trees to provide timber for small, single-family, conical dwellings and wood for fires. In some areas availability of fish was important. Owing to the

Figure 22
Prehistoric Resources and Transhumance Pattern



(Steward 1938)

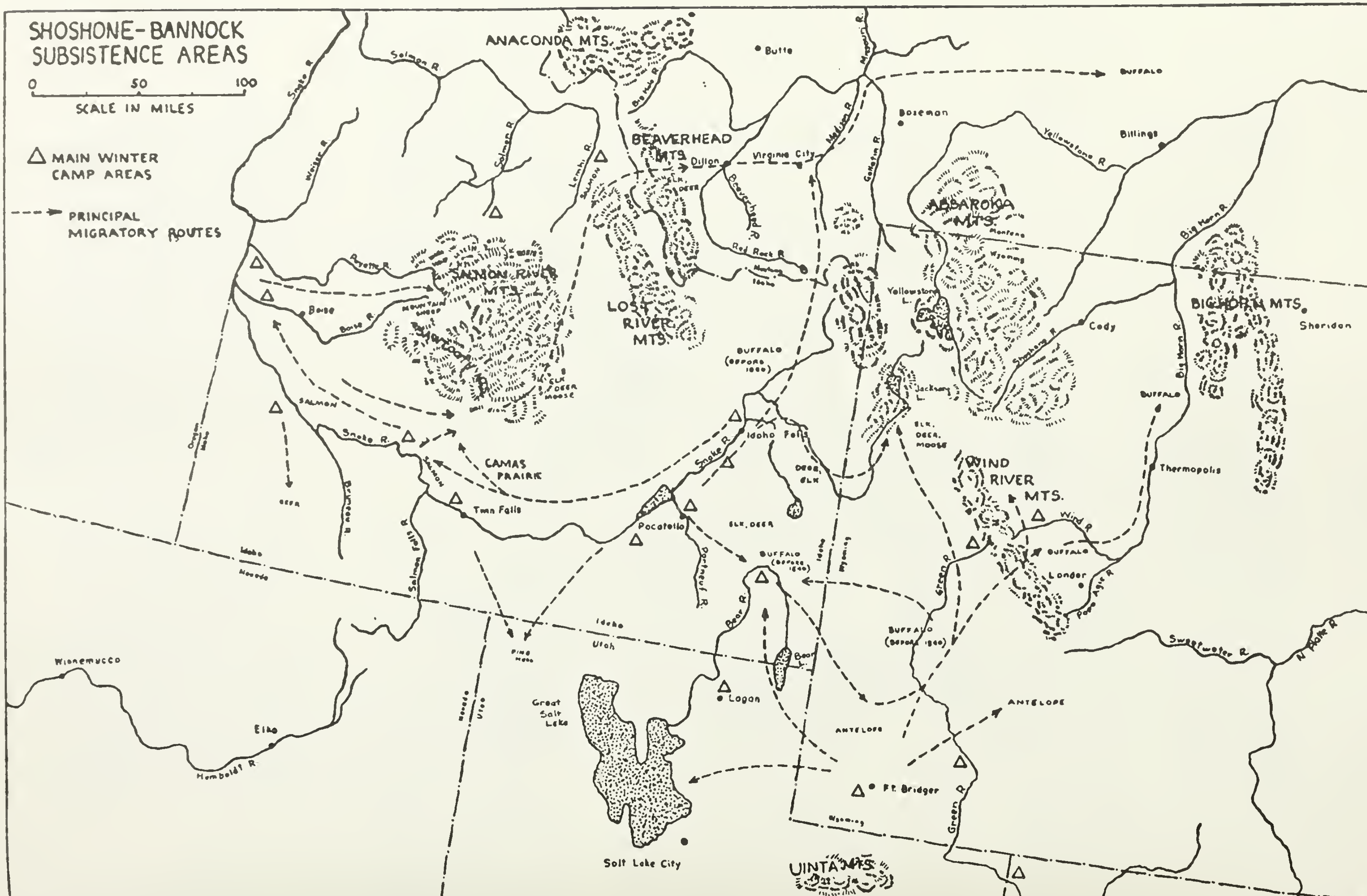


Figure 23 Shoshoni & Bannock Subsistence Areas (Murphy and Murphy 1960)

> erratic annual occurrence of resources, however, families found themselves in different localities each year, and they wintered with whatever other families happened also to be there. Family houses were scattered, being located with reference to stored food, wood, and water. They were in no way grouped according to any tribally prescribed pattern, and they were not regimented by any kind of tribal or band chief. The families visited one another, danced, and gamed, but they did not constitute a permanent group which had the same composition each year. In the spring, they dispersed and the following winter came together with different families (Steward and Wheeler-Voegelin 1974:49-50).

Winter dwellings were conical or domed willow poles covered with grass or tule. Floors were covered with mats or grass. Sweathouses and women's menstrual houses also were domed. In summer, similar houses or simple brush windbreaks or sun shades were used. Neither type of dwelling was permanent, just as the "village" populations themselves were not permanent.

Although Steward has mentioned groups occasionally wintering on the Owyhee River, Murphy and Murphy (1960) claim that the Owyhee Uplands west of the Bruneau River were rarely used by anyone. They also say the Snake River Plain east of Camas Prairie was traversed but not used. (The reader, however, is urged to test this assertion by reading Table 1 of this report and section 5.1.3.5.5 below.)

5.1.3.4 Subsistence and Settlement Patterns: Models for the Archaeological Record

Based on the data presented above, one can build a basic "predicting the past" model of the types of sites and assemblages to be found in each physiographic area. A general model of subsistence activities is summarized best by Steward in his article "Foundations of Basin-Plateau Shoshonean Society" (1970). It serves as both an excellent summary of the similarities in the region, and a base point from which to compare the significant diversity of microenvironments in the study area. It should be noted here that Steward was aware of Jennings' "Desert Culture" concept, and argues against its "monolithic" application.

> Societies are rarely characterized today merely as hunters, fishers or food collectors. It was shown in the Conference on Hunters [Lee and deVore, eds., 1968] that vegetable foods comprise some eighty percent of subsistence everywhere except in very high latitudes. The proportion may have been even greater in the Basin-Plateau area, but the very scarcity of game may also have required that a greater proportion of time be devoted to hunting than in areas where game was more abundant, for meat, skins and rabbit furs were extremely important to the Shoshoneans. Moreover, the particular

species of plants and animals utilized were less important than their distribution, abundance, means of obtaining and storing them, and the kinds of social groups involved in exploitative activities. For this reason, the concept of an Old Desert Culture or Tradition with its emphasis on seed gathering as a kind of monolithic phenomenon must be viewed cautiously.

In the Basin-Plateau area, like most other areas, there was a multiple subsistence in that different categories of plant and animal foods entailed certain distinctive activities which affected the nature of complementarity between the sexes and cooperation between individuals, families, and groups of families. Each subsistence activity was related to the characteristics of the species, its abundance, seasonality, distribution, and technology for obtaining it. But seed-gathering tends to be competitive, and, in most of the Basin-Plateau area there was no game comparable to bison that shaped so much of Plains Indian society.

Rabbits and antelope were most abundant in broad valleys, but, while they were hunted most profitably when driven by large groups of both sexes, such hunts were unpredictable. Corrals made this hunting possible with antelope, nets with rabbits. Mountain sheep were usually stalked and ambushed in the high mountains, and deer driven or ambushed in lower mountains and valleys by small groups of men. Vegetable greens, seed, roots, and insects were typically collected in the lower hills and valleys by women. Pine nuts, the winter staple of the southern half of the area, were harvested in the fall by both men and women. In certain localities, fish and water fowl had exceptional importance, and these were usually taken by men who used an extraordinary number of devices.

Some of these foods were seasonal, although their abundance varied annually according to rainfall. Others, especially antelope herds, required a number of years to reestablish themselves. Some foods could be found with fair certainty in particular localities; others, especially pine nuts, were unpredictable.

Another aspect of the multiple subsistence is that the different resources were often extracted from contiguous but dissimilar and fairly small micro-environments, a concept that has been developed with great profit by archaeologists [Chang, 1967, pp. 57-60]. While the northern and southern portions of the Basin-Plateau are

> somewhat dissimilar in general features, more important differences are associated with biotic zones at different altitudes in mountain ranges and mesas. The principal encampments, whether permanent or not, were preferably made along the bases of mountain ranges and mesas, where springs or streams were concentrated and from which the people could range through the resource areas of the higher altitudes and the valley flats (Steward 1970:116-118).

The following predictions are regional characterizations based on admittedly skewed (biased) samples--and not consistently skewed among all areas either. The predictions thus will change as data is collected and analyzed in the future. They could be looked upon as testable hypotheses.

Snake River Plain. This area should have the lowest site density. Sites will most frequently be only small, temporary campsites, although recurrently used settlement will occur where resources permit.

Owyhee Uplands. This area will also have a low site density. There will be vegetable collection sites and some fall occupation hunting camps and related sites in the hills, and some fishing camps and winter "villages" along the Owyhee River and its tributaries, and other tributaries to the Snake River.

Mount Bennett Hills will also be used predominantly on a temporary basis only, for hunting and gathering in the fall. Sites probably will have both butchering and berry/seed preparation tools. There will be hunting complexes.

Camas Prairie will have the highest site density, with occupation in summer, and lesser site density for winter-occupied sites. Sites should have a high percentage of plant-processing tools compared to hunting tools, including earth ovens and grinding stones.

Snake River Canyon. Site density here will be relatively high, and sites will primarily be of two basic types, fishing stations and winter camps. Fishing stations should have net sinkers, harpoons, nets, hooks, and fish bone and be located at falls and at shallow or narrow places in the river. Use of the river by many different groups may be reflected in differing artifact styles at different sites. Winter camps will probably be located on the river or near springs. They will be larger than temporary camps and will have numerous cache pits.

5.1.3.5 Archaeological Testing of the Ethnographic Models

Most of the data necessary for comparison of the archaeologic data with the ethnographic data were summarized in Figures 13 through 17 (section 5.1.2). The ethnographic information has shown that settlement and land use patterns are closely tied to usable resources in different areas, and to availability of water. Because the occurrence of natural plant and animal resources in southern Idaho seem to parallel changes in elevation, models of prehistoric activity must consider elevation. Thus, of the five physiographic areas presented here, the Owyhee Uplands and Mt. Bennett Hills would appear to be equivalent; however, as most archaeological research in the study area has been guided (scientifically or administratively) by these five regions, each will be presented below.

5.1.3.5.1 Snake River Plain

Most of the Snake River Plain in the study area is below 3800 ft and has the lowest site density of the five areas (Cinadr 1976). Almost all archaeologic information on this area comes from Wilson Butte Cave in the form of temporary hunting camps over a span of 14,000 years. Only the last 1000 years show an increased density of occupation at the cave.

West of Glenn's Ferry and north of the Snake River, another portion of the Snake River Plain is flat and dry, but lacks the recent lava beds of the Snake River Plain to the east. The only evidence of use of this area comes from Dry Creek rockshelter, a hunting camp. All evidence, therefore, points to use of the Snake River Plain for temporary hunting camps over the entire period of occupation of the study area. The assemblages at the two sites are similar to site assemblages in the other physiographic areas, with two exceptions. Arrow points appear very early at Dry Creek rockshelter, and at Wilson Butte Cave the pottery which appears is a slightly different style than the Shoshoni ware of the rest of the Great Basin, including southern Idaho.

5.1.3.5.2 Mt. Bennett Hills

The archaeologic data, though scanty, generally support the ethnographic model. The Hills have been occupied for at least 7000 years. The highest site density lies between 3800-5400 ft a.m.s.l. (Cinadr 1976), where fall floral and faunal resources occur. The size of most sites is small, indicating temporary campsites. Although Figure 14 shows a small percentage of rock alignment complexes, the number is skewed by the large numbers of small lithic scatters which have been classed as open campsites. Flintstone's Retreat (Walsworth and Hubbard 1981) at 5000 ft a.m.s.l. is an excellent example of a hunting complex both for communal drives and individual ambush activities. This area has the highest percentage of petroglyphs in the study area; the panels usually are associated with rock alignments/complexes (Cinadr 1976). Archaeological survey has recovered grinding stones as well as projectile points, although they are much less frequent.

5.1.3.5.3 Camas Prairie

The archaeological data on Camas Prairie is skewed drastically because heavy cultivation has destroyed evidence in most areas. Most sites are found on the slopes leading to the Mt. Bennett Hills. The prairie itself lies at 5000-5500 ft a.m.s.l. The Simon site (Butler 1963) shows that the area has been occupied since Paleo-Indian times, but most of the archaeological evidence presently available is of sites occupied within the last 1000 years. The Cat Creek site (10EL77) may be a large village, but needs further exploration (Cinadr 1976).

5.1.3.5.4 Snake River Canyon

Although surveys have recorded numerous sites along the Snake River, relatively few of them have been excavated, so only tentative statements can be made regarding activity patterns in the area. This is the only area where house structures which suggest winter and village type occupations have been located (Plew 1980b; Pavesic and Meatte 1980; Green 1982; DeLisio 1979). The structures are not Plateau pithouses, and more nearly resemble Great Basin structures.

The most interesting departure from the ethnographic record is the almost complete lack of sites with fish remains or fishing implements. To date, only Cave No. 1 (Shellback 1930) has yielded fish hooks, harpoons, net sinkers, drying sticks, and other gear. Plew (1981c) has reported the first sites to have strong evidence of fish remains near Bliss. They appear with Period 3 projectile points, and were 84 percent salmonid. The general lack of evidence regarding fishing could be caused by any number of factors:

1. sites not yet excavated, or buried by shifting river action;
2. over-emphasis on fishing in the ethnographic record;
3. ethnographically reported grinding and eating of fish bone. Consumption would not explain directly the lack of fishing implements; however, nets, weirs, traps, and other elements of the extractive technology used to procure the resource may well lie in deposits apart from living areas; and,
4. possible use of land-mammal hunting implements for fishing.

On the other hand, most sites excavated, including those with house structures, have large fresh-water mussel shell middens. These mussels must have constituted a large portion of native diet, but this occurrence was ignored totally in ethnographic accounts.

Although the Snake River Canyon had the smallest percentage of sites with petroglyphs, of the five subdivisions, its sites include the spectacular Wees Bar petroglyph field of ninety decorated boulders.

5.1.3.5.5 Owyhee Uplands

The Owyhee Uplands have been inhabited for over 10,000 years, and were used not rarely but frequently. The density of sites of all types is high. This area has the highest percentages of rock alignments and rock art of any of the five areas. Agenbroad's (1967) and Plew's (1979a, 1980c) reports of alignment and rock structure complexes corroborate ethnographic reporting of antelope drives; they also indicate bison hunting in the area. Nahas Cave and other surface sites show that the Uplands were used for fishing and gathering activities as well as hunting. Although Dirty Shame rockshelter is the only site with clear evidence of winter occupation, the archaeologic evidence tends to refute the ethnographic model of use of the area only for fall hunting. The different resources in the area were exploited year round. The high incidence of rockshelters in this area, and in the Snake River Canyon, is a function of geology rather than cultural processes. Most rivers in the area cut steep canyons through the basalt, creating many rock overhangs and caves at the base of the cliffs. Plew (1980c) has devised a diagram of typical site distribution in these upland canyons (Figure 24).

5.1.3.6 Prehistoric Lifeways

5.1.3.6.1 Introduction

The following discussion is an overview of human adaptations which existed in the study area prior to the ethnographically-described Numic adaptation (Steward 1938, 1943; Stewart 1939, 1941), the protohistoric adaptation which corresponds to Butler's Late Archaic period (Butler 1978; see section 5.1.2 Figure 11, this report). By using Butler's named cultural sequence, the data from the study area can be compared with cultural adaptations beyond southwestern Idaho.

The prehistoric sequence has as two major chronological divisions which represent two different cultural stages: 1) Big Game Hunting and 2) the Archaic, with separate adaptive emphases. The earlier, Big Game Hunting, reflected a subsistence focus, if not reliance, of a sparse human population on large game in a cool, moist, productive habitat. This adaptation was probably practiced by the first entrants to the New World, and persisted throughout the late Pleistocene and into the early Holocene. The later tradition, the Archaic, reflected new human adaptations in response to a changing environment. The climate was warmer and drier than during the Big Game Hunting period, and a denser and increasing human population competed for the available resources. The subsistence focus of the Archaic tradition was the exploitation of a progressively increasing diversity of microenvironments and their resources.

Earliest evidence of the Big Game Hunting stage in the study area occurs at Wilson Butte Cave in the Shoshone District where cultural deposits dated to at least 14,500 years ago BP include an association of Pleistocene megafauna, stone, and bone tools (Gruhn 1961a). Named projectile point styles which occurred several thousand years later also represent this tradition. The earliest named form is the Clovis Point reported as a surface find from surveys (i.e., Murphey 1977) and from a buried cache at Camas Prairie (Butler 1963). Clovis points from outside the study area are dated to 12,000 - 11,500 BP and represent a continent-wide horizon (Jennings 1974). Other named forms found in the study area represent succeeding cultural horizons after Clovis. The Folsom horizon marker, the Folsom point, has been reported from the Snake River Plain (Swanson 1961; Butler 1972) and the Owyhee Uplands (Murphey 1977). On the Snake River Plain the Wasden site produced elephant remains with undiagnostic cultural materials when it was first excavated (Butler 1971). Subsequent excavations revealed fragments of Folsom points in association with elephant bones (Miller and Dart 1978). The Folsom Horizon is dated 11,500 - 10,500 BP (Jennings 1974). A broad range of projectile points classified as Plano represent the most recent adaptation of the big game hunting tradition. Plano cultures dated between 10,500 and 8000 BP are represented in or near the study area at the Rock Creek site (Green 1972), the Dean Site (Bowers and

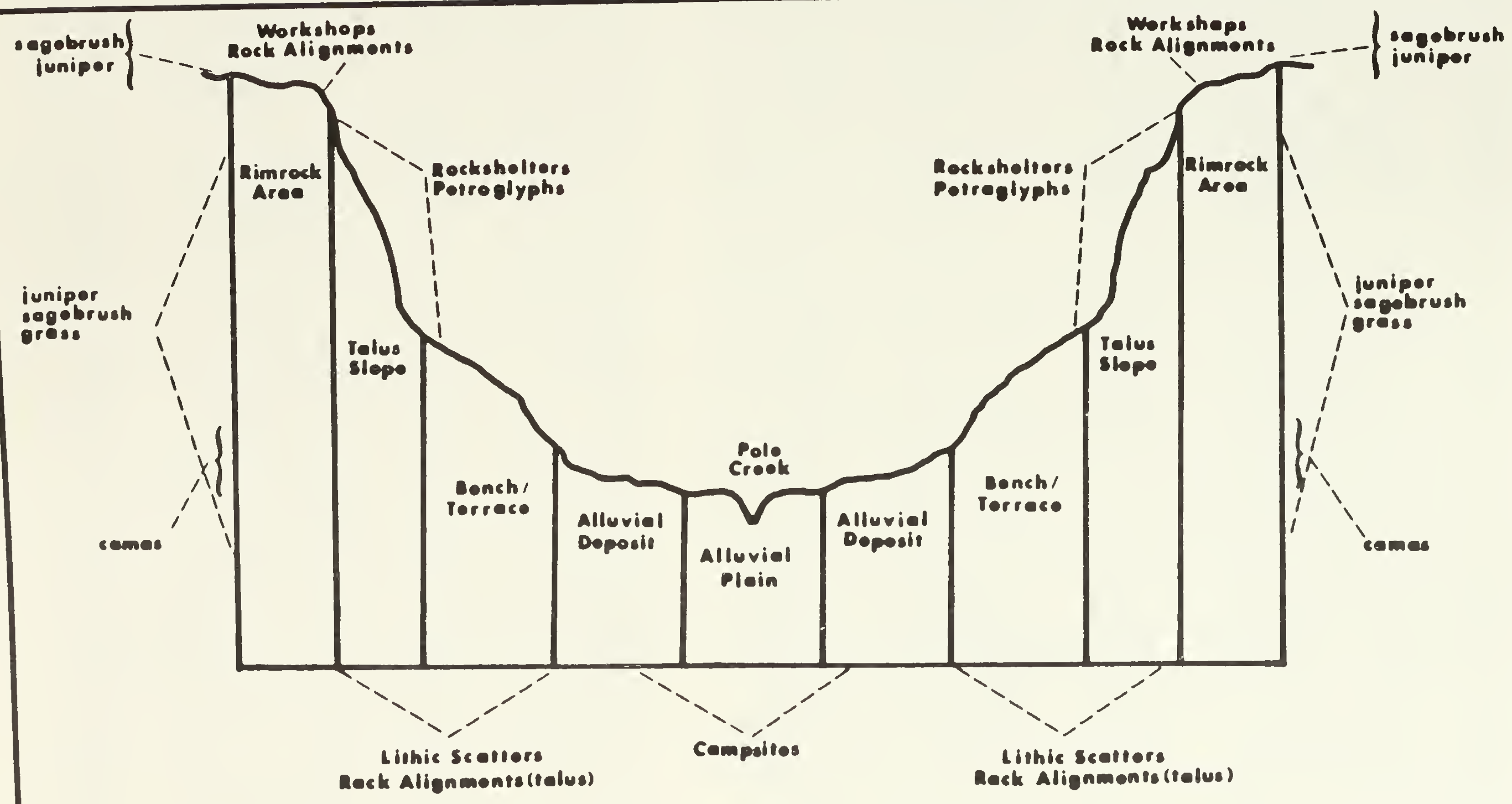


Figure 24 Cross-section View of Typical Upland Canyon Showing Distribution of Sites.

(Plew 1980c)

Savage 1962; Barnes 1964) and as surface finds reported by Gruhn (1961), Butler (1964), and many surveys.

Archaic tradition sites and components are known in the study area and are dated between 8000 BP and the historic period. Steward's (1938, 1955, 1970) ethnographic model for adaptive strategies in the Great Basin prompted Jennings (1957) to propose that the model would account for human adaptation in the Great Basin, including the study area, from 8000 BP to historic times. Although clearly a record of the Late Archaic Numic adaptation, the Desert Culture model did not uniformly describe all early and middle Archaic adaptations.

Some regional subsistence and settlement patterns apparently conform to the Desert Culture model, and others contradict it (Bettinger 1978:28). Bettinger has examined five prehistoric subsistence-settlement systems in the western and north-central Great Basin through cultural reconstructions based on archaeological investigations (Bettinger 1978:28-9). Each was conducted to test the Steward-Jennings Desert Culture model. We suspect that when such studies are conducted in the study area, they will show reasonable conformity with the Steward-Jennings model for some periods and locations, and a lesser degree of similarity with contradictions in other periods and locations.

Because of the great detail of the ethnographic data, the high probability of its usefulness for interpreting archaeological data, and the limits inherent in archaeologically-based cultural reconstructions, the Steward-Jennings model remains the best starting point for comparison of local and regional archaeological records of Archaic stage prehistoric adaptations in southwestern Idaho.

5.1.3.6.2 Big Game Hunting Stage Lifeways

5.1.3.6.2.1 Climate and Environment (see Part 3 Environment)

Fifteen thousand years ago, when the earliest evidence of human occupation and use of the study area appear, the climate was cooler and moister than it is now. Glaciers lay on the mountains north of the study area, and on the highest peaks of the Owyhees. Fingers of forest crossed grass parkland, with marshes and wet grassland/meadows predominating throughout the study area. The horse, camel, sloth, bison, and elephant, all Pleistocene forms of grazers and browsers, roamed the lush grasslands and forest margins.

From 13,000 BP until the thermal maximum at 6000 - 4000 BP the climate gradually warmed. Forests retreated to higher elevations, marshes dried, and animals dependent on rich grasslands found their ranges diminished. Animals better adapted to increasingly drier conditions replaced those that fourished in a cooler and moister climate. Cultural adaptations gradually accommodated the changing carrying capacity of the land, new forms of animals and plants, and an increasing human population.

5.1.3.6.2.2 Lifeways

The Big Game Hunting stage was dependent upon the cool, moist climate and the large numbers of herd animals supported by the lush grasslands and forest margins. Human populations were low, and with little pressure from competing human groups, predation on the grassland animals became a major focus of subsistence activities. Hunting took place near waterholes or springs where animals congregated and where the soft soil restricted animal escape.

Green (1972) reports uses of several different environments at this time. In the sagebrush grassland setting hunting occurred at Wilson Butte Cave (Gruhn 1961) and the Wasden Site on the Snake River Plain (Butler 1971). Caves in the northeast Great Basin on relict shores of Lake Bonneville show exploitation of lakeside environments as part of the yearly round of activities (Aikens 1970; Madsen and Berry 1975). The exploitation of upland resources is demonstrated at Deer Creek Cave (Shutler and Shutler 1963), Browns Bench (Bowers and Savage 1962; Barnes 1964), and Rock Creek (Green 1972). Archaeological sites from this period occasionally reveal associations of tools and bones of extinct large fauna (Gruhn 1962; Miller and Dart 1978).

Other associations are described for the Dean site, where gathering and processing vegetable foods is implied by the presence of grinding implements thought to date to 10,000 BP (Bowers and Savage 1962). Murphey's work at Brown's Bench and Devil's Creek has resulted in the identification of hunting tools diagnostic of the Big Game Hunting tradition at spring sites and eroding out of stream banks (Murphey 1977). Dated material from Deer Creek Cave supports the interpretation that both hunting and collecting were significant strategies for members of Big Game Hunting cultures (Shutler and Shutler 1963). Evidence from site reports suggests specific target animal species at some sites, such as bison at sites along Devil's Creek (Murphey 1977), mountain sheep at Deer Creek Cave (Shutler and Shutler 1963), and deer late in the sequence at the Taylor Pockett site (Murphey 1980).

The picture that emerges from this sample and other data is of a hunting and gathering culture whose members exploited several complementary ecological niches in a relatively rich environment. Since the size of populations using the study area were low, at least in comparison to populations the Archaic stage, competition for the resources probably was not as great as it later became.

Research suggests that bands of several loosely allied nuclear families formed the basic economic unit, and that males collaborated in progressively more cooperative hunting groups. The cooperation and organization needed for the successful operation of buffalo jumps and antelope drives which typify hunting in the Archaic probably began in the late Big Game Hunting stage (Jennings 1974). Females then, as later, probably supplied the majority of the food the group ate, but earlier gatherers utilized far fewer species, microenvironments, and sources than did later Archaic stage collectors (Lee 1968). Shelter probably consisted of temporarily or seasonally erected rain and wind breaks of brush and skins cached at recurrently used sites and rockshelters employed where available and when needed. Sites representing this stage are found in both upland and plains settings and represent exploitation of complementary resources. A transhumant pattern of season site re-occupation and use, at least among a well-known set of key base camps, probably formed the basic settlement scheme. The Clovis tool cache at the Simon site and other caches suggests recurrent seasonal or annual use of such sites; and that people travelled sufficient distances to prefer caching to carrying tools (Binford 1980; Bettinger 1978; Bettinger and Baumhoff 1982).

The archaeological record and associated climatic changes suggest that after 10,000 BP the warming climate altered the species composition of plant and animal communities sufficiently so that new foods had to be found and exploited, which required a diversified kit of procurement and processing tools and new behaviors. Large prehistoric game animals may have been hunted to extinction at the same time as the carrying capacity of the land was reduced due to climatic warming and drying. The adoption of new skills and new foods probably meant that the human population continued to grow as their Archaic stage strategies developed.

5.1.3.6.3 Archaic Stage Lifeways

5.1.3.6.3.1 Climate and Environment

The gradual climatic warming which began about 10,000 BP and continued to 4000 BP occurred slowly enough that cultural adaptations permitted humans to not only survive, but to live relatively well. The climate changed from one which was cooler and moister than today is, to a markedly warmer and sometimes drier one. At the thermal maximum, some parts of the Great Basin were abandoned (Aikens, Cole, and Stuckenrath 1977; Heizer and Napton 1970; Madsen and Berry 1975). Given a highly diversified complement of microenvironmental subsystems within the resource procurement system each group exploited during this time of stress, people could and did change the loci of some of their activities and the emphasis they placed on each microenvironment in their regional subsistence-settlement system (Green 1972:138).

5.1.3.6.3.2 Archaic Lifeways

Some Archaic stage adaptations are represented in Steward's ethnographic data. However, as Bettinger (1978) points out, one must take the model as a model of adaptive strategies, not as literal or specific truth for all occasions (1978:37). Each group exploited its own unique set of niches in an ecology Aikens (1970) has called a regional system (Green 1973; Pavesic 1982: personal communication). The necessarily opportunistic Archaic stage represents a system of choices made from a well-understood universe of possibilities which was probably never fully utilized because of the limits the culture history of each group imposed on its own universe of possibilities (Bettinger 1978:39).

Bettinger thinks that each subsistence-settlement pattern represents an alternative regional adaptive stragegy rather than an environmentally determined variation of one theme--the Monolithic Desert Culture--which Jennings drew from Steward's data (Bettinger 1978:37). This significantly different way of looking at adaptation has immediate relevance to the study area where regional adaptive strategies can be studied, once accurate research boundaries can be found for each system at different points in time.

Bettinger's study suggests that as accurate regions are delimited and described, researchers will find in general that:

1. Circumstances that favor the adoption and maintenance of one strategy over another may not be clear and may be the product of cultural values which directed choices over a long culture history;

2. Adaptive strategies are both stable and conservative and will probably be retained for the entire prehistoric sequence (Bettinger 1978:37).

Although some cases will be found for which the Desert Culture model as an adaptive regional strategy will be accurate and will have the time depth Jennings accorded his model, other adaptive strategies will be found to be equally viable in similar environments.

As a result of Bettinger's analysis (1978), we suggest with one proviso that Steward's ethnographic data describes and represents one possible lifeway which in the absence of contradictory data could be projected, in many cases, to interpret Archaic stage prehistory in the study area. Bettinger and Baumhoff (1982) have developed a model to explain the recent Numic incursion into the study area. The model suggests that what has been recorded of Numic ethnographic data describes an overall adaptive strategy which relied on a greater expenditure of energy per unit returned than members of previous cultures were willing to spend. Numic culture spread because its members spent more time processing foods, which made more kinds of foods available and useful to its members, than cultures already resident in the area were structurally capable of doing (Bettinger and Baumhoff 1982).

What this suggests is that members of Numic cultures carried a trend of the Archaic to its logical extreme: they maximized the yield received/generated from each unit of area used. Conversely, they travelled less in pursuit of foods. With a higher population they exploited the environment more intensively than predecessor groups did. Instead of emphasizing the exploitation of a few high-rank foods needing little processing (sufficient for a less dense population) Numic speakers exploited, through more intensive processing a greater variety of low-ranked locally available vegetable and animals foods (Bettinger and Baumhoff 1982:492).

The classic model of Archaic adaptive strategies which Caldwell (in Jennings 1974) offered under the title of "Forest Efficiency" is an accurate model for pre-Numic cultural adaptations in the study area. This model stresses the intensive exploitation of a few abundant resources, the "high-rank" resources Bettinger and Baumhoff think form the mainstay of pre-Numic cultures (1982: 486-9). In contrast, the Numic adaptive strategies stressed a greater use of many more lower-ranked resources than did those cultures which Numic speakers replaced. Given that the same amount of time was available to pre-Numic and Numic cultures, the pre-Numic early and middle Archaic cultures devoted more time to travel and less to processing than did the Numic cultures which followed.

The Numic speakers duplicated and expanded upon all the hunting and gathering activities of the predecessor cultures. The lists of plants and animals used by the Numic speakers was longer than those of their predecessors. They probably knew more about the edibility and utility of their environment than any group before them.

Pre-Numic lifeways can be described and compared with those of the Numic speakers as follows:

1. Pre-Numics exploited fewer ecological niches and fewer microenvironments than did the Numics. The niches they exploited provided large quantities of a few kinds of easily-utilized resources, in contrast to the Numic exploitation of nearly every microenvironment and utilization of smaller quantities of a larger variety of resources, which often required labor-intensive processing.

2. The area traversed by a pre-Numic group practicing its regional adaptive strategies was usually larger than that used by a Numic group of equal size to obtain an equal quantity of energy. Bettinger and Baumhoff believe that many food sources were simply ignored by pre-Numics, since they had the luxury of collecting only those foods which were easily available until the Numic speakers came along (1982:487,492).

3. The pre-Numic adaptive strategy relied more on large game and less on seeds than the Numic adaptive strategy (Bettinger and Baumhoff 1982:492).

4. Pre-Numic populations probably were lower than Numic populations (Bettinger and Baumhoff 1982:492), although at rich collecting sites their density might temporarily have been higher.

5. Pre-Numic peoples had more leisure time than did Numics.

Bettinger and Baumhoff discuss the applicability of the Desert Culture model and summarize their thinking on Early and Middle Archaic lifeways in contrast with Numic lifeways as follows:

> . . .The Desert Culture is no longer a widely accepted concept, but its central tenet, that of continuity in basic adaptation, particularly between Numic and Prenumic hunter-gatherers, remains intact (cf. Jennings 1978:15, 235, 246). In the broadest sense, this position is no doubt correct: the Great Basin never did, aside from brief Puebloan and Fremont episodes, undergo changes of the order perceived between, say, the Paleolithic and Bronze Age cultures of

the Mediterranean. At the same time, although the Numic-Prenumic adaptive contrasts are minor by comparison, they are significant in terms of a shifting balance between hunting and gathering, differences in hunting techniques, and differences in gathering techniques. Significant enough, that is, to yield archaeological evidence of perceptible change between Numic and Prenumic adaptations that has heretofore gone almost entirely unrecognized, the Numic adaptation being commonly regarded as the ethnographic analogue of the Desert Archaic adaptation. Only Butler, in reviewing the evidence for Numic entry into Idaho, seems to have taken a position similar to ours by arguing that the Numic peoples were less well adapted to the environment of that region than their Prenumic predecessor (Butler 1981:15), i.e., that their adaptation was different. Since Numic strategy ultimately prevailed in Idaho, however, it seems unlikely that it was less well adapted in an evolutionary sense. More likely, Butler is referring to the high cost of the Numic strategy in comparison to the Prenumic strategy. . .

Certainly, the Prenumic folk are not suitably characterized as mobile hunters, nor the Numic folk as sedentary gatherers. Both Numic and Prenumic peoples had base camps, hunted large game, and used a wide variety of plant resources including small seeds. But of the two, the Prenumic strategy was lower in cost, sustained lower population densities, made greater use of large animals--these being procured over long distances, and less use of small seeds. In these terms, this strategy bears great resemblance to Early and Middle Archaic adaptations in the East and Midwest, with which we believe it can be suitably placed. Further, it is worth noting here that recent summaries of the agricultural Fremont adaptation have likewise stressed its dependence on large game--also, evidently, taken by far-ranging hunting parties (cf. Jennings 1978:234). As much as the supposed failure of Fremont agriculture, this may explain why Numic groups, with their competitive advantages over groups more heavily reliant on large game, were able to dislodge Fremont peoples as easily as they had Prenumic hunter-gatherers.

In contrast to the Prenumic strategy, the Numic strategy was higher in cost, sustained higher population densities, made less use of large animals--these being procured over shorter distances--and more use of small seeds. In these respects, the Numic adaptation seems to resemble more closely the one found in California in ethnographic times, notwithstanding the obvious sociocultural differences between the two. The adaptive similarity in terms of reliance on high-cost plant resources is evident in the nearly universal use of the woven seed beater in both regions despite its near neglect elsewhere in North America. Further, in California, the dependence on high-cost resources extends to the major dietary staple, the acorn (Quercer spp. Lithocarpus densiflora). Although the abundance and reliability of this crop has drawn much attention regarding the stability and affluence it afforded the native California economy (Baumhoff 1962; Kroeber 1925:523-526; Heizer 1958) it probably ranks among the most costly wild plant resources reguarly exploited in North America, primarily because of the processing--drying, cracking, pounding, and, especially, leaching--needed to make it palatable (cf DuBois 1935: Reidhead 1980). That California adaptive strategies were high in cost and processorlike follows from the nearly unbiquitous reliance on the acorn in California, especially where, as we would expect, population densities were high. And it seems probable that, as in the Great Basin, the competitive advantages of these high-cost strategies facilitated many of the ethnic spreads documented by ethnographic language distributions in California (Shipley 1978).

To take this a step further, it can be argued that the historic adaptations noted in both California and the Great Basin represent a distinct type, or stage, of hunting and gathering set apart from the Archaic. Archaeologists, of course, have long objected to the classification of the California groups as Archaic (cf Heizer 1958) but have also expressed dissatisfaction with attempts to classify them in developmental categories, such as the Formative (cf. Willey and Phillips 1958), that were obviously intended for early agricultural stages preceding civilization (cf. Baumhoff 1963). The Numic adaptation has caused little trouble in this respect, yet, if we are correct, it should have, for there is every indication that it parallels the late prehistoric adaptation in California in its intensive use of high-cost resources, particularly those with heavy demands in processing, even though many of the species were different. Reliance on such resources is in contrast to the Archaic, which we believe to have been characterized by primary reliance on lower-cost resources. . .

. . .Thus, in the Great Basin the initial development of processing strategies can be viewed as a gradual adjustment to population/resource imbalances in at least one restricted area, the southwestern Great Basin, where this was required by the absence of more suitable alternatives. Transformations may also occur on a broader scale to accommodate conditions changing over much larger areas. Models of this process are therefore also useful for understanding the evolution of the broader cultural landscape, i.e., the culture histories of entire regions. Nevertheless, it would be wrong to assume that all adaptive change within local or regional culture systems is a response to problems originating within these systems. And it would be equally wrong to conclude that all culture systems can successfully cope with the full range of internal and external challenges to which they are potentially subject. Outside the southwestern Great Basin the transition from Prenumic traveller to Numic processor cannot be understood as a transformation precipitated by either local or regional conditions; throughout this larger area, it must be seen as deriving from a chain of events and circumstances set in motion elsewhere that resulted in the extinction of one kind of system and the establishment of another. The Numic spread was a selective, not transformational, process, and this would seem to be the case with most ethnic spreads... (Bettinger and Baumhoff 1982:498-500).

5.2 History

The history of Idaho and the study area is a unique series of events which illustrates how the present state developed. The first part of the following discussion outlines those events through five historical themes. Each theme title encapsulates the predominant events of an era and specifies a date range. This thematic treatment is supplemented by the chronology presented in the timeline (see Part 6). The second part treats the historic lifeways including a discussion of historical archaeology in Idaho. The final part considers the composition and direction of the contemporary culture of the study area.

5.2.1 Historic Themes

5.2.2.1 Aboriginal Life and the Fur Trade, 1810-1839

During the eighteenth century, French fur hunters were the only Europeans interested in exploring a water route to the Pacific Ocean west of the Continental Divide. One such party (the Verendrye) encountered Plains Indians in the North Dakota area who spoke of their enemies the Snakes. That name was used by all the early explorers and pioneers, but in modern times these Native Americans are now recognized as the Shoshoni tribe. The various Shoshoni speaking groups ranged from the western Plains across the Divide, and in the Snake River Valley. Prehistorically, the Shoshoni groups practiced a similar combination plateau and basin lifestyle, but European and American influences on the Plains Indians to the east and south effected changes in the traditional Shoshoni lifestyle and social organization.

The primary change in Native American traditional ways occurred after the introduction of the horse to the study area in the early eighteenth century. As a part of the booty retained by Puebloan people following the Pueblo Revolt of 1680, several large herds of Spanish horses entered the Native American trade network. The horses were traded along the western flank of the Rockies and the Wasatch Mountains and reached the Fort Hall area in Idaho by 1700, well before they came to Plains tribes (Pavesic 1982:personal communication). They probably spread to the Snake River Plain within the study area soon thereafter (Haines 1970; Young 1979). While little is known of the details of the changes in Native American lifeways that occurred in the 1700s, the changes that did occur established the aboriginal landscape that the fur traders found. The Native American use of the horse increased their mobility tremendously, expanded their effective ranges, and contributed to increased intragroup and intertribal contacts.

Among the Northern Shoshoni in the Snake Valley, some groups accepted the horse earlier and used it more extensively than others. Those who did use horses adopted other traits of the well-developed Plains Indian model. Along with the advantages in hunting and gathering that the horse allowed, there was also an increase in intertribal warfare, particularly with their traditional enemies to the north, the Blackfeet. The Blackfeet also had acquired horses amd firearms from the French trappers. Pressure from the Blackfeet had retired the Northern Shoshoni from their former range north into Canada to primarily the Snake Valley. During this time, Northern Paiutes had begun to settle in the Snake Valley and to be accepted by the Northern Shoshoni though they remained a distinct group. The Paiutes tended to use the horse with the same interest as the pro-horse Shoshoni. Eventually these Northern Shoshoni and Northern Paiutes, who accepted the horse and the mobile band type of organization it allowed, were referred to as the Bannock Indians. Although historical and ethnographic information is unclear, Bannock may refer primarily to the Northern Paiute group.

By the time the first fur trappers explored the Snake Valley, three primary groups of Northern Shoshoni/Paiutes lived in the study area. Each of these groups followed a different migratory path to gather seasonal resources and therefore had different geographical centers. Named after the seasonal meeting grounds along important waterways, the groups were the Boise, Ft. Hall Shoshoni (Bannock), and Bruneau (Western Shoshoni) bands. The Boise and Ft. Hall bands visited Camas Prairie in the spring to gather the root crop. While these bands are named after the future sites of Ft. Boise and Ft. Hall, it is important to realize that this is because these forts were established in two of the traditional, inter-tribal meeting grounds which served economic and social purposes. The Bruneau or Western Shoshoni lived more in the Great Basin lifestyle, did not adopt the horse, and are less well-known than the Boise and Ft. Hall bands who resembled Plateau societies with a veneer of significant influences from the Great Plains societies (Madsen 1980:19, 23).

After the United States acquired the Louisiana territory, Lewis and Clark explored the far reaches of the northwest and encountered the Northern Shoshoni of the Lemhi Valley in 1805. After this expedition, John Colter and Andrew Henry in 1808 and 1810 attemped to exploit the beaver of the region, but had too many problems with the resistant Blackfeet in the Teton Valley and upper Snake areas. However, by this time an increasing number of trappers in the region knew of the potential beaver harvest and were anxious to exploit these virgin areas (Idaho State Historical Society 1976:22; Madsen 1980:23). John Jacob Astor founded the American Pacific Fur Company in 1810 and a year later built Ft. Astoria at the mouth of the Columbia. Some sixty men including Donald MacKenzie and Robert Stuart accompanied Wilson Price Hunt's expedition from St. Louis to Astoria in 1811 (Boreson, Moody, and Murphey 1979:120; Stuart 1935:281). On a return trip with messages, Stuart led a group back through the Snake country in the summer of 1812 and met a band of Shoshoni near the mouth of the Owyhee River in the Ft. Boise area (ibid.). These expeditions initiated the fur trade which was to continue in the Snake area for several decades.

The early nineteenth century was a transitional time for the Shoshoni. Some of the groups had adopted the horse culture of the Plains, lived in tipis, hunted buffalo, and owed allegiance to proven leaders, while others maintained a less widely mobile traditional lifestyle. Increasing raids by the Blackfeet had caused greater numbers of Shoshoni to camp and travel in composite bands for protection. Early contacts with fur trappers were not uniform; some incidents were disastrous, and others were not.

While the Astorians had traveled through the region safely, John Reed was not so fortunate. Working for the Pacific Fur Company before its sale to the British North West Company in 1813, Reed established a temporary camp near the present town of Vale and later moved it to the mouth of the Boise River. In January of 1814, Reed, and others in the camp were attacked by Native Americans (probably mounted Boise Shoshoni) and all but one woman and two children were killed (Idaho State Historical Society 1981:65; Boreson, Moody, and Murphy 1979:21). This early incident caused a short hiatus in the fur business of the region until MacKenzie began to lead expeditions for the North West Company.

MacKenzie returned in 1816 to the Columbia outpost to re-establish the Snake River trade. By 1818 he had expanded his pelt collection activities from Boise to the upper Snake and Yellowstone areas (Idaho State Historical Society 1976:23; Madsen 1980:24). He and his trappers found the valleys rich in beaver and he sponsored a summer trappers' rendezvous in the Boise Valley in 1819. The name Owyhee may derive from the fact that three Hawaiians (or Kanakas) who were with McKenzie's party were slain by Native Americans in 1819 (Young 1982). In the following winter, MacKenzie negotiated a mutually beneficial agreement with a composite band of Northern Shoshoni and Bannock on the Little Lost River near the Snake. MacKenzie made agreements with Peiem of the Boise Shoshoni and other leaders (Madsen 1980:24). The trappers followed a migratory cycle, much like the Native American, and provided the natives with access to European and American supplies in trade for pelts. A band of Iroquois trappers who entered the Snake region with MacKenzie in 1818 stayed in the area until 1836 (ibid.). Under MacKenzie's leadership, four more expeditions were mounted through 1824, although the last three were made in the name of the Hudson's Bay Company which had merged with the North West Company in 1821. One of these, the Alexander Ross party, came into Sun Valley by way of Trail Creek and the Big Wood River to Camas Creek and travelled northwest across Camas Prairie (Young 1979:4).

When Peter Skene Ogden took over the Snake expeditions for the Hudson's Bay Company in 1824, he encountered competition from American trappers who were moving their operations west from the Rockies. General William Ashley's Rocky Mountain Fur Company was founded in 1822 in St. Louis, and Jedediah Smith led a party of its trappers to the Snake region in 1824. The next decade had the greatest reduction in the beaver population because of the two competing trapping organizations. Likewise, the Shoshoni experienced the most intense contact during this period, especially in areas where the trappers were numerous. Odgen noted the dual composite band organization of the Shoshoni which divided all the mounted Snakes into either Peiem's Northern band (his Plains Snakes) and the Bannock (his lower Snakes). These did not include the unmounted Shoshoni who maintained a traditional extended family organization and who had no horses to be stolen (Madsen 1980:24). One of Ogden's Party, Antoine Sylvaille, may have travelled up the Owyhee to its source. Ogden camped near the Snake River on Sinker Creek on the 4th of July, 1828, and again near Walter's Ferry on July 5th. Francois Payette, representing French interests, also had a party of trappers in the Snake River country during this period (Young 1982).

The manager of the Hudson's Bay Company Columbia Basin operations, John McLoughlin, was determined to protect the British interests in British Columbia (New Caledonia) from the encroaching American trappers. His strategy was to trap all the beaver in the Snake region and create a barren zone between the Rockies and the Columbia. Ogden and his trappers and their competition succeeded finally in the 1830s, when the beaver population was scarce (Idaho State Historical Society 1976:25; 1981:66).

Supplies and communication were the American trappers' greatest problems. To overcome these obstacles and become more competitive, the Rocky Mountain Company established a regular system of trade fairs and an annual summer rendezvous. Several rendezvous' were held in the Wind River-South Pass area in the 1830s. Nathaniel Wyeth held an 1834 Ham's Fork rendezvous supply contract which was dishonored by the Rocky Mountain Company. He moved his supplies on to the Ft. Hall area and built the original Ft. Hall to service American trappers (Madsen 1958:50ff). Even though the beaver were almost gone, the British established Ft. Boise the same year to counterbalance the American fort. By 1836 the Blackfeet had ceased raiding the Shoshoni, and the large composite bands discontinued (Madsen 1980:26). Wyeth's Ft. Hall failed because of the decline in beavers and the Hudson's Bay Company took over its operation in 1838. The fur trade had come and gone. With the vestiges of outposts at Ft. Boise and Ft. Hall, the Shoshoni and Bannock Indians were left with only a taste of what the white men offered, and greater conflict was soon to come.

5.2.1.2 Overland Migration and Settlement, 1840-1859

The second period of the transition of Idaho from aboriginal land to an American state occurred during the middle decades of the nineteenth century. In 1834, Jason Lee explored the Willamette Valley in western Oregon and in 1838 returned to the Midwest to raise funds for his Oregon mission. His lecture tour inspired the travel of a party from Peoria, Illinois, to Oregon.

They opened the wagon route known as the Oregon Trail through the Snake Valley west of Ft. Hall. In the following year a wagon route was completed from Ft. Boise to western Oregon. After this trail opened, John C. Fremont surveyed the route for the government in 1843. In the same year Marcus Whitman led a wagon train and 1000 emigrants to a place west of Fort Hall (Idaho State Historical Society 1981). In 1845, Joel Palmer explored the trail and recorded his accounts which stirred an interest in the westward movement. Following the influx of Americans into the Oregon Territory, the United States and Great Britain negotiated an agreement in 1846 which set the border along the forty-ninth parallel and formally ended the period of joint occupation.

During these years southern Idaho was a natural obstacle, rather than a destination. Thousands of emigrants crossed the Snake Valley on the Oregon Trail, but few settled in the region. During the summer when emigrant trains were passing through, most of the aboriginal inhabitants of the Owyhees were hunting and collecting in the mountains (Haines 1970). Fear of whites limited contact, so these Western Shoshoni-Northern Paiute were not so severely affected by the small pox epidemic of 1837 (Haines 1970) and the cholera epidemic of 1859-60 (Forbes 1967). Starvation, however, was a problem for Native Americans at this time because food collection was made difficult by the presence of emigrants and settlers, and livestock grazed the vegetation used previously by Native Americans and by wild game.

The U.S. Congress created the Oregon Territory in 1848 based almost entirely on the population of western Oregon. Aside from the emigrants and the fort's personnel, the only non-aboriginal persons nearby were Mormons to the southeast. Brigham Young and his followers cut the Mormon Trail and settled at the Great Salt Lake. The settlement became permanent, and some Mormon families moved north into Idaho and founded Franklin, the oldest town within the modern state boundary. But the Mormon population was centered in southeastern Idaho and spread to only the eastern and southern regions of the study area.

The Oregon Trail in Idaho wound along the Snake River between Ft. Hall and Ft. Boise. The western stretch of the trail split at Three Island Crossing, and the northern fork continued northwest to Boise and the other followed the southern bank of the Snake. In between there were only campsites and Native Americans. Some of the most popular campsites along the North Trail Segment are at Salmon Falls Creek, Salmon Falls, Big Pilgrim Gulch, Three Island Crossing, and the Boise Valley. Along the sousthern Sinker Creek Segment were the Bruneau Crossing, Castle Creek, Walter's Ferry, and Givens Hot Springs (Idaho State Historical Society 1981:83). The forts were very important to the weary and Indian-shy emigrants, but they were not completely safe havens. Hudson's Bay Company kept the forts open for travelers even though the fur trade had vanished. Other routes were also explored as more emigrants passed through. In 1852 Tim Goodale led a party through Camas Prairie on the old trader's route. This shortcut to Boise became known as Goodale's Cutoff. During the same year Ft. Hall was bypassed to avoid the flooding river and to save time. Another river crossing at Thousand Springs was used heavily after 1851 (Idaho State Historical Society 1981:124).

By the mid-1850s substantial resentment and mistrust had built up between the Native Americans and the emigrants. In 1854, Native Americans attacked the Ward party on the trail near Middleton, Idaho and only two small boys survived (Boreson, Moody, and Murphey 1979:133; Haines 1973:319-320). In the same year, more travelers were killed near Ft. Boise (ibid.; Drew 1973:20-21). The following year, Granvile O. Haller led a retaliatory expedition across Goodale's Cutoff against the Boise group. This action stimulated more Native American hostility and Ft. Boise was closed and abandoned. Fort Hall was left isolated in 1856 by the closure of the forts on either side of it, and it was abandoned also. After this, there were some military escorts for emigrants west to South Pass, but the trek between there and the safe western Oregon settlements was dangerous. Oregon became a state in 1859 and though more military protection for emigrants was available, it was often not effective. In 1860 an escorted party was attacked west of Castle Creek (Idaho State Historical Society 1981:155). Fewer troops were available due to the Civil War, and travelers took their chances.

5.2.1.3 The Mining Frontier and Snake Indian Wars 1860-1879

During the previous two decades the Oregon Trail had been heavily traveled and routes were refined, but little settlement had taken place in the study area. The army had improved some emigrant trails and surveyed, but conditions did not inspire settlement in the region. As the army withdrew east during the Civil War, Forts Boise and Hall were manned by volunteers from the northwestern states who had little success in dealing peacefully with the Native Americans. It was during this time, when the military was absent, that the first influx of settlers arrived in Idaho.

The stimulus for settlement was precious metals. Gold in Boise Basin was apparently known to a Hudson's Bay Company trapper as early as 1844, and rumors of the discovery of gold by an emigrant party just west of the Owyhees in 1845 stimulated further mining exploration in the Owyhees (Young 1982). E. D. Pierce discovered gold near the town that bears his name in 1860, and the Idaho gold rush began. The northwest already was well populated with miners after the 1849 California Gold Rush, and they eagerly sought new deposits. While Pierce and other prospectors had been working randomly in Idaho, his discovery caused a more serious and intensive search of the Idaho mountains. In 1862 Moses Splawn and George Grimes discovered gold in the Boise Basin. Before the party left the discovery, Native Americans attacked and killed Grimes and others. Splawn returned with more men to work the area near Centerville later that year (Ostrogorsky 1981:18; Chaffee 1927:53). Depredations by Native Americans continued on the Oregon Trail as well. In 1860 the Otto/Orman/Van Orman wagon train was attacked between Salmon Falls and old Ft. Boise. The weary survivors suffered greatly as they traveled overland to the Owyhee River (Boreson, Moody, and Murphy 1979:133). The Sinker Creek massacre along the southern trail also caused concern for safety. Because of the sudden influx of miners and the Native American problems, Congress established a new Ft. Boise near Boise City in 1863 even though the Civil War was still in progress. The early history of Ft. Boise and Boise City has been reviewed by Ostrogorsky (Ostrogorsky 1979a; 1979b; 1981). By 1863 the Boise Basin mining district and nearby Boise City boasted a population of about 17,000, many of whom were escapees from the Civil War which raged in the east (Ostrogorsky 1981:19).

South of the Snake River, Michael Jordon discovered gold in the Owyhees. This first discovery in the Owyhees stimulated more prospecting and further discoveries. Within one year, a gold quartz lode was found at Whiskey Gulch above the future site of Silver City, Boonville replaced Happy Camp (where the miners lived), the Orofino and Morning Star deposits were located, and the boom was in full swing. The towns of Silver City and Ruby City sprang up over night and became major population centers in Idaho. The rich Poorman lode discovered in 1865, jolted the economy of Owyhee again (Owyhee County Ref. Series 200 1964; Idaho State Historical Society 1964).

After the construction of new Ft. Boise a camp for the Boise Shoshoni was set up by the post. Some Shoshoni resided there and became dependent on the Army, but many others refused and continued the hostilities. These non-reservation Native Americans were called Owyhee Indians because they primarily occupied the Owyhee region south of, and in the marginal lands away from, Boise. A newspaper account in the Statesman of March 15, 1866 complained about the Native Americans residing at the fort trading guns and ammunition to the Native Americans on the Owyhee River, Bruneau Creek, Catherine Creek, and towards Ft. Hall (Ostrogorsky 1981:22). The "Snake war" consisted of raids by Snake Indians on Flint and South Mountain in 1866 following the defeat of a U.S. Army force under Major M. H. Lawrence. The Owyhee hinterlands (excluding the Silver City/ Jordon Creek area) provided refuge for the Native Americans who refused reservation life. The miners of Silver City at first bought wild meat from the Native Americans, but the game gave out soon, and whites replaced the Native Americans as providers of food to the miners. Some Native American women were hired by miners to do domestic chores, and ranchers hired Native Americans, male and female, for low wages to do various jobs. The army and Reservation Agents hired Native American scouts and interpreters (Young 1982). Boise had become the principal supply depot between the Idaho City and Silver City mines and the major Oregon Trail settlement between Kansas City and Portland.

In 1862 aboriginal attacks at Massacre Rocks southwest of American Falls led to greater use of Goodale's Cutoff as an alternate route to Oregon and Idaho mines. This route across the lava beds north of the Snake Plain also provided more direct access to the Boise Basin mines. In 1864 ranchers were attacked in Jordan Valley, and Michael Jordan was killed in the chase which followed (Boreson, Moody, and Murphy 1979:141). The increasing Euro-American pioneer population of Idaho caused even more problems with the Native Americans. Because of the more frequent raids and attacks, the Army at Boise sent companies of troops into the field to show a military presence. Some temporary camps were set up at points along the roads. Following the Jordan Valley incident, Camp Lyon was established on the stage line at Cow Creek in 1865 (Boreson, Moody, and Murphy 1979:142; Bancroft 1888(2):514; Brimlow 1951:33). Camp Winthrop, later named Camp Three Forks, was established at the confluence of the main branch and the north fork of the Owyhee River (Wyatt 1982:personal communication). Also in the summer of 1865, Captain Palmer established Camp Wallace on Soldier Creek in Camas Prairie for four months (Ryan 1975:15). The next summer Camp Buford was established at the mouth of the Bruneau River (Idaho State Historical Society 1981:135).

When these military strategies failed, the Army sent General George Crook to Idaho to reduce the hostile Native Americans to reservations. His campaigns became known as the Snake War of 1866-1868. Crook's success was based on his earlier experiences fighting California's Pit River Indians, and on his use of innovative techniques to combat the guerrilla-style fighting used by the Native Americans. In Idaho, he used the method of winter campaigns and destruction of food reserves to seriously weaken the Native American resistance. During these two years, the Boise region Bannock Indians were assigned to a reservation at Ft. Hall. Chief Eagle Eye's Weiser area Native Americans (residing along the Salmon River) were rounded up and brought to Boise by General Crook. Their Indian Agent, Charles Powell, had moved the reservation from the fort to an area at the mouth of the South Fork of the Boise River (Ostrogorsky 1981:25). Crook's intensive and effective campaign was the first severe setback for the southern Idaho Native Americans but it did not lead to a lasting peace.

Mining in the Boise Basin and Owyhee District continued through the decade. The mines near Silver City used many Chinese workers for mining and support labor. The Chinese laborers were readily available from the California mines, but many who moved to Silver City came from the Boise mines. The mines required both labor and food for the workers. The Chinese provided the extra human labor necessary to keep the mines operating. Silver City boasted a large enough Chinese population to establish a distinct Chinatown. Their occupation was significant in that they introduced irrigation systems which permitted intensive food production in the region around Marsing and Reynolds Creek. Cattle and sheep also were important resources to the mines. Con Shea brought the first Texas cattle into the region in 1867, and thereafter ranches were common in Jordon Valley, the Oreana/Sinker Creek area, and the Juniper Mountain area (Young 1979).

This new population, its industry, business, and livelihood, depended entirely on the overland routes which could be made passable. The mines stimulated the first network of roads other than the emigrant trails. Two early roads which serviced Boise and Silver City saw heavy usage. In 1863 John Fruit built his commercial ferry on the Snake River at Walters Ferry. By 1865 the Idaho Stage Company was using this crossing. The route went from Walter's Ferry along Reynolds Creek to Silver City, then along Jordan Valley to Oregon and ended at Chico, California. The second Boise-Silver City connector crossed the Snake at Givens Hot Springs and followed Succor Creek to Cow Creek, Silver City, and Jordan Valley in Oregon. Ferry construction and operation continued into the early 1900s; about fourteen ferries operating across the Snake between 1863 and 1930 gave access to the Owyhees (Young 1982).

New mines in the Owyhee Mountains were opened on Flint and South Mountains after smelters were brought in to process the ore. The development at Bullion City was less intensive than at Silver City. The first smelter arrived in 1874, but the collapse of the Bank of California in 1875 hindered operations.

Silver City almost closed down immediately after the collapse, but Bullion City continued on a smaller scale for several decades. The settlement of Camas Prairie had just begun when the focus of settlement in the Owyhee shifted from Silver City to South Mountain.

Camas Prairie had seen increasing travel along Goodale's Cutoff during the 1860s (Figure 25). In addition to emigrant traffic there also were many cattle drives through the prairie (Ryan 1975:17ff). In the 1870s Charles Babington built a log cabin and stage stop on Corral Creek, and a few other ranches were established in the region (Nelson 1937:20). This increasing use of Camas Prairie led to the Bannock War of 1878. The Bannock War consisted of several skirmishes which represent the last major Native American resistance to American settlement in the region. The skirmishes stemmed directly from an error in the writing of the Fort Bridger Treaty of 1868. When the treaty was presented to the U. S. Congress, Camas Prairie had been transcribed erroneously as "Kansas" Prairie, which led it to be dropped from the document, and resulted in a wholesale invasion and usurpation of the major portion of the previously guaranteed food base. The Fort Hall Bannocks under Chief Buffalo Horn passed through the prairie in the summer of 1878 and scared the residents on their way. They then proceeded to sink Glenn's Ferry and engaged Americans in the Battle of South Mountain. The final skirmish occurred on Bennett Creek as the Bannocks returned to Ft. Hall (Idaho State Historical Society 1976:91; Madsen 1958:203-230).

Farm settlement and development began with the cessation of hostilities. The Desert Land Act was passed in 1877. It allowed (and still allows) a state resident to file on up to 320 acres for farm use, and to patent the farm holding when specified development of the land has taken place. The Camas Prairie settlement was primarily agricultural, with only a minor focus on mining. The route across Camas Prairie was used during the early 1880s to drive cattle from further west, especially from Oregon, to the railhead in Rawlins, Wyoming. It has been estimated that at its peak, as many as 200,000 cattle were driven across Camas Prairie in one season (Young 1979:6-7). By the late nineteenth century, the U. S. government had placed the Native Americans on reservations, causing many hardships on aboriginal populations. The Paiute and Shoshoni Indians of the Owyhee regon were sent to the Pyramid Lakes, Malheur and McDermitt Agencies (Hopkins 1883) and were divided between the Yakima and Malheur Reservations after the Bannock War of 1878. Some remained as hunters and gatherers as late as 1914 (Bannock Dave's Shoshoni band from Bruneau Canyon) or worked for ranchers (Young 1982).

5.2.1.4 The Railroad and Galena Mines 1880-1889

The final event of the mining frontier occurred in the Wood River Valley after the reduction of the Bannock and Sheepeater Indians. In 1880, Dan Scribner discovered a thick galena deposit rich in silver at Broadford, which was later named the Minnie Moore Mine. The town of Hailey sprang up in 1881 with the influx of some 5000 people to the new mining district (Blanchard 1981:3). As soon as the people came to the Valley, more claims were filed and soon mines and support towns scattered throughout an area within a 15 mile radius of Hailey. Gold was found west of Hailey, and the Big Camas and Black Cinder mines exploited the Hailey Gold Belt. West of Hailey, the towns of

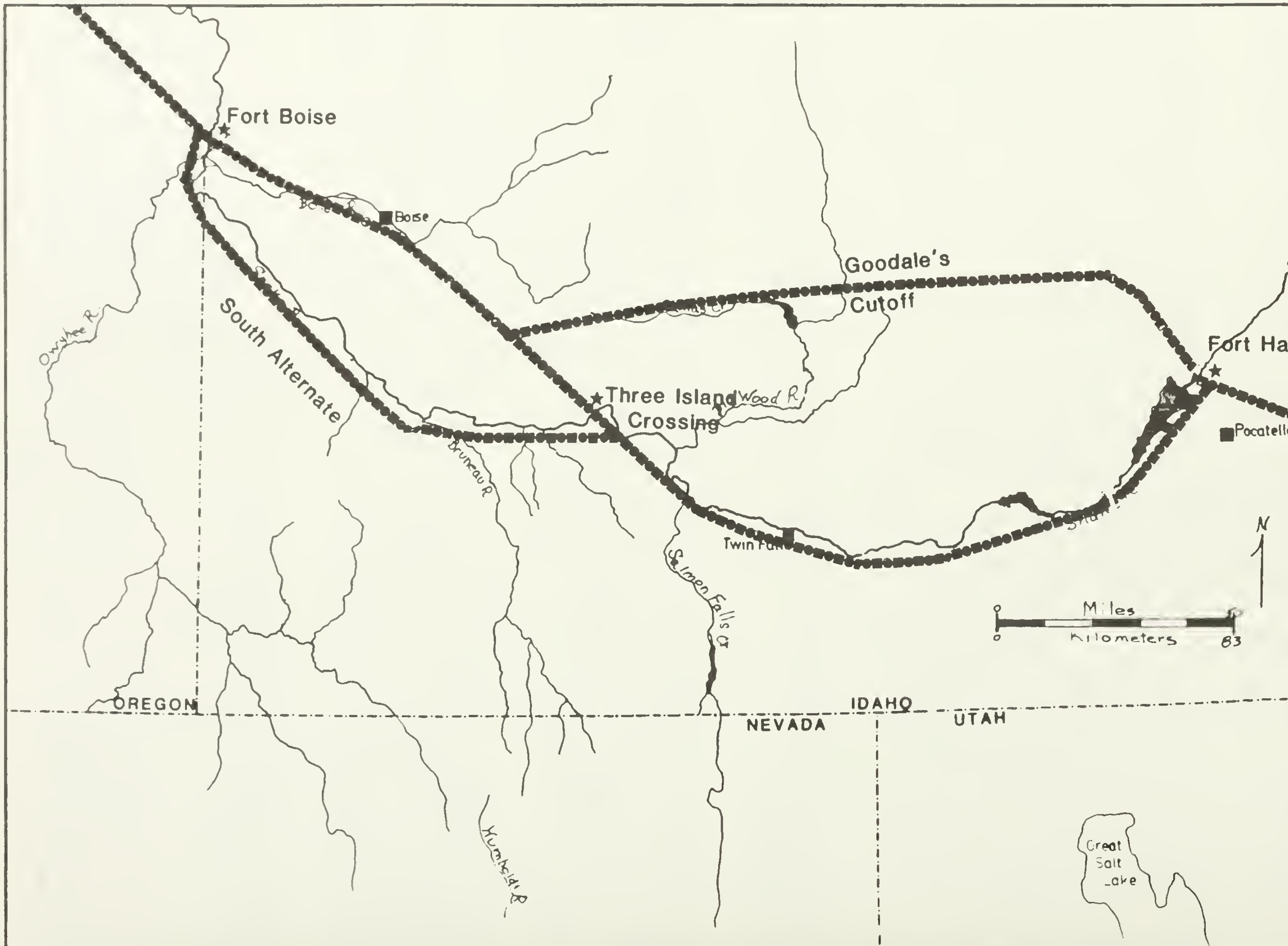


Figure 25 Routes of the Oregon Trail in the Study Area

Gilman City, Bullion, Doniphan, and Gold Belt serviced nearby mines. In addition to Chinese workers, Irish miners worked frequently in the region (ibid.) By 1884 the yield of the Wood River mines had reached five million dollars (Young 1979:6).

Communication systems, including freight roads and stage routes, followed by the railroad, were constructed. A telephone line connecting Hailey, Ketchum, Bullion, and Bellevue was completed in 1883. In 1887 electric lights were introduced in Hailey, and it became the first town in Idaho Territory to have a generating plant (Young 1979:7). Railroad construction prior to 1880 had terminated at several points near Idaho but had not continued through the state. The Oregon Short Line (OSL) built by Union Pacific finally provided service in the 1880s. By 1882 the Oregon Short Line reached American Falls. Robert E. Strahorn, working for the Idaho-Oregon Land Improvement Company, was responsible for developing towns along the railway. He bought Hailey in 1882 and developed the towns of Shoshone, Mountain Home, and Caldwell. By 1884 the rail had reached Ketchum and provided transportation needed to bring in supplies and to export products. In the same year the railroad completed all lines for the transcontinental route. Railroads in the Owyhee region were limited in extent and were built later than those in the Shoshone District. A mine owner and entrepreneur, Colonel William Dewey, founded the Boise, Nampa and Owyhee Railroad Company in 1896. The railroad was intended to move ore from the Owyhee mines, but since the grade was too steep it was never built that far.

The Idaho Northern Railway Company Limited was founded in 1897 to build an extension line between Guffey and Murphy. Construction began in 1900 and ended in 1902. This railroad line was in use until 1928. At one time during the existence of the rail line, a larger number of cattle and sheep moved through Murphy's railroad shipping yards than any other point in the United States (Young 1982).

5.2.1.5 Early Statehood, 1890-1930

Prior to 1890 when Idaho became the 43rd state, the southwestern part of the state had experienced two phases of settlement. This kind of two-stage settlement process was repeated in many parts of the interior West and is responsible for the historical substructure of the modern human landscape. The first stage was the development of mining districts and towns. These areas were occupied heavily, instantaneously, briefly. In the study area, the Silver City boom of the 1860s and the Wood River rush of the 1880s are examples of this stage.

The second stage was the construction of the railroad lines. The Oregon Short Line developed townsites along the railway and people became economically tied to them. Shoshone and Fairfield are examples of such towns.

A third stage occurred during the years after statehood and superimposed a third layer of settlement over the region. After the enactment of the Carey Act of 1894, which assisted in the reclamation of desert lands, several major canal and irrigation projects were undertaken. The two centers of these irrigation projects closest to the study area are the Boise Valley and the area around Twin Falls. Both projects succeeded in developing the foundation for the modern agricultural base in Idaho. Within the study area, major secondary agricultural centers which grew out of the irrigation works include Gooding, Bruneau, and Jerome. Camas Prairie was occupied most heavily after 1910 when small farms were established and their owners irrigated the land (Ryan 1975: 25). In other parts of the study area small hamlets developed on particular plots along the Snake and major creeks where irrigation was possible. Bliss and Grandview represent these types of settlement. Ranching continued in northern Owyhee County.

During these years, most of the Native Americans were living on reservations outside the study area and Idahoans were able to develop their towns and state without external constraints. However, another minority ethnic group did move into the region during this time period. The Basques who had immigrated to the American West in the late nineteenth century arrived in southwestern Idaho in the early statehood years. As immigrants they took the jobs which were available, often only sheepherding. Unlike the Chinese, who left or died after the mines slowed down, the Basques desired to integrate themselves into the existing community. The Basques herded sheep in Owyhee County and presently constitute a significant urban population in Boise (Idaho State Historical Society 1976:227; Bieter 1957).

5.2.2 Historic Lifeways

During the historic period in southern Idaho, mining and ranching were the two primary lifeways expressed in the settlement pattern. The early fur trappers, prospectors, and emigrants did little more than camp in different places throughout the study area. When precious metals were discovered in the 1860s, the opening of the mines caused a flurry of settlement wherever the deposits were found. In most cases, when the ore played out the people moved on. Silver City turned into a ghost town after the mining stopped. Ranches established to supply foodstuffs for the miners sometimes took on additional functions along roads and stage lines. Because the early ranches were built on good land where water was available, they frequently continued after the miners left. The ranch was a rural subsistence settlement, and the mining town was a dependent urban center.

The historical record often is rich enough in detail to provide an inventory of past lifestyles, activities, and products, but it does not contain all the information about life in the historic period. In recent years, some archaeologists have specialized in the remains of early American settlers, as well as aboriginal cultures. In Idaho, the same attention has been paid to the cultural remains of the mining frontier. Ostrogorsky (1982) has summarized how the mining towns brought with them all the trappings of American and Chinese cultures, even though the mines often were very isolated from population centers.

In the study area, Delisio (1973) has described the Malad River Stage Station/ Bridge site on Kelton Road. At such special use sites there should be evidence of the transportation function it served. Ranches were designed to provide for their own needs as well as for production of food. They served primarily an agrarian domestic function. Features associated with ranches include dwellings, barns, corrals, irrigation ditches, and cleared fields. Associated with ranching, but at remote distances from other ranch buildings, would be sheep or cattle camps. Hofman (1982) recently has studied the behavioral patterns associated with sheepherder camps in Idaho.

5.2.3 Contemporary Culture

The contemporary culture of Idaho is primarily an intensification of the irrigation-based third stage of settlement. Agriculture, ranching, and mining are still the primary industries in the state. The population has increased, but the state ranks forty-first with only about 900,000 people. Mountain Home is the largest town between the Boise and Twin Falls population centers. The rest of the study area is very sparsely populated today, approximately one person per square mile. The newest industry in modern times is the tourist traffic which supplements the economy. On the recommendation of Austrian skier Count Felix Schaffgotsch the Union Pacific Railroad Company began construction in 19136 of a modern, European-style, ski resort on the Brass Ranch east of Ketchum (Young 1979:8). The Sun Valley Resort is still the largest nearby recreation center. Natural and historical sites like Craters of the Moon National Monument, Silver City, Birds of Prey Natural area, and the Oregon Trail attract tourists as well.

The growing importance of irrigation agriculture continues to stimulate the demand for labor. While the Basques provided migrant labor beginning in the late nineteenth century, Mexican migrants became predominant on the large farms of the twentieth century. During World War II some 10,000 Japanese were relocated in a 68,000 acre camp on the lava beds near Minidoka. Shortly after the establishment of the camp the Japanese were allowed to earn wages, and they soon joined in the regular cycle of migrant work (Glaser 1967).

The Native Americans of southern Idaho were placed on several different reservations, including Ft. Hall and Duck Valley. Because of the cultural disintegration the tribes experienced between 1850 and 1880, the specific cultural stocks and homelands have been obscured in the historic period. The traditional meeting grounds at Boise have been completely taken over by American interests although the Ft. Hall Reservation is the location of an aboriginal meeting and trade center. The Native Americans also lost the land of Camas Prairie. The Duck Valley Reservation lies in a very remote area of Owyhee County. Its residents are more closely associated with northern Nevada, and it is administered from the Carson Indian Agency in Stewart, Nevada (Liljeblad 1972; Ourada 1977). Some of the Native Americans at Ft. Hall have returned for special visits to the Shoshone Ice Caves, although the exact significance of this is unknown (Robinson 1982:personal communication).

The Taylor Grazing Act of 1934 became the most significant federal involvement in the management of rangelands in Idaho. The act was designed to control unchecked grazing of the open ranges. In 1946, the Taylor Grazing Service and the General Land Office merged to form the Bureau of Land Management which today is responsible for planned management of public lands under the greater population pressure of contemporary times.

Federal Land Policy and Management Act (FLPMA), passed in 1976, provided the basis for comprehensive planning within the Bureau of Land Management. As the mission statement for the Bureau, it mandates multiple use and sustained yield of resources as the guiding principle. Under the act, lands are to be regularly inventoried and classified, present and future land use is to be described and planned for, and management goals and implementation plans are to be developed. The multiple use concept includes protection of the quality of lands and resources having scientific and recreational values and within which lie resources having historic and archaeological value (Tripp 1982: personal communication).

5.2.4 Federal Government in the West

The role of the Federal government in the west has evolved as the western lands were gradually occupied by Americans. The first role was military in nature when the U.S. Army was called in to settle occupation disputes between immigrants and Native Americans. This activity was primarily reactive, and, while it only responded to short-term needs, it did, however, effectively establish American cultural dominance over Native Americans. This succession of the land control principals allowed the Federal government to adopt a more active management role in planning for long-term goals.

The earliest Federal land management activities began with the establishment of the General Land Office (GLO) in 1812. The GLO oversaw the disposal of public domain lands beginning in the Old Northwest (Midwest) and its work proceeded westward as lands were surveyed and opened for settlement. In the arid west and in Idaho the first settlers occupied the choicest lands which offered fresh water, grazing land, timber, and arable soils. After the first years of mining and settlement, most of the naturally choice districts were settled. Various kinds of congressional legislation were proposed and enacted in the late nineteenth and early twentieth centuries to assist in the development and increase the productivity of western lands. The adoption and successes of the various acts has led to differential significance in separate sections of the west. Different regions were able to take advantage of different projects.

In the study area, the early timber acts (Timber Culture Act of 1873; Timber and Stone Act of 1878) and the first Desert Land Act of 1877 had little influence on the history of the region. The important mining law of 1872 and the Mineral Leasing Act of 1920 became less significant because of the closure of the majority of the mines in the region. The most significant nineteenth century act was the second Desert Land Act of 1894 sponsored by Senator Carey of Wyoming and commonly called the Carey Act. The Federal-State cooperative system was developed under the act to help initiate and complete successful irrigation and reclamation projects. The system was designed to overcome the problems of privately developed canal projects like New York Canal at Boise. The primary result of the Carey Act was the development of the Twin Falls district with extensive irrigation and subsequent farming. The Twin Falls occupation area was developed during the first decade after the turn of the century and agricultural fields were established on earlier immigrant routes as well as previously non-utilized lands. The spirit of the generally unsuccessful Desert Land Acts was continued into the twentieth century with the development of the Department of Interior's United States Reclamation Service which began in 1902. Near the study area the Reclamation Service continued to develop irrigation projects near Boise and Minidoka.

The first decades in this century saw the development of the main population centers as well as the agricultural and ranching economy. The Carey Act and reclamation projects allowed the farmers to develop and utilize lands with the abundant water supply from the Snake River and other major drainages. Outside the irrigated zones, however, the ranchers and sheepherders were vigorously competing over the available rangeland. Because this problem was common throughout much of the west, Congress responded to the situation with the Taylor Grazing Act of 1934 which provided restrictions on the use of public grazing lands in order to control overgrazing. The act required that ranchers who used the rangelands have a fixed base of operation rather than being entirely nomadic. In 1946 the Taylor Grazing Service and the General Land Office functions were combined into the Department of Interior's Bureau of Land Management (BLM). The BLM now manages public lands and performs a variety of control and usage functions as well as planning projects.

While the Taylor Grazing Service and then the BLM have managed to control overgrazing of fragile rangelands and today continue to plan for long-term goals, other acts and agencies have dealt with the problems caused by the agricultural production after irrigation. The harvest of agricultural produce required human labor in excess of that available in the region. Thus, migrant farmworkers were used heavily throughout the Snake Valley. These workers came from the Dust Bowl areas of the 1930s as well as from minority populations.

In 1933 the Federal Emergency Relief Act (ERA) attempted to provide some help for the homeless. The Farm Security Administration (FSA) developed out of the act. By 1941 the FSA had accomplished the construction of two camps near Caldwell and Twin Falls to provide minimally sufficient, but healthy, residences for immigrants. During World War II the FSA and the Immigration Service cooperated to allow Mexican nationals to work the fields. Also during this time, the FSA and the War Relocation Administration planned the Japanese Relocation camp at Minidoka. After the relocation period, many Japanese temporarily became migrant workers, until employment opportunities and public opinion permitted their reintegration with mainstream society.

PART 6 - CULTURAL CHRONOLOGY SUMMARY

6.1 Outline of Prehistory

250-200,000 years ago	Possibly when humans first enter the New World. Humans are present in northeast Asia. Their technology is sufficiently competent so that they could deal with the environment of Alaska. Middle Pleistocene soils which may hold data from this period are rare: among the few such deposits in the world are those in Owyhee County, and in eastern and central Oregon.
30,000 years ago	Lake Bonneville suddenly overflows, scouring soils between Pocatello and Twin Falls and depositing boulders along the Snake River Canyon. The massive flood lasts for six weeks at a peak discharge rate of 15 million cubic feet per second. Humans may be there to watch, run, or swim.
27,000 years ago.	Humans are present in the New World at Old Crow, Canada.
20,000 years ago	Humans are present in the Andes of South America. To get there they have to pass near the study area.
15,000 years ago	Humans are present in the study area at Wilson Butte Cave. The climate is cooler than today's.
13,000 years ago	The rampaging Lake Missoula floodwaters enter Native American folklore.
11,200 years ago	Dust and ash from the eruption of Glacier Peak, Washington affect skies in the study area for several years. Horses continue to be eaten, and not ridden, by native people in the study area. The climate begins to warm.
6700 years ago	Mt. Mazama explodes; fine ash drifts over the study area; cultural ecosystems to the west of the study area are disrupted, possibly affecting lifeways close to home.

5-4000 years ago	Worldwide warming reaches its maximum; some localities in and near the study area are abandoned; there are no more horses to be eaten. Semisubterranean houses are built.
3000 years ago	The climate becomes cooler than today's. Someone in or near the study area invents the bow and arrow as a useful combination. Whether the bow already existed as a musical instrument, or as a device to power a drill, is not yet known; however, the combination was not all things to all people, and it merely accompanied and did not replace already existing ways of propelling lethal missiles.
1000 years ago	Correlated with a worldwide climatic warming are worldwide movements of people and their cultures. In the study area also, new cultural traits appear, including the Desert Side-notched projectile point, and pottery.
380 years ago	The horse makes its way back to the study area. Now there is more confusion than before. Some people eat the beast, and some ride it. Its arrival changes Native American culture and society, just before the arrival of the Euro-Americans and all that they brought.
170 years ago	Although a few others may have preceded the commercial trapping parties, this date marks the beginning of concerted Euro-American pressure and presence on Native Americans in the study area.
110 years ago	The end of intact Native American culture in the study area. Except for a small population of fugitives, much of Native American culture is no longer operant.
90 years ago	The last bloom of Wovoka's vision fades with the end of the Ghost Dancing.
68 years ago	Bruneau Dave's band of Native Americans comes in from the cold.

6.2 Historic Outline

1803 United States purchases Louisiana Territory including most of Wyoming.

1805 Lewis and Clark enter Idaho at Lemhi Pass.

1808 David Thompson begins fur trade with Flathead Indians at Bonner's Ferry.

1810 Andrew Henry builds first American fur trading post, Ft. Henry, south of present St. Anthony.

1811 Wilson Price Hunt with the Astorians are first to explore and record the route along the Snake River which becomes the Oregon Trail.

1812 Donald MacKenzie establishes his trading post at Lewiston.

1813 John Reid starts his winter fur trading post on the lower Boise near subsequent site of Ft. Boise.

1814 Indians attack Reid's post.

1818 Donald MacKenzie opens the Snake Valley to British North West Company trappers; the beginning of a quarter century of trapping on the Snake.

1819 Spain and the United States negotiate the Adams-Onis Treaty; they fix the southern border of Idaho along the forty-second parallel.

MacKenzie holds regional rendezvous in the Boise Valley.

1820 MacKenzie makes peace treaty with the Shoshone on Little Lost River and explores the main route of Goodale's Cutoff route through Camas Prairie.

1821 Hudson's Bay Company and the North West Company merge; MacKenzie makes his eighth and final trapping expedition through the Snake country.

1822 William Ashley and Andrew Henry organize the American Rocky Mountain Fur Company and the system of the annual trade rendezvous.

1824 Peter Skene Ogden leads his first of six expeditions along the Snake.

American mountain men begin to trap in the eastern Shoshone District and spread west.

1827 Great Britain and the United States renew convention of "joint occupation" of the Oregon country.

1830 John Work replaces Ogden and retraces his fourth Snake expedition of 1827.

1832 Work's last Snake expedition; beaver population almost depleted.

1833 American and British fur companies divide territories to reduce competition on dwindling beaver population.

1834 Ft. Hall and Ft. Boise are established to conduct fur trade.

1838 Nathaniel J. Wyeth sells Ft. Hall to the Hudson's Bay Company.

1839 Thomas Jefferson Farnham's Peoria party of Oregon Dragoons opens the emigrant wagon trail to Oregon through the Snake Valley.

1840 Newell, Craig, and Meek open a wagon route west of Ft. Boise completing the Oregon Trail. Thousands of emigrants move over the trail, and through southern Idaho during the following three decades.

The last trapper rendezvous is held.

1843 John C. Fremont officially surveys the Oregon Trail across Idaho.

1845 Joel Palmer's published account of his overland trip through Idaho stimulates more westward traffic.

1847 Brigham Young and his Mormon pioneers open the Mormon Trail and settled at the Great Salt Lake in Utah; the Mormon settlements soon expands into southeastern Idaho.

1849 Thousands of emigrants pass through southeastern Idaho on Hudspeth's Cutoff of the California Trail, bypassing Ft. Hall, in the Gold Rush to California. Ft. Hall becomes a U.S. military post.

1852 Utah Superintendent of Indian Affairs, Brigham Young, meets with the Ft. Hall Shoshoni.

Goodale's Cutoff and ferry connections open for emigrant wagons.

1853 Young meets with Bannock Indian delegation.

1854 Indian ambush of the Ward emigrant party in the Boise Valley.

1855 Granville O. Haller's punitive expedition against the Indians leads to more trouble and forces the closure of Ft. Boise.

1856 The now isolated Ft. Hall is abandoned after Indian resistance increases. Ogden closes the fort for the Hudson'a Bay Company.

1860 E. D. Pierce discovers gold on the North Fork of the Clearwater. The discovery stimulates mining interests in Idaho lands and the town of Pierce is established.

The Mormons found the town of Franklin in southeastern Idaho.

1861 The transcontinental telegraph system replaces the Pony Express.

1862 George Grimes discovers gold in the Boise Basin and is killed by Indians. An emigrant party also is killed at Massacre Rocks on the Oregon Trail; Goodale's Cutoff is used to get to the Basin.

The Homestead Act makes free homestead lands available in the western states.

1863 Idaho Territory (including Montana and Wyoming) established by President Lincoln.

Rocky Bar quartz mines begin operation.

Michael Jordan discovers Owyhee mining areas along Jordan's Creek.

Shoshone and Bannock Indians of Ft. Hall area agree to treaty after Battle of Bear River.

The Orofino and Morning Star lodes are discovered near Silver City in the Owyhees; irrigation in Owyhees begins.

1864 Boise becomes the permanent capital of Idaho.

Alturas and Owyhee Counties are established; Alturas County seat moves from Esmeralda to Rocky Bar.

Volcano mining district is discovered near Bennett Mountain.

Silver City is established and soon grows larger than Ruby City in the Owyhees; Idaho and California Wagon Road Company develop the Red Bluff route from California to Boise and Owyhee mines through Ruby City.

Yuba mining district near Atlanta causes another gold rush.

Holladays' Overland Stage Company begins service between Atchison, Kansas, and Boise.

Agricultural settlement of Boise Valley begins.

John Baxter builds a stone cabin on the banks of Jordan Creek; it eventually becomes the town of Jordan Valley (also called Baxterville and Dog Town).

1865 John Mullan's Boise-Rocky Bar stage line extends service to Silver City and Red Bluff, California.

Poorman vein is discovered at Silver City.

1866 The Snake War begins and for two years hinders mining and transportation operations; Indians attack Owyhee Volunteers on the North Fork and Hill Beach's Silver City Stage Line.

New routes open: California and Idaho Stage and Fast Freight Company (Chico, California to Ruby City); Railroad Stage Line (Hunter's Station on Truckee River to Ruby City); Silas Skinner's Jordan Valley toll road (to Silver City).

U.S. Army Camp Buford established on Bruneau River; treaty with Bruneau River Shoshone (not ratified); Camp Winthrop established.

More and Fogus' Owyhee quartz mine fails.

General George Crook takes over the Snake Campaign.

Steamboat Shoshone fails to navigate the Snake River above the mouth of the Bruneau.

1867 A Presidential Executive order establishes the Ft. Hall Indian Reservation.

Cornelius Shea introduces Texas Longhorn cattle to the Owyhees.

Union labor organization begins with Owyhee Miners' League.

1868 Boise land office opens.

Owyhee Semi-Weekly Tidal Wave begins publication in Silver City.

General Crook makes peace with Snake Indians; hostilities with Winnemucca and Paiutes end.

1869 Construction of Idaho Territorial Prison and U.S. Assay Office in Boise.

Completion of transcontinental railroad to Promontory, Utah. Kelton Road traffic to Boise. Glenn's Ferry opens.

Proposed Chinese miners and prostitute tax.

Boise, Shoshone, and Bannock Indians are removed to Ft. Hall.

1870 Ft. Hall is located on Lincoln Creek.

Jordan Valley post office opens.

1872 Indian scare along Goodale's Cutoff in Camas Prairie.

Owyhee miners strike ends in union victory.

1873 Failure of Northern Pacific railroad route to Idaho causes panic of 1873.

Owyhee miners union wins strike to oust Chinese miners.

1874 Agricultural granges (Patrons of Husbandry) are formed in Boise Valley, Owyhee, and Camas Prairie.

Telegraph service reaches Silver City; Tidal Wave renamed the Owyhee Daily Avalanche.

1875 Telegraph service connects with Boise.

Failure of Bank of California ruins Silver City and South Mountain Mines.

1877 Duck Valley Indian Reservation established.

Desert Land Act passes. Farm development is encouraged.

Additional troops sent to Ft. Hall.

1878 Bannock War begins with skirmishes at Camas Prairie, Glenn's Ferry, and South Mountain. Hostilities move to Oregon, then back to Mandy's Ferry and Bennett Creek.

Glenn's Ferry on Oregon Trail route replaces Payne's Ferry on John Hailey's Boise-Kelton Stage Line.

1879 Skirmishes with Sheepeater Indians at Big Creek and Soldier Bar.

Warren P. Callahan discovers galena deposits near Bellevue and Wood River Mining District begins operations.

1880 Wood River Mines increase traffic along Goodale's Cutoff and Minnie Moore Mine opens at Bradford.

1881 Falk and Company begins smelter between Hailey and Bellevue; Philadelphia Mining and Smelting Company builds smelter at Ketchum.

Historical Society of Idaho Pioneers is founded.

1882 Oregon Short Line railroad extends into southern Idaho and the town of American Falls is founded.

Robert E. Strahorn and the Idaho-Oregon Land Improvement Company develop townsites at Hailey, Caldwell, Shoshone, and Mountain Home.

Alturas County seat moves from Rocky Bar to Hailey.

Shoshone post office opens under the name of Naples.

1883 Telephone service begins in Hailey area and Boise.

Ft. Hall is abandoned after withdrawal of military garrison.

Glenn's Ferry and Mountain Home (the former Rattlesnake Station) are founded along the Oregon Short Line.

1884 Oregon Short Line is completed to Ketchum.

1885 Labor unrest occurs in the Wood River mines; military at Ft. Boise opens up mines during the strike.

1886 Idaho territorial capital is completed.

Attempted Chinese expulsion effort fails.

Railroad strike at Eagle Rock; anti-Mormon political struggles arise.

1887 Hailey electric light plant begins to generate power.

Boise receives rail service on the Idaho Central from Nampa.

1889 Last Idaho territorial legislation session; voters ratify State constitution.

1890 Idaho becomes the 43rd state.

1891 Mountain Home replaces Rocky Bar as seat of Elmore County.

	Hailey gets national advertisement as a resort.
	Boise gets electric street car service.
1892	Timber and Stone Act, opening lands for lumber industry, extends into Idaho.
1893	State Woolgrowers Association is founded in Mountain Home.
1894	The Carey Act encourages reclamation of segments of the Snake River Valley through extensive irrigation.
1895	Alturas and Logan Counties consolidate to form Blaine County.
	Idaho Irrigation District Act is approved.
1896	Sheep and cattle conflict arises in Idaho. Diamondfield Jack Davis is convicted after a shooting (he was pardoned in 1902).
	Silver City miners organize the Western Federation of Miners local.
1900	The Twin Falls Carey Act project initiated.
	New York Canal is completed expanding irrigation in the Boise Valley.
	Ft. Hall Reservation opened to settlement.
1904	Twin Falls established.
1909	Enlarged Homestead Act.
1916	Idaho state highway transportation system is organized.
	Stockraising (grazing) Homestead Act is approved.
1920	State capital is completed.
1924	Craters of the Moon National Monument is established.
1928	Commercial radio broadcasting begins in Idaho.
1934	Taylor Grazing Act passes Congress.
1936	Union Pacific Railroad opens the Sun Valley Ski Resort.
1943	Mountain Home Air Base opens.

1946 Bureau of Land Management is formed.

1947 Idaho State Archives is established.

1952 Anderson Ranch Dam is completed.

1953 Television broadcasting begins in Idaho.

1966 National Historic Preservation Act provides for the recognition and protection of America's heritage and cultural resources.

1976 The Federal Land Policy and Management Act (FLPMA) passes; this document is the mission statement for the Bureau of Land Management.

1980 Ash from the eruption of Mount St. Helens drifts across the study area.

YEARS
BP
(x1000)

0–Euro-american historic era.

1–Numic Culture expands into the Study Area displacing or absorbing resident cultures.

AD/bc 2–

3–Bow & Arrow present in the Study Area.

4–Worldwide Thermal Peak.

5–

6–

7–Mount Mazama Explodes sending pumice and ash across the Northwest and the Study Area.

8–

9–Plano Cultures.

10–Folsom Cultures.

11–Glacier Peak Ash drifts across the Study Area.

12–Clovis hunters in the Study Area.

13–Lake Missoula Flood into Columbia River.

14–

15–Humans present at Wilson Butte Cave.

16–

17–Lowest Sea Level of the Late Pleistocene.

18–

19–

20–Humans in the Andes Mountains.

21–

22–

23–

24–

25–

26–

27–Humans at Old Crow site in Canada.

28–

29–

30–Lake Bonneville Overflow into Snake River.

Figure 26: Prehistoric Timeline

YEARS BP (x10)	AD	
0–		Mt. St. Helens erupts.
1–	(1970)–	Federal Land Policy and Management Act. National Historic Preservation Act.
2–	(1960)–	
3–	(1950)–	Television broadcasting in Idaho. BLM is created; State archives established.
4–	(1940)–	World War II.
5–	(1930)–	Taylor Grazing Act; Sun Valley Resort opens. Commercial radio broadcasting begins.
6–	(1920)–	State Capitol completed.
7–	(1910)–	State Highway System organized; World War I. Homestead Act enlarged.
8–	(1900)–	Carey Act encourages agricultural development.
9–	(1890)–	Idaho Statehood.
10–	(1880)–	Wood River/Hailey mines open; Railroad completed. Telegraph to Boise; Bannock War.
11–	(1870)–	The Snake War; Shea's Longhorns arrive.
12–	(1860)–	Gold discovered in Boise Basin and Owyhees. Ft. Boise & Ft. Hall closed.
13–	(1850)–	'49ers cross southern Idaho for California.
14–	(1840)–	Oregon Trail completed.
15–	(1830)–	Ft. Hall & Ft. Boise founded for fur trade.
16–	(1820)–	MacKenzie opens Snake to commercial trapping.
17–	(1810)–	Wilson Price Hunt explores the Snake River.
18–	(1800)–	Lewis & Clark Expedition passes north.
19–	(1790)–	
20–	(1780)–	
21–	(1770)–	
22–	(1760)–	
23–	(1750)–	
24–	(1740)–	
25–	(1730)–	Mounted Blackfeet and Bannock warriors skirmish throughout the century.
26–	(1720)–	
27–	(1710)–	
28–	(1700)–	The Horse Arrives in Idaho.

Figure 27: Historic Timeline

PART 7 - CULTURAL RESOURCE SYNTHESIS

7.1 Prehistoric Use and Occupation

The researchers most familiar with the study area describe its late prehistoric and protohistoric aboriginal occupants as being among the

> . . . few people in the world whose socio-political patterns had to conform so closely to the demands of subsistence activities (Steward and Wheeler-Voegelin 1974:46).

Because of the sparse and erratic occurrence of resources in the area, population density was low, population concentrations fluid, centered in space upon the places where resources could be found, and in time when they appeared. To survive, inhabitants had to be aware of and prepared for the transitory and often ethereal nature of their resource base, interrelated and affected as it was by local weather conditions, long-term regional climatic fluctuation, and varied levels of predation and pressure that humans applied to its components: plants, animals, and fish. Although some of the material remains of this necessarily well-adapted culture do mark former sites of activity, the social and behavioral components of the culture magnified the usefulness of the technological inventory to the point where survival not only was possible, but where human cultural life actually flourished. It flourished for at least 15,000 years in the study area.

Early populations living here found the climate cooler and drier than at present. By 12,000 years ago, the climate became wetter. Winters were longer, and while Canada and the north-central United States lay under ice, the people of the study area encountered lush grasslands dotted with lakes, some forested zones at higher elevations, and many more year 'round flowing streams than one presently finds. Large grazing and browsing mammals provided some meat to the native diet, and the luxuriant plant growth yielded a rich and varied vegetable and fruit menu, for browsers and humans alike.

As time went on, the climate warmed and became less moist. The landscape changed, and plants and animals adapted to the former landscape became scarce, retreating to isolated refuges of limited size. Plants and animals better adapted to the emerging warmer climate prospered and extended their ranges. Aboriginal peoples, in turn, changed their ways of meeting the environment. New game animals were hunted. The social units exploiting the environment became smaller for much of the year. As the land provided less, population densities generally became lower and more mobile as they searched more widely for their sustenance. This developing lifeway was in place from eight or nine thousand years ago up until the coming of the horse and Euro-American immigrants in the nineteenth century. It was a dynamic, not static, lifeway. It developed local and regional adaptation which reflected the challenges of changing climate, diverse microenvironments, and the different culture histories and experiences of each group living in the study area. For the last seven hundred years, native lifeways probably were very similar to those described in the ethnographic record.

7.1.1 Settlement Patterns and Land Use

Settlement and land use is correlated with human needs, human perceptions of the available resources, technology, and behavior during any period of time. We know that during the last 15,000 years, the climate ranged from the cool and moist early period, Period 1 (15,000-7000 years BP), to a warm and dry peak, Period 2 (7000-3000 years BP), to one similar to that of today, Period 3 (3000-100 years BP), slightly cooler than that of Period 2. There appear to be changes in some aspects of the material record relating to these climatic changes (Figure 28).

The resultant technological adaptations made in response to these changes presently are represented chronologically and diagnostically in the field by the evolution of the projectile point form (Figures 29 and 30). Surface surveys have recorded more than 4000 sites in the study area, but very few have been dated. The available dated and functionally described sites necessary to discuss the array of complementary sites which make up settlement patterns specific to each period and locale are not reported yet in sufficient number; however, given that the basic array of functional site types probably was in place, or at least developing, as early as 8000 years ago, a settlement pattern can be offered which may apply to at least Periods 2 and 3 (Figure 31).

The reader must remember that the ethnographically recorded cultural data accurately reflects the adaptation of Numic speakers who entered the study area 700 years ago. The Numic adaptation displaced those of the people residing in the study area pirmarily because it was more energy-intensive. It differed from preceding adaptations in terms of emphasis: Numic subsistence practices emphasized seed collection and did not depend on the hunting of game to the degree that preceding cultures had. Preceding cultures emphasized hunting and game collection while spending less effort on seed collection and processing than the Numic peoples who displaced them. Earlier people in general used fewer kinds of resources, and travelled further to exploit fewer microenvironments than did Numic speaking people.

Basic site types, with many of the above variations and combinations of attributes subsumed, are reported as follows:

- Campsites
- Plant processing sites
- Hunting sites (rock alignments)
- Lithic scatters
- Workshops
- Rockshelters
- Petroglyphs

Figure 32 displays the relationship between these site types and landforms in a small area of the south-central Owyhee Uplands. It may prove to approximate a generalized settlement pattern for a broader context throughout the study area.

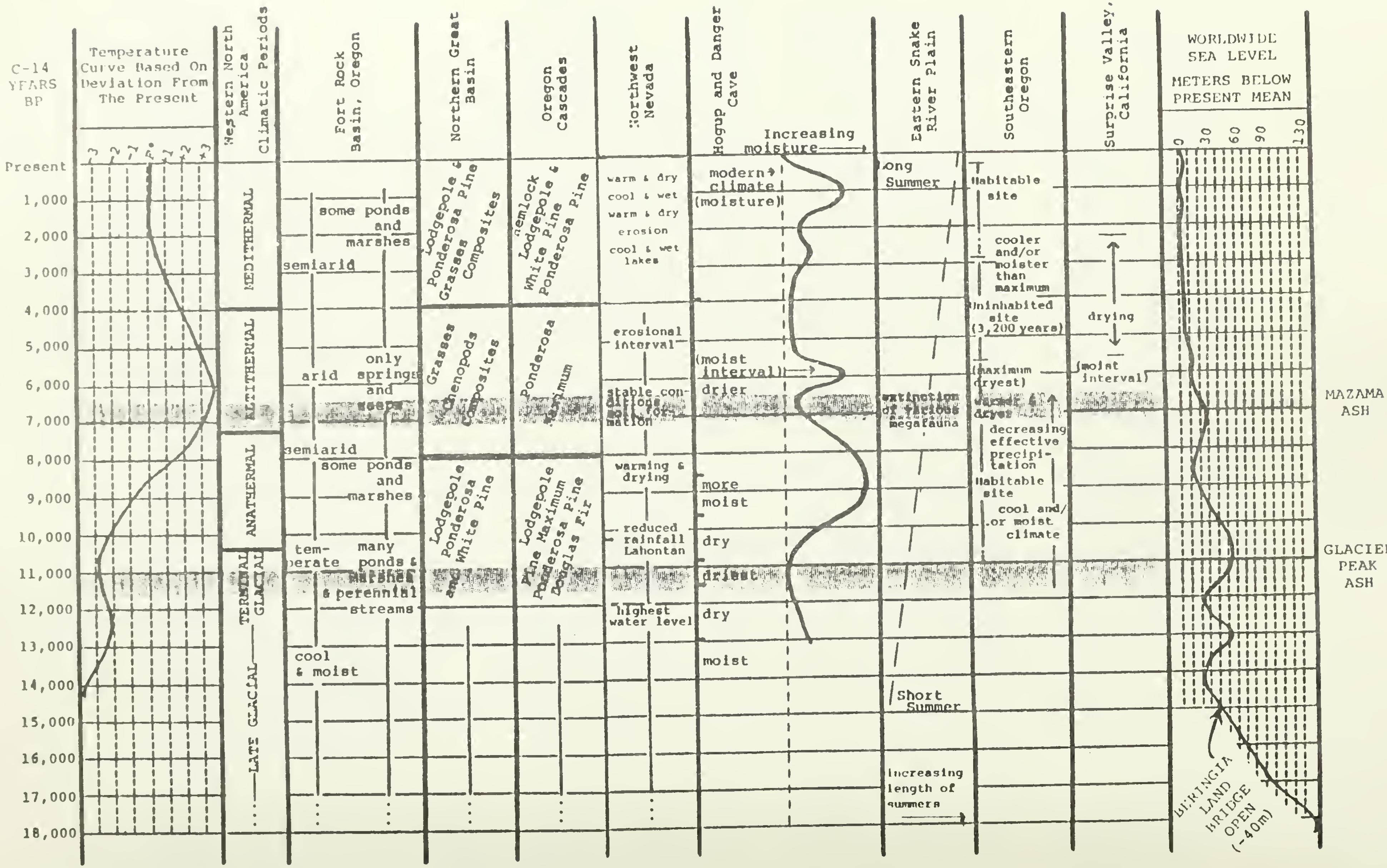


Figure 28: Worldwide Climate and Local Environmental Change (Gehr et al. 1978).

Figure 29

Evolution of Projectile Point Form and Weight in the Study Area

	Years BP	Projectile Point Form
	100	Small, side-notched (less than 3.5 gm)
	1000	
AD / BC	2000	Small, narrow-necked corner-notched (less than 3.5 gm)
	3000	
	4000	Large, corner-notched (more than 3.5 gm)
	5000	Large, side-notched (more than 3.5 gm)
	6000	
	7000	
	8000	
	9000	Large lanceolate and broadstemmed (more than 3.5 gm)
	10,000	
	11,000	Large, fluted (more than 3.5 gm)
	12,000	

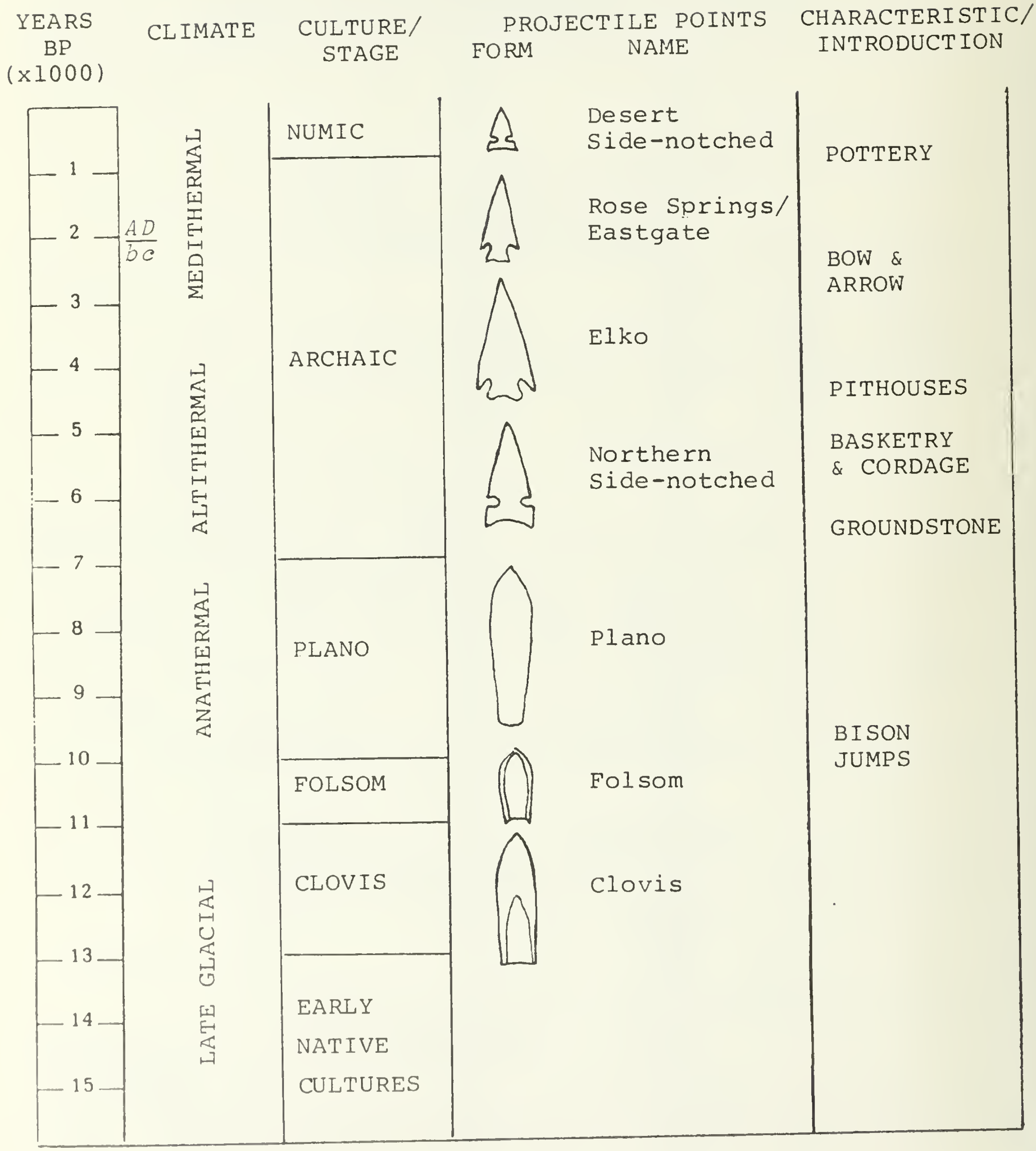


Figure 30: Chronology, Climate, Cultural Characteristics.

Figure 31

Inventory of Major Site Types By Time Period

(Years BP) Period	Snake River Canyon	Owyhee Uplands	Snake River Plain	Mt. Bennett Hills	Camas Prairie
(150) 3 (2700)	Open: with house structures; without house structures. - mussel shell middens - fishing camps - campsites - quarries Rockshelters - campsite - burial Petroglyphs	Open: without house structures. - small campsites - large winter encampments - rock alignment complexes - lithic mfr. - quarries - butchering Rockshelters Petroglyphs	Open: without house structures. - heavy occupation Rockshelter - hearths - burial	Open: without house structures. - lithic scatters - rock alignments Petroglyphs	Occupied?
2 (7000)	Open: with house structures; without house structures. - quarries Rockshelters - campsite - burial	Open: - sparse lithic scatters - quarries - butchering	Rockshelter - hearths	Open: - lithic scatters	Occupied?
1	Open: without house structures (lithic scatters).	Open: - lithic mfr. - hunting campsites - lithic scatter - bison jumps Rockshelters	Open: - temporary campsites	Open: - lithic scatters	Open: - lithic scatter - tool cache

Figure 32

The Relationship Between
Site Types and Physiographic Units
(from Plew 1980)

Listed below are the percentages of the occurrence of major site types on different landforms in the south-central Owyhee Uplands. This probably is a reasonable representation of settlement for the Owyhee Uplands; however, because of the size of the sample relative to the number of sites in the whole of the study area, and the diversity of the physiography, this figure only suggests probable relationships for the study area as a whole.

	Stream Terraces	Rimrock	Bench Terrace/ Slope Areas
Campsites	100		
Plant Processing	100		
Hunting/Rock Alignments	6	87	7
Lithic Scatters	32	36	32
Workshops		100	
Rockshelters/Caves	31	69	
Petroglyphs		100	

7.1.2 Prehistoric Material Culture

As discussed in Section 7.1.1, projectile points (see Figure 29) seem to be the artifacts most clearly documenting the chronology presence of changes in the cultural adaptation. Certainly, change was not confined to technology, nor were the cultural changes of greatest magnitude necessarily those one can detect in the technological inventory. Whole assemblages of artifacts may change over time, but probably not at the same rate. As sites become more precisely dated and assemblages associated with discrete segments of the chronology appear, artifacts, other than projectile points, may become as useful to the researcher for chronological data. Other artifact types provide data on site function. Artifacts apparently typical of the three periods in the study area and shown in Figure 33 are:

<u>Period 1 Artifacts</u> (15,000-7000 years BP)
Early in Period 1 are Clovis and Folsom fluted projectile points, followed by large lanceolate broadstemmed points; large triangular-plane end scrapers, unifacially or bifacially prepared choppers, large bifaces, assorted flake tools including prepared gravers and spokeshaves and other unprepared but utilized flakes, and other minimally prepared stone tools. Some bone items also may be present in well-preserved contexts, such as in dry caves. Later in Period 1 may appear crescentic knives, various tabular flake tools, hammerstones, seed mills, and milling stones. Where preserved, there may appear cordage and basketry, late in the sequence.

<u>Period 2 Artifacts</u> (7000-3000 years BP)
Projectile points from this period frequently are side- or corner-notched, and some variants may be notched basally. Keeled end scrapers appear and prismatic blades become frequent. Typical of the period are awls, atl-atl weights, mills, and milling stones. Housepits appear by 4000 BP. Late in the period appear pestles, earth ovens, and hearths.

<u>Period 3 Artifacts</u> (3000-100 years BP)
The great change marking this period in Idaho is the appearance of the lightweight projectile point which ushers in the era of the bow and arrow. Early in the period appear the corner-notched and stemmed lightweight points, and later, after AD 1000, come small side-notched triangular points and pottery. Most mortars appear during Period 3. Figure 34 lists the diverse artifacts typical of Period 3, arranged by physiographic province within the study area.

General prehistoric trends, from early to late in the study area, consist of the following:

- increasing population
- increasing number and variety of exploited microenvironments;
- increasing number of exploited plant and animal species;
- increasing variety in the toolkit;
- increasing variety of behavior appropriate to locating and collecting a greater variety of resources;
- decreasing size of projectile point.

Figure 33

Site Assemblages Over Time

(Years BP) Period	Snake River Canyon	Owyhee Uplands	Snake River Plain	Mt. Bennett Hills	Camas Prairie
	chipped stone- small arrow points, lanceolate points, scrapers, bifaces, flakes (obsidian), drills, graver knives, cores	1100 BP-no sandals or shelters groundstone-manos, metates, mortars, pestles	chipped stone small arrow points, few knives, many scrapers, cores, flakes	chipped stone: large and small notched and stemmed knives, scrapers, utilized flakes	
	pottery	pottery-both Sho- shone and So. Idaho Plain ware	Bone awls, rubbing tools, comb wood tools, arrow points firedrill shafts, gaming pieces	pestle pottery	
	hearths, moccasins				
(700) 3	musselshell middens basketry, rabbit fur cordage bone proj. point, awls, needle, beads pipe, incised pottery-Shoshone ware >80%, So. Idaho Plain <20% clay figurines mano, mortar/pestle metate, red ochre berries bone-deer, crayfish jackrabbit, bison, fish vertebrae, antelope, badger, bobcat, coyote	wood-shaft, peg, cylinders textiles, pole and thatch structures chipped stone-medi- um and small notched and stemmed proj. points, scra- pers, drills, bi- faces, utilized flakes basketry-coiled, twine, leather pouch antelope, deer, rodents, camas, biscuitroot, seeds clay figurines	mano, pottery, fig- urines, moccasins bison, deer, ante- lopes, rabbits, sage hen 2700-700 BP chipped stone-medi- um and small notched, shouldered proj. points, knives, drill, scrapers, flakes bone, bead ornament clay figurine abraders freshwater molluscs fish (some), deer, rabbit, marmot, badger		Occupied
(2700)					

Figure 33 (cont.)

(Years BP) Period	Snake River Canyon	Owyhee Uplands	Snake River Plain	Mt. Bennett Hills	Camas Prairie
(2700) 2 (4000) (7000)	chipped stone-medium and small notched proj. pts., cores, knives, scrapers, flakes stone pipe bone tubes shell beads mussel shells	chipped stone-lanceolate, large notched proj. pts. wood-firedrills, cylinders manos, metates sandals, nets, woven mat grass lined pits	4000-2700 BP chipped stone-medium, notched or stemmed proj. pts., some small notched pts., waste flakes, drill, cores, graver, spokeshave, flakes, awl milling stones-mano metate mortar bison, antelope, deer, bighorn sheep 7000-4000 BP chipped stone-large notched and eared proj. pts., many knives, scrapers, waste flakes bone tools bison	Occupied	Occupied
1 (10,000)	proj. pts.-lanceolate, large side-notched bison	chipped stone-lanceloate and large notched and eared proj. pts. sandals matting, netting, cordage large mammal bones mussel shell	chipped stone-lanceolate pts., knives, scrapers, cores, flakes groundstone-mano camel, bison	Occupied	proj. pts.-Plano lithic debitage
1 (15,000)	lanceolate, Clovis-like proj. pts.		chipped stone- no evidence	knives	no evidence

Figure 34

Period 3 Site Assemblages by Physiographic Area
(Artifact classes mentioned are not chronologically exclusive on this chart; sources are survey and excavation reports cited in Chapter 3.1)

Artifact Industry	Snake River Canyon	Owyhee Uplands	Snake River Plain	Mt. Bennett Hills (survey only)	Camas Prairie (almost no information available)
Chipped Stone*	proj. points, util. flakes (O); drills, knives, blades, cores, scrapers (c); bifaces (C,O, B); flakes (O)	proj. points, bifaces, retouched blades (O); knives, scrapers, drills (C); denticulates (B); spokeshaves (C,O); cores (C,O, B); choppers (C); flakes (C,O)	proj. points, knives, (I); scrapers, drills, gravers, cores (C); util. flakes, flakes	proj. points, gravers, (I) bifaces, crescents, cores, spokeshaves, util. flakes (B); scrapers, drills, blades (C); teshoa (Q); flakes	proj. points
Ground-stone	slab metates (B); basin and hopper mortars (B); manos, pestles (B); bowls, net sinkers, shaft straightener (S,P); hammerstones (Q); bead, pipe (S); stone balls (C,B)	basin and hopper mortars (B); pestles?; hammerstones (Q); shaft smoothers (S); stone balls (B,C); metates, manos	slab metates, manos, hammerstone, shaft smoother (B); tubular pipes	manos, metates, incised cobble (B); pestles (A,S); hammerstone (Q); pendant blank (D)	
Pottery	Shoshoni ware, Southern Idaho Plain, pipe frags, figurines	Shoshoni ware, Southern Idaho Plain, figurines	Wilson Butte Plain, unbaked cigar-shaped objects	Shoshoni ware, Wilson Butte ware?	Southern Idaho Plain?

A = andesite; B = basalt; C = cryptocrystalline; D = diatomite; I = ignimbrite; O = obsidian; P = pumice; Q = quartzite; S = sandstone;

*Predominant raw material noted (-).

Figure 34 (cont.)

Artifact Industry	Snake River Canyon	Owyhee Uplands	Snake River Plain	Mt. Bennett Hills (survey only)	Camas Prairie (almost no information available)
Textiles	woven matting, fish line, basketry	cordage, woven matting, netting, twine, sandals, coiled basketry, leather pouch	1- and 2-ply cordage, knotted sagebrush bark, hide moccasin		
Wood	beads, rings, disks, cylinders, hoops, fish hooks, bow frags, arrow shafts, fire drills, forked sticks	shafts, peg, fire drill tip, cylinder, promontory peg	arrows, fire drill shafts, game counters, cylinders, notched points		
Shell	beads, pendants		beads		
Bone	beads, rings, disks, plain and incised tubes, dice, tools/flakers, proj. points (polished), elk teeth pendants, awls, needle		awls, rubbing tools, flakers, dice, tubes, or beads		
Food Sources in Cultural Context	fresh water mussels, deer, bison, antelope, varied small animals, seeds, berries, fish, crayfish	mussels, seeds, roots, antelope, deer, bison, sheep, varied small mam mals (esp. rabbit, porcupine, marmot), steelhead trout, crayfish	camel, horse, bison, antelope, deer, rabbit		

7.2 Historic Use and Occupation of the Study Area

British and American exploration in pursuit of pelts brought changes to the Native Americans inhabiting the study area. Just prior to their arrival came the Spanish horse, from trade within Native American circles including sources in California via the Walla-Walla in the late eighteenth century, and from the southwest United States, via the Kiowa and Comanche. The economic position of the horsemounted Native Americans abruptly changed relative to that of a newly created underclass of Native Americans who did not have the horse. The effective resource collection range enlarged greatly for the horseriders in comparison to those groups without horses; trade increased as surpluses accumulated; however, natives of the study area were excluded from much of these changes until late in historic times, and some groups never regained the economic status equal to that which they may have had in pre-horse days.

7.2.1 Contact History

Within twenty years, between 1811 and the early 1830's, the local resource base had become so depleted by having to support the Euro-American newcomers, as well as the native inhabitants, that formerly friendly Native Americans along heavily travelled routes had to turn to raiding to survive. Disease depleted the native population, native food caches were ransacked by Euro-Americans lacking survival skills, and many of the remaining natives relocated in remote areas to attempt survival. In this atmosphere of demoralization and cultural dissolution, few Native Americans would survive.

From the 1840's through the 1860's, increasing numbers of emigrants travelled the Oregon Trail and its branches. Cattle and other livestock travelling with the emigrants provided meat for them and for the local raiders, Native American and Euro-Americans who worked the trails. Clothing, horses, and winter supplies were taken, and the U. S. military began its surveillance of the Trail system. Military pressure and a greatly reduced natural subsistence base forced many Native Americans who had not yet left to relocate in more remote areas.

The gold and silver strikes of the 1860's in southwestern Idaho created boom towns with no local support infrastructure. Local demand was so great for food that cattle drives to the gold fields began from central California and from the Willamette Valley of Oregon; ranches were founded closer to the gold fields in southeastern Oregon, southwestern Idaho, and along the Snake River, to supply the miners. Road clearing commenced in the wake of the first cattle, ferries were built, and tent-camp trade centers were established, often at or near military camps in California, Nevada, Oregon, and Idaho. The combination of many emigrants and their material needs, usurpation of the Native American resource base by the actions of the emigrants, and active military pursuit reduced and fragmented the native population, many of whom were captured and placed on reservations by the end of the 1860s. The organized flare-up of the Bannock Wars in 1878 was dispelled rapidly, and historic use and settlement of the study area continued.

7.2.2 Settlement Patterns and Land Use

The study area experienced three consecutive overlapping phases of settlement: 1. the development of mining districts and towns; 2. the development of a mechanized transportation infrastructure; and, 3. development of intensive agriculture.

The beginning of the first phase was ephemeral, characterized by rapid population growth, an acute short-term demand for goods and services, generally temporary structures, and seasonally disrupted transportation. Following the initial rush to the mining centers, those aspects related to boom town living which had the prospect of lasting beyond the boom were invested in: trails became roads, ferries were replaced by bridges, houses replaced tents, farmers and ranchers arrived to make a concerted effort at local food production, and supply and transportation centers became towns.

The second phase was the construction of the railroad. Dependable heavy transportation accelerated development and towns were constructed along the railways. Provisions of the Desert Land Act of 1877 attracted small farmers to the area. Populations to fill the new towns were sought actively by the railroads. With a sure way to transport them, local industrial and agricultural products could be sent to larger markets. The study area was linked by rail to the rest of the continent by 1884.

Phase three followed on the heels of the railroad and ushered in statehood. With new potential markets available to producers because of dependable transportation, necessary legislation, including the Carey Act of 1894, financing, materials, and engineering also became available, enabling the construction of massive water delivery systems near the Snake River. Large-scale irrigation agriculture became a reality and transformed the land and the lives of those who lived in and near the study area.

Depending on the price of commodities, mining has undergone several revivals of interest and development, with the current center of mining action at Delamar, near Silver City.

Ranching continued in much of the study area where irrigation could not work. Cattle ranchers and sheepherding outfits vigorously competed for available rangelands, until the Taylor Grazing Act of 1934 brought some order to the problems. Native Americans who survived settlement were generally restricted to reservations, which in the study area include Duck Valley in the south of Owyhee County. They were not uniformly integrated into the economy of the area. In 1946 the Taylor Grazing Service and the General Land Office functions were combined to form the Department of the Interior's Bureau of Land Management.

7.2.3 Contemporary Land Use

The contemporary culture and lifeway of the study area is much like that of rural Idaho as a whole. Agriculture, ranching, and mining are the primary industries. These interests compete among themsleves, with recreational users, and with the military, for use of the federally-controlled lands making up more than 70 percent of the study area.

In pursuit of a management goal of multiple use of Federal lands mandated by the Federal Land Policy and Management Act of 1976, BLM land managers are actively pursuing the collection of data which will form the basis for land allocation and use decisions. Current problems facing managers are that irrigation agriculture has expanded into nearly every irrigable acre on the Snake River Plain, and beyond. Ranching interests are currently embroiled in negotiations with land managers regarding intensity of grazing and appropriate land use. Federal land is being considered for sale to retire a portion of the national debt.

The study area is sparsely populated, with a density of about one person per square mile. Major population centers are outside the study area. Because of its remoteness the military operates a bombing range in east central Owyhee County and the area was the scene for the testing of nuclear devices in the past. The rich history and the remoteness of the study area in general attracts some campers, hunters, and recreation-minded people who enjoy the cultural resources, the natural beauty and solitude found here.

PART 8 - SUGGESTED MANAGEMENT OPTIONS AND RESEARCH DIRECTIONS

8.1 Research Directions

Issues related to future research and cultural resource management of both archaeological and historical resources in the Boise and Shoshone BLM Districts are similar in scope. The research requirements of both districts revolve around many of the same issues, questions, and gaps in the data base. The gaps will be remedied following extensive field investigations which can be designed to provide a comparable data base. Clearly, the enormity of the resource dictates cooperation of academically oriented research archaeologists, cultural resource managers, conscientious amateurs, land owners, and others. The following sections describe research and management directions and options. The Boise and Shoshone Districts are considered a single unit for purposes of this discussion unless otherwise noted.

8.1.1 Prehistory

8.1.1.1 Research Directions

The goal of historic and prehistoric archaeological research is the explanation of adaptive strategies. Why did the members, the bearers of cultures do what they did? All archaeological questions are subsumed under this question. This conceptual umbrella is outlined below as the first research direction. Whether archaeologists, with the incomplete data set peculiar to the field, can reach the goal or not will be answered in the future.

Other research directions are listed below this major formulation, because they are locally specific variations of the basic research aim. Locally specific variations of research directions are idioms peculiar to the research language of the study area. Since an archaeologist never knows what will be found until it is in hand and analyzed, the order of the statements following the first one do not imply any rank ordering.

8.1.1.1.1 Explanation of Adaptive Strategies

Each archaeological component of each site holds data which describes how some members of a group with a common culture conducted a portion of their lives. The activities they performed were contributions to the continuous process of internal adjustment through which culture units adapt themselves to their physical and cultural environment and changes in that environment (Bettinger and Baumhoff 1982:485).

Since each site component holds a record of only a part of the sum of cultural data by which a group adapts at any given period in time, it follows that all of the site components which a group used during this period in time contain the archaeological record of the group's adaptive strategy for that period.

Major tasks of this basic anthropological and archaeological research responsibility include:

- definition of the geographic areal limits within which a group practiced its adaptation;
- definition of the chronological limits within which the group practiced its adaptation;
- location of the archaeological components which a group formed during its adaptation;
- description of natural environmental variables of each such location;
- description of the cultural attributes and functions of each component;
- description of the functions of all of the components, including redundant uses and redundant components;
- description of the demographic distribution of the group's membership among all of the components; and,
- description of the group's adaptation.

After these tasks have been accomplished for one group at one time, the same must be done for the same group at different times so as to detect specific adaptive changes and the direction of change. Then groups can be compared to other groups within a larger context and research can then begin to formulate an explanation of the adaptive strategies underlying a group's adaptations.

8.1.1.1.2 Development of Local and Regional Chronologies

Understanding the process of culture history requires an understanding of the chronological placement and relationship of events: how does this data compare with that data?

One of the bases for data comparison is time. When did something happen, when was a site component in use, when did the neighbors move in, when was "x" invented, when did someone bring in a better implement design? A correct description of culture history and the network of often confusing intertwining culture histories with which archaeological realities are laced requires accurate control of this variable.

Each group's cultural locale will have evidence showing slight differences in development, changes, and pattern of adaptation to and acceptance of change and new cultural ideas. There has been and will continue to be problems which relate to the need for both accurate local chronologies and generalizable chronologies which permit comparison to nearby and distant time frames. An outpouring of new phase names for each local cultural chronology as it is discovered has local descriptive utility, but has to be translatable, comparable with regional systems. The descriptive usefulness of local phases, of course, depends on the nature of the supporting evidence, and whether the phases describe a systematic description of missing or inaccurate data, or relate directly to a finely-tuned observation of distinct human activities.

8.1.1.1.3 Definition of Functional Site Types, and the Season(s) of Site Occupation and Use(s)

Settlement, land use, and subsistence studies, each a key to understanding human adaptation, require that site components be identified by function, by the activities which occurred there, and the season(s) to which each activity could be assigned. A comprehensive land use and settlement pattern, descriptive of the complementary tasks pursued by a group's members, and the location in which each occurred, needs as critical tools for its creation; 1) chronological contemporaneity of included components; 2) functional identification of each component; and, 3) identification of the season of use.

8.1.1.1.4 Cultural Relationships

The following research topics are being actively pursued in the study area and will continue to demand thoughtful work in the future. They are concerned with relationships between locally evolving cultures and more distant cultures.

1. Further investigation of occurrence of small corner- and side-notched projectile points in early Archaic contexts with implications to the questions of the origin of the bow and arrow in the northern Great Basin.

2. Description of the temporal and cultural relationship between Great Basin and Plateau cultures and those of southwestern Idaho. Research questions stemming from this topic are:

    1. What is the nature of house-type variability in the study area, especially along the western Snake River?

    2. What are the origins of the Western Idaho Burial Complex?

    3. What can be documented of the Numic Expansion into southern Idaho?

3. Description of the temporal and cultural relationship of Great Plains and Southwest cultures with those of the study area.

    1. What was the nature of and the evidence for Fremont cultural influences in the study area?

    2. Why is the "shield-bearing warrior" motif present in the study area? (Is it really a shield-bearing warrior?)

4. Description of the relationships between Fremont and Numic cultures within the study area.

    1. What are the attributes by which Fremont pottery is distinguished from Numic pottery?

    2. Is the relationship between Fremont and Numic cultures best stated as sequentially, and separated in time, with Fremont preceeding Numic; or was there a period of co-existence? Is the relationship different and more complex than these choices suggest?

8.1.1.1.5 Archaeological Model Construction and Testing

This research direction can produce data which will contribute to an understanding of adaptation, by examining a selected subsystem within a culture (i.e., subsistence practices, trade networks, relationships between rock art and land use). Data and models of subsystems will provide the basis for comparison between special elements of different cultural adaptations when less than the whole adaptive system is known or available for study.

Research topics which fall under this overall direction are:

1. Description of the relationships between paleoclimatic change and the changing lifeways of prehistoric populations in the study area.

2. Description of the significant Paleo-Indian horizon in the study area.

3. Archaeological verification of the ethnographic model of prehistoric and protohistoric Numic culture based on the work of Steward (1938, 1943) and Stewart (1941).

4. Comparison between Numic cultural adaptations and those of predecessor cultures in the study area (Bettinger and Baumhoff 1982).

5. Definition, distribution, and associations which exist in the rock art record and its relationship to cultural subsystems in the study area.

6. Description and comparison of trade networks involved in the Western Idaho Burial Complex with those in use before and after the cultural florescence it represents.

8.1.1.2 Recommendations

8.1.1.2.1 Research Planning

The Bureau of Land Management should develop a research plan for the Boise and Shoshone Districts which will assist in determining the scope of field investigations and the extent to which specific research questions and/or issues take priority within the limits of funding for cultural resource management. Some pertinent planning is already underway since management framework plans for each resource area have been developed.

The development of this research plan should be a cooperative effort on the part of cultural resource managers and research archaeologists familiar with the area. No management plan for cultural resources can operate entirely outside the traditional goals of archaeology. The research plan will have as its goal the goal of archaeology: the explanation of human behavior (see section 8.1.1.1).

A research plan is needed so that projects will be better-designed and project-generated data will be effectively coordinated, with the aim and achievement of research goals rather than simply being a legislated administrative reaction to project proposals. The responsibility of federal agencies acting as stewards of the public trust can not be met by site location data alone for the simple reason that the total number of sites in existence, the data base, is continuously diminishing, diminishing no matter what steps are taken for their preservation. The Bureau of Land Management must actively design and fund research now, based on the present sites, while this data still exists. To wait for some mysterious high-technology future when archaeologists may be able to retrieve data more successfully than at present is an operating theory which misses the point: there may not be a useful data base in the future to work from. The data base for the future will be the result of research today.

The plan can present a logically ordered sequence of procedural steps in response to the major goal, and to each of the research questions. However, the sequence cannot be immutable. It has to be a flexible guide which can opportunistically take advantage of available funds, personnel, and data.

For example, site survey and inventory are basic first steps in a research plan. They provide site location data and initial site evaluations usually based on visible surface attributes. However, research geared toward any of the research questions does not have to wait, but can begin and proceed in previously inventoried areas while inventory continues in other areas.

The overall research plan and specific methods for answering research questions guiding the plan would benefit from consultation and coordination with the State Historic Preservation Officer, and other archaeologists familiar with the resources of the districts. The plan can contribute to the creation of a state-wide research plan, and to a degree could shape it if the Bureau designed one for statewide operations and then operated under it. Each Bureau district has a somewhat different prehistory to investigate, and each can operate its own research plan in coordination with a statewide research plan.

Other recommendations and ideas which should be considered in the development of a research plan include provisions to:

1. Initiate study, reporting, and coordination of data previously generated but unreported by BLM-sponsored investigations, as a cost-effective method of expanding knowledge of district resources. At the very least there should be developed a project summary/clearance report form for each set of project data, so that data is accessible, centralized, and comparable, for those with a need to know.

2. Design contract scopes of work to address the data gaps and research issues outlined above. This is the most effective and direct way to identify and synthesize data of relevance to the districts. Scope of work and not cost should be the overriding variable.

3. Develop more precise outlines for conducting and reporting clearance work which will generate more research-oriented data. For example, design clearances to address specific issues or problems when possible. Insure that small clearances and those with negative results be reported and subsumed into an expanding data base with a management/research orientation. Specifically, determine problems which clearances can solve, *e.g.*, location of sites within microenvironmental zones; report the results.

4. Develop standards and procedures for the systematic collection, processing, and cataloging of cultural materials. Curation, to be effective, should be in regional depositories where they can be properly maintained and accessible to screened and qualified researchers.

5. Initiate and pursue an in-house program for nominating sites to the National Register of Historic Places. This will complement the development of a research plan. The explicit intent and direction of the relevant legislation requires this.

Federal agencies were specifically directed in 1971 to "... locate, inventory, and nominate ... all sites ... under their jurisdiction ... that appear to qualify for listing on the National Register of Historic Places (NRHP), no later than 01 July 1973 (Section 2(a), Executive Order 11593 - Protection and Enhancement of the Cultural Environment). In addition, the Federal Land Policy and Management Act of 1976 (FLPMA) directs BLM to identify and designate areas of critical environmental concern including cultural values or resources.

NRHP and Area of Critical Environmental Concern (ACEC) designation constitutes a management commitment to take an active role in the protection of those sites designated.

Additionally, BLM-generated policy statements, including the research plan, should

6. Encourage as part of the research plan, outside professional involvement on project and site specific bases under Section 307(C) of the Federal Land Policy and Management Act of 1976. Archaeologists interested in specific problems may be willing to volunteer services if they are asked to do so. Have Bureau cultural resource managers serve as liaisons between the federal agency, the academic, and the private sector.

Designs in the research plan for the collection and analysis of field data should include provisions for emergency data retrieval as well as standard controllable data collection policy and procedures. For example, within the Boise District

7. Initiate rapid, controlled, systematic data collection through field survey, testing, and excavation of sites known to be undergoing erosional damage, for example, along Devils Creek where human-caused stream level fluctuation has severely damaged valuable Paleo-Indian bison-kill sites and related sites.

Standard field data collection and analysis including site survey and excavation should be guided by goals and procedures outlined in the research plan.

In regard to site survey and inventory the Bureau of Land Management is already required by law and policy to inventory project areas, thus, site location research is being prioritized on a project to project basis. This ongoing inventory of all visible cultural resources on lands the Bureau manages has provided and will provide basic management data--where the sites are, and therefore, some grounds for judging impacts to sites by proposed projects.

It is rare when site forms based on surface survey alone carry sufficient information to suggest their use for more than site location mapping, and to get an idea of present-day environmental setting. To improve the usefulness of the data yield from site survey, the research plan should be concerned with

8. Complete, accurate, and standardized data recording, in easily retrieved form.

9. Survey/Reconnaissance Strategies - should include inventory and sampling strategies which generate and test predictive site location models. These should extend

across the full range of environments present in the study area, from alpine to riverine.

10. Sampling Strategies: what is the information each sampling procedure will provide or will not provide? (Introductory field guides for archaeologists often discuss the merits of different sampling designs.) Choices depend on the overall goals of the survey; the level of local expertise which can be applied to the survey (a random sample may be best only in the case of complete ignorance of the survey area); the degree to which the sampled universe is uniform or diverse (stratifiable); the percentage of the whole which can be sampled; level of competence of those performing, interpreting, and using the analysis.

11. Survey tract selection - should be governed by the current absence of data in some areas, and by overall research goals. When one looks at the site distribution maps it is obvious that some gaps are not due to the absence of sites in the area, but instead are due to the lack of systematic data retrieval in these areas. Overall research goals can be better served if sampled areas relate directly to coherent geographic areas, such as watersheds; cultural units, such as the known ranges of historic Native American bands; or a specific set of one or more microenvironments, such as springs. Political units, fenced project areas, or section lines were not part of prehistoric land use patterns.

12. Survey methods - a research plan should consider many varied methods, with the aim being a survey tailored to the landscape and the research question it is meant to answer.

    - Transect Intervals: transect intervals vary infinitely in their usefulness; there is no "system" or fixed description of a survey methodology universally applicable. However, transect methods probably can be linked fairly well to soil cover, landform, microenvironments within a landform, water, slope, known archaeological resources, seasonal characteristics and changes across the same area, skills of those conducting the survey, and the needs of the survey.

    - Soil cover removal and auger sampling: to do or not to do is again, as in the above statements, a judgemental choice not always planable, and always a useful contingency procedure should a situation warrant.

- On-foot Inspection: should be contrasted with the usefulness of motorcycle, horseback, and helicopter inspection of the ground surface. Because of differences in the spatial relationships of cultural materials and assemblages, each method does something well, and no one method produces the best results in all situations. For example, some rock alignments can not be perceived when one is amidst them on the ground, but can be understood from a helicopter or on horseback; in areas of little ground cover and little difference in the known occurrence and patterning of sites, motorcycle sweeps of the land (where the land can stand it) may prove useful, cost effective, and reliable, if properly conducted.

- Aerial Photograph Interpretation: using photos of varying resolution, and especially those photographed at seasons which provide the least-obscuring conditons, or by using techniques to enhance the visibility of whatever it is one wants to see, will yield results not obtainable on the ground, especially in the location of extensive but minimally visible rock alignments, irrigation ditch and flume routes, relict trails, roads, and railroad beds, etc.

- Metal Detector: controlled sweeps along a gridded pattern across prehistoric and historic sites where metals may be present can often add data regarding trash dumps and other deposits useful for precise dating. Buried structures, pipes, etc., useful in site interpretation often are sensed where otherwise they may not be found.

Excavation should be guided by the fact that it is a destructive process, one in which some internal data relationships are disturbed or destroyed as others are accurately recorded.

13. Sampling should not be glibly pressed as an unexamined good, in and of itself, simply because we have to live with it as an economic strategy. Sampling clearly is destructive, and sampling designs can not be arbitrary, imposed on any site, but must be the product of a

testing program unique to each site, and sufficient to markedly reduce potentially disrupting damage. As far as is possible, research targets should be known before excavation begins.

Testing is a site-specific problem to be guided by research goals. Whether by auger, shovel, metal detector, magnetometer, ground-penetrating radar, or a combination of these as appropriate, it should provide sufficient detail to permit the most cost-efficient data retrieval possible.

14. Excavation should be conducted at carefully selected sites which, on the basis of test results, have a high probability of providing data which contribute to the achievement of the research goals outlined in the plan (see section 8.1.1.1).

    Excavation will always produce surprises, and attention should be paid to research designs for excavation which retain labor in reserve for completion of special or expected data retrieval problems as they appear.

15. Analytic studies of equal or greater importance than the basic retrieval and description of artifacts and their three-dimensional relationships often produce data which can go beyond the limits of description, and actually explain why and how a component was formed. This greatly increases the interpretive value of the basic data. These studies include:

    - geomorphological and pedological study of the site setting, local context, and soil evolution assist with paleoclimate reconstructions, and suggest what the site setting offered in the past, why the location was chosen, what happened to enhance or diminish its usefulness to prehistoric people and forces affecting site formation and interpretation. Soil horizon sequences can be dated by thermoluminescene, hearths by paleomagnetism measures.

    - palynological analysis answers questions about paleoclimate, changes in climate, and economically significant plants which entered the site matrix in the course of site occupation.

    - flotation can separate botanical specimens, and microfaunal specimens from site matrix material.

Analysis of botanical materials and faunal specimens can lead to the description of site function, and identify use areas within a site.

- lithic analyses include descriptions of manufacturing techniques, formal description and analysis of artifacts, sources of materials used, obsidian hydration measurements, and wear studies. They provide data regarding cultural affiliation, site functions, trade links and cultural connections, and chronology.

- chronometric studies yield data which date cultural deposits. Depending on the materials recovered, they can include radiocarbon analysis, thermoluminescence, paleomagnetic measurements, obsidian hydration measurements, dendrochronological analysis, and other studies which contribute to chronological ordering of the site contents. They become more reliable when more than one kind of analysis is used to provide checks on other chronometric data.

- pottery and basketry analysis can provide trade data, suggest cultural affiliation, and through comparative studies of styles and manufacturing methods, a chronology can often be determined. Basketry can be dated by radiocarbon analysis, and pottery by thermoluminescence.

- other studies include pictograph pigment analysis (trade, sources and chronology), lichenometric measures (chronology), seriation (chronology).

16. One other special category of field study must be planned for in the research plan--recording and analysis of rock art and rock alignments. Rock art should be photographed under natural and artificial light, recorded using permanent marking pens on vinyl to trace them in a non-destructive way (see Gehr 1982). Rock alignments and rock art should be mapped in the field. Aerial reconnaissance and photoexamination at appropriate seasons may permit the location of alignments which are now unknown, partially buried, or difficult to perceive at ground level.

17. Relations with the Native American community and the general public - an archaeological research plan is a policy statement which presents a set of values to the public. It lists priorities and describes what is of

interest (value) to researchers and, by implication, the BLM. There should be a component of the plan stating goals regarding the relationship between BLM research goals, the Native American community, and the general public. Some kinds of archaeological research, such as skeletal analysis, can inflame segments of the public. The plan must be able to accommodate alternatives and compromises in the research to sensitively respond to values of different segments of the public, and must still keep the research goals as the basic guide.

Management planning in the study area has addressed the problem with the following:

Objective - Support socio-cultural values held by various groups and give them full consideration in resolving resource conflicts.

Rationale - Manual 8111 requires consideration of socio-cultural values associated with cultural sites in or affected by the District. Cultural sites usually have little inherent value and are largely given meaning and worth by vested interest groups such as Native Americans, pioneer descendants, and societies concerned with heritage preservation. The integrity of some of these groups is threatened by various Bureau sanctioned activities such as large scale agricultural development and wilderness designation (BLM Management Framework Plan: Owyhee Resource Area).

8.1.1.2.2 Existing Management Framework Plans

Recommendations for site protection, outreach and educational programs for enhancement of public awareness of values associated with conserving cultural resources, nomination of sites to the National Register of Historic Places, data retrieval at endangered and selected sites through archaeological excavation or other means, already exist as part of developing Management Framework Plans for Resource Areas within the study area. These plans are available upon request to the BLM District Offices.

The following is a necessarily incomplete list of selected recommendations regarding cultural resource research in those resource areas which have developed Management Framework Plans to some stage. Many recommendations have general applicability beyond the resource area for which they were prepared.

Owyhee Resource Area

Recommendation - Complete cultural site evaluation forms for all prehistoric and historic sites in the ORA and complete a Class I Inventory for this area.

Conduct additional inventory at the Class II level where supplemental information is required.

Rationale - The accumulation of cultural resource data is a part of Bureau policy contained in I.M. 75-543. The Class I Inventory and the evaluation portion of any inventory are vital elements of the Cultural Resource Program and form the building blocks on which planning is based and on which subsequent are decisions made.

Recommendation - Conduct test excavations routinely and salvage those sites where destruction is inevitable.

a. Test excavate a representative number of key site types as part of the Class II Inventory and Evaluation procedures.

b. Test excavate and salvage threatened sites encountered in Class III Inventories.

Rationale - There is insufficient information available to evaluate the sites Recorded in the Class II Inventory and those sites recorded in Class II Inventories. Avoidance is not always the best mitigation in project planning, and some projects have been needlessly cancelled because of lack of subsurface cultural information. Specific sites requiring test excavations will be identified when BLM evaluation procedures have been completed.

Recommendation - Nominate the following areas of high cultural resource site density for Archaeolgoical District status.

1. Lambert Table Archaeological District
   - T. 12 S., R. 3 W., Section 31
   - T. 13 S., R. 4 W., Sections 1, 2, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26
   - T. 13 S., R. 3 W., Sections 5, 6, 7, 8, 16, 17, 18, 19, 290, 21, 28, 29, 30, 31, 32, 33

2. Rooster Comb Peak
   - T. 3 S., R. 5 W., Sections 24, 25, 26, 35, 36
   - T. 4 S., R. 5 W., Sections 1, 2, 12, 13, 14, 24, 36
   - T. 4 S., R. 4 W., Sections 5, 6, 7, 8, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34

3. Rabbit Creek
   - T. 3 S., R. 2 W., Section 3

4. Sinker Creek
   - T. 3 S., R. 1 W., Sections 1, 13
   - T. 3 S., R. 1 E., Sections 7, 18

5. Castle Butte
   - T. 4 S., R. 1 E., Section 1

Rationale - The proposed Archaeological Site Districts comprise unique nonrenewable cultural resources which are being impacted by agents of deterioration. Creating archaeological districts will facilitate the protection and conservation of these sites as well as facilitating project implementation in these areas by determining National Register eligibility.

Bruneau Resource Area

Name: Y and 5 Finger Buffalo Jumps Archaeological District
Special Management Requirements - further verification of their significance may be desired through a limited test excavation program.

Name: Shoofly Creek Rock Alignments Archaeological Site
Special Managment Requirements - a need clearly exists for further verification of this site's function as a game drive and slaughter area. Test excavations may reveal the presence of animal bones and hunting and butchering tools. The area should be nominated to the National Register.

8.1.2 History

8.1.2.1 Research Directions

Historic research has as its greatest attribute an enormous body of data and data sources, most of them written, many of which are easily accessible. There are also the sites themselves, often well-preserved, in settings reasonably similar to the original, and still in use, from which specific data can be obtained. Historic research has as its greatest drawback the problem of managing, organizing, and interpreting its vast data base.

The research goal of explaining human behavior is shared by historians, anthropologists, and sociologists. The view which historians bring to the task describes linkages, networks, events, and people vested with the ability to cause other events. Motive often becomes a necessary research focus for historians. Historically recorded personages and presently living people differ in their perceptions of reality, causation, and their own role and place in life. Some find opportunities to lie, ratonalize, and fabricate reasons for their actions. The historian often must sift through a much less empirical data base than the archaeologist to accurately interpret the meaning of persons, things, acts, and events.

Historians, too, are losing their data bases. Although there is a surfeit of documentary material on many historic topics, entropy continuously preys on old paper. Of greater importance to the study area is data lost when people with personal familiarity with and information about pertinent events and people die with their memories unrecorded; or when sites are damaged or historic structures are vandalized or razed before they have been accurately documented.

Much of the discussion in the section on prehistory can be profitably applied to the problems of historic research and management of historic cultural resources. However, the study of historic processes in the study area has its own set of research problems and directions.

8.1.2.1.1 Ethnic Studies

The distinct histories of the diverse European, Asian, and Afro-American ethnic groups that arrived, lived, and worked in Idaho is recorded unequally. Some existing ethnic communities may still have to be identified for research, and others may have become submerged in mainstream culture. Native Americans in the study area presented several different adaptations to historic cultural change. Some responses are well-known, but others such as remaining out on the land or developing an urban community near the study area, are not. Each represents a different historic/cultural adaptation with its own underlying set of adaptive strategies and values brought to cope, more or less successfully, with a dynamic United States culture which changed with the arrival of each new in-migrating group. What groups came and lived here, when did they first arrive, what roles did they seek and which were they able to adopt, how did they affect other groups, and where are they now?

Recommendations in the existing Management Framework Plans identify this as a needed research direction with direct implications for expanding the cultural resource data base, and for sensitive project management.

8.1.2.1.2 Historic Model Construction and Testing

Models of historic lifeways which cross-cut the population can refine our knowledge of specific subsystem adaptations through historic time. As with archaeological model building, less than the whole culture can be studied.

The focus of the model building is to describe the evolution of specific activities, trades, groups, and systems in the study area (i.e., transportation, mining, trapping, ranching, fishing, farming, the Grange, unions, education, finance, religious groups), and understand their historic significance.

A model which describes a subsystem's role, functions, and complementary place in the culture at one point in time can be compared with a later or earlier form to elucidate the nature and direction of change. Are there local differences, temporal differences, or technological changes affecting other parts of the subsystem? How do the various subsystems integrate to form the historic fabric of the study area? Synchronic studies can yield a freeze-frame picture of systems integration; complementarity, diachronic comparison will show change.

8.1.2.2 Recommendations

8.1.2.2.1 Research Planning

The BLM should develop a research plan for historic archaeological research, integrated with, and similar in overall intent and goals to those discussed for prehistoric research (see section 8.1.1.2). Other topics not discussed in 8.1.1.2 which are specifically historic in nature include, but are not limited to the following, (below), and already existing recommendations in Management Framework Plans (8.1.2.2.2).

1. Identification of site loci and descriptions of campsites, stage stations, hostels, roads, railroad roadbeds, and trails developed and used in the study area,

particularly those of the mining frontier era in the Owyhee (1860-1870) and in the Wood River and Hailey (1880-1890) gold belts.

2. The Chinese occupation in the Silver City District is known of, but the boundaries of the settlements are not well understood. The Chinese, Native American, and Afro-American participation in the Silver City District, and in the Wood River and Haily Gold Districts were not as well-recorded as that of the Euro-Americans.

3. Continued survey and documentation of historic structures and use areas, e.g., ranch complexes, homesteads, historic petroglyphs and dendroglyphs, abandoned town sites, mines and associated mills. Basic Site survey documentation requires beyond the completed site form detailed site maps drawn to scale; and, black and white and color photographic records sufficient to describe individual features, architectural characteristics, and when compared to earlier photographs, to provide a check on rates of deterioration. Panoramic photorecording from a site mapping datum can assist in mapping, and can aid identification of photographs from archival collections. Fire, vandalism, and natural deterioration continually reduce this data base, and researchers may not get a chance to amend forms from incompletly recorded sites.

4. Compilation of data regarding historic Federal projects in the study area is incomplete. Civilian Conservation Corps camps, sites, and projects (dams, trails) exist in the study area. Federal construction, much of it related to irrigation, is also present. Military sites of the past are known; many need on-site inspection and description.

5. Oral histories related to the above, and to the interpretation of already recorded sites must be collected while the resources (respondents) yet live. The richness of the memory culture held by people who have lived the history is lessened as each dies.

6. Excavation priorities, to be determined in the research plan when it is created, will be concerned with two ongoing categories of data retrieval; 1) emergency/salvage archaeology at sites where data loss has been rapid; and, 2) controlled excavation, reconstruction, and stabilization of sites, each of which will yield data leading toward the solution of research questions.

8.1.2.2.2 Existing Management Framework Plans

Recommendations for historical research contained in existing Management Framework Plans for specific resource areas are limited; however, the management recommendations, section 8.2.3 below, are extensive and have implications for future research directions. The one recommendation clearly research-oriented is from the completed Owyhee MFP is as follows:

Recommendation - Inventory historic trail routes in the ORA through an active program of diary research and field investigation. Document locations of Oregon Trail alternate routes and associated historic sites. Priority areas include those classified as suitable for agricultural development.

Rationale - More research is essential for effective management of the Oregon Trail as many portions are not well documented. Previously unrecorded segments or associated sites could be inadvertently transferred or impacted by projects. A critical need for this information exists in those areas for which CLE and Carey Act applicatons have been filed.

8.2 Cultural Resource Management Options

The following discussion of questions and issues relating to future cultural resource management in the study area is based on the absolute reality that the future management of the resources will determine the quality and quantity of the data base. Some statements and viewpoints regarding explicit cultural resource data requirements and management orientation have been identified and developed in the cultural resource management sections of BLM planning documents, such as the Owyhee Management Framework Plan, and the Bruneau Management Framework Plan. Other ideas are derived from the management experience of resource managers, professional archaeologists, and interested parties concerned with the resources of the study area.

8.2.1 Impacts to Cultural Resources From Multiple Land Use

Owing to the nature of the project area land and the mandated as well as the unregulated uses to which it has been and will be put, there is an existing pattern of impacts to the cultural resources. Each class of impact can, if not mitigated, lead to data loss and alteration or destruction of the resource. The combination of impacts, natural or unnatural, makes it clear that competent data recovery, although destructive in and of itself, is to be preferred to the continuing attrition of sites and data that will occur even with the implementation of the best mitigative plans which do not include data collection.

Identified classes of impacts on the cultural resources in the study area are the following:

- Recreation - The lands of the study area are public, of enormous extent, and attractive for hiking, camping, fishing, hunting, recreational prospecting, and historic and prehistoric site exploration. Each individual's presence at a site can impact the resource by contributing to: 1) erosion or other destabilizing or internally reorganizing effects on site integrity; 2) data loss through removal, rearrangement, or destruction of existing artifacts and features; or, 3) painting or other graffiti which can cover or obscure data or introduce false data;

- Mining - Mining operations can destroy sites through inadvertent or deliberate removal of sites or site materials for the convenience of the mining operation. Perhaps there are occasional events when tailings, other spoil piles, or road or track construction backdirt covers a site, conferring a degree of protection to it; however, if the site has not yet been recorded, such acts only reduce the data base by hiding the site. Historic sites, such as standing stone structures, can provide an easily obtained source of ready-made building materials for projects related to mining and may be destroyed in the process;

- Grazing - Cattle and sheep, as unnatural, introduced and, therefore, necessarily well or poorly managed components of the modern landscape, apply with each hoofprint a concentrated hammer blow of many pounds per square inch to the land surfaces, and to some cultural resource sites. Although breakage of prehistoric lithic implements occurs, this act alone probably does not diminish the data base and, in fact, may protect the artifacts from unauthorized collection; however, internal reorganization of the site materials does alter the data base. Whether this occurs as a direct result of cattle-caused erosion or from hoof impact on site materials and supporting soil matrix, the result is the same: data is lost. "Cattle-dancing", a generalized repeated milling-about, especially concentrated at springs and along rivers and creeks, churns soils to such a degree that the potentially most useful kind of prehistoric site, the stratified site, is rendered undecipherable. Deposits of historic debris and small features at historic sites also suffer disproportionate losses due to cattle-dancing, since standing historic structures act as magnets for cattle. Often such structures are incorporated into informal cattle management arrangements as well, and provide an additional attractive storage space for salt blocks and feed; and,

- Spring Development - Springs are often the location of recurrently used stratified prehistoric sites. Pond construction, and some other development procedures such as the construction of boxes and subsurface trenches for pipes, destroy valuable environmental and climatic data as well as archaeological data. Spring exclosures, however, can assist the preservation of the remaining site material;

- Rangeland Drill Seeding - Seedings are large-scale projects which, as part of soil preparation, require rearrangement of the surface and subsurface soils of between 4 - 18 in. in depth. Probably most of the unstratified prehistoric surface sites in the project area would be rendered useless, or their interpretation much more difficult, were seeding to occur within their boundaries. Because of the known destruction of flagged sites by seeding projects, site monitoring is recommended;

- Juniper Chaining - To create more grazing acreage, juniper trees are removed by uprooting, a process which necessarily churns the soils, and contributes to a loss of site data integrity, as in rangeland drill seeding; this activity requires site monitoring;

- Road Construction and Planned Fireguard Construction - These activities usually involve removal or, at the least, reorganization of surface and subsurface soils, contributing to the loss of site data;

- Fence Construction - Disturbance to cultural resources occurs when equipment involved in the construction of fences crosses sites, and when post holes are dug. Following fence construction, damage continues as a result of cars driving and cattle walking along fencelines;

- Ditch Construction - Is much the same as roadbuilding in its effects; and,

- Fireguards/Firebreaks - As emergency modifications constructed during firefighting, fireguards cannot avoid archaeological sites in their path. Although salvage data recovery after the fact might appear to be the only feasible management option other than abandonment of the resource remains, the known unauthorized collection of site surface materials by fire crews makes data collection prior to fires an imperative procedure.

The results of experiments testing the effects of various soil modification projects are reported in the following: Bryant, Gehr, and Flenniken (1982); DeBloois, Green, and Wylie (1975); Gallagher (1978); and, Roney (1977). In all cases of soil disturbance, data is irretrievably lost: the greater the disturbance, the greater the loss.

Necessary detective work for the estimation and measurement of damage and reconstruction of damaged archaeological sites is described by Gehr (1976) and Roper (1976). A description of normal natural destructive processes present in archaeological sites is found in Wood and Johnson (1978).

8.2.2 Cultural Resource Preservation and Protection Issues

Site Interpretation and Public Education - Making the general populace using the lands and visiting the historic and prehistoric sites aware of the existence and meaning of the sites through interpretive displays, signs, maps to the sites, etc. may create a diligent, careful support group which can observe informally and thereby protect selected sites. Conversely, such sites may, by becoming known, invite acts of vandalism and theft. However, the existence of many sites already is known. BLM managers and other employees who will have direct, if sometimes inadvertent, contact with cultural resources, must be trained to contribute effectively to the cultural resources program, and that training included in research and management plans. They may encounter heretofore unrecorded cultural resources in the course of their work, or witness acts of vandalism, which without proper training and awareness might be interpreted as recreation rather than destruction of scientific data. Nearly every prehistoric surface site in the study area has been gleaned of its aesthetically attractive bilaterally symmetrical chipped stone artifacts, usually projectile points and knives, a continuing process which began in prehistory. These and other implements and artifacts show up at fairs and swap meets, testifying to the results of the collecting, digging, and sifting occurring at some sites. Bottle collectors continue to excavate at historic sites, removing chronologically significant artifacts and disorganizing other data.

Amateurs - Enlisting the support of amateur archaeologists and historians of all persuasions toward the maintenance of the sites may reap large if not immediate dividends. Education through outreach training and on-site data recovery is required. This core of active amateur researchers can change public attitudes, can accomplish real and needed tasks, and can reduce the need for site monitoring.

Fencing Sites - Fencing sites is controversial, may or may not work, and often seems to raise the value of the contents in the eyes of would-be vandals. Fencing costs are high and, without continuous direct or remote monitoring, fencing probably invites destruction of the resource.

Site Surveillance - Because of the remoteness of many of the archaeological sites, few can be effectively monitored, and most, if not all, would benefit from remaining unknown to the general public. Helicopter observers fly away after a while, and cease to be a deterrent to vandalism; hidden transmitters designed to monitor visitation can be found and broken.

A signed interpretive publicly accessible site probably can safely exist only where visitation is sufficiently frequent that no one is left alone with the resource for more than an hour or so. Heavy visitor use can confer some degree of safety on a resource when the presence of people is sufficient to discourage vandalism. This public control of the public, where possible, coupled with visible patrols and data recovery where needed, due to recurrent vandalism of significant sites, probably are the three best methods of maintaining the data base, and retaining public approval of the cultural resource management program.

Data loss, however, will continue no matter what option is chosen. What a manager chooses will be the degree of data loss and the speed of the loss. Site surveillance is more effective now than before, since the passage of the Archaeological Resource Protection Act (1979) gives BLM citation authority. Trained BLM personnel and cooperative agreements with local law enforcement agencies will probably improve preservation of some sites, especially if prosecution of cases is vigorous and adequate. Passage and enforcement of a strong state law conferring protection on cultural resources would also help.

8.2.3 General Issues and Options for Resource Managers

8.2.3.1 Planning

Develop research oriented management plans for Boise and Shoshone Districts which will assist in determining the scope of field investigations and the extent to which specific research questions and/or issues take priority within the limits of cultural resource management. The development of this plan in each district should be a cooperative effort on the part of cultural resource managers and research archaeologists. Each plan should be coordinated with State research and management plans as they develop. Planning already underway in the form of resource area management framework plans address many problems common to all resource areas, and should be used in the design of district plans and policy. The plans and policies, in turn, will have relevance for statewide plans. At every level of development, BLM research and management planning can benefit from consultation with archaeologists and historians outside the agency, and with the State Historic Preservation Officer. BLM plans could determine some of the form of the planning pursued by the SHPO, and other state and federal agencies involved in their own planning. Coordination will reduce duplication of effort.

8.2.3.2 Research

Management plans must support research, and the development of a workable research plan (see section 8.1.1.2.1). With a large portion of Idaho effectively under Federal management, stewardship of the land requires that protection of scientific, archaeological, and historic data be understood as collection of data. Preservation efforts alone, because they are never 100 percent successful, can only lead to data loss.

BLM should develop a program of research which includes managers and a research staff of prehistoric specialists and historians, historic archaeologists and architectural historians, and folklorists, for purposes of developing a program of site survey and excavation designed to address research questions, including the chronological, demographic, and functional nature of prehistoric and historic settlement and land use in the districts. When needed for special problems, BLM should hire contract specialists.

8.2.3.3 Resource Protection

BLM cultural resource managers should identify areas of excessive vandalism and increase federal protection through monitoring of sites and areas having potential significance to district prehistory and history. This must be a high priority in any management plan (see section 8.2.2).

8.2.3.4 Professional Responsibility

BLM archaeologists, cultural resource managers, historians, etc. have a professional obligation to attend meetings, share data with other professionals, and maintain state-of-the-art proficiency. They should develop a more visible profile within the professional community. This should include presentation and publication of the results of BLM activities. This will promote better working relationships between academic and federal archaeologists and make easier the task of bridging the gap between the needs of cultural resource management and the traditional goals of archaeology. Each group holds data the profession needs; each holds data the other needs. Cooperation should reap benefits for both.

8.2.3.5 Data Curation and Retrieval

To be useful, data must be properly safeguarded in storage, whether the data are artifacts, or excavation reports. Conversely, data storage must permit easy retrieval. The only realistic management option regarding data storage and retrieval is one of continuous improvement. Scattered data sources should be centralized, and data organization and quality should be geared to the requirements of research plans.

8.2.3.6 Property Management

Options for cultural resource property management and protection are available in various strengths to match specific situations.

1. Withdrawal - The property, and sufficient contiguous acreage, or strategic but discontiguous acreage can be withdrawn from selection for purposes including mining, and agriculture. Usually, grazing may be permitted.

2. National Register of Historic Places (NRHP) - The significance of the property can be recognized through nomination to this role of historic and prehistoric sites. Some funding for restoration, and a program of tax advantages can accrue to privately-held properties. Nominated properties on public lands which will be affected by projects must be considered for protection through avoidance, or data retrieval.

3. Area of Critical Environmental Concern (ACEC) - This BLM designation effectively "red flags" that property, protecting it by requiring its consideration in project planning. Sites deemed eligible for the NRHP may be so designated.

4. Cultural Resource Management Plan (CRMP) - Management values regarding selected sites or clusters of sites can be considered, and recommendations made within the framework of the CRMP.

5. Closure - This act denies all other uses for a given tract of land. Closure can be applied for the protection of significant resources, and properties suffering vandalism.

6. Management Framework Plan (MFP) - This planning document is used to recommend different categories of land use allocations. Such allocation can protect a site by limiting activities on it to those deemed non-destructive.

7. Sale of the Property - BLM can transfer ownership, sell, or exchange title to cultural resource properties. This might be considered in the event of the formation of a cultural resource conservancy entity.

8.2.4 Options from Existing Management Framework Plans

The following, although necessarily incomplete owing to the nature of the ongoing planning process, are useful options. Some of these recommendations/objectives/options have applicability to problems in addition to those specifically addressed.

8.2.4.1 Management of Prehistoric Resources

Recommendation - Participate in the State Historic Preservation Office's planning to encourage their inventory and research in a direction conducive to meeting BLM data and management needs. In conjunction with the SHPO identify and nominate all properties eligible for inclusion on the National Register of Historic Places. Designate all ACEC eligible properties using BLM guidelines.

Rationale - These formal designations will ensure adequate consideration of significant cultural sites in making land use allocations. Projects affecting national Register eligible sites require comment from the Advisory Council on Historic Preservation. Archaeological and archival research is expensive. Pooling resources to achieve mutual research goals can benefit both agencies.

Objective #1 - Protect and interpret for the public all sites listed in or determined eligible for listing in the National Register of Historic Places.

Rationale - The body of legislation passed in the 1960s and 1970s bears testimony to the American public's concern for the preservation of their heritage. The National Historic Preservation Act of 1966 established a National Register to list sites, buildings, structures, and objects of importance in American history. It also created a national advisory council to provide guidance. Section 106 of the act required consultation with this advisory council prior to undertaking any action that would affect a National

Register property. Executive Order 11593 and 36CFR800 further defined the responsibilities of federal agencies to identify and protect National Register eligible properties.

Objective - Allocate cultural resource sites to uses which support the following types of research goals.

a. establishment of chronologies with supporting radiocarbon dates

b. development of a catalogue of lithic source materials locations based on obsidian analysis

c. development of predictive models of settlement and subsistence for distinct areas based on ecofactual information

d. reconstruction of various aspects of prehistoric and historic lifeways

Rationale - These areas of research will provide valuable information for effective management, including an idea of the value of a given site in terms of uniqueness, diversity, depth of deposit, etc.

Recommendation - Inventory by structured interviews the values held by ethnic and special interest groups relating to general heritage values associated with cultural sites.

Rationale - There is insufficient information to assess the strength of socio-cultural values held by any groups--or even to identify these groups with certainty. Determining socio-cultural value and use and potential use of all sites is required in manuals 8111, 1605, and 1608.

Objective - Support socio-cultural values held by various groups and give them full consideration in resolving resource conflicts.

Rationale - BLM Manual 8111 requires consideration of socio-cultural values associated with cultural sites in or affected by the District. Cultural sites usually have little inherent value and are largely given meaning and worth by vested interest groups such as Native Americans, pioneer descendants, and societies concerned with heritage preservation. The integrity of some of these groups is threatened by various Bureau sanctioned activities such as large scale agricultural development and wilderness designation.

Recommendation - Carefully review antiquities permit applications, develop stipulations regarding their scope, and monitor the work to ensure wise use of the resource. Prosecute individuals who work without benefit of an antiquities permit.

Rationale - Scientific collection and excavation is in itself destructive to cultural sites. Techniques do not guarantee that all data will be salvaged in even the best of conditions; therefore, the level and quality of scientific research must be carefully controlled to make the best use of a limited resource.

Objective - Achieve a wise use of cultural resources through inventory, evaluation, public awareness, and thorough compliance with cultural resource regulations.

Rationale - Cultural resources must be used wisely because they are non-renewable. Laws protecting cultural sites do not ensure their preservation, only that they will be considered. The managing agency in conjunction with the SHPO must exercise judgement in determining which sites will be excavated, which will serve as "test plots", and which will be actively protected.

Recommendation - Make the public aware of cultural resource values and legal implications of damaging cultural sites by developing a public education program. The program should include brochures and slide talks and may be incorporated with other BLM educational programs such as Birds of Prey presentations. Target groups are school children, recreationists, amateur groups, and government employees.

Rationale - Many citizens are unaware of the non-renewable nature of the resource, the urgency of the problem of vandalism, the extent of damage caused by their actions and most importantly, the possible legal consequences of digging or collecting antiquities on Federal land.

Recommendations - Demonstrate the Bureau's intention to prosecute violators of antiquities laws.

Rationale - Members of the public and Federal employees alike must be made aware of the seriousness of their actions in removing cultural resources from Federal lands.

Objective - Extend as much protection as possible to significant cultural properties through formal designations, patrol, physical protection, and full consideration in multiple-use land allocations.

Rationale - The BLM is charged with this responsibility by a combination of laws, regulations, and policy. These include the National Historic Preservation Act, National Environmental Policy Act, Executive Order 11593, 36 CFR 800 and FLPMA.

Recommendation - Patrol areas susceptible to vandalism, unauthorized use, etc. This need may be incorporated with other resources requiring some type of surveillance or compliance investigation.

Rationale - The Bureau's intention to enforce antiquities legislation will be demonstrated. Members of the public and Federal employees alike must be made aware of the seriousness of their actions in removing cultural resources from public lands. Many site areas are already undergoing serious impacts as the result of unauthorized activities. Recreation use is expected to increase substantially in the ORA as will impacts to sites from vandalism, vehicle traffic, and other related recreation activity.

Objective - Acquire the necessary information regarding the impacts to cultural resources form the construction and use of specific projects such as range improvements, farming, road and powerline construction, special uses, etc. Analyze trends and rates of various agents of deterioration to facilitate effective management of cultural resources.

Rationale - There have been no attempts to quantify the impacts to cultural resources created by specific projects or by specific agents of deterioration in the Boise District. There is also no way to assess the effectiveness of various mitigating measures. It is unreasonable to assume cultural sites can always be avoided in project implementation, but more information is needed to make the best decision regarding the fate of cultural resources when conflicts do arise.

Recommendation - Allow no livestock grazing to occur in "relic" areas designated as having excellent range condition without an in-depth analysis of the potential effects on cultural resources. Precede any introduction of large game such as elk into these areas with a thorough analysis of the potential effects on cultural resources. Areas of concern include Whiskey Mountain, Juniper Spring, Hardtrigger Pasture #3, and Sands Basin.

Rationale - These areas contain sites which have undergone relatively few impacts from the activities of modern man. They should be protected and used wisely to provide "control" type information.

Recommendation - Design methods of testing the effectiveness of various mitigation measures. These should include:

a. ORV use and access closure or limitation

b. grazing closure or reduction

c. fencing and/or signing

d. vegetation and soil stabilization

e. surveillance

Rationale - There are often several ways to mitigate impacts to cultural resources (besides avoidance). This information would aid in choosing the best measures.

Recommendation - Establish "test plots" in site areas to determine impacts and the degree and rate of deterioration due to:

a. range facilities construction and use

b. livestock grazing

c. fire control and rehabilitation activities

d. vandalism

e. weathering and decay

f. other vegetation manipulation activities

g. power lines and buried lines

h. off-road vehicle use

Rationale - This information is vital for effective management and the resolution of conflicts between Bureau activities and cultural resources.

Recommendation - Develop and implement protection and stabilization measures in site areas where adverse impacts can be successfully mitigated. These measures include fence construction, irrigation, water diversion, livestock removal, ORV closure, signing, etc.

Rationale - Neglect of cultural resources is defined as an adverse effect in 36 CFR 800; the managing agency is obligated to take positive steps to end or prevent such adverse impacts. Specific sites requiring protection and stabilization will be identified in BLM site evaluations when completed.

Objective - Protection - Acquire formal designations or determinations of eligibility for all significant cultural properties by 1985.

Rationale - Federal agencies were specifically directed in 1971 to "... locate, inventory, and nominate ... all sites ... under their jurisdiction ... that appear to qualify for listing on the National Register of Historic Places, no later than 01 July 1973 (Section 2(a), Executive Order 11593 -

Protection and Enhancement of the Cultural Environment). In addition, FLPMA directs BLM to identify and designate areas of critical environmental concern, which include cultural values or resources.

National Register or ACEC designation constitutes a management commitment to take an active role in the protection of those sites designated.

Recommendation - Designate the following cultural sites as Areas of Critical Environmental Concern and where appropriate nominate to the National Register of Historic Places:

Hole in Rocks
Indian Bathtub
Deer Water Spring
Camas Creek/Pole Creek Archaeological District
Bruneau River Archaeological District
Shoofly Creek Rock Alignments
Oregon Trail
Riddle Archaeological District
Five Fingers and Y Buffalo Jumps

Rationale - All of these properties have been identifed as eligible for inclusion on the National Register of Historic Places; however, no formal determinations have been sought, with the exception of the Oregon Trail which is in the process of nomination. Identification of these sites as significant cultural properties coupled with their apparent need for special management makes them clearly eligible for ACEC designation. Overlapping designations are perfectly appropriate as discussed in Section VII of Final Guidelines for ACECs (Federal Register, Vol. 45, No. 168). Pending National Register nomination all of the above properties should be designated ACECs to insure their cultural values are protected.

Objective - Protection - Use all available means of physical protection to help preserve significant cultural sites.

Rationale - Under federal regulations neglect is regarded as an adverse effect on cultural properties eligible for listing on the National Register (36 CFR; Protection of Historic and Cultural Properties, Section 800.3(b)(4)). Responsible Federal agencies must take an active role in preserving and protecting cultural sites from both natural and human sources of deterioration. Physical protection may take the form of signing, ruin stabilization, salvage excavation or extensive recording, monitoring site condition, surveillance, fencing, bank stabilization, vegetation manipulation, etc.

Recommendation - Physically exclude livestock from the following site areas

Deer Water Spring
Hole in Rock
Indian Bathtub
Camas Creek/Pole Creek Archaeological District (specific sites within
Shoofly Creek Rock Alignments

OE 139	OE 2412
OE 1281	OE 2364
OE 2323	OE 2595
OE 2339	OE 2604

Rationale - All of these sites are undergoing moderate impacts due to livestock. In most cases the area to be excluded is not large with the possible exception of Camas Creek/Pole Creek. Those areas identified as heavily used recreation spots would be more appealing to everyone if livestock were excluded.

Because a few of these areas may represent important water sources for cattle, alternative access to the water may have to be developed.

Recommendation - Stabilize cut banks threatening significant cultural sites using appropriate stream stabilization techniques. Reduce sheet erosion in problem areas using available soil stabilization methods.

OE 76
OE 139
OE 1281
OE 1860
OE 2149
Camas Creek C&MU Unit

Rationale - Cultural deposits eroding out of cut banks lose scientific value since they are no longer found in context. In addition, sites are rendered more vulnerable to illegal collection.

Recommendation - Where technically feasible, stabilize National Register eligible historic sites containing structures or ruins. Salvage as much information as possible through photographing, detailed recording, interviews and archival research. Assign BLM property numbers to the following historic structures.

OE 139
OE 1455
OE 1773
OE 1860
OE 2595

Rationale - All historic sites are deteriorating to some degree because of natural weathering and decay, but this process can be slowed by stabilizing the structures and protecting them from other hazards.

Assigning government property numbers to historic structures has proven to deter some would-be vandals and has aided in prosecuting others under theft and degradation laws (Cultural Resources Law Enforcement Training, December, 1980).

Recommendation - Manage the following areas primarily for the protection of cultural values. Post signs warning would-be vandals of the penalties for antiquities laws violations and damage to government property. Incorporate with interpretive signs where appropriate. Evaluate effectiveness of signs and monitor site condition periodically.

Indian Bathtub	Bruneau River Archaeological District
Deer Water Spring	"Y" and 5 Finger Buffalo Jumps
Hole in Rocks	Oregon Trail
Shoofly rock Alignments	

OE 1951
OE 139
OE 1455
OE 1773
OE 1860
OE 2595

Inspect the following sites on a regular basis for evidence of vandalism or further deterioration.

OE 76	OE 504	OE 2157	OE 2604
OE 107	OE 605	OE 2192	
OE 108	OE 1281	OE 2274	
OE 145	OE 1920	OE 2275	
OE 355	OE 21490	OE 2323	
OE 480	OE 2151	OE 2339	

Rationale - Most of these cultural site locations are well known and placement of signs is not expected to call attention to areas which would otherwise have escaped notice.

All of these sites have either been vandalized or are extremely vulnerable to vandalism. Effectiveness of signing these sites should be carefully monitored since similar attempts at protection have sometimes backfired. More vandalism to the sign itself can be expected against negatively worded signs.

Periodic monitoring of these sites is necessary to achieve the following goals:

1. Determine when additional physical protection measures should be taken (i.e., stabilization, salvage excavation).

2. Assess effectiveness of ongoing protection efforts.

3. Discourage illegal collecting, digging and other forms of vandalism.

Recommendation - Retain the status designated in 1968 under the authority of Classification and Multiple Use Act for the following BLM administered properties:

Hole in Rocks
Indian Bathtub
Deer Water Spring
Camas Creek

Rationale - Pending ACEC or National Register designation these significant cultural sites are segregated from the general mining laws, affording them some degree of protection from at least one potential source of deterioration. While National Register or ACEC designation is more appropriate, such action may require several years. Retention of this existing designation requires no new action.

Recommendation - Manage the Black Butte/Guffey Butte Archaeological District for the protection of cultural resource values.

Recommendation components include the following:

1. Preparation of a detailed cultural resource management plan.
2. Systematic patrol and surveillance.
3. Salvage excavation of sites in imminent danger of destruction.
4. Placement of interpretive/warning signs at key sites receiving heavy visitor use (Guffey Bridge, Wees Bar Petroglyphs, Big Foot Bar Settlement, Swan Falls Dam, etc.)
5. Stabilization of and assignment of government property numbers to all historic structures.
6. Closure of alternate trails created because of temporary poor road conditions.
7. Fencing of sites undrgoing significant impacts from wildlife and livestock use.
8. Retain all lands located within the archaeological district.
9. Designation of the site district as an ACEC.

Rationale - The site district corresponds with the boundaries of the BPNA and was placed on the National Register of Historic Places in 1979. A total of 114 sites are included in the site district and represent a wide range of prehistoric and historic occupation in the Snake River Canyon. The formal designation already accorded the archaeological district underscores its national significance and represents one of the chief criteria for ACEC designation.

Recommendation - Manage a 1/2 mile average width corridor which includes the existing ruts of the Oregon Trail and Kelton Road for protection and visitor enjoyment of these historic properties.

Recommendation components include the following:

1. Placement of interpretive signs in coordination with the general recreation program.
2. Designation of Oregon Trail and Kelton Road as ACECs.
3. Retain all lands containing historic ruts.
4. Prohibition of disturbance or intrusion within the protective corridor, including road maintenance and firebreak construction.
5. Preparation of a detailed historic management plan.
6. Formal withdrawal for the protection of historic values.
7. Support the public acquisition of Oregon Trail/Kelton Road remnants, making the acquisition of Register Rock and the Hot Springs site a high priority.

Rationale - The Oregon Trail is recognized as a nationally signficant historic property. Portions of it are on the National Register, and all existing ruts have been formally determined eligible for listing as have portions of the Kelton Road. Formal designation as National Historic Trail clearly qualifies the Oregon Trail as an ACEC.

The National Park Service has formally recommended public acquisition of segments of the Oregon Trail with Register Rock being a top priority.

Objective - Achieve the best use of lava tube caves known to have been inhabited prehistorically.

Rationale - Such sites are fairly rare and poorly understood at present. The possibility of finding undisturbed cutural deposits is good as is the likelihood perishable items will be preserved. These sites are also capable of providing paleoenvironmental data. Proposed uses of these sites vary depending on site condition and accessibility.

Recommendation - Manage the 80 acre parcels. containing lava tube caves for the protection and public interpretation of cultural resources associated with these unique natural features.

Recommendation components include the following:

1. Placement of interpretive/warning signs.
2. Salvage of scientific information in imminent danger of destruction.

3. Fencing of cave openings for protection of site, visitors, and livestock.
4. Prohibit active military use of these parcels by adjusting the Memorandum of Agreement.
5. Systematic patrol and surveillance.
6. Retain all lands containing lava tube caves.
7. Nomination to the National Register and/or ACEC designation of eligible properties.

Specific lava tube cave sites include the following:

Tank/Cathedral Cave (10-AA-74)
Higby Cave (10-AA-40)
Kuna Cave (10-AA-47)

Rationale - All of these caves receive a tremendous amount of visitor use and have been heavily damaged by pothunters. Excavations at Tank/Cathedral Cave and Higby Cave between 1973 and 1978 demonstrated that these sites still contain archaeological potential and warrant protection.

Recommendation - Manage the 40 acre parcels containing the identified prehistoric sites for the protection and preservation of their cultural value.

Recommendation components include the following:

1. Placement of interpretive/warning signs at rock art sites.
2. Fencing of sites undergoing impacts from wildlife and livestock use.
3. Systematic patrol and surveillance.
4. Test excavation of problematic sites.
5. Retain all parcels containing significant prehistoric sites.

Specific site areas include the following:

10-EL-1	10-EL186
10-EL-176	10-EL-588
10-EL-152	10-EL-590
	Snake River Archaeological District (proposed)

Rationale - Effective management of those sites along the Snake River is especially critical because so few of them are under BLM jurisdiction. Natural forces exert a strong influence in this area and competition for other uses of this land base is keen. These sites represent substantial occupations and vandalism is a serious problem.

8.2.4.2 Management of Historic Resources

Objective - Preserve and maintain the historic integrity of the Oregon Trail and associated historic sites.

Rationale - The Oregon Trail has been designated a National Trail and all visible remnants comprise a National Register property. The Bureau has a legal responsibility to protect this historic property under 36 CFR 800 and a social obligation to interpret it for public enjoyment.

Recommendation - Determine areas where the Oregon Trail is deteriorating as the result of activities which can be controlled (e.g., livestock use, irrigation runoff, ORV use, etc.). Take appropriate mitigating measures to curtail damage. Protective measures include fencing, watershed improvement, surveillance, etc.

Rationale - As the managing agency of an important historic resource BLM has the obligation to take active steps to ensure the preservation and protection of the Oregon Trail. Allowing a National Register property to deteriorate through activities described above is defined in 36 CFR 800 as an adverse impact.

Recommendation - Make protection of the Oregon Trail and Kelton Road remnants a primary consideration in all District proposed actions.

a. Locate all projects so that an appropriate width buffer zone is left on either side of the Trail. Width of the corridor may vary to avoid visual impacts; any adverse impacts will be mitigated through consultation with the National Park Service and the National Advisory Council on Historic Preservation.

b. Lands containing Oregon Trail and Kelton Road remnants should not be transferred out of Federal ownership without the assurance of adequate protection.

c. Attempts should be made to acquire additional segments of the Trail in private or state ownership through exchanges and sales.

Rationale - An appropriate width corridor should protect the Trail from any physical alteration as the result of the project implementation. 36 CFR 800 prohibits the transfer of National Register eligible properties from Federal ownership without assurance of adequate protection. The BLM should acquire as many portions of the Trail as possible to ensure it a degree of protection and to enhance interpretive enjoyment.

Recommendation - Work closely with landowners in Silver City to ensure compliance with deed covenents designed to protect historic vlaues and buried archaeolgoical deposits in Silver City. Consult with the SHPO, the Advisory Council, and the Owyhee County Historic Preservation Committee frequently to ensure the preservation of this significant historic resource. Provide detailed input to the cultural resource portion of the Silver City Management Plan.

Rationale - The BLM has accepted a major responsibility in transferring this significant historic property out of Federal ownership. Deed covenants must be strictly enforced to ensure the preservation of Silver City's historic qualities and important buried archaeological deposits. The formulation of an effective management plan is essential to the preservation and protection of Silver City's cultural resources.

Recommendation - Support socio-cultural values associated with historic sites by taking the following actions:

a. Inventory and evaluate historic structures and features in the ORA.
b. Where possible, stabilize deterioration and mitigate the ongoing impacts of other uses.
c. Salvage as much information as possible through photographs, sketches, local informant interviews, etc. Excavate only when site destruction is unavoidable.
d. Post signs and patrol areas susceptible to vandalism.
e. Acquire historic properties when possible through exchanges or sale. Do not dispose of historic properties in land actions.

Rationale - Historic sites are highly vulnerable to adverse impacts from weathering, vandalism, and livestock related activities. Serious impacts of this nature are presently occurring to historic sites in the ORA. Allowing a National Register property to deteriorate as a result of the activities described above is defined in 36 CFR 800 as an adverse impact.

Objective - Preserve and maintain the historic integrity of homesteads and early ranching and mining settlements.

Rationale - Many historic sites of this nature are on private land and their preservation is left up to the present landowner, thus making those sites on BLM land all the more precious. These sites are an important and often neglected part of Western heritage, and many of them are eligible for inclusion on the National Register.

Objective - Protect and preserve historic ruins, structure, and sites for future scientific use and public enjoyment.

Rationale - All historic sites more than fifty years old may be regarded as significant; many of less antiquity are considered significant because they are associated with a unique person or event. Some historic sites contain valuable scientific information about a recent but not completely known way of life.

Substantial historic occupation sites including structures are very rarely controlled by BLM. These are usually in private ownership and are not always owned by persons sympathetic to their preservation. Historic sites represent a part of a fairly recent heritage and are important to many of the descendants of early settlers.

Recommendation - Manage the parcels containing the identified historic sites for the protection of cultural resource values.

Recommendation components include the following:

1. Salvage of information through historic architectural study, oral history collection, and archival research.
2. Stabilization of historic structures and assignment of BLM property numbers.
3. Posting of warning/interpretive signs.
4. Systematic patrol and surveillance.
5. Retain all lands containing significant historic sites.
6. Fencing of sites undergoing impacts from wildlife or livestock use.
7. Nomination to the National Register and/or ACEC designation of eligible properties.

Specific historic sites include the following:

10-AA-131	10-EL-1
10-AA-155	1/4 mile wide corridor either side of the Union Pacific (Oregon Short Line) Railroad

Rationale - Historic sites are often more vulnerable to vandalism than prehistoric sites because of their greater visiblity. Vandalism has been identified in the KPU as the most pervasive agent of deterioration, affecting 21.7 percent of the historic sites. Many people do not realize historic sites are protected under law, nor are they aware these sites can provide valuable scientific information. The posting of warning signs and assignment of the BLM property numbers can assist in prosecuting vandals.

Multiple Use Recommendation - Manage parcels containing identified historic sites for the protection of cultural resource values. Coordinate fencing in riparian/cultural site areas to achieve both purposes effectively.

a. Nominate the Oregon Short Line Railroad to the National Register. There is not enough evidence to warrant ACEC for special protection at this time.
b. Designate the other three sites as ACECs and where approriate nominate to National Register.

Reasons - Significant historic sites are rarely found on public land so protection of these sites should be of high priority. Antiquities laws protect many of these sites from vandalism and from alteration or destruction by the managing federal agency. Stabilization of historic sites or structures does not generally preclude other uses or involve any substantial amount of land.

Historic sites cannot be protected under federal laws once they pass out of federal ownership. Retention is compatible with recreation, visual resource and wildlife habitat concerns. The protection of natural and cultural values outweighs grazing administration benefits to be gained from land disposal in these areas.

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