



PORT of  
**vancouver**

Vancouver Fraser  
Port Authority

# Archaeological Chance Find Procedure

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July 19, 2021

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## 1. Introduction

The Vancouver Fraser Port Authority is the federal agency responsible for the stewardship of the lands and waters that make up the Port of Vancouver. As outlined in the *Canada Marine Act*, our mandate is to facilitate Canada's trade objectives, ensuring goods are moved safely, while protecting the environment and considering local communities. Part of this work involves assessing potential impacts that port- and tenant-led project work may pose to previously unidentified archaeological resources within the port's jurisdiction.

We do this through our chance find procedure, which we provide to project teams leading ground disturbing work within port jurisdiction. The chance find procedure provides guidance on what to do if suspected archaeological resources are uncovered during the lifetime of a project. It is not intended to be used to provide archaeological management recommendations for a project. If an archaeological management plan is required for a project, that plan will be developed by the port authority in consultation with Indigenous groups that have Aboriginal rights within the project area.

## 2. Relevant legislation and policies

All port-related operations and project work must comply with established federal legislative requirements and frameworks in relation to the protection of archaeological resources. These include:

- *Parks Canada Agency Act* (1998)
- *Impact Assessment Act* (2019)
- Government of Canada's Archaeological Heritage Policy Framework (1990)
- Parks Canada Guidelines for the Management of Archaeological Resources (2005)

Although the port authority is not bound by the provincial *Heritage Conservation Act* (1998), we consider the requirements outlined in the Act as best practices to use when managing potential archaeological finds. The BC Archaeology Branch may be contacted for management recommendations if archaeological materials are identified throughout the course of a ground-disturbing project within the port's jurisdiction.

## 3. Types of archaeological sites

The material remains of Indigenous peoples are represented by a wide variety of archaeological site types. Within the port's jurisdiction, which includes the Burrard Inlet and the lower Fraser River in southwestern British Columbia, archaeological sites that would typically be identified include:

- Surface features such as cultural depressions created by former habitations, earthen fortifications, rock cairns, fish traps, clam gardens, burned rock, and shell middens
- Habitation sites including camping/transitory/hunting, seasonal and permanent villages
- Resource gathering and processing
- Culturally modified trees (CMTs) such as bark stripping, planks, and territory markers
- Rock art including pictographs (painted rock) and petroglyphs (carved or pecked rock)
- Stone, bone, antler, bark, wood, or shell artifacts

[Appendix 1 – Picture guide of archaeological materials](#) provides pictures of what some of these typical sites may look like.

## 4. Potential impacts to archaeological sites

Archaeological materials are most likely to be present in greenfield environments or at depths undisturbed by previous construction; however, artifacts may also be found where previous development has occurred, or even within disturbed fill layers. Artifacts in disturbed areas have typically been displaced from elsewhere. Prior ground disturbance in an area should not be seen as an indication that archaeological materials are not present.

Project work that involves excavation, movement, vibration, or disturbance of soils has the potential to adversely impact unidentified archaeological materials. This work can include, but is not limited to, project activities such as land clearing/grubbing, pre-loading, excavation, asphalt/concrete removal, geotechnical drilling, equipment moving, and excavation.

## 5. Chance find procedure: suspected archaeological materials

If you believe you may have encountered archaeological materials, follow the procedure outlined below:

- Immediately cease/stop all activity within 20 m of the find
- Leave all potential archaeological materials in place, **do not touch or disturb**, do not back fill open excavations
- Put up a flag or cone buffer 20 m around the find to protect the area until it can be assessed by an archaeologist or a port authority project and environmental review (PER) representative
- Alert the site superintendent/supervisor that suspected archaeological materials have been located. Refer to [Appendix I](#) of this guide to help identify what the materials may be.
- The site superintendent/supervisor is to notify the port authority's PER team (as stated on the respective authorization or permit) of a potential archaeological find:
  - Call the PER hotline at **604.665.9047**
  - Email the PER team at **PER@portvancouver.com**
  - Call/email the planning department representative indicated on your authorization or permit
- Await further instructions from the port authority representative, do not begin any ground disturbing work until cleared to do so by the port authority representative
- Prepare and submit an incident report to the port authority to assess compliance against project permit conditions and associated authorizations

## 6. Chance find procedure: suspected human remains

If an employee of the port authority, port authority tenant, or contractor conducting project activities on a port site comes upon suspected human remains, the person shall:

- Cease/stop all activity at the site immediately
- Stake or flag off affected location to prevent additional disturbance
- Contact the site superintendent/supervisor
- The superintendent/supervisor is to notify the port authority's PER team (as stated on the respective authorization or permit) of a potential archaeological find:
  - Call the PER hotline at **604.665.9047**
  - Email the PER team at **PER@portvancouver.com**, or
  - Call/email the planning department representative indicated on your authorization or permit;
- PER team to contact the local police department via non-emergency line to discuss next steps
- Do not allow bystanders (including site employees) to take photographs or video of the remains
- Ensure that the remains are treated with dignity and respect by all those at the site

- Cover any exposed bones with plastic sheeting, a clean garbage bin liner, blanket or other clean covering (not back fill) until the police are present. The police will contact the coroner and the coroner will make the determination if the remains are human, and, if so, if they are of forensic or archaeological concern.

## 7. Contact list

Name	Phone	Email
Vancouver Fraser Port Authority reception* *ask for the planning and development department	604.665.9000	<a href="mailto:reception@portvancouver.com">reception@portvancouver.com</a>
Vancouver Fraser Port Authority PER hotline	604.665.9047	<a href="mailto:PER@portvancouver.com">PER@portvancouver.com</a>
Vancouver Police Department non-emergency	604.717.3321	-
New Westminster Police Department non-emergency	604.525.5411	-
RCMP non-emergency (Burnaby)	604.646.9999	-
RCMP non-emergency (Richmond)	604.278.1212	-
RCMP non-emergency (North Vancouver)	604.985.1311	<a href="mailto:nvanrcmp@rcmp-grc.gc.ca">nvanrcmp@rcmp-grc.gc.ca</a>
RCMP non-emergency (Coquitlam)	604.945.1550	-
RCMP non-emergency (Surrey)	604.502.6390	<a href="mailto:citycentre@rcmp-grc.gc.ca">citycentre@rcmp-grc.gc.ca</a>

## Appendix 1: Picture guide of archaeological materials

This appendix will briefly describe archaeological sites and artifacts that are common in the Burrard Inlet and Fraser River areas. If you think you have come across archaeological materials, follow the instructions in [Section 5: Chance find procedure: suspected archaeological materials](#) or [Section 6: Chance find procedure: suspected human remains](#).

### Features

#### Cultural depression

Cultural depressions are non-portable features seen in the landscape. They vary in size and can be evidence of past housing structures, food/tool caches, and cooking areas.



Figure 1 - Aerial view of cultural depressions at a site near Williams Lake, B.C. Photo by Solos Productions from <https://storymaps.arcgis.com/stories/2505752fb01c4c259b7cb858ee7d1100>. Accessed October 2020.

#### Cultural mounds

Cultural mounds are typically associated with burials of high status individuals. They can contain, but are not limited to, human remains, rock walls and structures, beads, stone or bone artifacts, and ochre. They range in size and are usually at least 1 m x 1 m x 1 m. Some mound complexes in the Fraser Valley have mounds that can be 2 to 3 metres in height.



Figure 2 - Cultural mounds at the Qithyil (Scowlitz) site in the Fraser Valley, B.C. Mound visible at the lower left of the picture and in the middle of the picture. Photo from: <http://digitalsqewlets.ca/sqwelqwel/archaeology-archeologie/index-eng.php>. Accessed June 2021.

## Petroform

Petroforms are groupings of rock that generally hold cultural significance or are used as burial markers. They can also be used to mark important resources or as a fortification or wall.



Figure 3 - Petroform at Whiteshell Provincial Park in Manitoba. Photo from: <https://louellalester.blog/2019/09/16/bannock-point-petroforms/>. Accessed July 2021.

## Rock cairn

Rock cairns can be used as storage spaces for certain foods and tools. Cairns vary in size and the amount of rock/stone associated with the feature. They are frequently associated with human burials and must be treated with the utmost caution and respect.



Figure 4 - Example of a rock cairn. Photo by Darcy Matthews from "Burial Cairn Taxonomy and the Mortuary Landscape of Rocky Point, BC". Available through [www.academia.edu](http://www.academia.edu). Accessed August 2020.

## Fish weir

There are many different designs for fish weirs (or fish traps). Generally, they are associated with intertidal areas that provide shallow waters during some point of the day or they are built across a creek or river. Stone and wood fences are built to 'trap' the fish as the tides change (or the river/stream flows), making it easier for them to be caught. Remnants of fish weirs are seen as linear lines of stone or wood.





Figure 5 - Remnants of a 1,300 year old fishing weir at Maplewood Mudflats in North Vancouver, BC. Note the linear lines of wood stakes. Second Narrows Bridge in the background. Photo from <https://www.sfu.ca/brc/imeshMobileApp/place-names/stiitsma.html>. Accessed August 2020.



Figure 6 - Yelm Jim's fish weir on the Puyallup River ca. 1885. Photo from: <https://qmackie.com/2014/09/24/yelm-jims-fish-weir-at-puyallup/>. Accessed June 2021.



Figure 7 - Stone fish weir at Stanley Park in Vancouver, B.C. during low tide. Photo from: <https://m.megalithic.co.uk/modules.php?op=modload&name=a312&file=index&do=showpic&pid=27393>. Accessed June 2021.

## Clam gardens

Clam gardens are intertidal archaeological features that are used in the agriculture/harvesting of clams. Rock walls are built at the low tide line in bays and inlets to create level beach terraces and 'gardens' for clams to thrive in. These gardens can then be harvested when the tide is out.



Figure 8 - Clam garden, note the rock wall area in front of the sediments. Photo by Mary Morris from <https://clamgarden.com/clamgardens/>. Accessed October 2020.

## Fire-cracked rock

Fire-cracked rock (FCR) is found in association with cooking features (pit ovens), hearth features (cooking fire), and/or shell middens (refuse). Deeply pitted from being heated and cooled multiple times, FCR is usually deep rust or black in colour and can show irregular colouring and breakage patterns. A high level of FCR can be an indication of a larger feature nearby.



Figure 9 - Fire Cracked Rock. Photo from <https://aswtproject.wordpress.com/category/fire-cracked-rock/>. Accessed October 2020.

## Hearth

Hearths are cooking features found at village sites or seasonal camps. Hearths often contain reddish brown soils (from the heat of the fire), fire cracked rock, boiling stones and can contain seeds and bone remains that indicate what was being eaten at a particular site and what season the site was occupied.

Charcoal samples from hearths can be radiocarbon dated to provide an accurate time estimate of when each 'layer' of the hearth was put down.



Figure 10 - Fire hearth at the Bell Site (EeRk-4) in British Columbia associated with house pit #19. Note the darker brown soil of the hearth compared to the surrounding soil. Photo from [https://learning.royalbcmuseum.bc.ca/themes\\_2/archaeology/](https://learning.royalbcmuseum.bc.ca/themes_2/archaeology/). Accessed July 2021.

### Canoe run

Canoe runs are marked by two or more linear lines of rocks and boulders that have been cleared from the intertidal area of a beach. Rocks were cleared so cedar canoes did not sustain damage while landing and being brought up onto shore.



Figure 11 - Canoe runs on Garden Island, Prince Rupert Harbour, B.C. Note the linear lines of rocks and clear sand in between. Photo from: <https://brynletham.com/about>. Accessed June 2021.

### **Shell midden: intact, disturbed, and non-shell**

Shell midden sites are generally an indication of village sites with layers upon layers of refuse that is created through daily village life. Typically, middens consist of dark brown to black, greasy textured soil with abundant broken shell; however, middens without shell also exist. The calcium carbonate in the shells that have been discarded neutralizes any acidity in the soil so bone, antler, or organic materials are preserved. It is not uncommon to find hundreds of salmon vertebrae in a very small section of a shell midden. Human burials are often located in midden sites and must be treated with the upmost care and respect.



Figure 12 – Intact, stratified (layered), intact shell midden. Photo from <https://learning.royalbcmuseum.bc.ca/pathways/can-you-dig-it/dgrw141statig5-20-reduced/>. Accessed August 2020.



Figure 13 - Close up of a shell midden. Note the clear distinction between the midden (rich, brown black soil with extensive shell content) versus the natural tan coloured sediments below. Photo from: [https://learning.royalbcmuseum.bc.ca/?post\\_type=&s=she](https://learning.royalbcmuseum.bc.ca/?post_type=&s=she). Accessed July 2021.

### **Disturbed shell midden**

Disturbed shell midden presents similarly to an intact shell midden with rich dark brown soil and shell content but lacks the clear "layering" that is seen with an intact midden. Typically, a portion of midden that has been disturbed and then re-deposited will present as a jumble of shell and dirt. At the time of publishing, no suitable photo example could be found.

### **Non-shell shell midden**

Non-shell shell midden occurs when a shell midden has been deposited in a location but then degrades over time. This degradation can occur through physical and chemical processes such as animal burrows and roots, weathering of the shell, rolling of the shells due to wave action, compaction from human occupation, etc. When this degradation occurs, a non-shell midden will have the characteristic brown black, organic rich soil but will contain very little, if any shell remains. At the time of publishing, no suitable photo example could be found.

## Culturally modified trees

Culturally modified trees (CMT) are living (usually cedar) trees that have been altered by Indigenous peoples for daily and cultural use. All parts of the tree can be used and cedar is valued for its natural ability to repel insects. The bark of a cedar tree can be used to make clothing, cordage, basketry, and sleeping mats to name a few. The wood can be used in building tools, canoes, and homes. The branches and leaves are used in cultural ceremonies. There are a number of different modifications that are visible within the port's jurisdiction, including bark stripping and planks.

### Bark stripping

The result of bark stripping can be seen in four different types of "scars" on the tree. Typically, you will see a rectangular, tapered, or girdled tree.



Figure 14 - Rectangular bark stripping scar with a slight taper at the top. Photo from <https://www.natureconservancy.ca/en/blog/embles-of-canada-tree.html>. Accessed October 2020.

### Planks

Plank scars can be seen on trees that have been used in Indigenous forestry practices. Two cavities would be chiseled into the tree and then wedges would be driven into the tree at the top cavity. The wedges would be hammered in farther until the plank would separate from the tree at the bottom chiseled cavity. This is a sustainable form of logging that would result in the tree being used for planks multiple times.





Figure 15 - Culturally Modified Tree used for planks. Note the chiseled area at the top and bottom. Photo from <https://www.for.gov.bc.ca/hfd/pubs/docs/mr/mr091/cmthandbook.pdf>. Accessed October 2020.

## Rock art

### Pictograph

Pictographs are art painted onto rock faces with (usually) red ochre. White or yellow ochre may also be used.



Figure 16 - Pictograph from the Similkameen (B.C.) area. Please see website for further information on the picture. Photo by Stanley Copp, accessed through <https://infotel.ca/newsitem/similkameen-legend-challenges-notion-fur-traders-were-first-europeans-to-set-foot-in-south-central-bc/it29759> in October 2020.

## Petroglyph

Petroglyphs are art that is carved or pecked into a rock face with a stone tool.



Figure 17 - Petroglyph at Petroglyph Provincial Park in Nanaimo, B.C. Photo from <http://britishcolumbia.com/things-to-do-and-see/attractions/petroglyphs/>. Accessed October 2020.

## Artifacts

### Stone

Stone artifacts (or lithics) are stones that have been altered by humans for their use. Commonly found stone artifacts in the Lower Mainland include projectile points (more commonly known as arrowheads), bifaces, unifaces, flakes, anchor stones, mauls, hammerstones, adzes, and beads. Typically these tools are made out of a black basalt, which ranges from fine to coarse grained, but other stone types, such as glassy obsidian or fine-grained chert or andesite of various colours, may be found. Adzes are usually made out of jade and slate artifacts are also found in the Lower Mainland. Overwhelmingly, stone artifacts consist of debitage, the flakes removed from a tool in the process of making it; some of these flakes may then be worked in tools themselves.



Figure 18 - Basalt flakes. Photo from <http://archpress.lib.sfu.ca/index.php/archpress/catalog/download/20/6/119-1?inline=1>. Accessed October 2020.



Figure 19 - Jade adzes are used in woodworking. The working end of the adze will taper to a point when viewed from the side. Photo from <https://royalbcmuseum.bc.ca/collections/human-history/bc-archaeology>. Accessed October 2020.

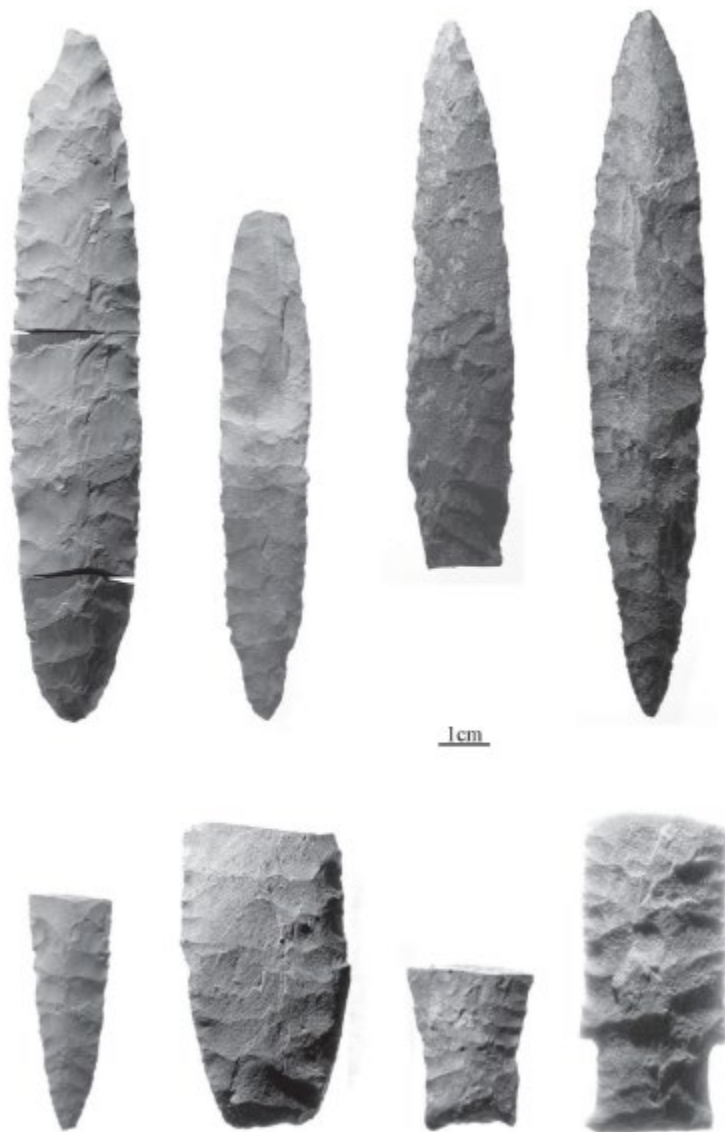


Figure 20 - Bifaces (artifacts worked on two sides) from the Stave Reservoir in the Fraser Valley. Photo from 'A Sequence of Formed Bifaces from the Fraser Valley Region of British Columbia' by Duncan McLaren and Martina Steffen found in Projectile Point Sequences in Northwestern North America edited by Roy L. Carlson and Martin P.R. Magne. Accessed through [www.academia.edu](http://www.academia.edu) in October 2020.



Figure 21 - Projectile Points from Cadboro Bay on Vancouver Island. Photo from <https://learning.royalbcmuseum.bc.ca/wp-content/uploads/2014/10/DcRt9early1.jpg>. Accessed October 2020.



Figure 22 - Hand mauls. Photo from <https://learning.royalbcmuseum.bc.ca/wp-content/uploads/2014/07/2012c03160011.jpg>. Accessed October 2020.

## Beads

Beads were used in jewelry, regalia, and in mortuary practices on the Northwest Coast. It is not uncommon to find a burial of a high-ranking individual who has been laid to rest on a bed of thousands of stone and shell beads. Beads can be made from a variety of materials including stone, shell, bone, and glass.

### Stone beads

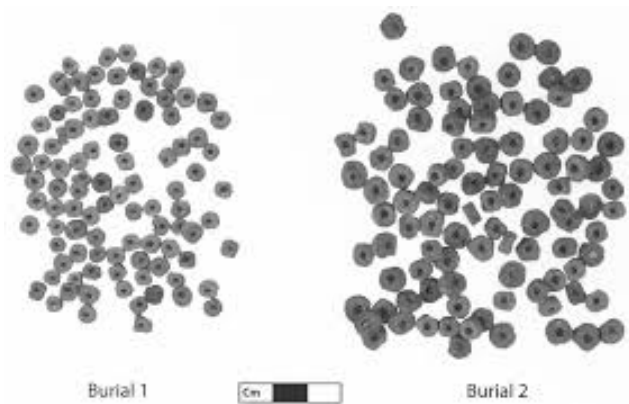


Figure 23 – Stone beads. From 'A Wealth of Beads: Evidence for Material Wealth-Based Inequality in the Salish Sea Region, 4000 – 3500 Cal B.P.' by Coupland et al. From <https://www.jstor.org/stable/24712750?seq=1>. Accessed November 2020.

## Shell beads

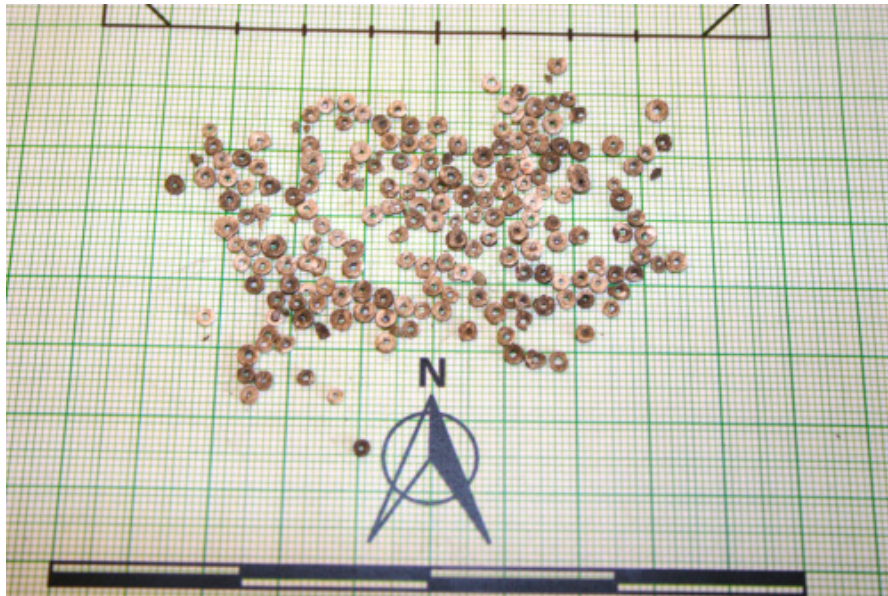


Figure 24 - Shell beads from Sechelt, B.C. Photo by Dr. Terry Clark on <https://qmackie.com/2012/09/05/brainstorming-beads/>. Accessed November 2020.

## Trade Beads

Trade beads are known for their vibrant, often blue, colour. These glass beads were used in trade between European fur traders and the Indigenous Peoples of northern North America.

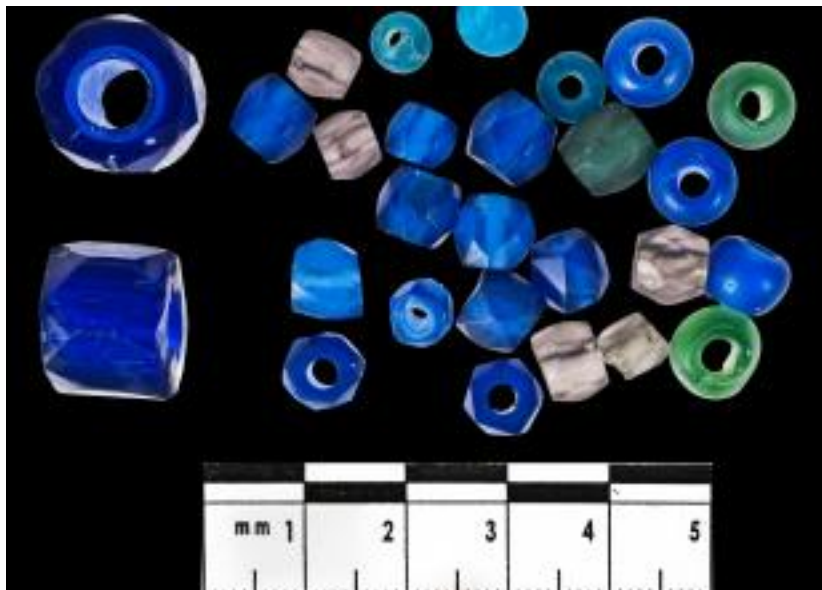


Figure 25 - Trade beads from the Upper Columbia River. Photo from <https://mnch.uoregon.edu/collections-galleries/beads>. Accessed November 2020.



## Bone

Carved bone artifacts can include projectile points, fishing implements, blanket pins, jewelry, and tools.



26 - Deer bone tools. These tools were likely used in basket making. Photo from <https://learning.royalbcmuseum.bc.ca/wp-content/uploads/2014/10/DeerCannonboneTools.jpg>. Accessed October 2020.

## Antler



Figure 27 - Antler projectile points and ground slate points. Note the incised areas and barbed areas on some of the antler points. Bottom antler artifact is likely for fishing, the drilled hole is where a line would have been strung. Photo from [https://learning.royalbcmuseum.bc.ca/?post\\_type=&s=projectile+point](https://learning.royalbcmuseum.bc.ca/?post_type=&s=projectile+point). Accessed October 2020.

## Basketry

Basketry and other wood or bark material may be preserved in areas where soils are permanently water-logged in what is referred to as a “wet site”. Being permanently water-logged preserved perishable materials (e.g., wood, bark, cloth, leather) that would normally decompose in other environments. These materials are extremely fragile and care must be taken if they are uncovered as exposure to air or allowing them to dry out can cause irreparable damage.



Figure 28 – Fragment of a woven cedar-bark basket handle. Basket styles and shapes vary greatly and many recovered artifacts are badly fragmented. Photo from: <https://curious.royalbcmuseum.bc.ca/digging-through-ancestry-first-nations-basketry/>. Accessed January 2021.

## Cordage

Cordage is made from cedar bark that has been processed and braided together. It can be used in hunting, fishing, and in village life. Preserved cordage can be associated with “wet sites” as mentioned in the [basketry section](#) above.



Figure 29 – Haida cedar bark rope made by Hannah Parnell. Rope made of two strands of twisted cedar bark. Photograph from: <http://openmov.museumofvancouver.ca/object/ethnology/aa-2739>. Accessed June 2021.