A Field Guide to Washington State Archaeology 2003

A Field Guide to Washington Archaeology

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Washington State Department of Transportation

Environmental Services Office Point Plaza P.O. Box 47332 Olympia, WA 98504-7332

Columbia Gorge Discovery Center

5000 Discovery Drive The Dalles, OR 97058

Washington State Parks and Recreation Commission

7150 Cleanwater Lane Olympia, WA 98504-2650

Office of Archaeology and Historic Preservation

Office of Community Development 1063 S. Capitol Way Olympia, WA 98501

MaryHill Museum of Art

35 MaryHill Museum Drive Goldendale, WA 98620

Western Shore Heritage Services

8001 Day Road West, Suite B Bainbridge Island, WA 98110

Authors:

M. Leland Stilson

Archaeologist Department of Natural Resources Land Management Division 1111 Washington Street SE PO Box 47027 Olympia, WA 98504-7027 (360) 902-1281 FAX (360) 902-1783

Dan Meatte

State Parks Archaeologist Washington State Parks and Recreation Commission 7150 Cleanwater Lane P.O. Box 42650 Olympia, WA 98504-2650 (360) 902-8637 FAX (360) 664-0280

Robert G. Whitlam

State Archaeologist Department of Community, Trade and Economic Development Office of Archaeology & Historic Preservation 111 21st Avenue SW P.O. Box 48343 Olympia, WA 98504-8343 360/586-3080 FAX 360/586-3067

We welcome all comments and suggestions for improvement. Please feel free to contact the authors listed above.

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What is Archaeology and Why Are Archaeological Sites Important?

A rchaeologists study artifacts, features, and sites to understand the human past. They borrow techniques from sciences such as geology, biology, chemistry, and physics to explain how human societies developed over time and how they used their environment. Archaeology is a relatively new field and is most commonly grouped with the social and earth sciences.

There are three main goals of modern archaeology. The first goal is to establish a chronological framework of the past. The basic question is: How old is it? Archaeologists use a number of techniques to establish the specific age of a site or the age of specific types of artifacts.

The second goal of archaeology is to reconstruct the cultural patterns and lifeways of a given culture in the past. The basic question is: What did people do at this time and place in the past? What were their lives and daily activities like?

The third goal of modern archaeology is to explain how cultures have changed over time. The basic question is: What is the character and cause of cultural change?





In working to achieve these goals, modern archaeology seeks to contribute to the better understanding of how we as a community, state, nation, and humanity as a whole came to be. Archaeology, with other social and natural sciences, presents us with a fuller understanding of who we are and where we came from.

Archaeology is not about the collection of artifacts for collecting's sake. Rather, archaeology is about the acquisition of information about the past and applying that information to help understand the human past. It provides long term insight to contemporary problems such as the sustainability of different agricultural techniques, the containment of toxic waste, and the impact of environmental changes upon society.

Archaeologists identify and study archaeological sites. These sites represent places on the landscape where people lived and carried out daily routines, leaving artifacts and other material remains that shed light on their activities.





Sites

Archaeological sites can range in size and complexity from large permanent village sites to smaller single use hunting camps. Archaeological sites are found in every county in the state and in every environment.

The ages of these sites date from 12,000 years ago to recent historic time. The way the sites were created and preserved varies widely. Some archaeological sites, such as alignments or cairns, were purposely built out of permanent materials such as stone. Other sites were preserved when they were rapidly buried by landslides or flooded by water.

Despite the circumstances of their preservation, archaeological sites and the artifacts they contain represent a fraction of past cultures' material and intellectual heritage. More importantly, social behavior, ideas, and beliefs are not directly preserved and can only be indirectly reconstructed by archaeologists.

By studying those artifacts that do remain, archaeologists can construct a narrative of what people did in the past in very specific terms at that locale. Like any proposed model, as more information and knowledge is gained, a fuller picture emerges.

Archaeological sites also contain information on past environments and the plant and animal life associated with those ancient times. Archaeological sites are a repository of a wide





range of natural resource information ranging form biogeography of specific animal and plant species to the climate and weather patterns of the past.

Recent research in coastal Washington has focused upon prehistoric earthquakes. Archaeologists are now working with geologists to precisely date earthquakes based on archaeological data.

Archaeological sites are like ancient books. Reading those books can educate us all. Old books are fragile, however, and can be destroyed if they are not treated with care and respect.

How Archaeological Sites are Found

There are more than 14,000 site forms on file with the Office of Archaeology and Historic Preservation, the earliest date from the early 1950's. Each month an average of 20 new sites are recorded with the Office.

Archaeological sites can be found anywhere -- in forests, orchards, or cities; on beaches or mountain tops, beneath buildings, and even underwater. They can be on public land, tribal reservations, or private property. They may be accidentally uncovered during construction projects or discovered during carefully planned systematic surveys by archaeologists.





An archaeological survey involves several steps. In the first step, before going into the field, we review existing information: site records from the area, historic documents, and the results of previous research. Other sources may include ethnographic



Using an auger to check for the presence of subsurface archaeological materials. Credit: Office of Archaeological and Historic Preservation

accounts of local tribes, land records, and aerial photographs. Topographic maps can help us identify land forms or locales in the project area that should be inspected. We also get permission of the landowner and contact concerned tribes and other researchers interested in the project.

The second step is the field survey when archaeologist physically inspect the project area. The exact survey methods are based on the research design developed as a result of the literature and records review. Most commonly, the ground surface is carefully examined in evenly spaced transects over the entire area.





Depending upon plant cover and soils, we may examine subsurface soil cores or clear the forest litter from the surface to check for evidence. If a site is found, we collect location and descriptive information on a standardized form to register it with the Office of Archaeology and Historic Preservation.

The third step is writing the survey report which summarizes our research and field efforts and offers recommendations. The report is sent to the landowner or land manager and the Office of Archaeology & Historic Preservation. Even when no sites are found, we prepare a survey report to describe the inspected area and the survey methods.

Our goal is to find and document these special places of our past to protect them for future study and appreciation.





The First People

here are two main ideas on how people first came into the western hemisphere, including that area now known as Washington State. Both agree that the ancestors of the historically known tribes came from northeast Asia.

The most accepted idea is that prehistoric hunters, following large herd animals, crossed a massive coastal plain known as Beringia which was exposed when sea levels dropped during the last great

Ice Age, 25,000 to 12,000 years ago. As the continental ice sheets receded and glaciers retreated to alpine settings, a pathway known as the Ice Free Corridor, opened to the more temperate regions of the south. By 12,000 years ago, the hunters were moving into what is now the United States and settling into a variety of landscapes.



East Wenatchee Clovis site excavation showing Clovis Points. Credit: Office of Archaeology and Historic Preservation

The competing idea is that people came down the shoreline. With world sea levels as much as 100 meters below present levels, an ice free corridor may have existed along the coast. People traveling along this route would probably have depended on sea and river resources rather than land animals.





Archaeologist in the laboratory cataloging artifacts. Credit: Julie Fields, University of Washington



The First People Chapter 2

The first definitely dated culture in the New World is known as Clovis. The large fluted projectile points of these people are found throughout the lower 48 states. Until recently, only a dozen or so isolated Clovis points had been found in the state. However, in 1987 in East Wenatchee, a cache of beautiful, translucent chalcedony and jasper Clovis points and other tools were discovered by workers excavating an irrigation line in an apple orchard.

Two seasons of archaeological work at the site revealed a feature containing a distinctive assortment of 57 finished artifacts. Nearby, a second, smaller feature was discovered which contained several more artifacts of similar manufacture.

One interpretation is that the artifacts are part of a tool kit, stored on a prominent hilltop overlooking a likely hunting spot, suggesting that the hunting tactics of Clovis people involved long-term planning. The positioning of necessary gear near potential kill sites implies repeated visits and a predictable seasonal round. Protein analysis of blood residues preserved on the stone tools revealed the blood of human, deer, rabbit, and possible an extinct form of bison.

Elsewhere in Washington, archaeologists discovered evidence of everyday life of 10,000 years ago. At Lind Coulee, near Moses Lake, they uncovered the butchered remains of bison along with people's everyday tools and personal effects. Several small, delicate bone needles suggest that leather clothes were sewn for

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warmth and protection. Small stone pallettes were stained with red and yellow ochre. This indicates that colored pigments may have been used for decorating clothing or skin.

Other information about the diet of the state's early inhabitants comes from discarded food remains preserved in large volcanic caves common to the arid scablands of east-central Washington. Excavations at one cave, Marmes Rockshelter, near Lyons Ferry, Franklin County, revealed that a wide variety of game animals were used for food or hunted for materials such as pelts, horn or teeth. Many plants were used for food or medicinal purposes. Such a diverse and varied diet implies that the early inhabitants maintained a highly flexible lifestyle capable of adapting to the changing conditions of climate and environment of prehistoric eastern Washington.



The nature of the early occupation in western Washington is more difficult to determine. To the north, in British Columbia, maritime shell midden sites date to at least 10,000 years ago. In Oregon, similar sites are known to date to 8,000 years ago. In the early levels of the Marmes site,

Excavations at Marmes Rockshelter. Credit: Office of Archaeology & Historic Preservation



The First People Chapter 2

Pacific seashells were found indicating that coastal and inland inhabitants had established trade routes at least 7,000 years ago. However, the oldest securely dated coastal shell midden site in Washington is only approximately 4,000 years old.

Shell middens usually occur just above the mean high tide line. Here they are vulnerable to sea levels that have been rising since the end of the last ice age. This is the best explanation for the lack of older shell midden sites.

The oldest known site in the state which demonstrates an adaptation to river resources is Avey's Orchard in Douglas County, which dates to at least 10,300 years ago. The 5 Mile Rapids site on the Oregon side of the Columbia River across from Klickitat County dates to 9,785 years ago. The lower levels of this site contained more than 200,000 salmon bones and some seal bones.

The antiquity of the marine/riverine adaptation of the prehistoric in habitants of the state must date back to at least 12,000 years. Underwater work along the continental shelf and in Puget Sound will provide exciting information on the initial peopling of the New World.





Archaeology of the West --Saltwater Coasts and Forests

orthwest Coast societies broke the anthropological rule that agriculture is necessary for large complex villages. On the Washington coast and along major rivers, people lived in large villages where monumental architecture and elaborate art flourished. The economic basis for these societies was the harvest and storage of salmon, coming in dense, predictable runs.

The families of the coast and forests moved with the seasons. Usually, they lived in a village during the winter. When resources became seasonally available, families would leave the village and camp near those resources to collect and process them for storage. This type of residence and economic system is known as a "seasonal round" and produces a large number and wide variety of sites -- spring root camps, summer fishing camps, fall hunting camps, and sheltered winter villages. Many activities took place at these sites. There were also spots where only a single activity occurred, such as logging or bark-stripping sites, rock quarries, burial islands, or areas that had religious and spiritual meaning such as pictographs and petroglyphs.

There are several implications of this seasonal round for archaeological interpretation:



Chapter 3 Archaeology of the West -- Saltwater Coasts, Rivers and Forests

- 1. No one site will contain all the tool types and materials used by a people. Sites in differing environments will contain different artifacts and animal and plant remains. By analogy, the tools and materials you have at home are different from those you have at your office.
- 2. To understand the archaeology of an area, archaeologists have to identify all types of sites of a group. Sites from the same time period, occupied by the same people, will vary in size, artifact content, duration of use, and preservation qualities. For example, to understand our present culture, we would need to examine sites as diverse as primitive area campsites and large metropolitan cities.

Typical archaeological sites of western Washington include the following:

O Shell Middens

Shell Middens are villages, camp sites, or shellfish processing areas, composed of a dark, organically rich soil with shell or shell fragments, artifacts and fire-cracked rock. These sites are found along the saltwater shorelines of western Washington. The village or residential sites may have rectangular house depressions and will be near a source of fresh water. Most of the state's marine



Exposed shell midden deposits at Reid Harbor, Stuart Island State Park. Credit: Dan Meatte.





shell middens are less than 3.000 years old, the date when the current sea level stabilized.

Old Man House State Park at Suquamish is an example of a village site. People processed shellfish at the Manette site near the Manette Bridge in Bremerton.

Open Sites or Campsites

These sites are mainly found along rivers and streams and inland. They contain lithic artifacts and flakes of fire-altered rock. Some have small amounts of shell and bone. They are seasonal living sites or short-term camps where people fished, hunted or gathered plants. Fishing sites such as Tualdad Altu in Renton and Marymoor Park on the Sammamish River have high percentages of blades or microblades (thin narrow flakes of stone) used for filleting fish.

O Pictographs and Petroglyphs

A pictograph is an image drawn on a rock surface with a mixture of pigments that can include ochre, charcoal or other plant and animal materials. A petroglyph is an image pecked into a rock surface. Images are geometric, human or animal forms. Many petroglyphs are



Rubbing from Petroglyph on beach boulder at Wedding Rocks. Credit: M.L. Stilson





found on prominent boulders along the shoreline or on rock outcrops.

There is a southern Puget Sound petroglyph complex characterized by curvilinear faces and designs which occur on beach boulders near or below the high tide line often near village sites. Northern Puget Sound rock art sites are also found on beach boulders. Easily accessible sites include Lime Kiln Petroglyphs on San Juan Island and the Wedding Rock petroglyphs near Cape Alava.

O Caves or Rockshelters

Caves or rockshelters used as living areas or camping spots, are rare in western Washington. They offer the potential for wellpreserved deposits. Judd Peak and Layser Cave have yielded information on the use of the foothills of the Cascades from 6,700 years ago to 400 years B.P.

(i) Wet Sites

These are rare sites in which normally perishable materials like basketry, wooden artifacts, or wool and hair are preserved, usually because they are saturated by water. Wet sites offer a more complete picture of people's artifacts, tools and materials. On the Northwest Coast, an estimated 60 to 90 percent of artifacts were made of wood or fiber. Wet sites offer us a glimpse of these elements, which typically do not survive in other types of sites. Wet sites can be sections of whole villages such as Ozette, over





bank refuse deposits such as Biderboost on the Snoqualmie River or Hoko on the Hoko River, or fish weirs such as Wapato Creek Fish Weir in Tacoma.

Culturally Modified Trees (CMTs), Basket Trees or Peeled Cedars

These are living cedar trees from which bark has been stripped or planks split off their sides. The bark was used for making baskets or clothing. The planks were used in buildings or making boxes. CMTs are frequently found in old growth stands of cedar. The cultural modifications on some CMTs have been dated to 300 years ago. In a recent study on the Makah Indian Reservation, archaeologists identified eight different types of CMTs, including plankstripped logs, cut logs, notched trees and chopped trees. Partially finished canoes have also been found.



Culturally Modified Tree. Deep notching is the first step in removing a plank. Credit: Office of Archaeology & Historic Preservation





O Burial Sites, Islands, or Cemeteries

The locations of burial sites varied over time and among groups. In some parts of western Washington, small off-shore islands or wooded slopes adjacent to villages were cemetery areas. Isolated burials are found in a variety of locations. Shortly after Euroamerican contact, entire villages were decimated by disease and thus became cemeteries. Please respect all these areas and do not disturb them.





Artifacts, Flora and Fauna

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Native Americans made tools from stone, bone, antler and wood. They made projectile points from the dark basalts found along rocky beaches. Points, fish hooks and harpoons were made from antler, bone and wood.

Harpoon lines were fashioned from twisted cedar. Clothing was made from woven cedar bark, spruce roots and fur.

Northwest Coast societies did not make pottery. People boiled water and cooked food in watertight wooden boxes or baskets by heating rocks and dropping them into the water. As a result, a major component of site are fire-cracked rocks, reddened or blackened by fire and then broken in the cooling process.

Besides artifacts and fire-altered rock, sites contain much biological data. Shellfish remains can help identify the species that were used for food, materials or decoration and can provide evidence on the local environmental setting. Archaeologists use bird remains, fish and land mammal bones to reconstruct the diet and time of year the site was occupied and carbonized plant remains, pollen and charcoal to reconstruct the local vegetation. They

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also use the new DNA techniques to analyze the amino acids preserved on stone tools to identify the species of animals killed and butchered by those tools.



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Historic Archaeology

hen people think of archaeology, they usually relate the term to ancient peoples and sites. However, more recent peoples also have left traces of their lives. Telling the story of the Euroamerican influence in Washington State is the focus of historic archaeology.

The historic period has two major divisions -- protohistoric and historic. The protohistoric period is that time between the prehistoric and historic when native cultures and sites are affected by Euroamerican influences but before they enter the stream of written history.

Many prehistoric sites have a protohistoric or historic overlay. This is because many sites continued to be occupied after Euroamerican contact. Ozette on the Pacific coast, Old Man House near Suquamish on Puget Sound, and 45SA11 on the Columbia River near Skamania just down-stream from the Bonneville Dam are examples of sites with prehistoric, protohistoric and historic components. Other sites such as Sba'badid in Renton were occupied only in the protohistoric period.

Historic archaeology utilizes most of the same tools as does prehistoric archaeology, but additional resources area available for interpreting sites. These include paintings, photographs,





pictures, journals, maps, sketches, census data, newspaper accounts, company records and diary entries.

Sometimes these materials allow archaeologists to identify the names of inhabitants of a specific house.

In historic archaeology the identification of artifacts and their functions is less speculative. Categories of functions include architecture (nails, window glass, bricks), personal items (buttons,

buckles, jewelry, beads, combs, pocket knives), personal indulgences (alcohol bottle glass, tobacco pipes), domestic (ceramics, tableware, culinary, furnishings), commerce and industry (coins, armaments, and tools).

Historic sites include fur trade camps, military forts, pioneer homesteads, small towns, logging and mining camps, railroad camps, bridges, trestles, fords, and religious centers such as missions. These categories are not mutually exclusive. Small villages or towns grew up around military or fur trade forts.



Base of 1833 Fort Nisqually stockade all exposed during excavations. Credit: Office of Archaeological & Historic Preservation.





Fur Trade

The initial Euroamerican occupations in the state were fure trade establishments. Known as "forts", these were not military but commercial establishments. Initially, some did not even have protective fortifications.



Hudson's Bay Company period (1820-1860) ceramic ink bottle from underwater trash deposits at Fort Vancouver, Washington. Credit: Aquatic Resources Division. DNR.

The fur trade has been the main focus of historic archaeologists in the state. This is reflected in the list of Pacific Fur Company and Hidson's Bay Company forts that have been excavated. These include Fort Spokane near Spokane, two different Fort Okanogans where the Okanogan River meets the Columbia, Fort Nez Perce at the junction of the Snake and Columbia Rivers, Fort Colville near Kettle Falls on the Columbia River, Fort Vancouver and Kanaka Village in present-day Vancouver, two Fort Nisquallys and Nisqually Village near the present-day town of DuPont, and Bellevue Farm on San Juan Island.

The fur trade in the Pacific Northwest was controlled by corporate giants, especially the Hudson's Bay Company.





The archaeology of the fur trade is divisible into at least two categories, fort and village. The layout of Hudson's Bay Company forts is rigidly patterned and predictable. The building styles and techniques are standardized. The inhabitants within the forts were predominately Scottish or English, male and upper middle class. In contrast, the villages outside the forts were much less standardized and predictable. The socio-economic status of the inhabitants tended towards the middle to lower classes. Building styles and techniques were diverse, reflecting the widely diverse ethnicity of the village inhabitants -- French Canadian, Hawaiian, Iroquois, Scottish, and local Native American. Women and children abounded.

Many early pioneer settlements were located no farther than a day's journey from the major Hudson's Bay Company supply centers. Examples include Tumwater, Yelm, and Steilacoom.



These, in a sense were also outposts of the Hudson's Bay Company where inhabitants often worked as day laborers at various Hudson's Bay Company forts. Pioneer families survived in part because of the help they received from

Historic ceramics on surface of forest floor. Credit: Office of Archaeology & Historic Preservation.



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Native Americans and the Hudson's Bay Company. Pioneer families sometimes operated as independent traders. An example of freelance traders comes from the remains of a historic store or trading post at 45SA11 in Skamania County along the Columbia River, which was occupied during the 1850s and probably burned in 1856.

As the fur trade faded and the number of pioneer families increased, the emphasis of the Hudson's Bay Company and the smaller entrepreneurs changed. Instead of furs, they increasingly dealt in consumer goods. Fort Nisqually and Cowlitz Farm were pastoral and agricultural branches of the Puget Sound Agricultural Company, a subsidiary of the Hudson's Bay Company that shipped wool, hides, tallow and salt beef to London, supplied agricultural goods to various Hudson's Bay Company establishments and even maintained a herd of dairy cows to supply butter to Russian America. Hudson's Bay Company trading establishments soon began supplying more household goods -- such as clothing, dishes, pots and pans, and building materials -- than the classic artifacts of the fur trade -guns, beads, blankets, tobacco pipes and bottles of rum.



Religious organizations founded missions to minister to the spiritual needs of pioneer families, Hudson's Bay Company employees and Native Americans. They often arrived only a few years behind the fur trade forts. Archaeologists have investigated





the Richmond Mission near the original Fort Nisqually, Whitman Mission near the present town of Walla Walla, and St. James Mission, which was founded at Fort Vancouver.

Some missions drew their goods directly from fur forts, and these artifacts are nearly indistinguishable from those of a fur trade village family. Because many of these sites also functioned as schools, there are many slate-writing implements -- slate tablets and octagonal or round slate "pencils". There is usually a "great room" used for congregational meetings. These artifacts from the American Methodist missions are characterized by the almost complete absence of clay tobacco pipes and alcoholic beverage bottles.

Military

With the resolution of the boundary between British and American lands at the 49th parallel in 1846, U.S. military outposts became necessary to protect settlers and to establish an American presence. Early U.S. Army posts include Fort Lugenbeel on the Columbia River near the town of Stevenson, Fort Steilacoom near the town of Steilacoom, Fort Townsend south of Port Townsend, and Fort Walla Walla, near the city of Walla Walla, all established in the 1840s and 1850s. A U.S. Army post was also set up at Fort Vancouver. Additional boundary disputes over the San Juan Islands during the 1850s led to the establishment of American Camp and British Camp on San Juan Island. The latter was a military outpost of the British Marines. All of these sites have





been excavated to some extent.

Military forts were built according to standardized military protocol, even down to the number of nails used in a particular joint. Ceramics tend to be white earthenware. Military accouterments such as buttons and insignias are common.

Small Towns

As pioneer families and settlements proliferated, small towns were formed. The towns that have been archaeologically investigated range from those founded in the 1840s and 1850s, Tumwater and San Juan Town on San Juan Island, to those founded in eastern Washington in the 1880s, Riparia and Silcott. Some small towns were set up for specific purposes. Joso Trestle was a construction camp devoted to railroad construction. Franklin, near the present town of Black Diamond, was established to mine coal. A lumber mill complex including two mills, a power house, barns, houses, a cook house, store and a Japanese village is known from the Howard Hanson dam reservoir in King County. Of all these communities, only the first, Tumwater is still a living community.



Homesteads range from the mid-19th century to the early 20th century. They include a mid-19th century homestead at Chamber's Farm near Olympia and a number of homesteads from





the early 20th century mapped during the Chief Joseph Dam project in Douglas and Okanogan Counties. Archaeologists have investigated numerous single family homesteads. Typically, homestead sites consist of single dwellings with barns, fences, and outbuildings. At some homesteads more recent houses are also present. because many different time periods are represented in this group, artifacts range from fur-trade types of artifacts to early 20th century Sears and Roebuck mail order items.

Logging, Mining, Railroad Features

Logging features can include road grades, landings, spring boardcut trees, old logging donkeys, cables and other logging equipment. Mining features include the mines themselves, spoils piles and extractive machinery. Railroad features can include the railroad grades and trestles.







How Archaeologists Tell Time

Radiocarbon dating is one of the most important tools available for establishing the age of buried sites and objects. Yet it can only work on objects derived from organic materials such as plants and animals. Many artifacts are inorganic (such as metal or stone) and cannot e radiocarbon dated.

Archaeologists developed a technique for dating items based on the changing styles of shape and manufacture. The technique is called seriation. Tools and techniques of manufacturing those tools change through time. By examining and comparing the artifacts found in lower levels with those from the upper levels of a site, we gain an idea of how the style of a particular item, say a projectile point, changed through time. When similar objects are found at another site, they can be compared to the other style sequence to determine a relative date. This is essentially the same technique used by car buffs who can identify a 1957 Chevy or a 1965 Ford.

You can use this tecnique yourself to







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Cultural Resources Intentionally Placed In or Under Water



Native Americans removed boulders and cobbles from suband intertidal pathways to allow canoes to reach shore without damage. Such canoe runs can be seen at the Ozette site and at DNR's Hat Island and Cypress Island Natural Resource Conservation Areas. They are usually located at major village sites where beaches are strewn with rocks and boulders.



Canoe run at Doe Island State Park. Credit: Dan Meatte, Washington State Parks

Petroglyphs and Pictographs

Almost all known petroglyphs and pictographs in Washington are found along the shore, many in the intertidal area. There is a southern Puget Sound petroglyph complex characterized by faces and designs on beach boulders. They seem to be related to village sites and may mark village territorial boundaries. Northern Puget Sound petroglyphs are also found on beach boulders.





Fish Weirs and Traps

Low stone walls or lines of wooden posts and/or stakes used to trap fish are known as fish traps or weirs. These are located at or near the mouths of large rivers and streams, across small shallow lagoons, across the heads of shallow coves, or along open



Fish weir on the Puyallup River, circa 1880. Credit: State Capitol Museum, a division of the Washington State Historical Society

shorelines. Wooden fish traps were commonly used with netting or mats. A preserved fish weir was discovered and excavated in 1970 at the mouth of Wapato Creek in the Blair Waterway in Tacoma.

Reef Net Anchors

Reef net fishing was the most important economic activity of the tribes in Whatcom and San Juan counties. Large rocks were used to anchor an elaborate net system designed to simulate an underwater reef to funnel salmon to waiting canoes. Concentrations of reef net anchor stones have been mapped at Legoe Bay on Lummi Island and at Point Roberts.





Reef Net Illustration. Credit: Mark Macleod, Department of Natural Resources



People dump trash in low spots. Often the lowest spot is in the water. Consequently, trash ends up under water. This has exciting implications because normally perishable materials such as basketry and wood are preserved underwater. Examples of prehistoric trash dumps with preserved materials include the





3,000-year-old Hoko River wet site in Clallam County, the 2,000year-old Biderbost site in Snohomish County, and the 1,000-yearold Munk Creek wet site in Skagit County.

Historic trash dumps often occur off the end of piers and in low areas along the coast near historic occupations. These may include bottle dumps, can dumps, discarded building materials, generalized trash dumps, ballast, etc. Examples are known from the Columbia River near the Fort Vancouver dock with artifacts dating from the 1840s to WWII. Archaeologists consider trash dumps as part of the associated upland sites.

Piers, Wharves, Docks, Bridges

The remnants of piers, wharves, or docks may be found under water. Associated features may include wooden cribbings filled with rocks which were used in dock construction.

The remnants of bridge abutments or supports may be found under water typically near current or historic transportation routes.



Splash dams were built to store water in order to float logs to the booming grounds. Evidence of splash, hydroelectric, water diversion and other dams may be found under water.





Placer Mines

A placer is a glacial or alluvial deposit that contains eroded particles of valuable minerals. Placer mines are places where miners wash these deposits to recover valuable minerals, usually aggrading sections of river beds. Some placer mines worked by Chinese immigrants are on the middle Columbia River.

Arine Railways

Marine railways are track systems used to haul boats in and out of the water and are associated with shipyards. A marine railway on Bainbridge Island extends 500 feet into Eagle Harbor. Gig Harbor has an active historic marine railway.

Inundated Sites

Inundated sites include prehistoric villages, campsites, and locations of historic forts, homesteads, towns and waterfronts. Many sites in Washington are under water behind dams. For example, Fort Colville, Fort Okanogan and the Kettle Falls prehistoric fishing sites are now inundated by reservoirs. In addition, many western Washington sites have been covered or destroyed by a worldwide rise in sea levels.

Between 13,000 and 15,000 years ago, the Puget Sound basin was



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crushed beneath glacial ice. The ice was a mile thick at Bellingham, 3,200 feet thick at Seattle, and 1,000+ feet thick at Olympia. The glacier began melting and rapidly retreating about 14,000 years ago.

Water from the melting ice caused a rise in sea level. At the same time, the earth's crust, released from the weight of the ice, began to rebound. The rebound was completed 12,000 years ago in southern Puget Sound and 6,500 years ago in the northern part of the state. However, the glaciers continued to melt and sea level to rise. Sea level is still rising at a rate of more than a foot per century in Tacoma and more than two inches a century in the San Juan Islands. The rise in sea level also affects lakes and the lower portions of rivers.

The rising levels of sea, rivers, and lakes have covered older villages but not locations where resources were collected and processed at some distance form the shore. These include exploitation locations -- animal kill sites, quarries, plant-gathering places, stone working workshops -- which were located away from coastlines. Historically known Northwest Coast villages were usually 5 to 20 feet above the high water mark, near the mouths of rivers, at the meeting of waterways, or on sheltered bays or inlets. Older sites in these locations have been destroyed by wave action or are now under water.

Along Washington coastlines, there are no definitely dated village or habitation sites older than 4,300 years. In British Columbia, there are numerous coastal habitation sites with dates as old as

Guide to Washington State Are

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10,200 years ago The Canadian sites are still above water because rebound continued later due to the greater weight and later retreat of glaciers in the area. There are progressively older radiocarbon dates from marine coastal sites from southern Puget Sound to the central coast of British Columbia. These dates indicate when sea level rise overcame post glacial rebound and not when initial human occupation began.

Many areas in the state have conditions that could preserve sites under water. These conditions include gently topography, reduced wave action due to limited reaches, and rapid inundation.

Currently, only a few sites are known to be inundated as a result of sea level rise. The West Point site in Seattle and the shell midden at British Camp on San Juan Island extend below current sea level. There is a possible submerged village at Felida Morrage and in Lake Vancouver in Clark County. As more work is done under water, more sites will be discovered





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What You Can Do

A rchaeological sites are protected by state law on both public and private lands. The Archaeological Sites and Resources Act (ASRA) (RCW 27.53) proclaims that archaeological resources in, on, or under state-owned land are the property of the state. These resources are also protected by the Public Lands Act (RCW 79.01) which states that a trespasser who disturbs any "valuable materials" is guilty of larceny. A person leasing public land may be guilty of a misdemeanor if the disturbance is not expressly authorized.

On private lands, ASRA states that a permit is required before knowingly disturbing any historic or prehistoric archaeological resource or site on private or public land. The property owner or manager must agree to the issuance of the permit. ASRA protects archaeological sites, historic shipwrecks and submerged aircraft from disturbance and loss. The Indian Graves and Records Act (RCW 27.44) protects Native American burials, petroglyphs and pictographs from intentional disturbance. These laws are included in the Appendix.

Provisions in other statutes direct agencies to protect cultural resources. Apart from the statutory requirments, many agencies have developed policies addressing how archaeological site information should be used for planning and development.



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To carry out the above laws, field personnel should become familiar with the following topics.

Theft and Vandalism

Theft and vandalism of cultural resources on state lands are constant problems. Archaeological sites are fragile and nonrenewable and, unlike many natural resources, archaeological sites can not be restored or repaired. The damage caused by theft or vandalism includes the costs of filling in the holes as well as scientific, historic, and spiritual losses.



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Vandalism at Horsethief Lake state Park. Credit: Office of Archaeology & Historic Preservation.

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Chapter 8

What You Can Do

Artifacts have a market value and are seen by some as collectable art. Theft is not limited to artifacts. Entire panels of pictographs and petroglyphs have been blasted from cliff faces and removed from public lands. Historic submerged aircraft and preserved dugout canoes have been removed from lakes in Washington.

Professional archaeologists do not approve of the personal acquisition of artifacts or their sale. They stress the protection of sites and the curation of artifacts from public land for the public good.

An archaeological site that has been looted or vandalized is a crime scene.

Promoting an Ethic of Stewardship

We encourage you, as public employees, to promote an ethic of stewardship for archaeological resources. Think of archaeological sites as a collection of rare books

Scene of a Crime?

Archaeological sites are fragile and subject to vandalism. Sites on all lands in this state are protected by law from looting, vandalism, and theft. However, vandalism is a common problem and in your land management duties you may happen upon a site that has been vandalized.

When you come upon a site that has been vandalized, you will observe freshly dug holes, disturbed vegetation, and flakes, bones and fire-cracked rock discarded by the vandals. You may also observe shovels, screens or modern trash left by the looters.

Do these three things:

1. Be observant. Note any individuals or vehicles in the area. Note all the details of your surrounding environment, time, and conditions. Take photographs.

2. Do not disturb anything.

Remember this is a crime scene. Footprints, fingerprints, and the physical evidence of the looter's excavation can yield clues and the evidence in a criminal case. Secure the site area before you leave.

3. Get help immediately. Contact your cultural resource coordinator and law enforcement personnel. Plan carefully your next steps in assessing damage, working with law enforcement, archaeologists and



that are held in public trust for all to learn from and appreciate, but not to damage. In your daily contact with the public please help to instill a sense of respect and appreciation of these ancestral places.

Educating the Public

The archaeological resources of Washington can provide a fuller understanding of our history and our environment. In your daily contact with the public, you can encourage respect for these reminders of our common past, which will lead to their protection.

We encourage you to learn about the archaeological resources on the lands you manage. The attached reading list offers a variety of archaeological topics. You may also want to participate in any of the annual archaeological events such as Washington Archaeology Week or discuss developing a project with the person in your agency overseeing cultural resources.

Archaeological sites play a vital role in interpreting the past. Seeing the physical products of past human labor or visiting the location of important historic events brings us in direct contact with the past.

