

**REVIEW OF SECRETARY BABBITT'S FINAL DETERMINATION
OF CULTURAL AFFILIATION FOR KENNEWICK MAN**

Submitted to

THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF OREGON

Bonnichsen

v.

United States

Civil Case No. 96-1481-JE

Submitted by

**Society for American Archaeology
Committee on Repatriation
Subcommittee on Cultural Affiliation**

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Introduction

The Committee on Repatriation, Subcommittee on Cultural Affiliation of the Society for American Archaeology presents this review of the evidence as to whether the Kennewick remains are culturally affiliated with the claimant groups under NAGPRA. NAGPRA states:

“cultural affiliation” means that there is a relationship of shared group identity that can be reasonably traced historically or prehistorically between a present day Indian tribe or Native Hawaiian organization and an identifiable earlier group.

25 U.S.C. § 3001(2). In our consideration of cultural affiliation we address, in the context of Kennewick Man, the key elements of this definition: the *identifiable earlier group*, the *present-day Indian tribe*, and the *relationship of shared group identity* that must be *reasonably traced* between them.

First, we note that DOI’s evidence fails to define the “identifiable earlier group” to which Kennewick Man belonged. *Second*, we show that one of the five claimant groups is not a “present-day Indian tribe” under NAGPRA, and that DOI has failed to make the case that each tribe has cultural affiliation with the Kennewick remains. *Third*, we point out that DOI improperly substituted the weak criteria of “continuity” and “reasonable cultural connection” for the more restrictive statutory standard of “relationship of shared group identity.” *Finally*, we argue that the preponderance of the evidence does not support continuity and falls so far short of tracing “shared group identity” that the Secretary’s finding can only be regarded as arbitrary and capricious. We conclude that, when the criteria for cultural affiliation are properly considered, and based on a preponderance of the evidence, Kennewick Man is not culturally affiliated with any present-day Indian tribe.

Our review relies primarily on the evidence presented in the DOI Staff Report (FDE3; DOI 10050-10085)⁷ and other DOI-commissioned reports but also draws on other elements of the administrative record. We believe that DOI generally did a reasonable job of *collecting* the evidence relevant to cultural affiliation, but that its determination of cultural affiliation is inconsistent with both the evidence and the law.

Before proceeding, we must note that the responsibility under NAGPRA of the U.S. Army Corps of Engineers, and then the Department of the Interior, was *not* to proceed from the presumption that such an affiliation must exist. NAGPRA clearly recognizes that it is often the case that no cultural affiliation exists between any federally recognized tribe and specific ancient Native American remains. Instead, DOI's responsibility was to determine *whether a preponderance of the evidence supports a finding of cultural affiliation* with one or more tribes or, in the alternative, whether a preponderance of the evidence would support a finding of no cultural affiliation with any tribe.

Statutory Standard for Cultural Affiliation

Identifiable Earlier Group

The Secretary's Final Determination letter acknowledges the statutory requirement to provide "evidence of the existence of an identifiable earlier group." (BL: 4; DOI 10015.) While the Secretary purports to have identified an earlier group, he has not met this statutory requirement.

⁷ For clarity, citations of the DOI administrative record provide both a document identifier and the DOI Bates numbers. Documents cited include: Letter of Bruce Babbitt to Louis Caldera, September 21, 2000 (BL); Final Determination Enclosure 3, "Human Culture in the Southeastern Columbian Plateau, 9500-9000 BP and Cultural Affiliation with Present-day Tribes" (FDE3; also called the Staff Report); the DOI experts' Cultural Affiliation Reports (CAR1-CAR5) where 1=Scope of Work, 2=Ames/Archaeology, 3=Boxberger/Ethnography, 4=Hunn/Linguistics, 5=Hackenberger/Bioarchaeology; and Kennewick Man, Chapter 2 "Report on the Osteological Assessment of 'Kennewick Man' Skeleton" by Powell and Rose (KM2).

The identifiable earlier group must be analogous to a contemporary tribe. In fact, the defendants did not identify any such earlier group in the Secretary's Final Determination (BL; DOI 10012-10017) or in the Staff Report. (FDE3; DOI 10050-10085.) While some might object that identifying such a group so far back in time is too much to ask—that is precisely the point. Because Congress intended to provide only for repatriation of remains that are reasonably closely related to modern groups, it set a rigorous standard for cultural affiliation (House Committee on Interior and Insular Affairs Report on NAGPRA, Report 101-877: 12, 14).

Requirement of the Identification of the Existence of an Identifiable Earlier Group. In discussing the requirement to establish the existence of an identifiable earlier group, 43 C.F.R. § 10.14(c)(2) of the NAGPRA regulations state:

Support for this requirement may include, but is not necessarily limited to evidence sufficient to:

- (i) Establish the identity and cultural characteristics of the earlier group,
- (ii) Document distinct patterns of material culture manufacture and distribution methods for the earlier group, or
- (iii) Establish the existence of the earlier group as a biologically distinct population.

If we consider the evidence in the record relating to each of these criteria in turn, we come to the following conclusions:

- (i) There is *no evidence* that bears on the specific identity for the earlier group.
- (ii) Kennewick Man was found without any associated artifacts, other than a projectile point fragment embedded in his pelvis. It seems likely that the spear point derived from a group other than the one to which Kennewick Man belonged (i.e., an enemy group). Lacking a single item of material culture that ties Kennewick Man to the group to which he belonged, it is not possible to identify the patterns of material culture associated with that group.

(iii) The evidence is plainly insufficient to establish the existence of the earlier group as a biologically distinct population. Such an identification would require reference to characteristics shared by more than one individual.

The Secretary's Final Determination (BL; DOI 10012-10017) and the Staff Report (FDE3; DOI 10050-10085) provide no further information documenting the specific identifiable earlier group. All cultural characteristics and aspects of material culture that DOI attributes to Kennewick Man's "group" stem from archaeologists' understanding of the broad cultural tradition associated with an area approximately the half size of the state of Washington over at least a 5800-year period.⁸ A tradition so broad and long-lived must certainly have included many different groups. Because there is no identifiable earlier group, no cultural affiliation can be established; thus the DOI analysis should end here.

General Characterization of the Earlier Group. If the (clear) requirement for a specific identification is relaxed, one could formulate a more general characterization of the sort of group to which this individual probably belonged. For reasons outlined in the SAA Memorandum of Law, the only plausible interpretation of an "identifiable earlier group" that could share an identity with a present-day tribe is a social group of the same scale and nature as a present-day Indian tribe. DOI appears to assume that all human groups occupying the mid-Columbia region in the period from 9500-8500 years ago, during which Kennewick Man lived, were members of a single identifiable group. However, such broadly defined entities, established largely on the basis of similarity in their technologies, are quite likely to contain *multiple* groups analogous to

⁸ For the purposes of the scope of work for all experts, 9,500-8500 years ago was taken as the beginning of the time frame covered by the studies. (CAR1; DOI 10104.) The patterns of adaptation described for this early period, however, actually extend much farther back in time. Specifically, the Columbia Basin-wide sample of archaeological sites of the Windust and Early Cascade periods date to between 13,500-9000 and 9000-7700 years ago, respectively. (CAR3; DOI 10135.)

modern tribes. The DOI position is akin to suggesting that because of the similar technologies employed, we can consider all of western Europe to be composed of a single group of people. Indeed, the fact that Kennewick Man had a spear point embedded in his pelvis lends support to the suggestion that more than one group was present in the region. The observed variability in mortuary practices during the period 9500-8500 years ago also suggest the existence of multiple groups, as does well grounded anthropological theory concerning hunter-gatherer societies.

Ames's Review of the Archaeological Data (CAR2; DOI 10107-10264) provides information about the general nature (as opposed to the specific identities) of the human groups of the mid-Columbia Region. It suggests that during the time that Kennewick Man lived, human occupation of the mid-Columbia region was extremely sparse. (CAR2; DOI 10136.) The available data, informed by archaeological theory, suggest an occupation by small bands of dispersed and very mobile hunter-gatherers who may have been members of larger populations (macro-bands) consisting of a few hundred individuals. If Kennewick Man permanently lived in the area in which his remains were found (a fact that is not in the record), the group identity of Kennewick Man probably would have been associated with that larger group, and that identity would have contrasted with the identity of members of adjacent groups (macro-bands). In any event, for the entire area and period in question, the archaeological data rule out establishing the existence of *any* meaningful cultural identity in any sense analogous to that of a modern tribe as called for by NAGPRA. For this period and area, the record not only fails to identify the specific group to which Kennewick Man belonged, it fails to identify *any* meaningful earlier groups on the proper scale.

In sum, defendants have offered no "identifiable earlier group" that was associated with Kennewick Man. Therefore, there can be no cultural affiliation.

Present-day Indian Tribe

In the Kennewick case, the present-day group, assumed by Secretary to have a shared identity, consists of the five claimant groups: the Confederated Tribes of the Colville Reservation, Confederated Tribes of the Umatilla Reservation, Confederated Tribes and Bands of the Yakama Indian Nation, the Nez Perce Tribe of Idaho, and the Wanapum Band. We note three problems with the defendants' identification of the present-day Indian tribe with the five claimant groups:

1) ***Lack of Federal Recognition.*** Lacking federal recognition, the Wanapum Band does not satisfy the NAGPRA definition of Indian Tribe. 25 U.S.C. § 3001(7). Indeed DOI states (BL; DOI 10017) “the Wanapum...is an unrecognized band that does not have standing to assert an individual claim under NAGPRA.” Consequently the Wanapum Band cannot, under NAGPRA, be culturally affiliated with Kennewick Man and thus cannot be a proper claimant, jointly or individually.

2) ***Failure to Establish Shared Group Identity, 1805 to Present.*** The Lewis and Clark expedition recorded Native villages in this area in 1805, and the Secretary chose this date in the scope of work based on the premise that there exists an historic record of occupation since that time. The continuity of occupation of the Mid-Columbia region since 1805 is uncontested. However, the administrative record fails to demonstrate that a relationship of shared group identity (not “continuity”) obtains between the 1805 villages and the claimant groups. Worldwide, many group identities have been lost or transformed in periods of 200 years or less (for example, many large groups of European immigrants to the US have assumed an American identity and lost any significant identity with their country of origin). DOI neglected to satisfy its legal obligation to address the issue.

This is a significant inadequacy of the record because establishment of cultural affiliation requires that a shared identity be reasonably traced all the way from Kennewick Man to a contemporary tribe, not just to that tribe as it existed in 1805. Even if this deficiency with respect to the period from 1805 to the present were ignored, the administrative record manifestly fails to provide sufficient evidence to link the Kennewick remains with the early 19th century groups.

3) *Problems with the Joint Claim.* While we agree with DOI that in some circumstances multiple claimant tribes may be appropriate (see the SAA Brief), the cultural diversity of the claimants in this case may pose a serious problem. Clearly, each group in any set of claimants must satisfy the standard of cultural affiliation and have a “shared group identity” with the identifiable earlier group to which Kennewick Man belonged. However, even if it were possible to specify the identifiable earlier group, the defendants have failed to make appropriate findings for each of the constituent tribes. Further, the administrative record does not suggest that DOI ever attempted to identify the tribe with the “closest cultural affiliation” as required by the statute. 25 U.S.C. § 3002(a)(2)(B). Finally, if all tribes equally share a traceable relationship of group identity with Kennewick Man, then these tribes should all share a group identity among themselves, which, for the purposes of the Act, need to be demonstrated.

Relationship of Shared Group Identity that Can be Reasonably Traced

“Continuity” or “Reasonable Cultural Connection” vs. “Shared Group Identity.” In assessing the question of cultural affiliation, Secretary Babbitt’s Final Determination equates the weak criteria of “continuity” and “reasonable cultural connection” with the *far more restrictive* statutory language: “a *shared group identity* that can be reasonably traced.” 25 U.S.C. § 3001(2). This misinterpretation of NAGPRA’s clear standard is reflected in statements made throughout the Secretary’s Final Determination:

Consequently, the cultural affiliation determination must focus on whether there is evidence establishing a *reasonable cultural connection* between the Indian tribes inhabiting the Columbia Plateau region approximately 2000-3000 years ago and the cultural group, represented by the Kennewick human remains, which inhabited the same region 8500-9500 years ago. (Emphasis added.) (BL; DOI 10015.)

DOI has determined that the evidence of *cultural continuity* is *sufficient* to show by a preponderance of the evidence that the Kennewick remains are culturally affiliated with the present-day Indian tribe claimants. (Emphasis added.) (BL; DOI 10016.)

The DOI scope of work for the consultants compounds this problem by improperly equating “continuity” with “shared group identity” and therefore misdirecting their work toward the less demanding task of identifying continuity.

The focus of each study was to be on acquiring and investigating evidence for *continuity* (“*existence of shared group identity*”), between the Native American Indian tribes inhabiting the Mid-Columbia region in the early 19th century and the ancient group, represented by the Kennewick human remains. (Emphasis added.) (CAR1; DOI 10104.)

“Cultural continuity” implies a more or less continuous occupation of an area, but little more. A “reasonable cultural connection” between groups might reasonably be said to exist even though an individual’s group identity is quite different. For example, while many Americans might legitimately claim some continuity or a reasonable cultural connection with 18th century British culture (because of the origin of the dominant cultural traditions in the United States), few Americans would claim a British identity.

Following the explicit instructions of the scope of work, the consultants’ reports focused on the necessary but far from sufficient condition of cultural continuity. Where there is discussion of “cultural affiliation,” we can only assume that this term is used inaccurately, given the mistaken meaning indicated by DOI’s equation of continuity with shared group identity.

Gaps in the Record. The scope of work for the DOI consultants properly requested that:

Evidence of discontinuities also were to be identified and described as well as gaps in the record resulting from insufficient data or information. (CAR1; DOI 10104.)

It is important to clarify the distinction between cultural discontinuities and gaps in the record that result from insufficient data or information. A discontinuity is identified when there appears to be a dramatic change in one or in a complex of cultural traits. Discontinuities can result from population replacement (as might result from territorial conflict), as well as from major changes within a culture (such as the adoption of agriculture, the shift from a mobile to a sedentary lifestyle, or the adoption of a new religion). Such dramatic changes may well result in fundamental changes in cultural identity over the course of a few generations.

In contrast, gaps in the archaeological record may result from a simple lack of investigation or from events that eradicate or make inaccessible portions of the archaeological record. For example, in some geological contexts, sites may be deeply buried and thus difficult to discover or investigate. However, discontinuities can be identified despite gaps in the record. Thus, identification of a society of mobile hunter-gatherers at one time, followed by a gap in the record, followed by a society of sedentary villagers would still indicate the existence of a discontinuity.

Abandonment of an area is an important form of discontinuity that might result from the extinction of a local population or an out-migration. The absence of an archaeological record in this case (which might colloquially be called a “gap”) is not a gap “due to insufficient data or information.” Instead it reflects affirmative knowledge that there is little or no occupation of an area. For example, the Mesa Verde area of Southwest Colorado has been the subject of intensive

archaeological investigation. Large towns with substantial populations were present until the late AD 1200s. The area was not resettled for 200 years, ca. AD 1500. There is no question that this discontinuity in occupation (i.e., an abandonment) clearly shows a lack of cultural continuity at about AD 1300. Given a reasonable level of scientific investigation, the absence of an archaeological record can be reasonably judged by archaeologists to indicate the abandonment of an area.

Evaluation of the Evidence for Shared Group Identity Between the Identifiable Earlier Group and the Present-day Indian Tribes

Setting aside, for the moment, the serious problems with the identification of present-day Indian tribes and the fatal problems with the identifiable earlier group, we will show in this section that the Secretary's Final Determination fails to provide a preponderance of the evidence supporting the existence of a relationship of shared group identity, as required by the statute. Further, we will show that a preponderance of the evidence presented in the record fails to support the much weaker (and legally insufficient) criterion of "continuity" or "reasonable cultural connection" that was improperly used in making the determination. We must conclude that no affiliation has been demonstrated between Kennewick Man and the claimant groups.

In the following sections we consider in some depth the nine lines of evidence discussed in the Staff Report. (FDE3; DOI 10050-10085.) For convenience, Figure 1 (attached at Tab C) summarizes, without evaluation, much of the evidence provided by DOI. It provides comparative time lines that show the nature and timing of the dramatic cultural changes that occurred over the last 9500 years in DOI's nine categories of evidence. Table 1 (attached at Tab B) compares our knowledge of the cultural context of the central Columbia Basin 9500 years

ago⁹ with the cultural context at DOI's baseline date of AD 1805. It summarizes the Secretary's conclusions and provides SAA's evaluation of the evidence for a relationship of shared group identity.

1. Geography

The DOI documents use a variety of geographical terms in discussing the evidence. The most inclusive term is the *Columbia Plateau*, which refers to the plateau that extends from the Cascade Mountains in the west to the Rocky Mountains in the East and from northern Washington to northern Oregon. Kennewick Man was found in the southeastern portion of the Columbia Plateau. The Columbia Basin stretches from central Idaho to the Cascades. The *Central Columbia River Basin* is part of this broader physiographic subdivision of the Plateau but refers to a much smaller area, perhaps 75 miles across, that is defined on the west by the Columbia River and to the south by the Snake River. The Kennewick locality lies near the middle of the southern edge of the basin near the confluence of the Snake and Columbia rivers. The *Mid-Columbia Region* refers to the area surrounding the middle portion of the Columbia River, stretching from The Dalles (about 175 miles from the mouth of the Columbia) upstream to about 50 miles from the Canadian border. The Kennewick locality lies some distance downstream of the middle of this stretch of the river. (map, FDE3; DOI 10056.)

The Staff Report argues that the historical record indicates that the present-day Native Americans in the area are descendants of peoples who permanently occupied the area in AD 1805, when Lewis and Clark passed through (FDE3; DOI 10057). The Staff Report discusses the appearance of the Plateau Culture, a complex of cultural traits that developed in that general region across the Plateau after about 2000-3000 years ago (FDE3; DOI 10058). Those same

⁹ Dates based on radiocarbon age determinations have been calibrated. In this report, all but very recent dates (specifically listed as AD) are reported in calendar years before the present.

sections of the Staff Report indicate considerable differences in cultural patterns in the periods preceding the Plateau Culture. (FDE3; DOI 10059-10069.) Further, the Staff Report (FDE3; DOI 10060) notes that the immediate region in which the Kennewick remains was found was devoid of permanent occupation prior to about 4500 years ago:

There is also an indication for the abandonment of the central Columbia Basin to the north of the Columbia-Snake rivers confluence . . . extensive survey has failed to uncover sites dating to this period. . . . The small number of sites of these early time periods might account for this, however. (FDE3; DOI 10058-10059.)

Conclusions Regarding the Geographic Evidence. Kennewick Man was discovered in the same general area that the claimant groups occupied more than 9000 years later. Historic records link the claimant groups with early 19th century villages in the area. The DOI ethnography report notes that the area was a “crossroads” at about that time.¹⁰ (CAR3; DOI 10269, 10274.) Patterns of material culture broadly link the occupants of this area at about AD 1800 with archaeological manifestations present in the area during the preceding 2000-3000 years. From that time back to about 4500 years ago, cultural patterns appear substantially different. Prior to about 4500 years ago, there is no evidence for permanent occupation of this area. Despite the common location, the geographical data, when more carefully considered, argue strongly against cultural continuity and even more persuasively against the possibility of tracing a relationship of shared group identity through this 9500-year period.

As quoted above, the Staff Report suggests that the extremely limited evidence of occupation of this area prior to 4500 years ago may simply be due to a lack of discovery of

¹⁰ The report states: “the territories of several groups converge around the mouth of the Snake River, in proximity to Kennewick. The mouth of the Snake River was an important fishing location and would attract people from throughout the southern Plateau to participate in the co-utilization of the resource. . . . The fact that this area was an important meeting place and ‘crossroads’ was what encouraged the fur companies to establish a trading post nearby in 1818” (CAR3; DOI 10269).

earlier sites. (FDE3; DOI 10053, DOI 10058-10059.) While the Columbia Basin-wide sample of archaeological sites dating to the Windust and Early Cascade periods (13,000-9000 and 9000-7700 years ago, respectively; (CAR3; DOI 10135)) is much smaller than the sample of sites dating to the last 2000 years, it is sufficiently large to draw strong general conclusions about settlement patterns and population size. Contrary to Staff Report's suggestion that the absence of sites may be a sampling problem, it is far more likely that there was no permanent occupation of the area before 4500 years ago. In fact, the Kennewick skeleton is virtually the only archaeological manifestation in the general area at that time.

2. Settlement Patterns and Mobility

Groups in the Columbia Basin contemporary with the Kennewick skeleton had small populations and were highly dispersed and quite mobile. This assessment is supported by the archaeological record and well grounded archaeological theory about hunter-gatherers.

The evidence from the archaeological record includes:

- the general absence of sites dating to this period (which is only partially a consequence of geological processes);
- all known sites of the period were small camps (CAR2; DOI 10136);
- the rare structures were impermanent (CAR2; DOI 10158-10159);
- there is no evidence for food storage (CAR2; 10161);
- seasonal movements probably covered considerable distance (CAR2; DOI 10136-10138); and
- as indicated in the Geography section, the Central Columbia Basin, including the Kennewick locality was devoid of permanent habitation prior to about 4500 years ago.

Well-founded anthropological theory based on studies of both modern and ancient hunter-gatherers suggests the following about Windust-Early Cascade groups (Ames 1988; CAR2; DOI 10136-10138):

- They were organized in small bands (25-50) probably composed of a few families;
- The bands were linked together into “macrobands” of some 500 people;
- There may have been from 2 to 20 of these macrobands in the Plateau at any one time during the Windust-Early Cascade period; and
- Membership in bands and macro-bands was probably fluid.

While pithouses¹¹ were used on the southern Plateau after 6000 years ago (FDE3; DOI 10063; CAR2; DOI 10114), and likely as early as 7000 years ago (CAR2; DOI 10150), they were not in widespread use until after 3000 years ago. The Staff Report notes (FDE3; DOI 10060) that settlements prior to 3000 years ago were generally quite small. Clear evidence for semi-sedentism appears in the record around 3000 years ago. According to the Staff Report, this major shift in settlement patterns was accompanied by the widespread use of substantial residential structures (pithouses), storage features, large settlements (particularly after 1500 years ago), and cemeteries associated with settlements. (FDE3; DOI 10059, 10062-10063.)

Conclusions Regarding Evidence for Settlement Patterns and Mobility. Kennewick-era groups were highly mobile. Group size would have been quite small, with people widely dispersed across the landscape. Group composition would have been fluid in time and space. The immediate region where the Kennewick remains were found was apparently empty of permanent occupation during his lifetime and up until about 4500 years ago. It is not now possible to identify groups under these circumstances and at this remote time. A major shift in settlement patterns occurred about 3000 years ago when a semi-sedentary lifeway with small

¹¹ Pithouses are semi-subterranean to fully subterranean dwellings in which the floor and walls of the structure are formed by the pit, and the whole excavation is roofed over. These dwellings ranged from 10 feet to more than 20 feet in diameter, and from 4 to 6 feet in depth. (CAR2; DOI 10157-10158.)

settlements developed. The historic settlement pattern of large settlements with cemeteries appears about 1500 years ago.

The absence of occupation until about 4500 years ago is evidence that belies cultural continuity with Kennewick Man. While the record is consistent with a continuous, expanding occupation for the last 4500 years, the dramatic changes in lifeways—from small, mobile bands of hunter-gatherers, to a period during which the area was abandoned, to groups living in small semi-sedentary villages, to life in large towns—indicate that there occurred a combination of major cultural transformations and/or population replacements that is inconsistent with a relationship of shared group identity over this time span.

3. Raw Materials and Trade

During the time of Kennewick Man the only known exchange in objects was quite limited and consisted of documented non-perishable durable objects, including shells of *Olivella biplicata*, a marine mollusc from the Pacific coast, and obsidian for stone tools. There is also evidence for movement across long distances to obsidian quarries. *Olivella* shell beads are present in deposits at the Marmes Rockshelter (near the confluence of the Snake and Palouse Rivers, about 75 miles upstream of Kennewick). These probably were acquired through trade ultimately with groups on the coasts of Oregon or California. However, a much more extensive and complex system of exchange and trade developed between 3000 and 2500 years ago and persisted into the historic period. An increased presence of *dentalium* shells after 3000 years ago suggests a shift in exchange links to the north. Patterns of obsidian procurement also differ, with movement to quarries prior to those dates, and trade for obsidian afterwards

Conclusions Regarding Evidence for Raw Materials, Trade, and Exchange. Prior to about 3000 years ago there was limited trade for marine shell, oriented to the south and west.

Historic patterns of more extensive regional trade and exchange for shell, oriented to the Northwest Coast, developed after 3000 years ago. The evidence thus suggests a discontinuity about 3000 years ago.

4. Technology

The Staff Report emphasizes two aspects of technology: stone tool forms (primarily projectile point forms) and dwellings.

Projectile Points. Archaeologists have found that projectile point shape or form reflects styles associated with cultural traditions and the object's intended function. The earliest projectile point forms on the Plateau are the so-called "Windust points" which are large, stemmed points. (CAR2; DOI 10229.) These are generally replaced after 8500 years ago by Cascade points, a small foliate (willow leaf-shaped) point. Both armed detachable tips of spears used with a spear thrower (atlatl). In common with the rest of North America, after 7600 years ago these were followed first by a succession of large side and corner notched forms, and then after 2500 years ago by smaller side and corner notched and stemmed points. These probably armed arrows. The bow and arrow may not have completely displaced the atlatl and spear until the last 1500 years on the Plateau.

Dwellings. Prior to ca. 7000 years ago, dwellings on the Plateau appear to have been small, temporary structures. They are very uncommon in the record, either as a consequence of their actual rareness, or the impermanent nature of their construction. After 7000 years ago, pithouses were present, but infrequent until after 3000 years ago. Pithouses were gradually replaced by mat-lodges¹² after ca.1500 years ago.

¹² There were two forms of mat lodge used on the Columbia Plateau: long lodges and conical lodges. Both were structures with pole frames that were covered with matting of bark or tule. Long lodges were often more than 30 feet long. They had open interiors with a row of hearths

Conclusions Regarding Technology. The Staff Report notes that: “social and linguistic boundaries do not conform to the typological categories created to classify artifacts.” (FDE3; DOI 2000-19.) Most of the categories of material culture discussed by the staff have broad distributions across western North America. These include most Plateau projectile point styles, and pit houses. We cannot reasonably link these forms to specific groups, or argue that either continuities or changes in projectile point or house form are consequences of continuities or changes in social groups.

5. Subsistence

The available subsistence data for Kennewick Man’s era (the Windust to Early Cascade transition ca. 9500-8500 years ago) suggests a broad-based hunter-gatherer economy including a wide array of large mammals, plants and fish. Ames reports that salmon are among the fish harvested but do not appear to have been a major resource at this time. (CAR2; DOI 10137-10138.) There is no evidence for food storage. In contrast, the Staff Report concludes that historic-period subsistence patterns, including heavy reliance on roots and salmon, and food storage are associated with semi-sedentism, which may have developed with the earliest pithouses (after 7000 years ago), but most likely after 3000 years ago. (FDE3; DOI 10058.)

Conclusions Regarding the Subsistence Evidence. The subsistence record suggests long-term, Plateau-wide trends reflecting changes in environment, human demography, social organization and technology. The outlines of the Plateau culture economy that emerge after 3000 years ago develop into the historic-period subsistence patterns.

down the middle. Long lodges were the most common form of winter dwelling during the Early Modern (AD 1720 - 1850) period and were used well into the Late Modern Period (AD 1850 - present). Conical mat lodges were cone shaped and were generally 10 to 20 feet in diameter. They were used as a summer dwelling and as a house for family sized groups. Several conical lodges could be combined to form a single long lodge. (CAR2; DOI 10157-10158.)

Like the evidence for technology, these transformations in the economy happen on a large spatial scale (of the Columbia Plateau) and over thousands of years. Together they indicate cultural transformations over the last 9000 years that are sufficiently substantial to preclude affiliation even if there is continuity.

6. Burial Patterns

Kennewick Man was found without associated funerary objects after having eroded out of a riverbank. Because the skeleton was found disarticulated in a secondary context, very little is known about how these remains entered the archaeological record. In the absence of a burial pit and associated funerary objects, it is impossible to say with certainty that this person was intentionally buried. However, the completeness of the remains suggests that they were not left exposed on the ground for a substantial length of time. Based on this, the Staff Report concluded that, although a rare occurrence such as accidental burial during a flood remains a possibility, intentional burial is a more likely explanation, simply because the vast majority of human bodies enter the ground as a result of intentional burial. (FDE3; DOI 10065.) If this is true, then the Kennewick burial shows no evidence of the distinctive funerary practices seen in later times.

Furthermore, the staff found it difficult to assess burial and mortuary patterns for the general period of the Kennewick remains. (FDE3; DOI 10065-10068.) The slim evidence for the general period (Windust-Early Cascade transition) suggests both inhumations and cremations, in open air contexts and rockshelters. Associated funerary objects, when present, included bone ornaments and tools, stone tools, olivella shells, and use of red ochre. The Buhl burial, which is at least 1000 years older than Kennewick Man, may have included a stone point and bone implements. This individual was recovered near Buhl, Idaho, well to the south and east of Kennewick. Hackenberger's study of burial practices (CAR5; DOI 10334-10513), especially

10337-10338) indicates significant gaps in the burial record between 7000 and 3000 years ago, a lengthy period for which there are few archaeologically documented burials. (This gap could represent a discontinuity associated with a true lack of burials or a gap in the record due to insufficient investigation.)

The limited record, between 7000 and 3000 years ago, however, also suggests regional and temporal variability in burial patterns. For example, the staff notes the Western Idaho Burial Complex (that dates from 7000 to 1500¹³ years ago) included “secondary inhumations, some cremated, and caches of large, delicately flaked bifaces, projectile points, pipes and beads, often made of exotic materials” (quoting Chatters and Pokotylo 1998: 75; FDE3; DOI 10066). This complex was centered in the southeastern Plateau, but occurred in the Marmes Rockshelter and along the Middle Columbia. The staff also notes a distinctive burial complex using cairns to cover cremations in the Dalles area of the Columbia River. (FDE3; DOI 10066.) This practice spans the period between 5000 and 3000 years ago. They also cite a study by Sprague (1959; FDE3; DOI 10067) that documents considerable changes in mortuary practices in just one area over the relatively brief time between the late prehistoric period to the historic period.

Conclusions Regarding Evidence for Burial Patterns. The burial record, as limited as it is, suggests considerable spatial and temporal variation in how human remains were treated (inhumation or cremation), where they were placed (open air, rock shelters, in the earth, in rock cairns), and in the presence of funerary objects. Sprague’s 1959 study shows how such variation can occur within relatively brief time spans, even within a recognized group. Given the location of Sprague’s study, it is likely these were Nez Perce practices. However, this should not be taken to suggest that variation is therefore evidence for continuity. Rather, it indicates the

¹³ The termination of the Western Idaho Burial Complex is usually dated to 4500 years ago.

fluidity that burial practices can have. Likewise, arguments for stability must be viewed cautiously. The staff cites Sprague's opinion (Sprague 2000) to the effect that the "earth inhumation has a long and continuous history on the Plateau." (FDE3; DOI 10067.) While this is true, inhumation is practiced globally so continuity in such a basic cultural practice cannot be viewed as continuity for particular cultural ties. It is the details of inhumation that matter in reconstructing cultural practices. However, the limited data at hand suggests variable and changing burial practices through time. This may indicate that there were multiple groups with variable burial practices during this long time span and calls into question how this line of evidence traces a relationship of shared identity through this period.

7. Biological Evidence

Two kinds of biological evidence are discussed in the Staff Report: morphological evidence and genetic (DNA) information. DNA analyses failed to extract suitable DNA. As the DNA evidence is inconclusive, the discussion here is limited to the morphological evidence.

Statistical analyses of the morphological characteristics of the Kennewick remains clearly show that:

- The Kennewick individual was morphologically different from all modern populations; his morphology is statistically not similar to any modern populations, it is only somewhat less distant from some populations than it is from others. That is, in a multivariate statistical space, he is closer to some modern populations than to others, but quite distant from all of them.
- He is unlike, "on the basis of dental and cranial morphology, . . . recent American Indians." (FDE3; DOI 10068.) In particular, Powell and Rose's osteology report indicates that the cranial form of early historic period residents of the Northwest Coast and Interior Plateau differs significantly from that of the Kennewick skeleton. (KM2; DOI 10691.)

These differences can be plausibly explained by two broad hypotheses: 1) Differences between Kennewick and modern Native Americans are consequences of microevolutionary changes in human morphology in North America over the past 10,000 years; or 2) Kennewick represents a

distinct Late Pleistocene-Early Holocene population that may or may not be biologically related to modern Native Americans.

Gill has shown (Lovvorn et al. 1999) that some of the distinguishing characteristics of those very early North American human remains that are similar to Kennewick man also appear in Archaic-aged (ca. 4400 years ago) human remains on the northern Plains. This suggests that the genetic population that included the Kennewick individual may have had some descendants in that region, at least.

Conclusions Regarding the Biological Evidence. Given the present state of scientific knowledge, the Kennewick remains cannot be biologically linked to any modern human populations. Further, even if the first hypothesis eventually is confirmed, that will not demonstrate a biological link to modern Native American populations along the Middle Columbia River.

It further should be pointed out that biological and cultural affiliation are not necessarily the same thing. Even if there were a direct biological relationship of ancestor and descendant, it might suggest a cultural connection, but it would not follow that there necessarily was one. It may be noted that all modern people in all of their cultural diversity throughout the world are descendants of a common biological ancestor who lived 100,000 to 200,000 years ago.

8. Linguistics

The linguistics study looked at two lines of evidence: historical linguistics and vocabulary.

Historical linguistics. Historically, languages spoken by the claimant tribes included the Penutian languages of Sahaptin, Nez Perce, and Cayuse, as well as languages of an unrelated language phylum, Salishan. Sahaptin, Nez Perce, and Cayuse are thought to descend from a

common, ancestral “language group” called Proto-Sahaptian. These languages are related to Proto-Sahaptian in essentially the same way French and Spanish are related to Latin, the common linguistic ancestor of the romance languages.

The DOI linguistic study by Hunn (CAR4; DOI 10308-10333) places the age of Proto-Sahaptian at about 2000 to 4000 years ago. (CAR4; DOI 10310.) Hunn proposes that Proto-Sahaptian descended from an earlier language, Proto-Penutian—which is ancestral to not only Sahaptin, but presumably to a number of languages in western North America. The study placed the time depth for Proto-Penutian as far back as 8000 years ago. (CAR4; DOI 10311.) This dating is based on highly controversial techniques (FDE3; DOI 10070), and can only be regarded as a tentative hypothesis, which is how it is advanced by Hunn. Hunn indicates that there is no reconstruction of Proto-Penutian on which to base assessments of relationships. (CAR4; DOI 10323.)

The Proto-Penutian model is analogous, in form but not in substance, to a much more thoroughly studied language family, Proto-Indo-European. English, German, French, Greek, Swedish, Gaelic, Sanskrit and others all derive ultimately from Proto-Indo-European which has been reconstructed and which appears to have been spoken somewhere in western Asia perhaps 6000 years ago. Over time, its speakers dispersed across broad regions, ranging from India (Sanskrit) to Ireland (Gaelic).

Vocabulary. The Staff Report reviews the vocabulary items from the linguistic report and concludes that the vocabulary items clearly indicate a detailed knowledge of natural features and the flora and fauna on the Plateau. While this might reflect a long-term occupation, it would not require anything like 9000 years to develop these vocabularies and they could easily have developed within a few centuries. (FDE3; DOI 10072.)

Conclusions Regarding the Linguistic Evidence. Establishing linguistic ties could be a strong line of evidence for cultural affiliation. The linguistic data may suggest the presence of Sahaptin languages in the region by 2000 years ago, or, speculatively as early as 4000 years ago. Even more speculatively, the hypothetical ancestor, “Proto-Penutian[,] might have been spoken 8000 or more years ago.” (CAR4; DOI 10311.) However, even if Proto-Penutian was spoken in this area 8000 years ago, no evidence is offered concerning the language or languages spoken prior to 8000 years ago. There is no linguistic methodology that is widely accepted by linguists that would provide information on the language affiliation of an individual living 9000 years ago. The Proto-Indo-European example has the advantage of a written record spanning perhaps 3,000 years. It has also been the subject of intensive research by many scholars for more than a century, yet controversies still remain. Indo-European illustrates the difficulties of making such long term linguistic inferences and suggests the scale of the linguistic differences that easily can arise over thousands of years. Of direct relevance here are the difficulties inherent in dating the spread of Indo-European languages into Europe, which requires linking archaeological complexes with reconstructed languages. There is no scholarly consensus on this matter, even after a century of debate.

A great variety of languages were historically spoken by Native people of the Plateau. (CAR4: DOI 10320.) Languages from two completely different language groups (Penutian and Salishan) were spoken by claimant tribes. Even with a highly speculative analysis, the most that Hunn is able to suggest is that a hypothetical and very remote ancestor of one of these language groups might have been spoken on the Plateau at the time of Kennewick man. The contemporary language diversity and the extreme remoteness of *any* language spoken 9000 years ago from ones spoken today in fact, argue against a shared group identity.

9. Oral Traditions

DOI staff reviewed a large body of oral traditions in the course of their study, including traditions analyzed by Boxberger (CAR3; DOI 10265-10307) and those submitted by the claimant tribes (DOI AR 646 [Colville], 655 [Umatilla], 844 [Yakama], 845 [Colville], 847 [Colville]). The studies focused on three aspects of the oral traditions: content that might be describing geological events that formed distinctive geomorphological characteristics of the Plateau (i.e. the Missoula floods producing Palouse Falls), the chronologies of the appearance of Indian peoples on the Plateau; and the general absence of migration stories in Plateau oral traditions.

The DOI was appropriately careful and circumspect in their analyses of this material. As they put it:

In analyzing the credibility and relevancy of the collected Native American oral traditions, DOI relied on science-based methodology and testable sources or collaborative information when appropriate, while also applying humanistic and qualitative methodologies to investigate the source of the evidence. (FDE3; DOI 10073.)

However they concluded:

The stories related to the shape and features of the regional landscape are explanations of how it has come to be so shaped, not descriptions of the actual Late Glacial geological and fluvial events. As described below, large floods and volcanic eruptions have occurred in the region during the past 5000 years. It is possible that the effects of these more recent events were incorporated into the mythical explanations for landscape formations.” (FDE3; DOI 10074.)

They also concluded that the absence of migration stories does not preclude migrations (FDE3; DOI 10074) and that there is no internal basis to date events described in the oral traditions relating to the timing of the appearance of Indian peoples in the region. (FDE3; DOI 10073, 10075.)

Conclusions Regarding Oral Traditional Evidence. The Staff Report discusses the oral tradition evidence at length. (FDE3; DOI 10072-10076.) As with all other categories of evidence, oral tradition becomes evidence when it bears on the actual relationships between the earlier group and the present-day tribe. SAA concurs with the approach advocated in the Staff Report which makes “use of the oral tradition information as sources of historical information,” and points out that “traditions may or may not remain stable over long periods of time.” (FDE3; DOI 10072). Quoting Echo-Hawk (2000, *American Antiquity* 65 (2):272), the Staff Report utilizes an approach in which it is necessary “to evaluate the historical information in a given oral tradition by measuring its content, where possible, against other relevant data about the past.” (FDE3; DOI 10072-10073.) This is not singling out oral tradition for special treatment, but recognizes that oral tradition, like all other categories of evidence, is subject to evaluation. Nonetheless, sensitivity and due care must be exercised in subjecting many oral traditions with religious, spiritual and moral content to the acid bath of scientific testing and confirmation.

The DOI summary of the evidence concludes that oral tradition put forth by the Colville tribe provides “explanations of modern landscape features in terms of the original creation of these features by mythical animals and other beings.” (FDE3; DOI 10073.) These explanations are inconsistent with geological evidence for the development of these features. Indeed the DOI summary later concludes that “[t]he stories related to the shape and features of the regional landscape are explanations of how it has come to be so shaped, not descriptions of the actual Late Glacial geological and fluvial events.” (FDE3; DOI 10074.)

Using the approach advanced by DOI for reviewing the summaries of the oral tradition evidence (EDE3; DOI 10072-10073), SAA is unable to find grounds in the oral traditions to trace a relationship of shared group identity back 9000 years. These difficulties in chronological

precision are inherent in almost all oral tradition. We agree with the Staff Report. The content of the claimants' oral traditions cannot be reasonably linked to documented events on the Plateau contemporary with or earlier than the Kennewick person. (FDE3; DOI 10076.)

The absence of migration stories may indicate that no migrations occurred as far back as the oral tradition extends (which the Staff Report concludes was more recent than 9500-8500 years ago; FDE3; DOI 10076), but does not preclude migrations during that time, and certainly does not bear on the existence of migrations in the more distant past.

Conclusions

Identifiable Earlier Group. DOI's evidence fails to define the "identifiable earlier group" to which Kennewick Man belonged.

Present-day Indian Tribe. DOI has failed to make a plausible case that each claimant tribe has cultural affiliation with the Kennewick remains. One of the five claimant groups is clearly not a "present day Indian tribe" under NAGPRA.

Relationship of Shared Group Identity that Can Be Reasonably Traced. DOI improperly substituted the weak criteria of "continuity" and "reasonable cultural connection" for the more restrictive statutory standard of "relationship of shared group identity."

In concluding his determination, Babbitt states:

DOI has determined that the evidence of *cultural continuity* is sufficient to show by a preponderance of the evidence that the Kennewick remains are *culturally affiliated* with the present-day Indian tribe claimants. (Emphasis added.) (BL; DOI 10016.)

The legal standard for cultural affiliation is not Babbitt's "cultural continuity" but "a relationship of shared group identity that can be reasonably traced."

Evaluation of Evidence. The preponderance of the evidence does not support an argument based on continuity and falls so far short of tracing “shared group identity” that the Secretary’s finding can only be regarded as arbitrary and capricious.

A conclusion on cultural affiliation must be made on a preponderance of the many categories of evidence cited in the law. The Secretary states that “all lines of evidence were deemed equally important (BL; DOI 10014),” yet the Secretary dismissed all lines of evidence that weighed against a finding of cultural affiliation:

The available information provides evidence of both cultural continuities and cultural discontinuities between the modern day claimant tribes and the cultural groups that existed during the lifetime of the Kennewick Man. The cultural discontinuities are due, in part, to a lack of available data from the earlier time periods. Notably, none of the cultural discontinuities suggested by the evidence are inconsistent with a cultural group continuously existing in the region, interacting with other groups migrating through the area and adapting to changing climatic conditions. (BL; DOI 10016.)

The archaeological evidence is sufficiently robust to show fundamental cultural differences between claimant groups and people living in the Plateau Region at the time of Kennewick Man. Although there are gaps in the archaeological record during the period 9500-8500 years ago, evidence from more recent periods—through which the shared group identity must be traced—suggest multiple discontinuities. These discontinuities cannot be explained by gaps in the archaeological record. Rather, they appear to be the result of major cultural changes. Preponderance of the evidence requires more than an argument that none of the contrary data are definitively inconsistent. The evidence is at least as consistent with an interpretation that Kennewick Man was a member of some recognized group that died out millennia ago. When none of the evidence is definitive, the positive and negative evidence must be weighed. The weight in this case is strongly against cultural affiliation (shared group identity).

The geographical evidence shows that Kennewick Man came from the same general area as the claimant groups—separated by more than 9000 years. The geographical evidence provides no evidence bearing on shared group identity. Furthermore, geological evidence casts doubt on whether the oral traditions presented demonstrate the occupation of this area by ancestral groups 9000 years ago. SAA agrees with the Staff Report that it is not possible to trace this oral tradition back 9000 years. Even if that were possible, that would not establish the required shared group identity with the (unidentified) earlier group.

The implication of the Secretary’s argument is that because the oral tradition and geography are the only evidence in favor of cultural affiliation (and, even then, they support continuity but not shared group identity), they represent the preponderance of the evidence. There are three problems with this reasoning. First the agency has an affirmative obligation to establish cultural affiliation by a preponderance of the evidence, which is to say to the relationship of shared group identity between the earlier group and the modern tribes. Even if the oral traditions establish a *prima facie* case for a cultural relationship with the distant past, and even if there were no contrary evidence, the statutory standard that the evidence must meet is to reasonably trace “a relationship of shared group identity” not a “reasonable cultural relationship” or “continuity.”

Second, as summarized above, neither oral tradition nor geographical evidence provide credible evidence for a finding of cultural affiliation.

Finally, contrary evidence of critical importance from other disciplines has been disregarded. Archaeological, biological, linguistic, anthropological, historical, and geological evidence provide a strong argument that a relationship of shared group identity has *not* been and, realistically, probably cannot be reasonably traced back 9000 years. The abundant changes in

the cultural record of the Columbia Plateau, summarized in Figure 1 (attached at Tab C), document staggering cultural change, not to mention the fact that the area was essentially devoid of permanent occupation for the 5000 years following Kennewick Man. While no one line of evidence may, alone, be sufficient to preclude continuity, the preponderance of the evidence indicates important discontinuities in the cultural record. The statutory standard of “relationship of shared group identity” is never even approached in the Secretary’s Final Determination. The preponderance of the evidence lies with a finding of no cultural affiliation of Kennewick Man with the claimant tribes.

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Figure 1. Summary of DOI evidence for cultural continuity. A detailed summary is provided in Table 1 and in the text. In this figure information on dwellings is grouped with settlement pattern information. Note that cultural continuity is not equivalent to shared group identity, the statutory standard for cultural affiliation.

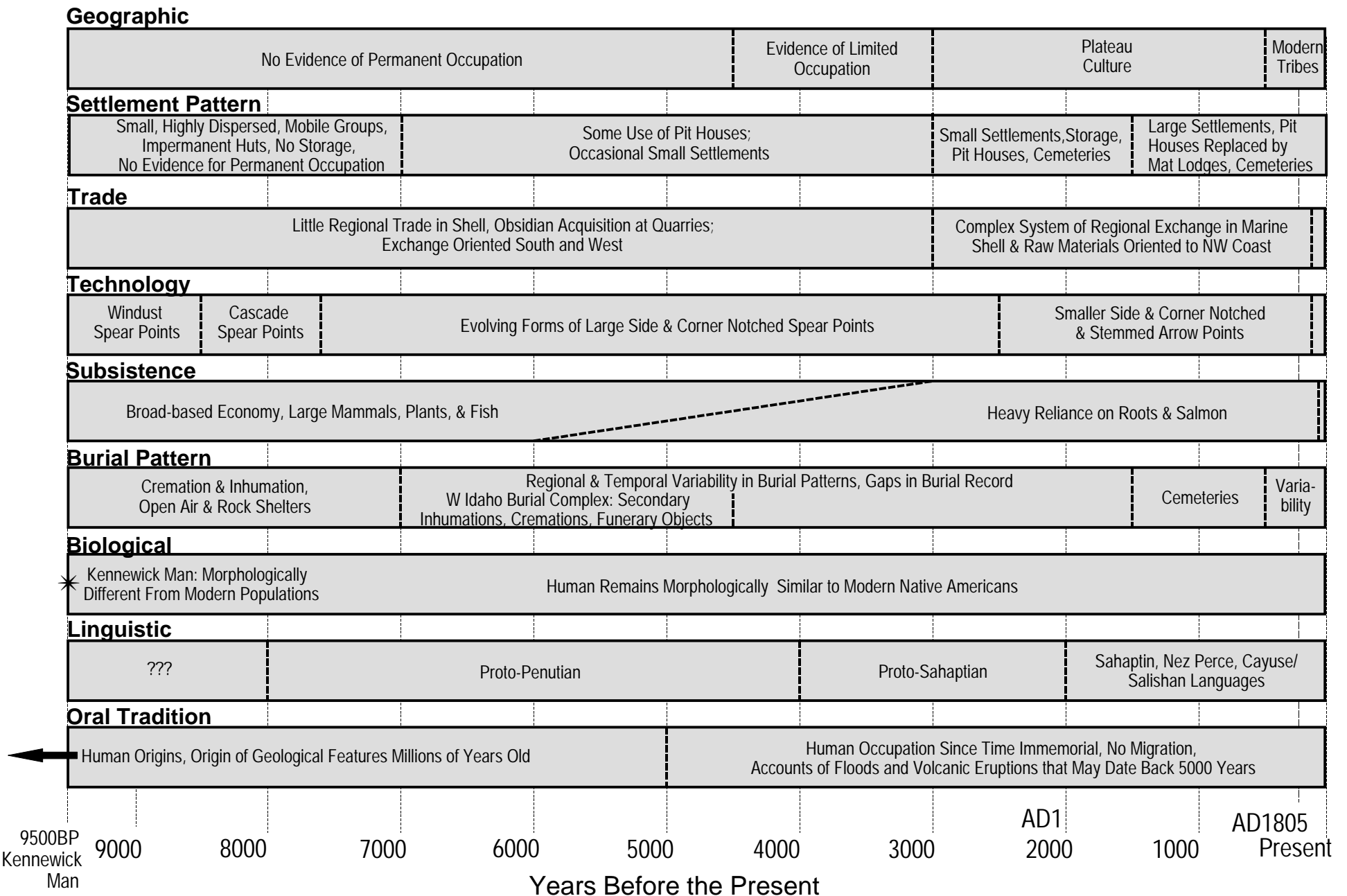


Table 1: Summary of Information Used to Assess Cultural Affiliation of Kennewick Man, Secretary Babbitt’s Assessment, and SAA’s Commentary¹

CULTURAL AFFILIATION EVIDENCE	CHARACTERISTICS OF THE COLUMBIA PLATEAU CA. 9500 BP	CHARACTERISTICS OF THE CLAIMANT GROUPS CA. AD 1805	SECRETARY BABBITT’S ASSESSMENT	SAA’S COMMENTARY
Geographic	<p>“... [T]he group represented by the Kennewick human remains ... spent at least a portion of their lives in [the Mid-Columbia] region between 9500-8500 BP.” FDE3:9; DOI 10058</p> <p>“Certain portions of the Plateau, such as the central Columbia Basin immediately north of the Kennewick discovery site may have been uninhabited or abandoned [between 9500-8500 BP].” FDE3:11; DOI 10060</p>	<p>The claimants’ ancestors lived in the Plateau Region.</p> <p>“The existence of earlier human groups in the same geographic location as the historic period ancestors of the present-day tribe does not automatically indicate cultural affiliation ... but it can be an important fact in determining whether a shared group identity can be reasonably traced.” FDE3:9; DOI 10058</p>	<p>“The modern-day claimant tribes are known to have been living in the Columbia Plateau region where the Kennewick remains were discovered ... in the early 1800s.” BL:4; DOI 10015</p>	<p>Assessment of the geographic evidence for cultural affiliation cannot be limited to the co-occurrence of Kennewick Man’s remains in the same general area historically occupied by the claimant groups, especially when the area of the Kennewick locality lacks evidence of permanent occupation until about 5200 years ago and the surrounding area was sparsely occupied at this time. FDE3:10-11; DOI 10059-10060 These geographic data argue strongly against cultural continuity.</p>
Archaeological/Historical				
<i>Settlement Pattern/Group Mobility</i>	<p>“Windust and Early Cascade groups which the Kennewick Man would have been a member of, are widely regarded as small in size and highly mobile.” FDE3:11; DOI 10060 “The transition to increased sedentism is represented by the more substantial evidence of fixed, formally constructed dwellings [pit houses], following about 5200 years ago.” FDE3:11; DOI 10060 “The initial pit house sites include only a few contemporary houses with no obvious storage features, which suggests periodic occupations with some group movement.” FDE3:10; DOI 10059</p>	<p>“Mat lodges appear about 1500 years ago in association with large concentrations of houses and cemeteries. The settlement pattern during this later period reflects a substantial commitment to sedentism, as reflected in the widespread use of storage features. The period ends with the appearance of the horse on the Plateau in the early 18th century when some of the historic tribal groups begin to follow a more mobile settlement system.” FDE3: 10-11; DOI 10059-10060</p>	<p>“Cultural discontinuities are suggested by the evidence that the cultural group existing 8500-9500 years ago was likely small in size and highly mobile while the Plateau culture consisted or larger, more sedentary groups.” BL:5; DOI 10016</p>	<p>Several dramatic changes in lifeway are in evidence: 1) highly mobile to semi-sedentary, to sedentary residence; 2) from impermanent camps of small bands, to small villages, to larger villages; and 3) use of impermanent huts replaced by pit houses and then by mat lodges. As the Staff Report concludes “The small, mobile cultural groups that Kennewick Man was a part of [ca. 9500-8500 BP] indicate a way of life quite different from the much more sedentary residential pattern associated with the historic tribes ...” FDE3:11; DOI 10060</p>
<i>Raw Materials and Trade or Exchange</i>	<p>“Obsidian is present on the plateau at an early date ... procurement patterns [indicate] direct acquisition via group mobility” FDE3:12; DOI 10061</p> <p>“Olivella is the only kind of marine shell found on the plateau.” FDE3:12; DOI 10061 “The presence of Olivella shells from the Pacific</p>	<p>“Obsidian ... procurement patterns shifted ... to indirect procurement through some sort of economic or social exchange.” FDE3:12; DOI 10061 “By about 2500 years ago, an extensive system of exchange in trade in a wide variety of objects and materials had developed throughout</p>	<p>“The evidence also suggests that there may have been differences in procurement and exchange of raw materials or specialized objects between the two time periods. BL:5; DOI 10016</p>	<p>The Staff Report explicitly notes a clear discontinuity: “In addition: many other raw materials and finished artifacts began to be exchanged among the sedentary groups throughout the Plateau around 3000 years ago. This pattern seems to have no parallel during the earlier period when Kennewick Man lived.” FDE3:13; DOI 10062</p>

¹Information in this Table is presented primarily in Letter of Bruce Babbitt to Louis Caldera, September 21, 2000, (BL) and the Final Determination Enclosure 3, “Human Culture in the Southeastern Columbian Plateau, 9500-9000 BP and Cultural Affiliation with Present-day Tribes,” (FDE3). Where appropriate, we also cite the experts’ reports: Cultural Affiliation Reports (CAR1-CAR5) where 1=Scope of Work, 2=Ames, 3=Boxberger, 4=Hunn, 5=Hackenberger, and “Report on the Osteological Assessment of ‘Kennewick Man’ Skeleton” by Powell and Rose (KM2).

	Coast may indicate the existence of an even larger mobility pattern if direct procurement of these items was undertaken.” FDE3:13; DOI 10062	the Columbia Plateau. This pattern continued into the Historic period.” FDE3:12; DOI 10061 “Dentalium becomes the prevalent marine shell found in archaeological assemblages.” FDE3:12; DOI 10061		
<i>Technology Projectile Points</i>	Cascade and Windust points are large and tipped spears propelled by spear throwers (atlatls). FDE3:13; DOI 10062 Unlike the points dating to the time of Kennewick Man, late Cascade and subsequent points, ca. AD 5000. CAR2:8-9; DOI 10151-10152. are side notched. Two cited authors see this as evidence of different cultural traditions. Cressman 1977 and Leonhardy and Rice 1970 in FDE3:13; DOI 10062	“Small projectile points that appear about 2500 years ago suggest the use of bow and arrow.” FDE3:14; DOI 10063	“New artifact types appear, such as the replacement of edge-ground cobbles used in 8500-9500 with the mortars and pestles associated with the Plateau culture, and new materials are utilized.” BL:5; DOI 10016	Changes in projectile point form likely reflect an evolving production technology and functional differences associated with the changing subsistence base. They also probably result from intergroup interaction and changing cultural styles that may reflect cultural boundaries. Overall, they suggest cultural changes that could be consistent with either continuity or discontinuity but weigh against shared group identity.
<i>Technology House Forms</i>	Small huts or windbreaks were used for dwellings, replaced by pit houses starting ca. 6000 BP. FDE3:14; DOI 10063	“Mat lodges appear about 1500 years ago.” FDE3:10; DOI 10059		The Staff r concludes: “The kinds of structures built and used varied substantially from the 9500-8500 years ago period to the 3000 years ago period.” FDE3:15; DOI 10064
<i>Subsistence</i>	“Data from ... the 9500-8500 period suggest a broad-based subsistence pattern” FDE3:15; DOI 10064. that would have emphasized “a wide range of large mammals, including bison, plants, and marine fishes including salmon.” FDE3:16; DOI 10065 There is no evidence of food storage. FDE3:9; DOI 10058	Specialized subsistence pattern with heavy dependence on salmon and root crops, food storage emphasized. FDE3:16; DOI 10065 “The historic pattern of salmon exploitation is one that seems to have emerged only ... about 3500 years ago.” FDE3:16; DOI 10065		Substantial shifts in subsistence are doubtless associated with changing mobility, settlement type, and hunting technology. They represent another indication of major cultural difference between the group associated with Kennewick man and the claimant groups.
<i>Burial Patterns</i>	No distinctive burial pattern at the only comparable site (Marmes Rockshelter), which has cremations and human remains in burial and non-burial contexts. Some burials have funerary objects. FDE3:17; DOI 10066. Near the Dalles, ca. 5000-3000 BP, a distinctive pattern had rock cairns covering partial cremations. A different pattern, the Western Idaho Burial Complex (dated 6000-ca. 1500 BP) includes secondary burial, cremation and caches of distinctive artifacts. FDE3:17; DOI 10066	Cemeteries associated with sedentary villages. FDE3:17; DOI 10066 Funerary objects, such as dentalia shells are common. “It is difficult to extend an argument of mortuary-based continuity in this region back before 7000 years ago.” FDE3:18; DOI 10067	“Some of the evidence was too limited to draw any conclusions on the cultural relationship between the two groups. ... There is very little evidence of burial patterns during the 9500-8500 period and significant temporal gaps exist in the mortuary record for other periods.” BL:4; DOI 10015	Treatment of the dead is an important expression of group identity. There are striking differences between cemeteries characteristic of the claimant groups and the diverse treatments of human remains in the period dating back to 7000 years ago. These different patterns of mortuary treatment suggest the presence of multiple groups at that time. It is not possible to connect any of them with the even older Kennewick remains.
Biological	“The Kennewick skeleton can be	Cranial form of modern Indian groups	“Some of the evidence was too	Cultural groups typically share substantial

	<p>excluded, on the basis of dental and cranial morphology ... from <i>all</i> late Holocene human groups ...” Powell and Rose 1999 in FDE3:19; DOI 10068, emphasis in original</p>	<p>including those of the Northwest Coast and Interior Plateau regions differ from that of the Kennewick skeleton. KM2:19; DOI 10691</p>	<p>limited to draw any conclusions on the cultural relationship between the two groups. ... The fact that morphological characteristics of the remains differ from modern day Indian tribes may indicate a cultural discontinuity between the two groups or may indicate that the cultural group associated with Kennewick Man may have subsequently intermingled with other groups migrating into or through the region, leading to changes in the morphological characteristics of the group.” BL:4; DOI 10015</p>	<p>physical similarities. The morphological characteristics of Kennewick Man differ significantly from those of all modern Native Americans, including those of the claimant groups indicating a substantial biological difference. The sort of migration suggested by Babbitt probably would have substantially altered the culture. Furthermore, accepting the existence of such a transformative migration undermines the oral traditional evidence indicating a lack of cultural change and a lack of migration on which Babbitt relies in his Final Determination. BL:4; DOI 10015</p>
Linguistic	<p>There is no direct evidence of the language spoken by Kennewick Man. He may have spoken of the “early hypothetical language family” (Proto-Penutian) which may have been spoken in the area ca. 8000 BP FDE3:20-21; DOI 10069-10070 “Proto-Sahaptian [derived from Proto-Penutian] was spoken in the central Columbia Plateau ... perhaps as early as 4000-5000 years ago.” CAER4:15; DOI 10322.</p>	<p>Historic claimant groups spoke Sahaptin and Nez Perce, which are derived, about 2000 BP, from proto-Sahaptian. Cayuse, once spoken by other claimant groups was more distantly related to Penutian. CAER4:16; 10323. “The evidence related to environmentally-related terms, however, does not necessarily lead to the conclusion that Sahaptin speaking peoples or their antecedents resided in the Plateau region during the very remote past.” FDE3:23; DOI 10072</p>	<p>“Some of the evidence was too limited to draw any conclusions on the cultural relationship between the two groups. ... The linguistic evidence was unable to provide reliable evidence for the 8500-9500 period but suggests that the antecedents of the historic language may have been spoken on the Columbia Plateau 4000 years ago.” BL:4; DOI 10015</p>	<p>The ability to communicate through the possession of a common language is an extremely common dimension of shared group identity. Prior to adopting English as a lingua franca, the claimant groups did not all share a common language. This linguistic evidence strongly suggests a lack of shared group identity between each of the claimant groups and Kennewick Man.</p>
Oral Traditions	<p>N/A</p>	<p>Oral traditions provided by four claimant groups lack reference to migrations in their origin stories and record events in the distant past. For example, the oral tradition put forth by the Colville tribe provides “explanations of modern landscape features in terms of the original creation of these features by mythical animals and other beings.” FDE3:24; DOI 10073 Some of the events may relate to events dating to the last several thousand years. Others explain topographic features that resulted from geological events that occurred million of years ago.</p>	<p>“The collected oral tradition evidence suggests a continuity between the cultural group represented by the Kennewick human remains and the modern-day claimant Indian tribes. The oral tradition evidence reveals that the claimant Indian tribes possess similar traditional histories that relate to the Columbia Plateau’s past landscape. The oral tradition evidence also lacks any reference to migrations of people into or out of the Columbia Plateau.” BL:4; DOI 10015</p>	<p>While oral traditions provide important insights into the past, evaluating them is difficult. The absence of migration traditions may suggest a longstanding presence in the Plateau Region. However, there is no evidence that these traditions stretch back 9000 years. The Staff Report concluded: “There is no indication of villages 9500-8500 years ago when Kennewick Man lived, so these stories would seem to derive from a more recent time.” FDE3:27; DOI 10076 Explanations for the creation of the modern landscape are inconsistent with the geological evidence for its development. Even if taken at face value, the oral traditions presented by the claimant groups contribute only <i>one</i> type of evidence to the assessment of cultural affiliation. This evidence alone <i>cannot</i> outweigh the multiple lines of evidence that</p>

				indicate a lack of continuity between Kennewick Man and the claimant groups.
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	Secretary Babbitt's Assessment	SAA's Commentary
Summary	“After considering and weighing the totality of the circumstances and the evidence, DOI has determined that the evidence of cultural continuity is sufficient to show by a preponderance of the evidence that the Kennewick remains are culturally affiliated with the present-day Indian tribe claimants.” BL:5; DOI 10016	The legal standard for cultural affiliation is not Babbitt's “cultural continuity” but “a relationship of shared group identity that can be reasonably traced.” The dramatic differences in settlement patterns, subsistence, technology, and trade provide strong evidence for a lack of cultural continuity and a compelling case that Kennewick Man does not share a group identity with the claimant groups.
	“The available information provides evidence of both cultural continuities and cultural discontinuities between the modern day claimant tribes and the cultural groups that existed during the lifetime of the Kennewick Man. The cultural discontinuities are due, in part, to a lack of available data from the earlier time periods. Notably, none of the cultural discontinuities suggested by the evidence are inconsistent with a cultural group continuously existing in the region, interacting with other groups migrating through the area and adapting to changing climatic conditions.” BL:5; DOI 10016	The archaeological evidence is sufficiently robust to show fundamental cultural differences between claimant groups and people living in the Plateau Region at the time of Kennewick Man. Even where evidence is lacking during the 9500-8500BP period, gaps in the archaeological record simply cannot explain evidence from more recent periods— <i>through which the shared group identity must be traced</i> —that suggest multiple discontinuities. Preponderance of the evidence requires more than an argument that none of the contrary data is definitively inconsistent. The evidence is at least as consistent with an interpretation that Kennewick Man was a member of some recognized group that died out millennia ago. When none of the evidence is definitive the positive and negative evidence must be weighed. The weight in this case is strong against cultural affiliation (shared group identity).