Both standing trees and logs with multiple plank scars have been reported. Up to seven plank scars have been reported for a single planked tree.

Toolmarks are usually restricted to the notch remnants at both ends of the planks, though the surface of the plank scar can be scored from wedges used to pry the plank from the log or tree.

Medial log section with short plank scar.

**Canoe trees**

A canoe tree is one in which a log or log section is partially shaped into a canoe (a canoe blank) but is never completed.

The only feature necessary for a canoe tree is the canoe blank. Other features that may be present include:

- stump
- log sections
- lofting logs
- logging detritus
If other log sections are present, they could have notches or plank scars.

**Canoe blank:** A canoe blank is a log in the initial or intermediate stage of shaping into a canoe. A canoe blank has a shaped bow and stern. Other attributes of the canoe blank will vary with the size and style of the canoe, and the degree of completeness.

*Canoe blank.*

**Lofting logs:** In order to raise the canoe blank off the ground, the blank is sometimes placed on logs. These are termed lofting logs. Lofting logs do not appear to have been used to lift other kinds of logged trees. Lofting logs have been observed in missing sections, indicating that the removed section has been shaped into a canoe.
Canoe blank with low flat stump in background.

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Identifying Other Modified Trees

This class of CMTs is for trees modified for purposes other than bark collecting, or the procurement of large pieces of wood. These other purposes include the collection of kindling, pitch and small pieces of wood suitable for the making of tools. Some trees are modified for ceremonial and spiritual purposes; others to mark trails, assert tree ownership, facilitate passage on streams, serve as support posts for shelters and drying frames, provide alcoves for the placement of trapsets in winter, and other purposes. In many cases these CMTs are difficult to confirm as being aboriginal. Modifications not attributable to bark-stripping or aboriginal logging should be examined carefully when deciding if a tree should be recorded as a CMT. A few comments follow on some of these modified trees.

Pitch collection trees

Pitch from Sitka spruce, several species of pine, and a number of other species is used for waterproofing, glue, caulking, scents, medicines, and other purposes. A number of recorded CMTs show bark and wood scarring attributable to pitch collection.

Pitch collection scars consist of cut marks used to release the pitch for collection. Apparently the collecting of pitch does not involve bark removal in most cases; instead, a cut is made through the bark into the wood, and the pitch accumulates at the site of the wound where it is collected. Multiple cut marks can be expected: one such CMT had about 120 horizontal axe cut marks in an area of 150 by 84 cm starting approximately 50 cm above the ground.
Kindling collection trees

Small pieces of wood are removed from a number of tree species, probably for use as kindling or fuel. These trees usually have one or more kindling removal scars.

Kindling removal scar: These scars are highly variable, but usually take the form of chop marks and missing narrow pieces of wood. These have been found most commonly on the dry hollow interiors of western redcedar where access into the tree is possible, and on dry scar faces. In other cases, bark is removed along with the wood underneath in such an irregular shape that it probably is the result of dry firewood collection.

Delimbed trees

Instances of delimbed trees have been recorded as CMTs. These include Sitka spruce where branches are removed after placement of a burial box high in the tree; and western yew trees where limbs are traditionally collected for the manufacture of paddles, digging sticks, wedges, and other implements.

Arborglyph and arborgraph trees

Arborglyphs (carvings on trees) and arborgraphs (paintings on trees) are rare types of CMTs. In some cases of tree painting, bark is first removed to expose a scar face which is then painted. To be genuine arborgraph or arborglyphs, it should be demonstrated that the art work is — or very likely is — aboriginal in origin. Depending on the situation, this can be done by: interview with aboriginal Elders; an analysis of the paintings and carvings in terms of traditional art styles; tree-ring dating of the associated bark-strip scar; and, possibly, associations with nearby features or sites. It may be difficult to demonstrate that the painting or carving is associated with the scar, and that the scar date is a reliable indicator of the age of the art.
INTERIOR BRITISH COLUMBIA

Introduction

Interior British Columbia is that vast part of the province that lies east of the Coast Mountains. Although tree use was an important part of traditional aboriginal life in the Interior, and CMTs were first recorded in the Interior in the early 1950s, archaeologists made little effort to identify and record CMTs in the subsequent four decades.

CMT Classification

As discussed in the Introduction, CMTs are classified based on the kinds of modifications present on the trees. CMTs are first divided into three main groups (classes): bark-stripped (BS) trees, aboriginally-logged (AL) trees, and other modified (OM) trees. Each class is then divided into a number of types. The chart in the Introduction shows the most common types for each CMT class. The most common CMT types found in the Interior are discussed below. Terms are defined at that time, as well as in the glossary.

Many traditional tree uses in the Interior do not result in modifications that can be identified years later. Also, many traditional uses involve chopping and cutting that produces modifications that cannot be distinguished from those produced by non-aboriginal people. Most of the modifications that are unequivocally of aboriginal origin involve bark removal. It is not surprising then that most of the CMTs recorded so far in the Interior are bark-stripped trees.

Toolmarks

Cut marks made by steel axes, hatchets and knives are the most common kinds of toolmarks found on Interior CMTs. The presence of toolmarks is often convincing evidence that a modification is cultural rather than natural in origin. In addition to cut marks, grooves and shallow impressions produced by bone and antler peeling tools can be expected.
Identifying Bark-stripped Trees

A bark-stripped tree is a tree from which bark has been partially removed by aboriginal people. These trees are characterized by the presence of one or more areas of removed bark and exposed wood commonly referred to as bark scars. A bark scar resulting from human stripping is called a bark-strip scar, whereas the more general term bark scar refers to any scar, whether of natural or human (cultural) origin.

Key terms

In addition to bark scar and bark-strip scar, key terms for discussing bark-stripped trees are:

- **scar face**: the wood surface exposed by bark removal.
- **scar lobe**: the vertical ridge of wood tissue formed on both sides of a scar face. In response to bark removal, a tree attempts to heal itself by growing over the dead wood of the scar face, which results in the development of vertical ridges of wood tissue called scar lobes, callus lobes or healing lobes.
- **scar window**: the opening created by the lobes growing on both sides of a scar. As lobes grow, they join together above a scar, as well as below the scar if the scar does not extend to the ground, thereby obscuring the edges of the scar and forming a lenticular (lens-like) or triangular opening (the scar window) over the scar.

These terms are illustrated in the previous section.

Types of bark-stripped trees

The bark of more than 20 tree species is used traditionally in the Interior. Tree bark is stripped to collect:

- cambium for food and medicines (cambium is the thin living layer between the inner bark and wood of the tree)
- inner bark for fibrous material, medicines, and cleansers
- bark for containers, canoes, roofing, flooring, and other uses
- bark for use as fuel, dyes, cleansers and medicines
- sap from exposed wood for food and medicines
As on the Coast, bark-stripped trees in the Interior are classified according to the type of bark-strip scar(s) present. Bark-strip scars in the Interior are of four types:

- rectangular scars (BSR)
- girdled scars
- tapered scars (BST)
- other scars

**Rectangular bark-strip scars (BSR)**

These scars are characterized by four more or less straight sides, two of which are longer than the other two. The two longer sides are more or less parallel. Scar lobes are usually present along the vertical sides of the scar (but not in some kinds of bark-strip scars on birch). Scars are usually oriented vertically, but horizontal examples are known. Horizontal rectangular scars that surround a tree are recorded as a separate scar type (girdling). Rectangular bark-strip scars range in size from small to large. They occur on a variety of tree species, but more than 95 percent of trees recorded so far in the Interior with rectangular bark-strip scars are lodgepole pines.

**Rectangular bark-strip scars on lodgepole pine**

Bark-stripped lodgepole pine are found throughout the Interior wherever lodgepole pine grows. Most scars are rectangular in shape, the result of cambium collection. Lodgepole pine cambium has been called “an almost universal food” of the Interior Indians. The cambium is sweetest and juiciest near the bottom of the tree, and trees were often stripped by children.

The bark is pulled off by hand, or pried off with an instrument. First, a cut is made into the trunk, often at chest height, with a knife or other sharp implement or with an antler bark peeler. The bark is then pulled down to the ground, or until it breaks from the tree, leaving a fringe of bark at the base of the scar. Sometimes another cut is made lower on the tree so that the strips would stop at that point. In some cases, a vertical cut is made to split the bark, which is then pried off. Once the bark is
removed, the cambium is scraped with a knife or bone scraper from either the exposed tree or the inside of the removed bark, depending on the maturity of the bark at the time of stripping. Small young trees are preferred for stripping, for diameter at breast height of stripped trees is typically under 35 cm.

Most recorded bark-stripped lodgepole pine have a single bark scar. However, pines with up to four scars have been reported.

Two bark-stripped lodgepole pines with rectangular bark-strip scar.

**Scar description:** Scars on lodgepole pine are usually rectangular in shape, with parallel or slightly contracting sides.
However, scars sometimes have contracting sides, producing an inverted triangular shape, that is, with a wide top and a narrow base. Scars are typically between 40 and 160 cm long and up to 20 cm wide (maximum). These scars will appear smaller if partly hidden by scar lobe growth. In fact, the observed shape of this scar window can vary greatly and should be described when recorded (see discussion below on scar windows).

**Scar tops:** Scar tops on lodgepole pine have several different appearances, depending on the initial cut into the tree. Tops created by single horizontal, multiple horizontal, zig-zag, angled to left or right, rounded, tapered (or inverted ‘V’ shaped), L-Shaped and X-shaped cuts (consisting of two intersection cuts that often extend beyond the edges of the scar) have been recorded. When a bone or antler peeler rather than a metal tool is used, the bark is sheared rather than cut, leaving denticulate “tabs” instead of clear-edged cuts.

Scars frequently continue to the ground. If not, a scar may have a cut base, may terminate on a branch or may taper to a “basal V.” Branches are sometimes present on the scar face, with the bark stripped around the branch. When a small tag of bark remains on the scar face around the base of a branch or knot, it is called a bark button.

**Scar windows:** In response to the stripping, the tree gradually grows vertical healing lobes on both sides of the scar. As the lobes grow they join together above the scar, as well as below the scar if the scar does not extend to the ground. Continued lobe growth will eventually cover the sides and top of the scar, creating an opening over the scar known as a scar window. Scar windows on lodgepole pine vary in shape, but are most commonly rectangular, lenticular (bi-convex), triangular, inverted triangular and columnar (where the original scar almost girdled the tree creating a column of exposed scar face). If growth continues, the lobes may coalesce, closing the scar window, and completely hiding the scar. These CMTs are classified as “healed.”
Bark-stripped lodgepole pines with rectangular scar on left, and rectangular scar formed into a lenticular scar window by lobe growth.

**Toolmarks:** Toolmarks are common on bark-stripped lodgepole pine. Lodgepole pines appear to retain their sapwood long after stripping, more so than cedars and some other species, thereby often retaining toolmarks. Most are cut marks from the initial cutting of the bark at the top and, sometimes, bottom of the strip. These are typically made with an axe, hatchet or steel knife. Bone and antler tools usually leave no marks on the wood. However, when bark is “tight,” these tools can leave very shallow impressions or rounded grooves on the wood.