

# PEELED TREES ON THE PAYETTE NATIONAL FOREST

Inner Bark Utilization as a Food Resource  
by Native Americans

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In 1881 Norman B. Willey reported in The Nez Perce News the discovery of several Indians who had escaped and eluded army patrols and scouts after the last major Indian battle in Central Idaho, the Sheepeater Campaign of 1879. Willey noted:

Washington (Warrens), Idaho Territory May 24, 1881  
...A man named Wilson, who traps in that (Long Valley) region, while making his daily round in the lower end of Long Valley, saw a couple of Indian boys near by. He himself was not observed, and he watched their motions; they were endeavoring to catch birds along the river, and when out of sight he made a bee line for the settlement in Little Salmon, some 25 miles distant. The family were gathered in the most central place, and the next day the able bodied men of the neighborhood, who had sufficient arms, returned to the scene. They found the camp, but the Indians had left, taking the old indian trail across the divide that separates Long Valley from Indian Valley, in the direction of the latter settlement. Their intentions were evidently friendly. The party appeared to consist of three bucks, two squaws, and the two boys and a child. A visit to their camp indicated that they are entirely destitute of ammunition. They had peeled bark from a great many trees, and had been scraping and apparently living on the soft portion of it, but there was not a bone or feather to be found, although game was plenty thereabouts. They are supposed to be (with) a well known Indian named Andy Johnson, whose whereabouts had not been satisfactorily accounted for, who with his family and friends are seeking the white settlement through starvation (Willey 1881:1).

The editor of The Nez Perce News noted below Willey's column, "Andy Johnson is, or was, a sub-chief of the Weiser Indians...hence we now consider it safe for prospectors to strike out as these are the only Indians not accounted for." The era of the free-roaming Indian tribes was at an end.

In an attempt to better understand ourselves and past Native American lifeways, cultural and artifactual remains are examined in combination with available historic information. The newspaper report by Willey taking note of peeled trees as a food resource,

adds pertinent data about this proto-historic feature. Trees identified as those intentionally modified, and used as a food resource, are labeled by Archaeologists as "peeled or scarred" trees. Single trees, groups of trees, and groves identified as culturally modified have been recorded within the Payette National Forest.

#### THE RESOURCES OF NATURE

One of the most difficult transitions in understanding history, particularly Native American history, is a visualization of the complete dependence on the natural world for all food, medicine, clothing, habitation, and spiritual guidance. The thought appears overwhelming. However, just as the streets and the shops of a familiar city are comfortable in modern times, the meadows, mountains, rivers and streams of the prehistoric landscape were comfortable and familiar to the Native Americans. As today, the difference between success and starvation was the development of mental, physical, and technical skills. Downs points out:

It might be said that fishing and hunting were arts, but gathering approached a primitive applied science...once learned the skills of harvesting are relatively simple. But to be an efficient gatherer requires a vast fund of knowledge about the growth cycle of dozens of plant species, an understanding of the effects of weather on growth and knowledge of soils and growing conditions. These mental skills can be taught in part. Many of them required learning through experience, so it was the oldest of the ... women who were the most expert gathers (Downs 1966:21).

The utilization of inner bark as a food appears to be common throughout the United States and the world, not only as a survival food but as an optional choice. As indicated in the article by Willey, within the technical knowledge base of the tribe, inner tree bark could be utilized as a spring food source, particularly when needed as a survival food. "There is one beautiful thing about plants as a survival food: they are stationary. They do not move like a bear or an elk or a deer" (Bjerke 1977:53).

#### THE TREE, AND PEELING

The ponderosa pine (*Pinus ponderosa*, pine family Pinaceae) tree is often referred to as yellow pine, bull pine, or pumpkin pine (denoting the orange bark on mature trees). Another characteristic, is a vanilla scent emanating from the bark of mature trees. The ponderosa has long needles (5"-8"), in bundles of 3 (Arno 1977:29-34).

The primary structure of the ponderosa pine consists of:

- (a) a corky, heavy outer bark that shields the tree, and retains moisture;
- (b) inside the outer bark is a layer called the phloem, a layer carrying food reserves manufactured by the tree;
- (c) on the inner side of the phloem is the growth area of the tree; a thin layer of immature cells called the cambium layer; and
- (d) beneath the cambium layer is the woody center of the tree, called the xylem.

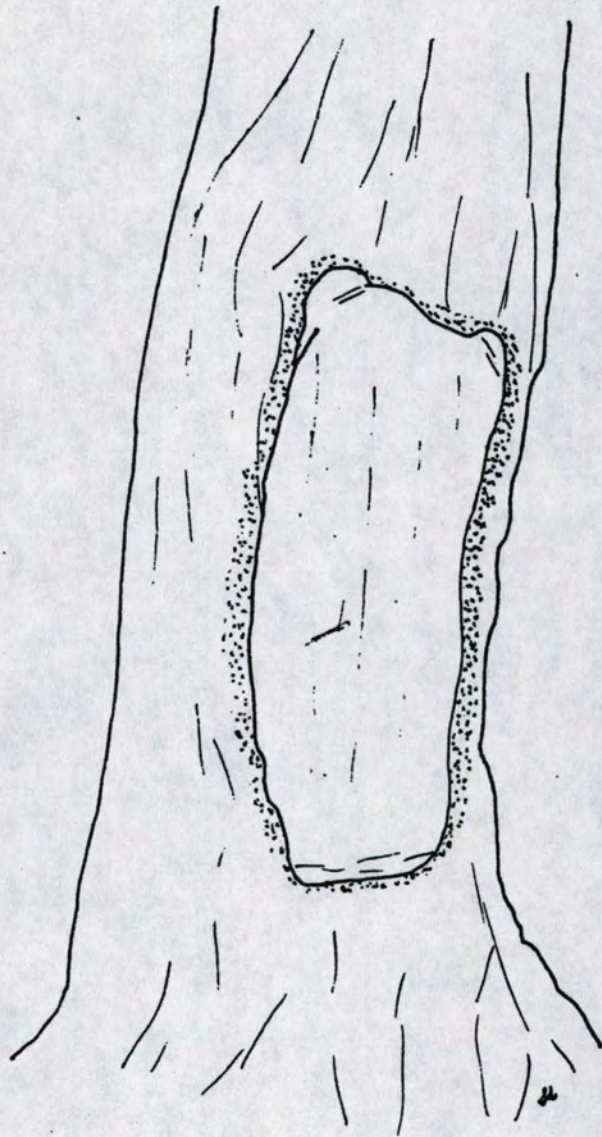
It was the soft, immature cells of the cambium layer (c) used as food. These cells form a zone of weakness that allow the bark to be removed (Martorano 1981:24-25).

Although trees have a variety of recorded uses, mature, peeled ponderosa pines provide regional evidence of food-use by Native Americans. The distinctive peeling scars, not attributable to fire, animals, trail markers, lightning, survey marks and modern equipment scrapes, are still visible. Scars, like those found on trees on Brownlee Creek (10-WN-476 thru 478) and peeled trees found along the South Fork of the Salmon River, indicate the initial cut was generally made on the lower portion of the tree. At the point the horizontal cut was made through the bark, a flat-tipped stick was inserted, and wedged up between the bark and the woody layer of the tree. The stick, following the curvature of the tree, was wedged and lifted, and wedged and lifted, until the section of bark was removed. The thin cambium layer adhered to the bark on the ponderosa pine (on cottonwood trees the cambium layer adheres to the woody xylem). A sharp implement, often a sharpened piece of horn or bone, and later a sharpened piece of a tin can, was used to scrape the cambium in strips from the outer bark.

In 1954 informants from the Kutenai tribe described the process of selecting a tree, harvesting bark, tools used, the season gathered, rituals pre-empting the harvest, and storage of the inner bark (White 1954).

The Kutenai informants noted the cambium layer was generally tested for taste before the effort was expended in removing the bark. The best time to harvest bark was early in the spring, on a cool, cloudy day when the sap was running. The debarking often coincided with the bitterroot harvest in areas where ponderosa pine and bitterroot were found growing together. Informant William Gringos described to White the preliminary ritual necessary before the bark was harvested.

When the old timers used to do this peeling, they did it early in the spring, usually on and after the first Sunday in May. They held a celebration in which all the Kutenai in the



**AN EXAMPLE OF A PEELED TREE SHOWING CUT MARKS ON THE INNER TRUNK OF THE TREE.**

old days participate. Now the ceremony is nearly died out. Usually a day before Sunday they held a gathering of the people. They prepared for the Sunday morning when it was necessary for them to pray to the digging sticks which were used for digging bitterroot. After the head woman discovered that the bitterroot was ready to dig the others in the group peeled trees for a noonday feast. Of course, if she found out the bitterroot was not yet ready to dig the whole affair was postponed. In the old days if any person peeled trees before the bitterroot were ready it was believed it would bring bad luck. The offender was not punished by the people, but the spirits would somehow do that (White 1954:2).

Informant Babtise Mathias made a juniper debarking stick, noting the stick could be made of Douglas fir. The tool, according to Mathias, needed to be limber, but strong. "The point was dull, somewhat rounded, and flattened...so that it would not cut the cambium layer" (White 1954:3-4).

The cambium layer was removed from the bark in strips and eaten immediately, or tied in knots, rolled in balls and packed in green leaves or baskets to prevent drying (Mathias 1954:6-7). Reports on inner bark utilization in the Southwest record the bark could be ground into a flour and baked as cakes (Swetnam 1984:179).

In her study of Nez Perce native food use Scrimsher recorded the Nez Perce name and data on inner bark utilization, as related by three elderly Nez Perce informants (Scrimsher 1967).

Su-ka'mit (inner bark of pine tree)

Su-ka'mit is procured and eaten in the early Spring when the sap is rising and the tissue is still tender. Strips of bark eight to ten inches wide and about one foot long are peeled from the bull (ponderosa) pine trees. In the past, the succulent inner bark was scraped off in thin layers by use of a sharp bone or wooden scraper; today a metal scraper is used. Su-ka'mit has a natural sweetness and is chewed, like gum, without preparation. It is not processed for future consumption. Formerly it was an item of the Nez Perce diet within season (Scrimsher 1967:36).

In the 1973 edition of Noon Nee-Me-Poo (We, The Nez Perce) written and published by the Nez Perce Tribe of Idaho, the following list of foods is given:

Nez Perce territory spanned the Clearwater River and extended to the south middle forks of the Salmon River drainage basins. The deep canyons cut by the Clearwater, Salmon and Snake Rivers brought about extensive seasonal migrations for

food...Our basic foods were kehm-mes (camas) bulb, the thlee-tahn (bitterroot), khouse, tsa-weetkh (wild carrot), and keh-kheet (wild onion). Fruits gathered included serviceberries, gooseberries, hawthornberries, thornberries, huckleberries, currants, and chokecherries. Pine nuts, sunflower seeds, black moss, and pine bark were also eaten (p.30).

#### THE PEELED TREES

A recent study by the Wallowa-Whitman National Forest (Churchill 1989) described scar characteristics of utilized trees:

The shape and size of the scar faces of the identified peeled trees are dependent on the amount of bark originally peeled off and the amount of bark regrowth after scarring activity. Difficulty was encountered in determining whether cut lines existed on a majority of identified trees where the bark has regrown over portions of the scar face. Generally the surfaces of the scars exhibit base wood. The margins of the scars are characterized by a thick infolding of the regrown bark. The shape of the scars varied from overgrown ovals, tear-drop ovals, rectangular to trapezoidal. The individual scar location and size vary widely but are generally about 1/2 meter above ground, 1/2 meter wide, and over a meter in length (Churchill 1989:6).

Scars on peeled trees vary, but all have a wide margin of irregular bark in-growth around the border of the peel. The in-growth may cover the cut-lines along the base of the tree, however many times cut marks along the peel base or sides are present. The upper, or top scar is generally irregular; sometimes coming to one or more points. The top scar may also have cut marks where the bark was removed. Occasionally the peel is butterfly shaped, as if adjoining strips of bark were removed; less often the bark is stripped downward. Scars located above normal cutting heights may indicate harvesting during a period when snow was on the ground beneath the tree.

Tear-drop oval peel scars are rounded at the base, tapering at the top (Churchill 1989:7), with cut-lines along the base of the peel. A small scar with cut marks and in-grown margins may indicate a tree tested and rejected. Girdling has been noted in studies, but is not common. The presence of girdling may indicate a survival or stress situation.

Studies to date trees use and age makes use of dating methods such as dendrochronology or tree ring counting, and core-boring. Dating results indicates peeling through the prehistoric era to the

1930's. The Wallowa-Whitman National Forest 1989 study dates range from A.D. 1818 to A.D. 1935 (Churchill 1989: 7). Logging on all Forests, natural disasters (such as fire) and natural mortality have made estimates of use and distribution impossible to determine.

#### THE HISTORIC RECORD

On their initial journey west across what was to become Idaho, near Lolo Pass, William Clark of the Lewis and Clark Expedition made the following observation:

September 12th Thursday 1805

I mad[e] camp at 8...on this roade & particularly on this Creek the Indians have pealed a number of Pine for the underbark which they eat at certain Seasons of the year, I am told in the Spring they make use of this bark (Thwaites 1959: vol. 3, p.63).

On the return trip east, near the North Fork of the Clearwater, Lewis recorded:

Thursday May 8 1806

we are informed that the natives in this quarter were much distressed for food in the course of the last winter; they were compelled to collect the moss which grows on the pine which they boiled and eat; near this camp I observed many pine trees which appear to have been cut down about that season which they inform us was done in order to collect the seed of the longleafed pine which in those moments of distress also furnishes an article of food; the seed of this species of pine is about the sized and much the shape of the seed of the large sunflower; they are nutritious and not unpleasant when roasted or boiled, during this month the natives also peel this pine and eat the succulent or inner bark (Thwaites 1959, vol.5, p. 4).

This was the land of the Nez Perce, or the Chopunnish as Lewis and Clark Called them (Thwaites 1959).

Peeled trees were identified in the late 1860's near McCall by Dunham Wright. Wright and several other miners had headed north from the Snake River towards Warren and the Florence mines with a wagon train. The party soon realized wagons could not make it over the primitive trails. On the ridge overlooking Long Valley they dismantled the wagons (the site would later be known as the Burnt Wagon site), making pack saddles for their animals so they could continue their trip north. However, their troubles weren't over. "We camped at Payette Lakes for three weeks trying to find a



way out, the Indian Trail had the pictures of men made on peeled trees with red paint and an arrow sticking in them, this did not appeal to us" (Wright 1928). Hunger forced Wright and his party to take the Indian Trail north; they finally reached the Salmon River mines.

From Idaho National Forest records the following report by Forest Ranger Walter G. Mann, dated January 28, 1918 places Nez Perce campsites in the vicinity of the peeled trees on the South Fork of the Salmon River (10-VY-235, 10-VY-547, and 10-VY-645). Mann's report is an evaluation for listing land adjacent to the river as a homestead entry site. Mann reported:

This flat is known as the old Indian Camp. Every summer the Indians come in from the Nez Perce country, camp and fish for salmon. They usually stay about four weeks, and have used this flat during the salmon run for years. In 1917 about 30 Indians were camped here at one time. The Indians buy up old deer hides whenever they can get them and take them to this camp to tan them. When I was there on October 17, 1917, the camp grounds had been left in good condition. Hair from the hides was piled against a tree and not scattered. The wigwam sticks were all standing against trees waiting ready to be used next season...A big objection to listing the land is, in my opinion, the old Indian camp along the river. It seems that the Indians should have some kind of an equity in the area, by reason of their long continued use of it as a camp ground, and I would not like to see them driven away ( Mann 1918:1-7).

#### CONCLUSION

The number of peeled trees identified to date on the Forest is not large, however, future recognition of this valuable, non-renewable resource could provide an unusual opportunity to expand and add to our present understanding of the lifeway of the first Americans. There is an urgency in finding the remaining trees; recording their data, location, and preserving the trees when possible. Just as Forest Ranger Mann recongnized the need to preserve the "equity" the Nez Perce had in their campsite, so must we recognize the need to preserve for all of us the remaining peeled trees as a physical reminder of Native American cultural history.

On the Payette National Forest, near the Brownlee Guard Station USFS, an interpretive sign marks the location of a peeled tree that can be visited by the public. From Brownlee Guard Station, drive .7 mile east on Forest Service Road #044. The tree and an interpretive sign are located on the north side of the roadway. The public is urged to visit this feature of Idaho's early history.

PEELED TREES ON THE PAYETTE NATIONAL FOREST

<u>Payette No.</u>	<u>Trinomial</u>	<u>Site Name</u>	<u>Number of Cambium Peeled Trees</u>
PY-0111	10AM0071	Cold Springs Creek Peeled Pines	26
PY-0137	10VY0056	Peeled Pines/Rockshelter	2
PY-0144	10VY0064	Lithics	1
PY-0334	10VY0238	Buckhorn Bar Lithic Scatter	1
PY-0583	10VY0491	Tree Scalps Lithic Scatter	1
PY-0646	10VY0240	Gray Sherd Site/ CCC Camp	1
PY-0949	10IH2002	Hazard Creek Hot Spring	1
PY-0954	10VY0547	Blazing Scalps	20
PY-1125	10WN0476	Brownlee Creek Peeled Trees	3
PY-1159	10AM0365	Crooked Creek Peeled Tree	1
PY-1191	10VY0939	Ponderosa Campground Cambium Peeled Tree	1
PY-1198	10WN0498	Blue Springs Mill Cambium Peeled Tree	1
PY-1199	10AM0363	Cambium Peeled Pines	2
PY-1204	10VY0945	Monumental Creek Cambium Peeled Pines	4
PY-1207	10AM0	Rapid River Cambium Peeled Pines	?
PY-1210	10IH2448	Cambium Peeled Pine	1
PY-1211	10IH2449	Cambium Peeled Pines	6
PY-1212	10IH2450	Cambium Peeled Pine	1
PY-1213	10IH2324	Cambium Peeled Pine	1
PY-1215	10VY0946	Cambium Peeled Pine	1
PY-1224	10VY0957	Cambium Peeled Spruce	1
PY-1229	10IH2323	Eco Jumper Peeled Tree	1
PY-1262	10IH2416	Metal Axe Cambium Peeled Tree Grove	11
PY-1278	10IH2440	French Peeled Tree	1
PY-1288	10IH2447	Deer Creek Cambium Peeled Tree Grove	17
PY-1330	10IH2607	Two Cambium Peeled Pines	2
PY-1372	10VY1094	Cambium Peeled Tree & Dendroglyph	1
PY-1476	10IH2614	Timothy	2
PY-1484	10WN0550	Benton Creek Cambium Peeled Pines	7
PY-1485	10WN0551	Sturgill Creek Cambium Peeled Pine	1
PY-1533	10AM0	Two Cambium Peeled Trees	2

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## BIBLIOGRAPHY AND REFERENCES

- Arno, Stephen F.  
1977 Northwest Trees. The Mountaineers, Seattle, Washington.
- Bjerke, Odd  
1977 Edible and Medicinal Plants in Idaho Heritage, Inc., No. 9, Boise, Idaho.
- Churchill, Thomas E.  
1989 Culturally Peeled Trees on the North End of the Wallowa-Whitman National Forest. Coastal Magnetic Search & Survey Report No. 42.  
1983 Inner Bark Utilization: A Nez Perce Example. Unpublished Masters Thesis, Oregon State University.
- Downs, James F.  
1966 The Two Worlds of the Washo. Holt, Rinehart and Winston, New York.
- Mann, Walter G.  
1918 A Report On Forest Homestead Application for the Idaho National Forest.
- Martorano, Marilyn Armagast  
1981 Scarred Ponderosa Pine Trees Reflecting Cultural Utilization of Bark. Unpublished Masters Thesis, Colorado State University, Ft. Collins, Colo.
- Scrimsher, Linda Scott  
1967 Native Foods Used By The Nez Perce Indians Of Idaho. Unpublished Masters Thesis, University of Idaho, Moscow, Idaho.
- Slickpoo, Allen P. (Project Director)  
1973 Noon Nee-Me-Poo (We, The Nez Perces). Deward E. Walker, Technical Director, Published for the Nez Perce Tribe of Idaho.
- Swetnam, Thomas W.  
1984 Peeled Ponderosa Pine Trees: A Record of Inner Bark Utilization by Native Americans, in Journal of Ethnology 4(2): 177-190.
- Thwaites, Reuben Gold, LL.D.  
1959 Original Journals of Lewis and Clark Expedition 1804-1806. Vols. 3-5, Antiquarian Press Ltd. New York, N.Y.
- White, Thain  
1954 Scarred Trees In Western Montana. Kalispell Historical Society, Kalispell, Montana.
- Willey, Norman B.  
1881 Indians in The Nez Perce News June 9, 1881 edition, Vol. 1, p. 1, Lewiston, Idaho Territory.
- Wright, Dunham  
1928 Letter to John G. York from Wright regarding the "BurntWagon Site." The letter was later published in the Idaho Daily Statesman, 1929, Boise Idaho.