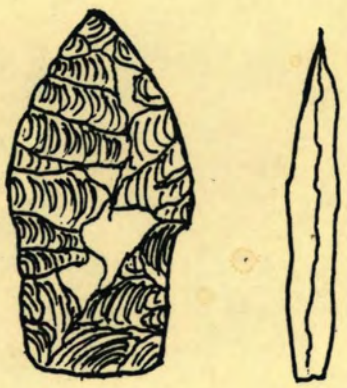
A Projectile Point Typology for the Payette National Forest, Idaho

by Steven E. Stoddard



THIRD EDITION

Heritage Program
Payette National Forest
U.S. Department of Agriculture
Intermountain Region
June 1996

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

The author would like to thank all those who provided influence and information for undertaking this endeavor. Lawrence A. Kingsbury, Heritage Program Manager on the Payette National Forest, gave me encouragement and direction to create this report in honoring the intent of the Archaeological Resource Protection Act of 1979, as amended. The Act states that...

> Each Federal land manager shall establish a program to increase public awareness of the significance of the archaeological resources located on public lands and Indian lands and the need to protect such resources (Section 10 (c).

Because of the good rapport the Heritage Program has with the public, four of the oldest Paleo-Indian artifacts found on and adjacent to the Payette National Forest were shared with Kingsbury and the author, and subsequently used in this report. I would personally like to thank, Mark Smith (Clovis); Marquita Blanton (Eden); Caryn Fieger (Alberta); and Shirley Winter (Haskett) for the artifacts they found and shared with us.

Besides myself, several individuals provided additional pen & ink illustrations of the typeable artifacts used in this report. I would like to thank Jill Frye; Steve Baumann; Lynne Johnson; and Lawrence A. Kingsbury.

For providing constructive commentary, I would like to thank Mark Smith; James V. Winfrey; Gail Dixon; Dr. Max Pavesic; Jill Frye; and Lawrence A. Kingsbury.

Last of all, I want to thank all those involved with conserving an accurate record of the past; and most of all to the people who, in the course of their daily lives, left the archaeological record for us to study.

A PROJECTILE POINT TYPOLOGY
For The
USDA, PAYETTE NATIONAL FOREST, IDAHO

BY STEVEN E. STODDARD

The objective in producing a report pertaining to a prehistoric Native American projectile point typology is to provide a guide for archaeologists in understanding the prehistory of the Payette National Forest (PNF). In the early 1970's forest archaeologists began reviewing federal undertakings in honoring the intent of the National Historic Preservation Act of 1966. Since that time, hundreds of diagnostic, typeable projectile points were collected and curated. Over the years this collection of artifacts became a large data base worthy of description and analysis. Also, several archaeological excavations have taken place on the PNF providing additional information about the prehistoric period on the PNF, (Dureka and Mesrobian 1989); (Winfrey 1992); (Kingsbury 1994). Using the available archaeological information, it was decided that a projectile point typology would be of benefit.

What kind of information do archaeologists need on the PNF? An archaeologist works with three kinds of data: artifactual; nonartifactual and chronological positioning of cultural resource sites (Hole & Heizer 1973:201). After enough of the three kinds of data have been collected, the data is analyzed and interpreted. The interpreted data is used for prehistoric and historic overviews. The collection of projectile points found on the PNF are the artifactual data presently available for analysis. By typing the styles of projectile points and cross dating these artifacts to dated archaeological sites within the region, an understanding of the prehistory on the PNF can begin.

TYPOLOGY AND CROSS DATING

Typology and cross dating is a cultural approach used by archaeologists in determining the age of a specific artifact. For example, when an artifact is found in buried archaeological context next to a prehistoric hearth (fire pit), and is dated by Carbon 14 analysis, that date can be used to associate that artifact to time and space.

Many of the prehistoric archaeological sites on the PNF are surface lithic scatters or open sites lacking in organic matter and considered as unsuitable for assay by radiocarbon dating. Approximate dates for these kinds of sites are established by comparison of projectile point types from open sites with those from radiocarbon dated sites. This is what we call typological cross dating. Using the dated artifact and comparing it to another that is similar, the archaeologist can assign a tentative age to the artifact and site. Many projectile point types persist unchanged for thousands of years. Some projectile points such as the Elko Eared and Corner Notched points are considered as time markers (O'Connell 1984:129). Some projectile point types are particularly unsatisfactory as indicies of either time or relationship unless they are found in association with other materials, such as with a radiocarbon dated hearth.

Typology is an important tool for any classifier, because classification usually implies sorting and grouping like objects together. These groups are called "types." A "type" is most often defined as a class of objects which share consistent morphological traits and attributes (Jennings 1968:22).

The author examined several hundred projectile points found in the collections of the PNF, McCall, Idaho, including projectile points held in private collections. Two hundred typeable projectile points from the PNF were sorted and grouped according to type (see Table 4). The majority of the projectile points examined were found and recorded by archaeologists. Most of these projectile points came from the surface of the ground, with the exception of a group of late period arrowpoints which came from buried archaeological context at PY-060, (Winfrey 1992) and at PY-584, (Mesrobian and Dureka 1990).; and (Kingsbury 1994).

Artifact classifications within this report can be utilized to infer possible time depths for the presence and/or absence of prehistoric Native Americans on the PNF. Projectile point typologies have been established at different excavated archaeological sites within the Great Basin and Columbia Plateau. These typologies provide time ranges for the utilization of these different types. An estimate will be made by comparing projectile points found on the PNF with similiar projectile points found in the Intermountain West.

Projectile point analysis was based on variations in form, size, proportion, weight, lithic material and flaking characteristics of diagnostic features appearing on each projectile point. No new projectile point typological names were created. Only existing typological names were used as derived from the archaeological literature. All illustrations were drawn to scale.

PROJECTILE POINT TYPES

Any discussion of projectile points, must of necessity include the "lumping and/or splitting" of a specific collection into groups. Given the scope of the present project and the size of the sample available, some difficulty was encountered in assigning each point or typeable fragment in the collection to a specific style. Some categories of points had only a single example, occasionally only a basal fragment. Thus, the best description of each style comes from the available archaeological literature. The present work will ascribe the projectile points from the PNF to the idealized styles prevalent in the literature for the region. Some types are named for the site or region where they were first identified, and some are named for the phase or period in which they occur. Projectile points are classed as lanceolate (utilized as lance or spear), dart points (short spear), and arrowpoints.

Lithics used in the manufacture of projectile points include obsidian, basalt, cryptocrystalline silicates (CCS), ignimbrite, rhyolite and quartzite. With the exception of obsidian, all of the other mentioned lithic materials can be found on the PNF. All obsidian found on the PNF was introduced by prehistoric Native Americans from sources in Idaho and Oregon.

After the projectile points were typed, each projectile point was placed in an approximate chronological order based on the literature included in the artifact descriptions which follow (see Table 1). The assignments of precise dates to a particular projectile point type is not currently reliable, because individual types continued to be used and overlap with one another through time, as indicated in the literature from stratified archaeological sites in the Great Basin and Columbia Plateau (Cinadr 1976:44-46). However, the Desert Side Notch, Cottonwood Triangular, Wallula, Middle Columbia Basal Notch, and Rose Springs arrowpoints appear to be the most recent projectile points found in the archaeological record on the PNF. This idea is based upon the assumption that the bow & arrow became a popular tool in the Intermountain West some time after 1450-1350 years BP. Arrowpoints were identified using neck width measurements as an index of identification as defined by Corliss (1972). Projectile points not identified as arrowpoints are assumed to be dart or lanceolate spear points, used with the atlatl dart-thrower.

The atlatl is a short board or stick that is about 20 to 24 inches long, fitted with a handle on one end and a groove or peg at the other, used in throwing a dart or lance. The atlatl & dart were widely used in North America, (Jennings 1974). Illuminated Spanish texts of the 16th century illustrate Aztec warriors in central Mexico using the atlatl & dart in warfare. Atlatl is an Aztec word. Inuit people in Alaska were using the atlatl & dart and the bow & arrow for different hunting functions at the turn of the 20th century. It is probable that the atlatl & dart may have been introduced to North America from the Old World more than 12,000 years ago.

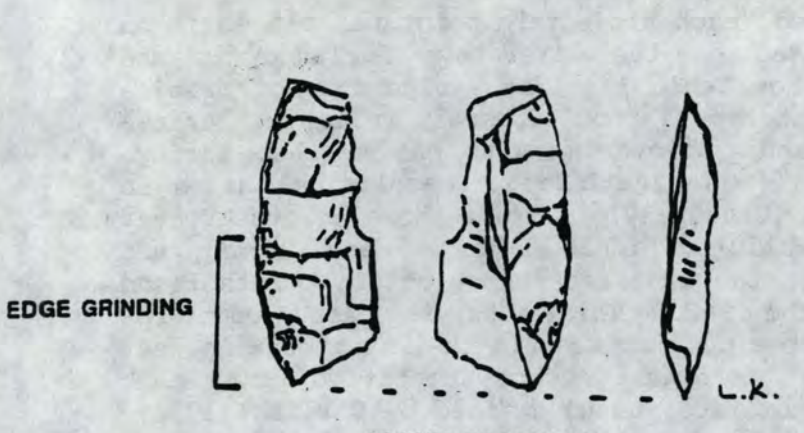
The oldest projectile points, identified to the Paleo-Indian period and found on and adjacent to the PNF include: Clovis of the Llano tradition; and Alberta, Eden-Cody Complex, and Haskett, of the Plano tradition.

PALEO-INDIAN PERIOD (Llano Tradition) 10,000-12,000 years Before Present (BP)

The best-known of the Llano tradition sites are Blackwater Draw, near Clovis, New Mexico, and the Naco-Lehner duo in southeastern Arizona (Jennings 1968:84). Clovis projectile points are rare artifacts in Idaho. A fragment of a chert Clovis point has been found on the PNF (PY-399) near Indian Valley, 2daho. A complete Clovis point was found on the edge of Cascade Reservoir in Long Valley, Idaho, reported by Peterson (1987:41). At the Dietz Site in central Oregon, a Clovis Paleo-Indian occupation was clearly defined on the edge of a small dry lake, in a sub-basin of a now vanished Pluvial Lake Alkali (Aikens:1993:23). Llano Tradition projectile points and associated artifacts are so rare that a single fragmented specimen is considered an important find on the PNF.

Clovis (Lanceolate)

Clovis lanceolate projectile points are generally large, have long blades, are without shoulders, and have basal flutes on one or both faces. Flintknapping on a Clovis blade is usually collateral. Basal edges are ground. Lithic materials used in the manufacture of a Clovis point are usually of CCS and obsidian (Titmus and Woods 1990:16; Huntly 1985:13; Petersen 1987:41).



CLOVIS FRAGMENT

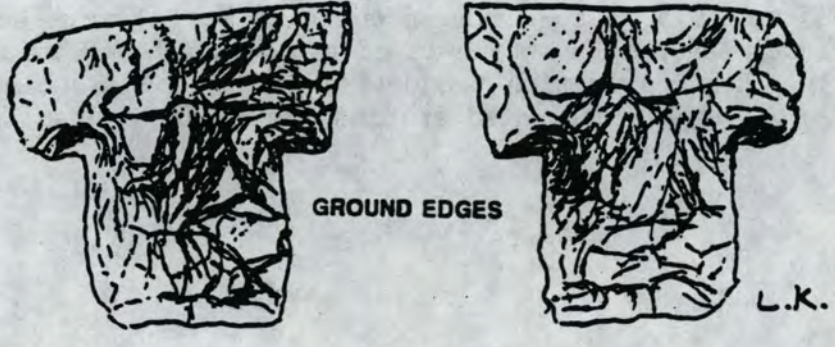
LONG VALLEY CLOVIS (PETERSEN 1987:41)

PALEO-INDIAN PERIOD (Plano Tradition) 8,000-11,000 years BP

Plano tradition is characterized by several projectile point types found on and adjacent to the PNF. One Alberta point base of basalt, (Wormington 1957:133),was found near Weiser, Idaho. A complete Eden point, of black semi-translucent obsidian, which is part of the Cody Complex, (Wormington 1957:125), was found near Lake Fork, Idaho. One Haskett base of black obsidian was found near Warren, Idaho.

Alberta (Lanceolate)

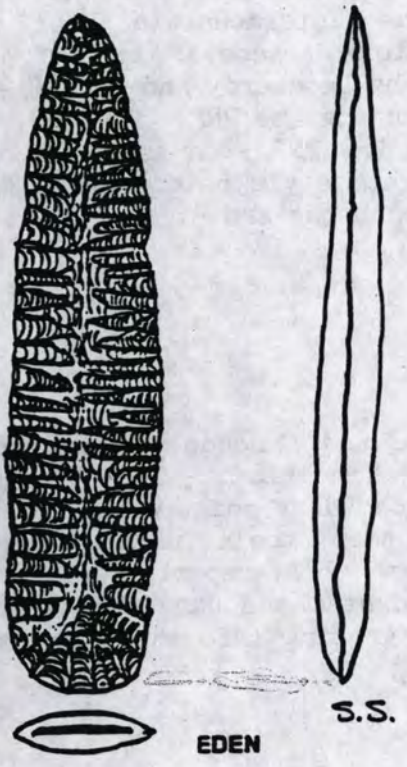
This Plano Tradition spear point is large, has a long blade with clearly defined shoulders with a wide square stem. The base can be straight or slightly convex. The tip of this point is blunt looking. Bases are edge ground. Flaking technique is collateral and random or non-patterned (Crabtree 1972:87). Lithic material types is predominately CCS. However points of basalt have been reported (Wormington 1957:134; Forbis 1968:3-6). This artifact is within a private collection.



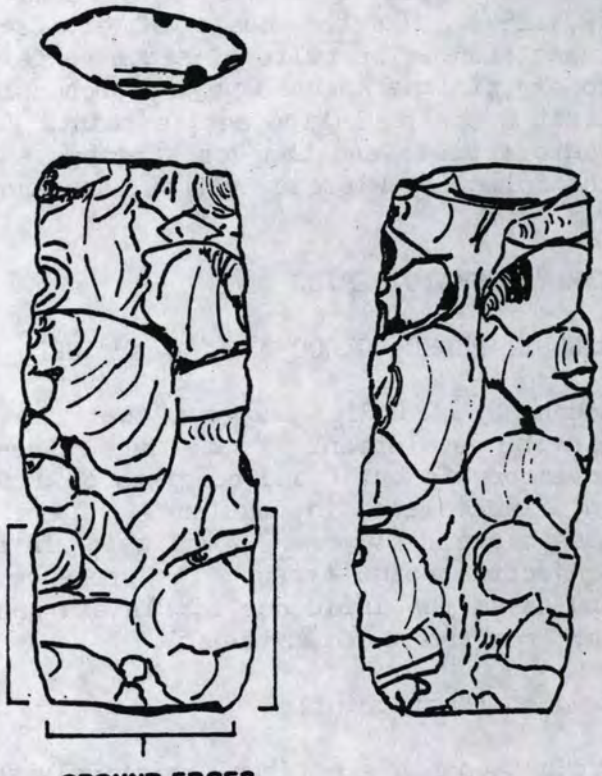
ALBERTA

Eden (Lanceolate)

Another Plano Tradition point identified as belonging to the Cody Complex is that of the Eden point. The Eden point is long and narrow with regular parallel flaking (Crabtree 1972:87) and a has a pronounced median ridge on both faces. The cross-section of this point is diamond-shaped. These points have narrow stems, often with only one slight shoulder or no shoulders at all. Material is usually of CCS, (Irwin and Wormington 1970:27; Bryan 1980:93-94). One complete Eden point of black semi-translucent obsidian, revealing water abrasion from being in Lake Fork Creek was found near Lake Fork, Idaho. This artifact is in a private collection.



Haskett (Lanceolate)



One Haskett point base of black semi-translucent obsidian, revealing water abrasion from being in Warren Creek, was found near Warren, Idaho. This artifact is in a private collection. Haskett points are large, have long blades, have collateral flaking (Crabtree 1972:52), with ground basal edges. They differ from most lanceolate points in that the widest and thickest part of the point is located at two-thirds of the length from the base, resulting in a short tip and a narrow base. The shape of this point was probably a function of resharpening of the tip. It is probable that the large base section was needed for hafting and lashing. The base is usually straight to slightly convex. Lithic materials used in this point type include: CCS, obsidian, ignimbrite, quartzite, and rhyolite (Sargeant 1973:84-85.) Haskett lanceolate projectile points in Idaho have been dated at 10,000 +- 300 years BP (WSU 1396), (Sargeant 1973:63).

If typologic evidence is to be accepted, one can see a continent-wide to region-wide dispersal of Big Game Hunters by, or earlier than 10,000 B.P. (Jennings 1974:123). In most areas of the Intermountain West, the tradition of the lanceolate projectile points, fluted or unfluted, first coexists with, and finally becomes a part of, the next widespread and long lasting stage called the Archaic Period (Jennings 1974:128).

ARCHAIC PERIOD 11,000-2500 Years BP

The Archaic Period has been described as a foraging pattern of existence (Jennings 1974:128). It is believed by most archaeologists that the foraging pattern coexisted with the Llano and Plano Traditions. Some of the oldest Archaic sites recorded are found in the Intermountain West (Jennings 1974:154). On the basis of artifact complexes, several traditions can be identified. The cultural sequence developed by Leonhardy and Rice (1970) seems to explain the Archaic period archaeology found on the PNF. However, there are Great Basin style projectile points found on the PNF such as the Elko and the Pinto series; and the Rose Springs and Eastgate style points, that fit within the following Plateau cultural sequence of Leonhardy and Rice (1970).

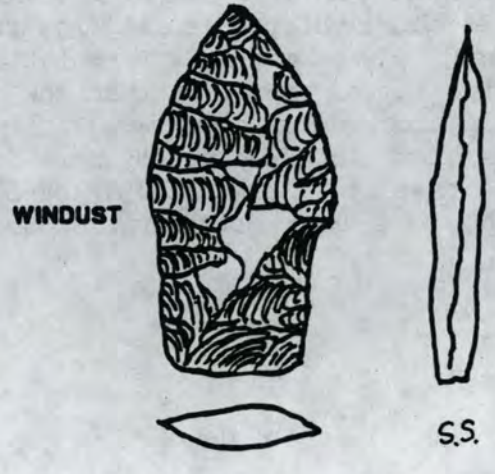
EARLY ARCHAIC PERIOD

WINDUST PHASE 10,000-8,000 Years BP

Leonhardy and Rice suggest that the Windust and Cascade phases represent a direct development from the Paleo-Indian Tradition. The Windust phase inventory is brief and consists of a short broad dart point with straight stems and lanceolate in outline. There are other tools within the Windust assemblage. However, our main interest in this report pertains to the projectile point types. The presence of Windust phase dart points on the PNF indicates the influence of Plateau people, migrating into the mountains of the PNF from the north and west.

Windust (Dart point)

Windust points are large, relatively short bladed points with prominent squared shoulders and straight or slightly contracting wide stems. Flaking patterns are random. The predominent lithic material is CCS, although fine grained basalt was occasionally utilized (Leonhardy and Rice 1970:4). Several Windust points have been found on the PNF as isolated finds in mountainous environments suggesting a seasonal, milder weather, hunting subsistance strategy.(See Tables 1-3).



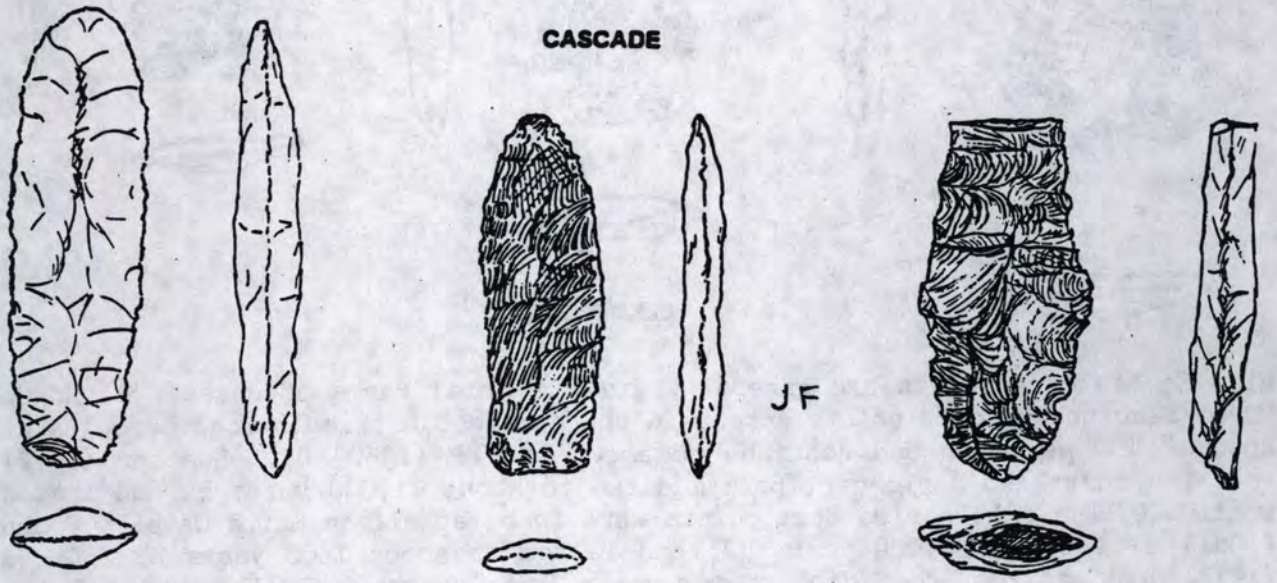
MIDDLE ARCHAIC

CASCADE PHASE 8,000-4500 Years BP

The earliest radiocarbon date on the Cascade phase is 7400 +- 100 (WSU 209), after it was well established (Bryan 1980:88). The Cascade phase persisted until about 5000 years BP (Leonhardy and Rice, 1970). Projectile points from the Cascade phase, later than 8,000 years BP, and documented at many sites on the PNF, have two types as part of the Cascade assemblage.

Cascade (Dart point)

Cascade points are generally long, but not as long as Llano and Plano Tradition points, narrow, leaf-shaped or bi-pointed. These points tend to be thick in proportion to their width and are usually thickest above the basal end. There is no evidence of basal thinning. Most of the points are diamond-shaped in cross section, particularly above the basal end (Newman 1966:12). Flaking patterns are random. There are exceptions to what was just described, in that some Cascade points are thin and flint knapped well.(See Tables 1-3).



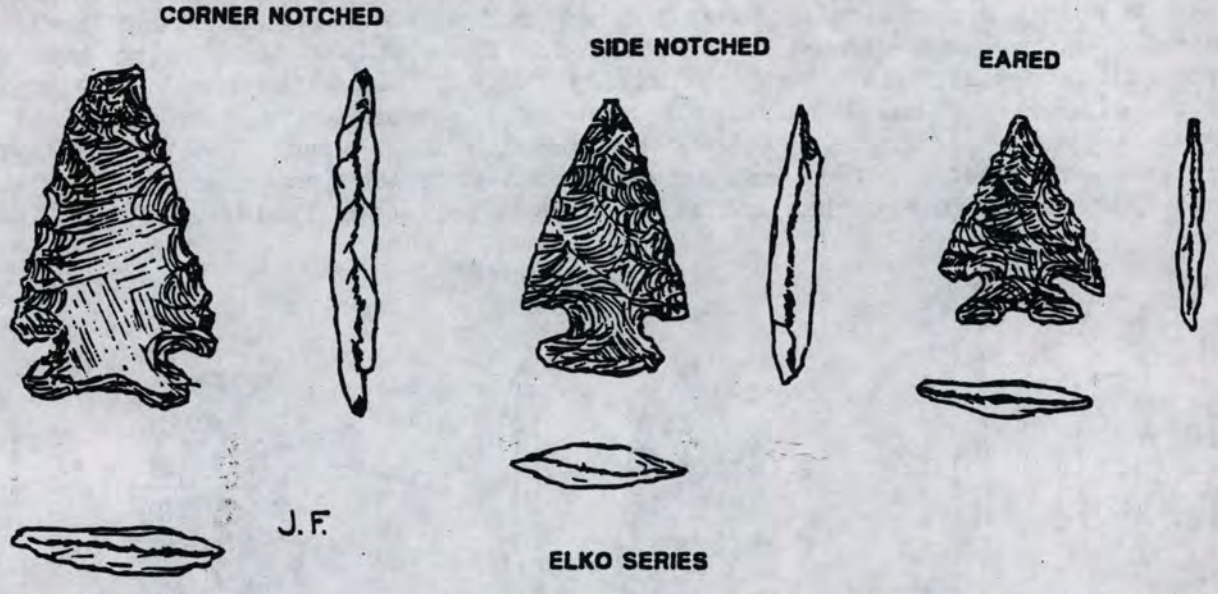
Elko Series (Dart points)

Elko Series dart points are represented by three point styles and include (1) side notched, (2) corner notched, (3) eared dart points. On the PNF, Elko Series dart points have been found at a greater frequency during archaeological site survey.

Elko Series dart points are generally given a broad range of dates. At Hogup Cave, Elko Series dart points appear in the earliest archaeological deposits at about 8,400 years BP and continue to about 600 BP. Swanson (1972) reported that Elko style dart points dated to about 11,000 years BP and lasted until 100 BP. Elko Series dart points were found at Wilson Butte Cave by Gruhn (1961) as early as 7,000 years BP, and lasted to about 1500 years

Elko Corner Notched points are medium sized, with wide to straight or slightly convex lateral blade edges. Corner notches are deep and result in pronounced barbs which usually extend nearly to the base. Stem expands into a wide base. The base is concave to straight on most specimens. Given their range in space and time, it is not surprising that they have a corresponding range in lithic material and manufacture. Obsidian, basalt, CCS, rhyolite, and ignimbrite were all utilized (O'Connell 1967:129-31; See Tables 1-3).

Elko Eared points are triangular in outline, lenticular or plano-convex in cross-section. Lateral blade edges are straight or convex. These points have side and/or corner notches. Sometimes, it is difficult to determined if an individual specimen has side or corner notches. Bases are bifurcated with a basal notch giving an eared appearance. Lithic material on the PNF is exclusively obsidian (See Tables 1-3).



Elko Series dart points are generally given a broad range of dates. At Hogup Cave, Elko series dart points appear in the earliest archaeological deposits at about 8,400 years BP and continue to about 600 BP (1350 AD). Swanson (1972) reported that Elko style dart points dated to about 11,000 years BP and lasted until 100 BP. Elko series dart points were found at Wilson Butte Cave by Gruhn (1961) as early as 7,000 years BP, and lasted to about 1500 years BP. Green (1972) stated that Elko dart points were found between 5,930 years BP and extended to the historic period. Lanning (1963) found Elko series points ranging from 3500 to 1500 years BP. Large dart points of different styles continued to be found in the archaeological record throughout the Columbia Plateau. Elko series side notched points are not so different than the Cold Springs Phase side notched dart points reported on the Columbia Plateau.

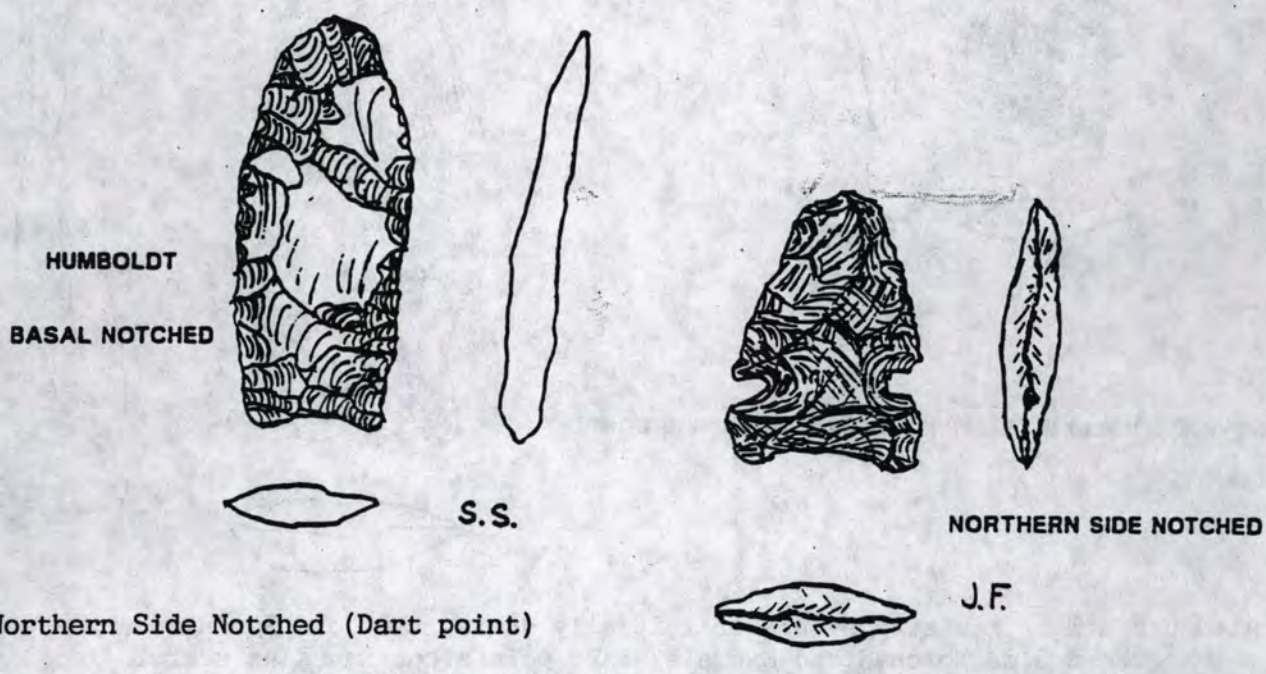
COLD SPRINGS SUBPHASE 6500-3500 Years BP

The earliest Cold Springs subphase sites immediately postdate the eruption of Mount Mazama, at about 5700 BP. This subphase is associated with two types of points. House pit villages appear in the archaeological record. Big game hunting continues to be important with the presence of large numbers of dart points found. Long distance trade begins with the presence of items not previously found in earlier archaeological deposits. Climatic conditions become somewhat hotter and drier than before or since. Archaeologists refer to this climatic condition as the Altithermal period (Keyser 1992:26). During this hot and drier period in time, a Great Basin style point appears which we call the Humboldt Basal Notched dart point, and a Plateau style point appears which is known as the Northern Side Notched dart point.

Humboldt Basal Notched (Dart point)

Humboldt Basal Notched dart point type resembles the Cascade dart point with a the exception of the flint knapping technique. Humboldt Basal Notched points are the only type of point found on the PNF that are made with parallel oblique flaking technique. Parallel oblique is the same thing as what Crabtree (1972:58) calls "diagonal parallel flaking." However, not all Humboldt points have parallel oblique flaking; most points have random flaking patterns, or less regular parallel flaking patterns. Humboldt points are long, thin and narrow and taper at the base. The bases of these points have a shallow concavity. These are well made points and appear in the archaeological record for thousands of years. Lithic materials used in the manufacture of these points consist of basalt, CCS and obsidian (Bettinger 1978:1-3; See Table 1-3).

The oldest dates for Humboldt points found in Hogup Cave date between 7845 BP and persist between 2250 and 2650 BP, (Aikens 1970:56),) and 7030 BP at the Rock Creek Site (Green 1972). Gruhn and Lanning place their appearance within 500 years of each other: Gruhn (1961) at 4000 BP and Lanning (1962) at 3500 BP. Only Green (1972) lists these points as continuing to the present. Gruhn (1961) and Lanning (1963), both list the Humboldt range to 2500 BP. Clewlow (1967) suggests that Humboldt concave base should be dated between 5000 and 3500 BP. The Humboldt concave base point appears to be an excellent time marker for this style of point found on the PNF.



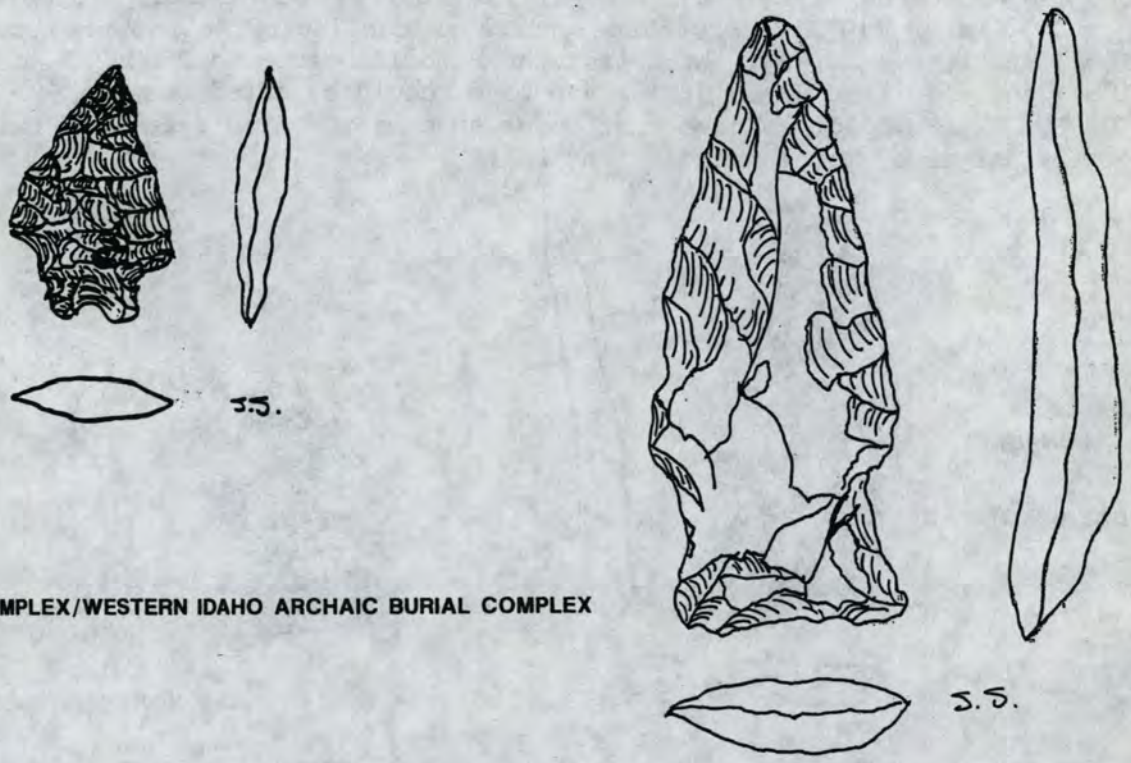
Northern Side Notched (Dart point)

These points are wide with straight edges, have symmetrical side notches which are well defined, and can have concave or straight bases. Through time they become smaller and more elongated, but the notches are always well formed and bases are as wide or wider than the shoulders (Warren et al 1971:52) At Hogup Cave, Northern Side Notched points occur simultaneously with the Elko side-notched, which it resembles, by its concave base, narrower side-notches, and generally higher level of workmanship" (Aikens 1970:39;See Tables 1-3). The above illustrated point was found in the Middle Fork Salmon River in 1996.

Western Idaho Archaic Burial Complex/Midvale Complex (Dart points)

A style first identified at Midvale, Idaho, the Midvale Complex points have long blades, squared or sloping shoulders, and straight or slightly contracting stems. On some samples the base is flared, giving the appearance of long shallow pseudonotches on an elongated stem. The base can also be concave or bifurcated. Lithic material can be obsidian, basalt, or CCS (See Tables 1-3). The Western Idaho Archaic Burial Complex (WIABC) as proposed by Pavesic in 1993 includes both defined "turkey tail" cache blades and "incipient turkey tail" point types, a widely variable elongated side notched point type which seems to have a number of attributes in common with points of the Midvale complex.

Dating of both these types can be tentatively assigned locally to the period immediately preceding the Altithermal and continuing through the end of the Tucannon phase. In the original Midvale report, the complex was tentatively dated at 4500-2000 BP (Warren et al.,1971:52). Recent data would seem to indicate an earlier suggested beginning for these types of approximately 6000 years BP as proposed at the DeMoss site and supported by radiocarbon dates (5965 BP +/- 60; Pavesic et al.,1993:3).



MIDVALE COMPLEX/WESTERN IDAHO ARCHAIC BURIAL COMPLEX

Although all of these types appear initially during the Cold Springs subphase, the Northern Side Notched and Midvale/WIABC points continued as a style locally through the next two phases, up through approximately 950 years BP. On the Columbia Plateau the Cold Springs subphase overlaps with the Tucannon phase. A change in lithic technology identifies the Tucannon phase in the archaeological record.

LATE ARCHAIC

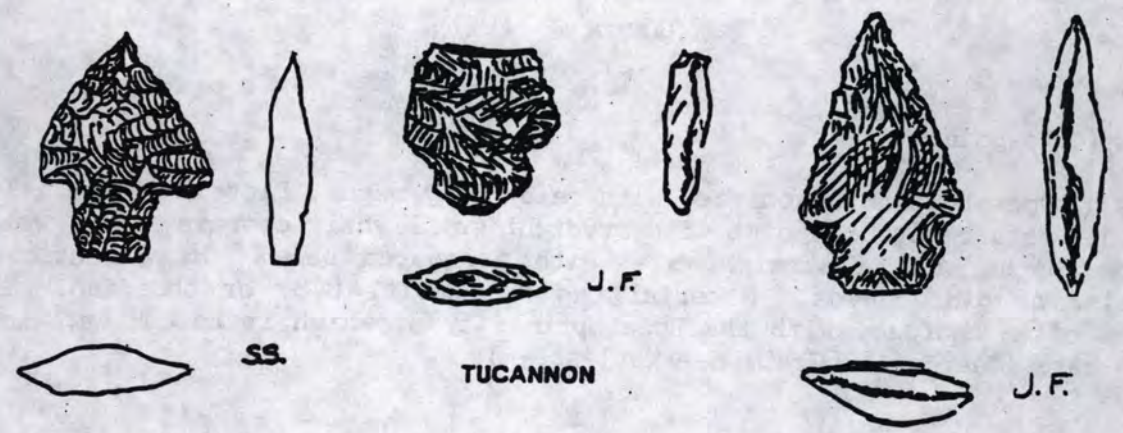
TUCANNON PHASE 4500-2500 Years BP

During this phase, projectile points include a crude corner-notched dart point and other points with defined, contracting stems. These points are smaller than the preceeding Cascade phase dart points (See Tables 1-3). Tucannon phase dart points appear to have been flaked by percussion technique in addition to pressure flaking of projectile points and other tool types. One possible explanation of this perceived regression may be found in the theory that this

period of time was affected by cooler, moister climate resulting in the formation of alpine glaciers in the higher elevations of the Intermountain West (Butler 1978:44).

A colder environment necessitates expediency in manufacture and conservation and curation of lithic material.

> "Basalt is the predominant material and forms are poorly executed on poorly produced primary flakes. Compared to both earlier and later phases, the technology of the Tucannon phase seems crude and impoverished."
>
> (Leonhardy and Rice 1970:13)



The Tucannon phase marks the end of the Archaic Period in Central Idaho. It is followed by the Harder phase.

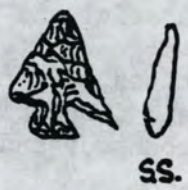
POST ARCHAIC

HARDER PHASE 2500-700 Years BP

Within the Harder phase (Kenaston, 1966), there is more variation in projectile point style. This phase is characterized by change. Most important is the appearance of the semisubterranean pit house found along the riverine systems. The bow and arrow also appear during this phase. The bow & arrow may have encouraged the decline but not the abandonment of the atlatl & dart. Arrow points are smaller in size as compared to dart points; however, Harder points retain a common minimum projectile point neck width (Butler 1978:44). The end of the Harder phase coincides with two major occurences: a very long drought as recorded through dendrochronology, and the Numic peoples expansion from the Great Basin to the north, the appearence of the Shoshonean speaking Indians. The Shoshone may have encountered the Nez Perce people at this time (1300 AD). It is possible that climatic drought conditions caused human populations to migrate out of the Great Basin and into unoccupied areas that were void of adequate water resources. Point types occurring in this phase locally include continued examples of the Elko series and Northern Side Notched; and the introduction of the Plateau influenced Harder, Wallula and Middle Columbia Basal Notched types in addition to the Great Basin Rose Springs and Eastgate types.

Harder (Arrowpoint)

The Harder type is a triangular corner notched point with straight sides, well defined barbs and notches, and an expanding stem. The barbs do not extend to the base, which is nearly twice the width of the neck although not as wide as the barbs. Cross section is planoconvex, and the material is basalt. This point could be transitional or a variant of the more common Middle Columbia Basal Notched (Leonhardy and Rice 1970:16; See Tables 1-3).



HARDER

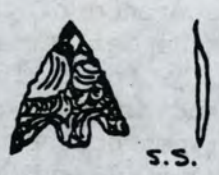
Wallula (Arrowpoint)

This is a type of point associated with relatively recent Plateau groups. It is a small corner notched point with straight or slightly concave sides, well developed barbs, and a straight stem with a squared base. Cross section is lenticular or planoconvex. Material can be basalt, CCS, or obsidian. This point is often confused with the Rose Springs type, which it resembles, except for the base (Gaarder 1967:40; See Tables 1-3).

WALLULA

Middle Columbia Basal Notched (Arrowpoint)

These points are small and wide with well defined barbs and stems. The blades are usually concave, but can be straight, and the barbs extend at least as far as the base, and occasionally well beyond. The stems can be expanding or squared, the bases relatively flat. The blades are often serrated. Cross section is lenticular to planoconvex. Material is basalt, obsidian, and CCS. Like the Wallula type, it is associated with the Harder phase and later Plateau groups (Warren,Sims and Pavesic 1968:7; Gaarder 1967:40; See Tables 1-3).



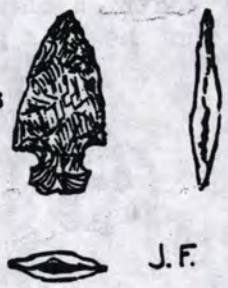
MIDDLE COLUMBIA BASAL NOTCHED

Rose Springs (Arrowpoint)

A Great Basin style point found in association with Eastgate type points and jointly referred to as the Rosegate series by some scholars, separately typed by others. For the present study they will be described individually, for two reasons: the Rose Springs type are very similar stylistically and temporally to the Wallula points, a Plateau type common to west-central Idaho; Eastgate points are distinct enough to provide an immediate indication of Great Basin influence whether located as an isolated find or in a more complete cultural context. Since both Plateau and Great Basin groups utilized the area and documentation of settlement patterns and group interaction is developmental, Eastgate points are more definitive at present. Given the similarity of the Rose Springs and Wallula types, it is certain that some samples of each have been classified incorrectly in the past; a situation that can only be rectified by the application of more data.

The Rose Springs type consists of relatively small corner notched points with straight to concave blades, well defined barbs and notches, and a slightly expanding stem with a convex, nearly rounded base. Cross section can be either lenticular or planoconvex. The preferred material is obsidian, although CCS was also used (See Tables 1-3).

Rose Spring Corner Notched points have been dated by Gruhn (1961) as occurring after 450 BP. Rose Spring Corner Notched and Eastgate Expanding Stem points have been assigned a date range of 1350 to 450 BP by Lanning (1963) and Clewlow (1967). Aikens states that at Hogup Cave, Rose Spring and Eastgate point types appear as long ago as 4500 BP and continue to some time after 400 BP, and perhaps as late as 100 BP (Aikens 1970:56). For the present report, it will be suggested that the presence of the Rose Spring and Eastgate types occur at approximately 1500-500 years BP in the Payette National Forest.



Eastgate (Arrowpoint)

Eastgate points are usually slightly larger than their Rose Springs relations with a longer blade and concave to straight sides. The barbs extend nearly to the base,are squared at the tips, and are often nearly as wide as the stem. They are lenticular to planoconvex in cross section. Lithic material consists of basalt, CCS, and obsidian (See Tables 1-3).

EASTGATE

PROTOHISTORIC PERIOD

PIQUNIN PHASE 700-200 Years BP

The dominant projectile points are small, delicately chipped corner, side or stem notched arrowpoints. Flaking patterns are random. Projectile points from this phase include the continuation of some earlier Plateau as well as Great Basin styles. Continued styles of the Plateau include the Wallula and Middle Columbia Basal Notched (MCBN). Continued styles of the Great Basin include Rose Springs and Eastgate (Holmer 1985:107), with the introduction of Desert Side Notched arrowpoints, and the occasional use of the Cottonwood Triangular arrowpoint.

Late period arrowpoints were recovered from two prehistoric sites located within the South Fork of the Salmon River. Winfrey (1992) recovered from buried archaeological context at 10IH1580/PY-60 about 40 small arrowpoints typed as Wallula and Middle Columbia Basal Notched, suggesting Plateau culture. One radiocarbon date was obtained during this investigation, indicating a date of 1040-1180 A.D.(WSU #4480, 840+/- 70 years BP, Winfrey n.d.:5). Kingsbury in 1994 recovered from buried archaeological context at PY-584, Indian Creek site, two Desert Side Notched arrowpoints in association with three radiocarbon dates that ranged from 430 to 270 years BP. Three Eastgate arrowpoints were found below the Desert Side Notched arrowpoints and are assumed to date earlier than AD 1520.

Desert Side Notched and Cottonwood Triangular (Arrowpoints)

Desert Side Notched are small, triangular points with short, slightly convex blades and well defined, sometimes deep side notches. A flat or concave base which is as wide or wider than the shoulders is always present in samples of this type, with the occasional addition of a notch in the center of the base. Cross section is planoconvex, and the most prevalent material is obsidian (See Tables 1-3).

DESERT SIDE NOTCHED

Cottonwood Triangular points are, as the name suggests, three sided without notches. Blades are straight to convex with a flat base. Often confused with the concurrent Shoshonean triangular knife, they can be lenticular to plano-convex in cross section. Lithic material can be basalt or CCS(See Tables 1-3).

COTTONWOOD TRIANGULAR

The Cottonwood Triangular and the Desert Side Notched arrowpoints coexist and date to the same time period (Heizer and Hester 1978:7-11). During the Piqunin phase intergroup contact occurs. During this period, small triangular side notched arrowpoints called Desert Side Notched points (Baumhoff and Byrne 1959), and pottery of the kind biasly called "Shoshoni ware," appear on the Snake River Plains of Southern Idaho.

Desert Side Notched arrowpoints and greyware pottery appear in archaeological sites in Idaho. Wright (1978:129) states Shoshoni ware reached southern Idaho early in the fifteenth century. On the PNF, at the South Fork of the Salmon River and confluence with Indian Creek is site 10VY492/PY-584. Greyware pottery sherds and one Desert Side Notched point were found in buried archaeological context, in near association to one another, (Mesrobian & Dureka 1990:25,50). Also, at this same site, at about 140 meters to the south from where the pottery sherds were recovered, Kingsbury (1992) found two Desert Side Notched, black obsidian arrowpoints in buried and radiocarbon dated archaeological context. Three radiocarbon dates were associated with two Desert Side Notched arrowpoints. These dates are listed as follows:

WSU# 4534 350 +- 80 years, C14 sample collected at -21 to -23 cm bs TU 5
WSU# 4536 270 +- 70 years, C14 sample collected at -08 to -20 cm bs TU 9
WSU# 4537 340 +- 60 years, C14 sample collected at -10 to -20 cm bs TU 10

Desert Side Notched point #1 was recovered in Test Unit 4 at -24 centimeters below surface, within one meter from each of the above three radiocarbon dates. Desert Side Notched point #2, was recovered within Test Unit 10 within level one from 0 to -10 centimeters below surface, in association above radiocarbon date WSU# 4537. Also, in association with the two Desert Side Notched arrowpoints were two obsidian point fragments, the size of arrowpoints which were too fragmentary for typing to style. The association of the two Desert Side Notched arrowpoints, are close enough to say with confidence that these two points along with the other associated artifacts dated in time and space from 430 to 270 years BP and are considered as a pre-horse campsite. The Desert Side Notched point, dated elsewhere to the period after 450 years BP (Baumhoff and Bryne, 1959), (Clewlow, 1967), occurs at Hogup Cave spanning a period from about 2,000 BP to perhaps as late as 100 years BP.

Another type of arrowpoint found at the Indian Creek Site (10VY492), has been tentatively identified as the Rose Spring Corner Notched point (see above description). Three of these typeable points were found in association with broken obsidian arrowpoint tips. All of these points and fragments were found below the above mentioned radiocarbon dates, and below the Desert Side Notched points. At this site, (10VY492) it appears that the Rose Spring points predate the Desert Side Notched points. Mesrobian and Dureka (1990) reported finding at the Indian Creek Site one Eastgate point on the site's surface. They also found in buried archaeological context one Desert Side Notched point within level one (0 to -10 centimeters below surface), (Mesrobian and Dureka 1990:25).

HISTORIC PHASE 200-100 YEARS BP

Many of the Piqunin phase point types persisted into the Historic phase. The Rose Springs and Eastgate types were replaced by the Desert Side Notched and Cottonwood Triangular types among Great Basin groups in west-central Idaho. Plateau groups continued use of the Wallula and Middle Columbia Basal Notched point types.

Some time after AD 1750 the horse was introduced to the Shoshoni and the Nez Perce Indians. By 1805, beginning with the first recorded Native American and Euro-American contacts with the Lewis and Clark expedition, Native American technology shifted to a dependence on American manufactured goods. The effects of an increasing expanding Euro-American economy and introduction of iron and steel replaced stone projectile points. Projectile points of stone and obsidian became nearly unknown to Native Americans by AD 1900 in central Idaho.

TABLE 1

PROJECTILE POINT STYLES IN APPROXIMATE CHRONOLOGICAL ORDERING

RELATIVE AGE	STYLE	N=#	LITHIC MATERIAL
11,500 - 10,000 BP	Llano Tradition		
	Clovis fragment	1	Cryptocrystaline Silicate (CCS)
11,000 - 8,000 BP	Plano Tradition		
	Alberta base	1	1 Black Basalt
	Eden (Cody Complex)	1	1 Black Obsidian
	Haskett base	1	1 Black Obsidian
10,000 - 8,000 BP	Windust	5	2 Basalt, 1 Obsidian, 1 CCS
9,000 - 6.000 BP	Cascade	14	8 Obsidian, 4 Basalt, 2 CCS
		1	1 Quartz Crystal
8,400 - 650 BP	Elko Side Notch	8	7 Obsidian, 1 CCS
" "	Elko Corner Notch	45	30 Obsidian, 11 Basalt, 3 Rhyolite, 1 Ignimbrite
" "	Elko Eared	11	11 Obsidian
7,845 - 2,250 BP	Humboldt Basal Notch	5	1 Obsidian, 2 Basalt, 2 CCS
7,400 - 1,000 BP	Northern Side Notch	28	21 Basalt, 4 CCS, 3 Obsidian
6,000 - 2,000 BP	Midvale Complex/Western Idaho Archaic Burial Complex (WIABC)	10	8 Obsidian, 1 Basalt, 1 CCS
4,500 - 2,500 BP	Tucannon	16	10 Basalt, 5 Obsidian, 1 Ignimbrite
2,500 - 700 BP	Harder	1	1 Basalt
1,500 - 100 BP	Wallula	20	9 Obsidian, 8 Basalt, 2 CCS, 1 Undetermined lithic type
1,500 - 100 BP	Middle Columbia Basal Notch	11	5 Basalt, 3 Obsidian, 3 CCS
1,500 - 500 BP	Rose Springs	3	2 Obsidian, 1 CCS
1,500 - 500 BP	Eastgate Expanding Stem	3	2 Basalt, 1 CCS
700 - 100 BP	Desert Side Notch	5	4 Obsidian, 1 Basalt
500 - 100 BP	Cottonwood Triangular	3	1 Basalt, 2 CCS

Note: Humboldt, Elko and Pinto are each considered as a series. Windust, Cascade, Tucannon, Harder, and Piqunin are used to designate a projectile point type as well as a phase.

TABLE 2

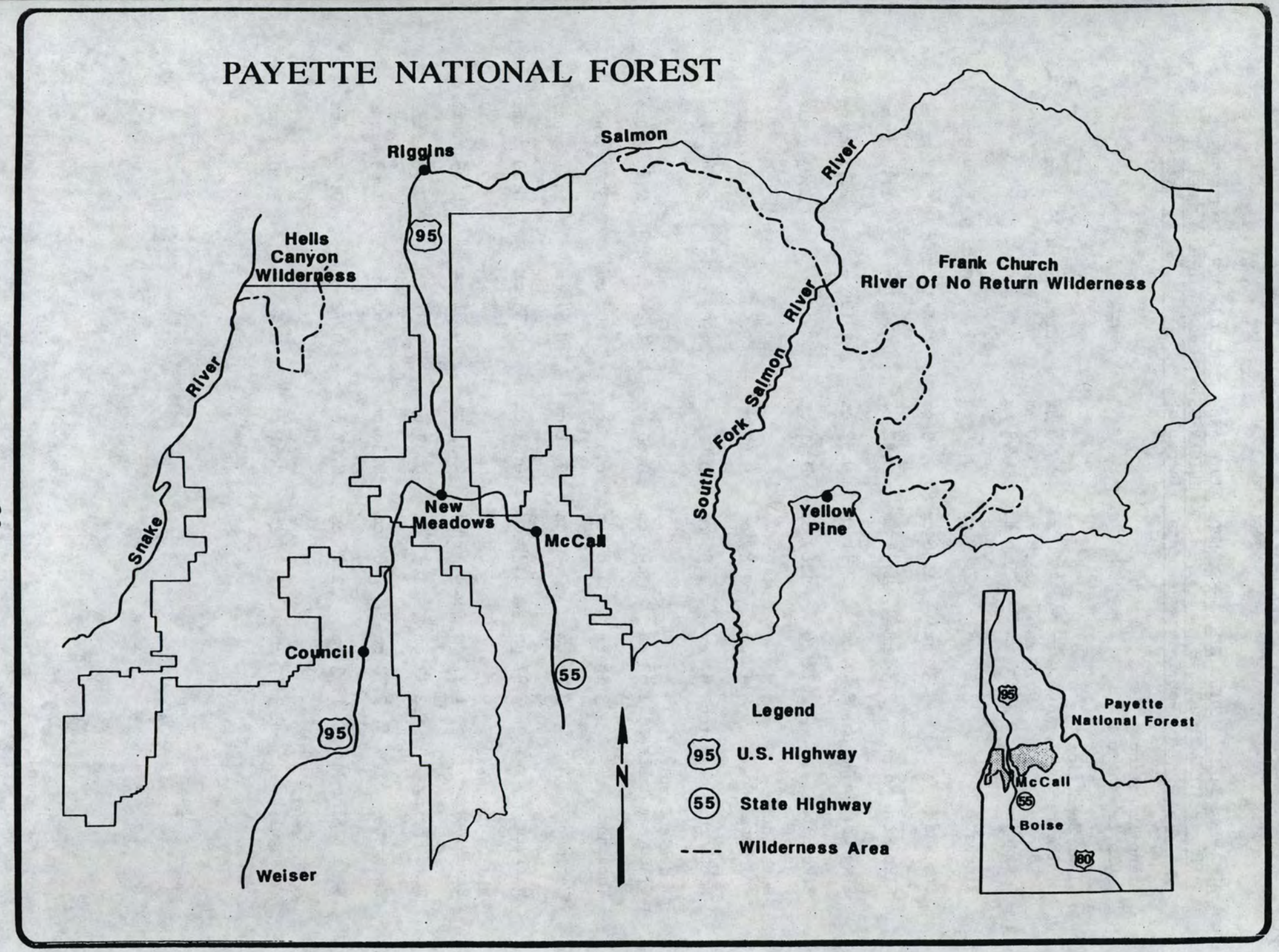
MAXIMUM & MINIMUM LENGTH & WIDTH BY INDIVIDUAL STYLE FOR EACH PROJECTILE POINT

STYLE NAME	NUMBER	LENGTH MAX/MIN Metric Measurements	WIDTH MAX/MIN Incomplete *
Llano Tradition			
Clovis Fragment	1	2.93* - 1.30 cm*	2.16* - 1.77 cm*
Plano Tradition			
Alberta base	1	40.4 mm*	44.0 mm
Eden (Cody Complex)	1	90.0 mm	20.0 mm
Haskett base	1	72.0 mm*	29.6 mm
Windust	4	4.74 - 2.37 cm*	2.84* - 2.11 cm*
Cascade	15	5.97* - 1.67 cm*	2.99 - 1.34 cm
Elko Side Notch	8	2.81* - 1.74 cm	2.13 - 1.26 cm
Elko Corner Notch	53	5.07* - 1.49 cm*	3.19* - 1.45 cm*
Elko Eared	11	4.06 - 1.51 cm*	2.11* - 1.56 cm*
Humboldt Basal Notch	5	5.52 - 1.72 cm*	2.24 - 1.46 cm
Northern Side Notch	28	5.36 - 1.35 cm*	2.38 - 1.39 cm*
Midvale Complex/Western Idaho Archaic Burial Complex (WIABC)	10	4.25 - 1.63 cm*	2.33 - 1.61 cm
Tucannon	16	5.37 - 1.43 cm*	2.93 - 1.35 cm
Harder	1	2.76	2.30
Wallula	20	2.58* - 1.36 cm*	2.29* - 0.96 cm*
Middle Columbia Basal Notch	11	2.92* - 1.04 cm*	1.86* - 1.25 cm*
Rose Spring	3	2.32* - 1.92 cm*	1.58* - 1.25 cm*
Eastgate Expanding Stem	3	3.53 - 2.32 cm*	2.50 - 1.87 cm
Desert Side Notch	5	2.35* - 1.59 cm	1.53 - 0.97 cm*
Cottonwood Triangular	3	4.09 - 3.01 cm	2.12 - 1.82 cm

TABLE 3

AVERAGE LENGTH, WIDTH, THICKNESS, NECK WIDTH AND WEIGHT OF EACH POINT TYPE

TYPE	AVERAGE: LENGTH	WIDTH	THICKNESS	NECK WIDTH	WEIGHT
	Metric measurements		Incomplete *		Grams
Llano Tradition					
Clovis Fragment	*		*	N/A	
Plano Tradition					
Alberta	40.4 mm *	44.0 mm	7.0 mm	Stem Width 29.9 mm	
Eden	90.0 mm	11.0 mm	6.0 mm		
Haskett	72.0 mm *	29.6 mm	12.3 mm	N/A	
Windust	3.23 cm	2.41 cm	0.64 cm	1.91 cm	5.54 grams
Cascade	4.31 cm	1.86 cm	0.69 cm	N/A	5.18 grams
Elko Side Notch	2.33 cm	1.74 cm	0.42 cm	1.02 cm	1.45 grams
Elko Corner Notch	3.47 cm	2.11 cm	0.52 cm	1.10 cm	2.77 grams
Elko Eared	2.72 cm	1.89 cm	0.51 cm	1.14 cm	2.03 grams
Humboldt					
Basal Notch	3.41 cm	1.85 cm	0.60 cm	1.68 cm	4.34 grams
Northern Side Notch	2.87 cm	1.80 cm	0.51 cm	1.03 cm	2.64 grams
Midvale Complex/ WIABC(see Table 1)	2.63 cm	1.91 cm	0.60 cm	1.24 cm	2.62 grams
Tucannon	3.16 cm	1.89 cm	0.56 cm	1.06 cm	3.07 grams
Harder	2.76 cm	2.30 cm	0.31 cm	0.64 cm	1.11 grams
Wallula	1.97 cm	1.38 cm	0.33 cm	0.55 cm	0.80 grams
Middle Columbia					
Basal Notch	1.77 cm	1.44 cm	0.35 cm	0.51 cm	0.69 grams
Rose Spring	2.17 cm	1.37 cm	0.39 cm	0.57 cm	0.96 grams
Eastgate	2.78 cm	2.09 cm	0.36 cm	0.68 cm	1.63 grams
Desert Side Notch	1.93 cm	1.16 cm	0.27 cm	0.72 cm	0.53 grams
Cottonwood					
Triangular	3.47 cm	1.98 cm	0.61 cm	N/A	3.40 grams


PAYETTE NATIONAL FOREST
Riggins
Salmon
River
Hells
Canyon
Wilderness
95
Frank Church
River Of No Return Wilderness
South Fork Salmon River
Snake
River
New
Meadows
McCall
Yellow
Pine
Council
55
95
Weiser
N
Legend
95 U.S. Highway
55 State Highway
Wilderness Area
95
Payette
National Forest
McCall
55
Boise
80

PY#	POINT#	POINT TYPE	LENGTH (CM.)	WIDTH (CM.)	THICKNESS (CM.)	NECK WIDTH (CM.)	NECK THICK-NESS (CM.)	WEIGHT (GMS.)	MATERIAL
459	1	Plano Tradition	1.30*	1.89	0.50	1.86	0.50	1.70	Obsidian
IF	T15N/R1E	Plano Tradition	2.93*	2.16*	1.21	N.A.	N.A.	4.30	Obsidian
BS 268	1	Plano Tradition	1.53*	1.77	0.51	N.A.	0.41	1.70	CCS
1099	1	Plano Tradition	2.55*	2.01	0.60	N.A.	0.44	3.60	Basalt
BS 1058	1	Windust	2.53*	2.26	0.63	1.65	0.51	4.14	Basalt
IF	T19N/R2E	Windust	2.37*	2.11	0.56	N.A.	1.93	3.20	Obsidian
IF	T21N/R2E	Windust	3.30*	2.84*	0.70	2.07	0.61	7.00	CCS
IF	Red Canyon Sp.	Windust	4.74	2.42	0.68	2.00	0.60	7.80	Basalt
1172	1	Cascade	4.90*	2.13*	0.74	N.A.	0.72	7.78	Obsdian
003	8	Cascade	3.61*	1.75	0.62	N.A.	0.44	3.71	Basalt
403A	1	Cascade	5.50*	2.05	0.77	N.A.	0.49	8.35	Obsidian
965	1	Cascade	5.97*	1.72	0.79	N.A.	0.55	7.95	CCS
1099	3	Cascade	4.15*	1.34	0.73	N.A.	0.57	3.33	Obsidian
1099	4	Cascade	3.89*	1.88	0.57	N.A.	0.44	3.02	Basalt
1099	5	Cascade	3.42*	1.74	0.58	N.A.	0.44	3.50	Obsidian
BS267	1	Cascade	3.62	1.72	0.40	N.A.	0.35	Exhibited	Basalt
662	2	Cascade	3.20	1.50	0.76	N.A.	0.59	3.78	Obsidian
536	1	Cascade	4.25	1.54	0.59	N.A.	0.52	3.58	Obsidian
536	2	Cascade	3.34*	1.94	0.79	N.A.	0.47	5.22	Basalt
972	1	Cascade	2.55*	1.88	0.62	N.A.	0.53	3.02	CCS
889	1	Cascade	5.26*	2.18	0.91	N.A.	0.62	8.75	Crystal
IF T13N/R2E	1	Cascade-2 pieces	4.65*	2.99	0.78	N.A.	0.60	7.70	Obsidian
331	2	Cascade	1.67*	1.59	0.68	N.A.	0.55	1.95	Obsidian
IF	No Provenience	Humboldt	2.47*	1.53	0.56	1.43	0.51	2.70	Basalt
IF	Huckleberry	Humboldt	1.72*	1.81	0.60	1.55	0.46	2.20	CCS
331	1	Humboldt	2.00*	2.21	0.40	2.17	0.37	2.00	Obisidan
003	1	Humboldt	5.32	2.24	0.61	2.08	0.57	8.90	CCS
1099	2	Humboldt	5.52	1.46	0.81	1.16	1.11	5.90	Basalt

1. Many width measurements are incomplete due to broken or entirely missing barbs.

* = Not original dimension,; width breakage most often a result of barb or tang loss.

CCS = Cryptocrystalline Silicate

Ign. = Ignimbrite

PY#	POINT#	POINT TYPE	LENGTH (CM.)	WIDTH (CM.)	THICKNESS (CM.)	NECK WIDTH (CM.)	NECK THICK-NESS (CM.)	WEIGHT (GMS.)	MATERIAL
330	3	Tucannon	3.24*	1.49	0.57	1.02	0.44	2.55	Basalt
331	3	Tucannon	2.80	2.24	0.59	0.94	0.49	2.90	Obsidian
358	1	Tucannon	3.67	2.22	0.48	1.13	0.39	3.47	Obsidian
965	1	Tucannon	4.48*	2.23	0.56	1.27	0.39	5.27	Basalt
330	4	Tucannon	2.29	1.35	0.27	0.86	0.23	0.79	Basalt
331	4	Tucannon	2.60	1.51	0.40	1.04	0.36	1.35	CCS (Ign.)
331	5	Tucannon	2.53	1.96	0.44	0.83	0.32	1.78	Obsidian
003	10	Tucannon	4.03*	2.00	0.71	1.04	0.56	5.88	Basalt
1099	6	Tucannon	3.17*	1.41	0.37	1.23	0.33	1.93	Basalt
IF	T16N/R2W Sec. 8	Tucannon	2.61	1.53	0.46	0.82	0.34	1.32	Obsidian
536	3	Tucannon	1.43*	1.91	0.50	1.12	0.38	1.31	Basalt
536	4	Tucannon	3.39*	1.85	0.59	0.90	0.49	2.98	Basalt
739	1	Tucannon	2.83	1.63	0.41	1.02	0.33	1.88	Basalt
006	1	Tucannon	3.19*	1.41	0.62	N.A.	0.56	2.67	Basalt
IF	T19N/25E	Tucannon	2.97*	2.93	1.21	1.43	0.47		Obsidian
007	1	Tucannon	5.37	2.64	0.74	1.31	0.64	9.97	Basalt
870	0	Elko Side Notched	2.44	1.26	0.33	0.83	0.30	0.95	Obsidian
1101	1	Elko Side Notched	1.74R	1.69	0.28	0.82	0.23	0.37	Obsidian
1101	2	Elko Side Notched	2.18	1.64	0.29	0.96	0.27	0.63	Obsidian
IF	Purple Ridge Site	Elko Side Notched	1.88*	2.13	0.47	1.45	0.45	2.03	CCS
IF	T15N/R5W	Elko Side Notched	2.81*	1.62*	0.45	0.93	0.34	1.58	Obsidian
160	1	Elko Side Notched	2.46*	2.11	0.41	0.96	0.37	2.13	Obsidian
536	5	Elko Side Notched	2.48*	1.63*	0.54	1.04	0.44	1.85	Obsidian
007	2	Elko Side Notched	2.62R	1.82	0.55	1.19	0.52	2.08	Obsidian
003	11	Elko Corner Notched	1.94*	1.47*	0.43	0.92	0.37	1.06	Obsidian
003	12	Elko Corner Notched	2.78*	2.66*	0.61	1.24	0.43	4.55	Basalt
003	13	Elko Corner Notched	3.78	1.79*	0.60	0.97	0.47	3.68	Basalt
003	14	Elko Corner Notched	3.66*	2.25*	0.89	1.05	0.64	5.81	CCS
003	15	Elko Corner Notched	2.06*	2.36	0.65	1.22	0.47	2.42	CCS
003	16	Elko Corner Notched	2.57*	2.33*	0.62	0.98	0.47	2.50	Obsidian
003	17	Elko Corner Notched	3.72	2.04*	0.51	1.15	0.43	3.29	Obsidian

R = resharpened

PY#	POINT#	POINT TYPE	LENGTH (CM.)	WIDTH (CM.)	THICKNESS (CM.)	NECK WIDTH (CM.)	NECK THICK-NESS (CM.)	WEIGHT (GMS.)	MATERIAL
003	18	Elko Corner Notched	1.53*	1.55*	0.72	0.97	0.47	1.48	CCS
003	20	Elko Corner Notched	2.68*	1.65*	0.51	0.87	0.40	2.17	Obsidian
003	21	Elko Corner Notched	2.73	2.20*	0.57	1.21	0.46	2.97	Basalt
025	1	Elko Corner Notched	3.87*	2.47*	0.49	1.00	0.37	3.27	Obsidian
007	3	Elko Corner Notched	2.43*	1.59*	0.56	0.92	0.51	1.86	CCS
007	4	Elko Corner Notched	2.41*	1.59*	0.47	0.96	0.40	1.44	CCS
IF	T18N/R4E	Elko Corner Notched	2.66	1.85*	0.44	1.09	0.39	1.75	Obsidian
330	5	Elko Corner Notched	1.97*	2.10	0.37	1.15	0.29	1.51	CCS
330	6	Elko Corner Notched	2.69*	2.07*	0.59	1.11	0.45	3.91	Basalt
332	2	Elko Corner Notched	2.58*	1.84	0.39	1.18	0.26	1.52	Obsidian
351	2	Elko Corner Notched	3.92	2.26	0.54	1.56	0.46	4.49	Basalt
400	1	Elko Corner Notched	2.59*	1.88	0.38	0.75	0.31	1.38	Obsidian
403	2	Elko Corner Notched	4.16	2.34*	0.51	1..27	0.38	3.73	CCS
403	3	Elko Corner Notched	1.49*	1.87*	0.43	1.06	0.38	1.03	Obsidian
577	A	Elko Corner Notched	2.91	1.83	0.48	1.13	0.40	1.89	Obsidian
577	B	Elko Corner Notched	2.35	2.06*	0.38	0.95	0.30	1.25	Obsidian
578	1	Elko Corner Notched	3.55	2.07	0.53	0.90	0.42	2.97	CCS
662	3	Elko Corner Notched	1.54R*	1.45*	0.47	1.10	0.41	0.87	Obsidian
679	1	Elko Corner Notched	3.61	2.35	0.48	1.17	0.39	3.33	Rhyolite
679	2	Elko Corner Notched	2.47*	1.74	0.64	1.06	0.37	2.31	Rhyolite
679	3	Elko Corner Notched	3.43*	2.23*	0.50	0.84	0.37	2.47	Obsidian
739	2	Elko Corner Notched	2.14*	2.02*	0.45	0.96	0.33	1.67	Basalt
739	3	Elko Corner Notched	3.35*	2.15*	0.65	1.20	0.52	3.66	Green Rhyolite
870	C	Elko Corner Notched	4.32*	2.61	0.51	1.48	0.38	4.79	Obsidian
870	A	Elko Corner Notched	4.11*	2.35*	0.52	0.79*	0.41	3.07	Obsidian
870	B	Elko Corner Notched	4.86	3.19*	0.54	1.20*	0.48	6.39	Basalt
895	1	Elko Corner Notched	3.69*	2.78*	0.52	1.15	0.43	4.61	Basalt
943	1	Elko Corner Notched	2.46*	2.77*	0.49	1.37	0.40	3.58	Basalt
990	1	Elko Corner Notched	2.88	1.61	0.47	0.92	0.36	1.64	Obsidian
990	2	Elko Corner Notched	2.70	1.46	0.45	0.80	0.30	1.05	Obsidian
990	3	Elko Corner Notched	2.97*	2.82*	0.68	1.43	0.49	4.60	Obsidian
990	4	Elko Corner Notched	3.39	2.07*	0.36	0.79	0.31	1.83	Obsidian
1051	1	Elko Corner Notched	2.04	1.74*	0.41	0.79	0.36	0.97	Obsidian
1099	7	Elko Corner Notched	3.76	2.36	0.56	0.89	0.39	3.02	Obsidian

PY#	POINT#	POINT TYPE	LENGTH (CM.)	WIDTH (CM.)	THICKNESS (CM.)	NECK WIDTH (CM.)	NECK THICK-NESS (CM.)	WEIGHT (GMS.)	MATERIAL
1101	3	Elko Corner Notched	3.05*	1.99*	0.56	1.82	0.50	3.69	Basalt
1101	4	Elko Corner Notched	2.45*	2.18*	0.47	1.29	0.40	2.19	Basalt
1101	5	Elko Corner Notched	2.93R	1.53	0.58	0.82	0.46	2.11	Obs. (poss. ign.)
1101	6	Elko Corner Notched	2.53*	1.89*	0.38	1.00	0.28*	1.59	Obsidian
IF	T14N/R2E Sec. 4	Elko Corner Notched	5.07*	2.88*	0.59	1.30	0.45	6.69	Obsidian
IF	T20N/R2W Sec. 8	Elko Corner Notched	2.38*	1.70*	0.37	0.97	0.28	1.18	Obsidian
IF	No Provenience	Elko Corner Notched	1.68*	1.97*	0.56	1.16	0.48	1.77	Obsidian
IF	T18N/R1W	Elko Corner Notched	2.68*	2.34*	0.51	1.49	0.39	3.05	Obsidian
IF	SFSR-4	Elko Corner Notched	3.56*	1.81*	0.66	0.74	0.44	3.55	Obsidian
IF	SFSR-5	Elko Corner Notched	2.85*	2.29*	0.45	1.53	0.35	3.02	Obsidian
IF	SFSR ISO-192	Elko Corner Notched	3.35*	2.68*	0.60	1.41	0.55	4.93	Obsidian
IF	Red Canyon Sp.	Elko Corner Notched	2.65*	2.91	0.52	1.35	0.43	4.47	Obsidian
242	2	Elko Eared	2.67	2.11*	0.30	0.86	0.24	1.27	Obsidian
403	4	Elko Eared	1.51*	2.01	0.66	1.59	0.54	1.71	Obsidian
792	1	Elko Eared	2.03	2.07*	0.45	1.09	0.38	1.57	Obsidian
BS1056	1	Elko Eared	2.98	1.83	0.58	1.20	0.46	2.31	Obsidian
1101	7	Elko Eared	2.93*	1.93*	0.55	1.43	0.43	2.88	Obsidian
1101	8	Elko Eared	3.01*	1.97*	0.50	0.82	0.40	1.89	Obsidian
1101	9	Elko Eared	2.49*	1.76*	0.46	0.99	0.40	1.67	Obsidian
1101	10	Elko Eared	2.67*	1.65*	0.49	1.06	0.36	1.75	Obsidian
1101	11	Elko Eared	4.06	1.85*	0.52	1.31	0.38	2.98	Obsidian
1198	1	Elko Eared	2.75*	1.56*	0.50	1.02	0.33	1.59	Obsidian
IF	18N/2W	Elko Eared	2.81*	2.08*	0.55	1.17	0.43	2.74	Obsidian
003	5	Northern Side Notched	3.40*	1.63	0.53	1.19	0.37	2.90	Basalt
003	22	Northern Side Notched	2.42*	1.46*	0.46	0.83	0.42	1.82	Obsidian
003	23	Northern Side Notched	2.41*	1.67*	0.72	1.08	0.58	3.23	Basalt
003	24	Northern Side Notched	2.65*	1.59*	0.50	0.95	0.45	2.30	Basalt
006	2	Northern Side Notched	3.14*	1.44*	0.48	0.83	0.41	1.62	CCS
006	3	Northern Side Notched	2.67R*	1.39*	0.43	0.88	0.37	1.41	Obsidian
006	4	Northern Side Notched	2.26*	1.6	0.43	1.09	0.36	1.31	Basalt
006	5	Northern Side Notched	3.83*	1.67*	0.40	0.99	0.34	2.39	Basalt
006	6	Northern Side Notched	2.76*	1.89*	0.71	1.06	0.47	3.51	Basalt
006	7	Northern Side Notched	3.36*	1.78*	0.67	0.97	0.61	4.68	Basalt
036	1	Northern Side Notched	2.32*	2.16*	0.66	1.32	0.57	3.88	Basalt

PY#	POINT#	POINT TYPE	LENGTH (CM.)	WIDTH (CM.)	THICKNESS (CM.)	NECK WIDTH (CM.)	NECK THICK-NESS (CM.)	WEIGHT (GMS.)	MATERIAL
246	1	Northern Side Notched	1.68*	1.47*	0.35	0.94	0.31	1.02	Basalt
479	2	Northern Side Notched	2.55*	1.53*	0.45	1.02	0.40	1.90	Basalt
479	3	Northern Side Notched	3.04*	1.70*	0.57	0.83	0.53	2.92	Basalt
463	1	Northern Side Notched	3.67*	1.86	0.50	1.05	0.38	3.63	Basalt
591	1	Northern Side Notched	5.36	2.29	0.71	1.50	0.57	9.11	Basalt
739	4	Northern Side Notched	1.35*	2.4	0.41	0.77	0.40	0.94	CCS
855	1	Northern Side Notched	2.59*	1.83	0.54	1.04	0.40	2.46	CCS
870	D	Northern Side Notched	3.61*	2.21*	0.60	1.23	0.53	3.96	CCS
870	E	Northern Side Notched	3.25*	2.13*	0.53	1.09	0.50	3.17	Basalt
972	2	Northern Side Notched	3.59	1.54	0.43	0.79	0.31	1.71	Basalt
973	1	Northern Side Notched	2.07*	2.11	0.57	1.46	0.54	2.41	Obsidian
1099	8	Northern Side Notched	2.23*	2.38	0.71	1.19	0.53	3.15	Basalt
1099	9	Northern Side Notched	1.88*	1.59*	0.31	0.74	0.27	0.95	Basalt
1099	10	Northern Side Notched	2.80*	1.95	0.37	0.95	0.35	1.48	Basalt
1099	11	Northern Side Notched	3.59	1.79*	0.42	0.93	0.39	2.38	Basalt
1106	1	Northern Side Notched	3.50*	1.85	0.56	1.07	0.40	2.64	Basalt
IF	T15N/R4W	Northern Side Notched	2.42	1.5	0.30	1.01	0.23	1.10	Basalt
332	1	Harder	2.76	2.3	0.31	0.64	0.22	1.11	Basalt
870	G	Cottonwood	3.01	1.82	0.58	N.A.	0.44	2.80	Basalt
003	2	Cottonwood	4.09	2	0.68	N.A.	0.52	4.70	CCS
351	1	Cottonwood	3.30	2.12	0.58	N.A.	0.49	2.70	CCS
001	2	Midvale Complex	4.25	2.33	0.89	2.13	0.77	7.96	CCS
536	6	Midvale Complex	2.24*	1.9	0.62	1.38	0.47	2.58	Obsidian
003	25	Midvale Complex	2.01*	1.79	0.60	0.99	0.43	2.06	Obsidian
003	26	Midvale Complex	1.80*	1.61	0.59	0.91	0.41	1.34	Obsidian
006	3	Midvale Complex	1.63*	1.95	0.44	1.03	0.32	1.43	Obsidian
244	1	Midvale Complex	2.84R	1.76	0.53	1.14	0.48	1.89	Obsidian
355	2	Midvale Complex	2.51	2.2	0.51	1.28	0.54	2.96	Obsidian
357	1	Midvale Complex	3.33	2.08*	0..59	1.18	0.40	3.09	Obsidian
935	1	Midvale Complex	2.82	1.75	0.75	1.19	0.59	3.36	Basalt
IF	T16N/R5W	Midvale Complex	2.87*	1.71	0.50	1.18	0.40	2.17	Obsidian
21	1	Rose Spring	2.32*	1.58*	0.43	0.60	0.29	1.39	Obsidian
003	9	Rose Spring	2.26*	1.25*	0.37	0.54	0.27	0.71	Obsidian
479	1	Rose Spring	1.92*	1.29	0.38	0.57	0.28	0.77	CCS

PY#	POINT#	POINT TYPE	LENGTH (CM.)	WIDTH (CM.)	THICKNESS (CM.)	NECK WIDTH (CM.)	NECK THICK-NESS (CM.)	WEIGHT (GMS.)	MATERIAL
001	1	Eastgate	3.53	1.90*	0.37	0.71	0.25	2.00	Basalt
675	1	Eastgate	2.32*	2.5	0.41	0.72	0.21	1.84	CCS
870	J	Eastgate	2.49	1.87	0.30	0.62	0.17	1.04	Basalt
114	1	Desert Side Notched	2.10*	1.23*	0.29	0.67	0.20	0.75	Basalt
532	1	Desert Side Notched	2.02	1.04*	0.26	0.66	0.20	0.40	Obsidian
584	TU1/5	Desert Side Notched	2.35*	1.05*	0.30	N.A.	N.A.	0.60	Obsidian
584	TU4/3	Desert Side Notched	1.60	.97*	0.20	0.50	0.50	0.21	Obsidian
1101	13	Desert Side Notched	1.59	1.53	0.32	1.07	0.27	0.69	Obsidian
242	1	Piquinin	Unavailable - on Exhibit					0.80	
356	1	Wallula	1.36*	1.67	0.40	0.63	0.32	1.00	CCS
356	2	Wallula	2.14*	1.69	0.38	0.69	0.22	1.30	Basalt
356	3	Wallula	Unavailable - on Exhibit					1.40	
584	TU1/8	Wallula	2.00	1.2	0.40	0.65	0.30	0.58	Obsidian
584	TU4/4	Wallula	1.75	1.15	0.30	0.50	0.30	0.55	Obsidian
584	TU8/4	Wallula	1.75	1.10*	0.35	0.65	0.30	0.67	Obsidian
896	1	Wallula	2.04*	1.38	0.30	0.61	0.20	0.80	Basalt
896	2	Wallula	2.58*	2.29*	0.31	0.64	0.21	1.40	Basalt
003	3	Wallula	1.64*	0.96*	0.16	0.48	0.15	0.30	Obsidian
003	6	Wallula	1.97*	1.44	0.43	0.47	0.31	1.00	CCS
003	7	Wallula	1.89*	1.12	0.35	0..39	0.27	0.60	Obsidian
IF	T19N/R4W	Wallula	1.73	1.47	0.29	0.47	0.17	0.50	Obsidian
584		Wallula	2.09	1.55	0.36	N.A.	0.32	0.80	Obsidian
037		Wallula	2.18	1.07*	0.29	0.50	0.26	0.60	Basalt
017-1	T14N/R2E	Wallula	1.85*	1.50*	0.35	0.62	0.29	0.80	Obsidian
900	1	Wallula	1.78*	1.40*	0.36	0.60	0.24	0.80	Basalt
870	K	Wallula	2.30	1.24	0.30	0.40	0.21	0.70	Basalt
870	L	Wallula	2.18*	1.35*	0.28	0.49	0.21	0.80	Basalt
900	2	Wallula	2.29	1.24*	0.34	0.55	0.24	0.63	Obsidian
107	1	MCBN Serrated	1.71*	1.35*	0.25	0.41	0.19	0.40	Obsidian
003	4	MCBN	1.79*	1.38*	0.31	0.54	0.19	0.70	Basalt
1051	1	MCBN	1.55*	1.67*	0.39	0.46	0.22	0.70	Basalt
MCBN = Middle Columbia Basal		Notched - pronounced barbs (can be serrated or elongated)							

PY#	POINT#	POINT TYPE	LENGTH (CM.)	WIDTH (CM.)	THICKNESS (CM.)	NECK WIDTH (CM.)	NECK THICK-NESS (CM.)	WEIGHT (GMS.)	MATERIAL
1101	1	MCBN	2.92*	1.31*	0.33	0.38	0.18	1.00	Basalt
322	1	MCBN	1.62	1.44*	0.30	0.41	0.22	0.50	Basalt
246	1	MCBN	1.78*	1.25*	0.34	0.65	0.23	0.90	CCS
870	M	MCBN	1.77*	1.49*	0.39	0.58	0.25	0.90	Basalt
870	N	MCBN	2.05*	1.40*	0.36	0.62	0.28	0.70	Obsidian
808	Unit 3	MCBN w/ notch base	1.70*	1.86*	0.38	0.66	0.32	0.80	CCS
808	1	MCBN	1.49*	1.28*	0.31	0.40	0.20	0.50	Obsidian
808	2	MCBN	1.04*	1.41*	0.49	0.55	0.19	0.50	CCS

Bibliography and Cited References

Aikens, C. Melvin
1970 Hogup Cave. University of Utah Anthropological Papers No. 93. Salt Lake City.

1993 Archaeology of Oregon, USDI, Bureau of Land Management, Oregon State Office, Portland.

Baumhoff, Martin A., and J.S. Byrne
1959 Desert Side-notched Points as a Time Marker in California. Reports of the University of California Archaeological Survey, No. 48, pp. 32-65. Berkeley.

Bettinger, Robert L.
1978 Humbolt Basal Notched Bifaces as Time Marker in Western Great Basin, Tebiwa, No. 10, ISU, Pocatello.

Bryan, Alan L.
1980 The Stemmed Point Tradition: An Early Technological Tradition in Western North America, Anthropological Papers in Memory of Earl Swanson, ISU, Museum of Natural History, Pocatello.

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

1980 A Folsom Point Multipurpose Tool from the Little Blackfoot River, S.E. Idaho," Idaho Archaeologist, Vol, No. 3, Nampa.

Cinadr, Thomas J.
1976 Mount Bennet Hills Planning Unit: Analysis of Archaeological Resources," Idaho State University Museum of Natural History Archaeological Report No. 6, Pocatello.

Clewlow, C. William, Jr.
1967 Time and Space Relations of Some Great Basin Projectile Point Types, Reports of the University of California Archaeological Survey, No. 70, Berkeley.

Forbis, Richard
1968 Fletcher: A Paleo-Indian Site in Alberta, American Antiquity, Vol. 33, No. 1, Society for American Archaeology, Salt Lake City.

Forbis, Richard G. and John D. Sperry
1952 An Early Man Site in Montana, American Antiquity, Vol. 18, No.2, Society for American Archaeology, Menasha.

Gaarden, Lorin R.
1967 Excavation at a Campsite on Eagle Creek (North Central Idaho), Tebiwa, Vol. 10, No. 2, Idaho State University, Pocatello.

Geer, William
1982 Early Point Types from the Boise National Forest, Idaho Cultural Resource Handbook, USDA - Forest Service, Boise, Idaho.

Green, James P.
1972 Archaeology of the Rock Creek Site (10-CA-33), Sawtooth National Forest, Cassia County, idaho. Unpublished M.A. thesis, Department of Anthropology, Idaho State University, Pocatallo.

Green, Thomas J.
1985 An Eden Point from the Owyhee Mountains, Idaho Archaeologist, Vol. 8, No. 2, BUS, Boise.

Gruhn, Ruth
1961 The Archaeology of Wilson Butte Cave, south-central Idaho. Occasional Papers of the Idaho State College Museum, No. 6, Pocatello.

Hanes, Richard C.
1977 Lithic tools of the Dirty Shame Rockshelter, Typology and Distribution, Tebiwa, No. 6, ISU Museum of Natural of Natural History, Pocatello.

Heizer, Robert F. and Thomas R. Hester
1978 Great Basin Chronologies in New World Archaeology. Academic Press.

Hole, Frank and Robert F. Heizer
1973 An Introduction to Prehistoric Archaeology, Third Edition Holt, Rinehart and Winston, New York.

Holmer, Richard N.
1989 Dagger Falls: A Preliminary Report, Idaho Archaeologist, Vol. 12, No. 1, Boise State University, Boise.

1985 Common Projectile Points of the Intermountain West, In: Anthropology of the Desert West: Essays in Honor of Jesse D. Jennings, edited by Carol J. Condie and Don D. Fowler, pp. 89-115. University of Utah Anthropological Papers No. 110, Salt Lake City.

1978 A Mathematical Typology for Archaic Projectile Points of the Eastern Great Basin, Doctoral Dissertation in Anthropology, University of Utah, Salt Lake City.

Huntley, James L.
1980 A Fluted Point from the Jordan Creek Drainage in Northwest Owyhee County, Idaho Archaeologist, Vol. 3, No. 3, IAS, Nampa.

1985 A Clovis Fluted Projectile Point from Southwest Idaho, Idaho Archaeologist, Vol. 8, No. 1, BSU, Boise.

Irwin, Henry T. and H. Marie Wormington
1970 Paleo-Indian Tool Types in the Great Plains, American Antiquity, Vol. 35, No. 1, Society for American Archaeology, Salt Lake City.

Irwin-William, Cynthia and Henry Irwin, George Agogino, C. Vance Haynes
1973 Hell Gap, Paleo-Indian Occupation on the High Plains, Plains Anthropologist, Vol. 18.

Jennings, Jesse D.
1986 Handbook Of North American Indians, Great Basin, Vol. 11, Smithsonian Institution, Washington, D.C.

1968 Prehistory of North America, Second Edition, McGraw-Hill Book Company, New York.

Kenaston, Monte Ray
1966 The Archaeology of the Harder Site, Franklin County, Washington, Washington State University, Laboratory of Anthropology, Report of Investigations, No. 35, Pullman.

Keyser, James D.
1992 Indian Rock Art of the Columbia Plateau, University of Washington Press, Seattle.

Kingsbury, Lawrence A.
1977 Cultural Resource Inventory of the Little Lost-Birch Creek Planning Unit, Idaho State University Museum of Natural History Archaeological Reports No. 10, Pocatello.

1994 Indian Creek Prehistoric Site 10VY492/PY-584, Archaeological Site Testing, USDA Payette National Forest, McCall District. Manuscript on file at the Supervisor's Office, Payette National Forest, McCall, Idaho.

Lanning, Edward P.
1963 Archaeology of the Rose Spring Site, IYN-372. University of California Publications in American Archaeology and Ethnology 49:3:237-336. Berkeley.

Leonhardy, Frank C. and David G. Rice
1970 A Proposed Cultural Typology for the Lower Snake River Region, Southeastern Washington, Northwest Anthropological Research Notes, Vol 4, No. 1, University of Idaho, Moscow.

Mason, Ronald J. and Carol Irwin
1960 An Eden-Scottsbluff Burial in Northeastern Wisconsin, American Antiquity, Vol. 26, No. 1, Society for American Archaeology, Salt Lake City.

Mesrobian, Ann and James Thomas Dureka
1990 Archaeological Excavations at 10VY492, Krassel Ranger Station, Manuscript on file at the Supervisor's Office, USDA Payette National Forest, McCall, Idaho.

Moe, Jeanne M.
1982 A Folsom Point from the Owyhee Mountains of Southwest Idaho, Idaho Archaeologist, Vol. 6, Nos. 1 and 2. BSU, Boise.

Newman, Thomas M.
1966 Cascadia Cave, Occasional Papers of the Idaho State University Museum, No. 18, Pocatello.

O'Connell, James F.
1967 Elko Eared/Elko Corner Notched Projectile Points as Time Markers in the Great Basin, U.C. Archaeological Survey Report No. 70, Papers on Great Basin Archaeology, Berkely.

Pavesic, Max G., Susanne J. Miller, Patricia A. Gamal, and Thomas J. Green
1993 The DeMoss Site: A Material Culture and Faunal Update, Idaho Archaeologist, Vol. 16, No. 1, Boise State University, Boise.

Petersen, N.
1987 A Clovis Point from Long Valley, Idaho Archaeologist, Vol. 10, No. 2, BSU, Boise.

Plew, Mark G.
1989 Two Aboriginal Metal Projectiles from Swiss Valley, Near King Hill, Idaho, Idaho Archaeologist, Vol. 12, No. 1, BSU, Boise.

Plew, Mark, and James C. Woods
1985 Test Excavations at the Kueney Site (10-TG-527), A Middle Archaic Site in the South Hills Country, Idaho Archaeologist, Vol.8, No. 2, BSU, Boise.

Reddy, Sheila D.
1993 THe Empty Land, The Search for the Nez Perce on the Payette National Forest, Manuscript on file at the Supervisor's Office Payette National Forest, McCall, Idaho.

Sargeant, Kathryn E.
1973 The Haskett Tradition: A View from Redfish Overhang, Master's Thesis in Anthropology, ISU, Pocatello.

Sharrock, Floyd
1966 Prehistoric Occupation Patterns in Southwest Wyoming and Cultural Relationships with the Great Basin and Plains Culture Areas, Anthropological Papers of the Department of Anthropology, No. 77, University of Utah, Salt Lake City.

Swanson, Earl H. Jr.
1972 Birch Creek: Human Ecology in the Cool Desert of the Northern Rocky Mountains. Idaho State University Press, Pocatello.

Titmus, Gene L.
1981 The Timmerman Hill Folsom, Idaho Archaeologist, Vol. 8, BSU, Boise.

1987 The Blue Lake Clovis, Idaho Archaeologist, Vol 10, No. 2, BSU, Boise.

Titmus, Gene L. and James C. Woods
1990 West Clover Clovis, Idaho Archaeologist, VOL. 13, NO. 1, BSU, Boise.

Warren, Claude N., Kent S. Wilkinson, and Max G. Pavesic
1971 The Midvale Complex, Tebiwa, Vol. 14, No 2, Pocatello.

Warren, Claude N., Cort Sims and, Max G. Pavesic
1968 Cultural Chronology in Hells Canyon, Tebiwa, Vol. 11. No. 2, Pocatello.

Winfrey, James V.
n.d. Archaeological Site Testing of Rockshelter PY-060/10VY158 USDA Payette National Forest, McCall District. Manuscript on file at Supervisor's Office, Payette National Forest, McCall, Idaho.

Wright, Gary A.
1978 The Shoshonean Migration Problem, Plains Athropologist, Vol. 23, pp. 113-137.

Wylie, Henry G.
1980 Artifacts from Cascade Reservoir, Valley Co. Idaho, Idaho Cultural Resource Handbook, USDA, Forest Service, Idaho Zone, Boise.