

## Gathering Summary, May 26, 2010: Using Birch Bark and Other Native Materials, A Presentation by Steve Wingard



Summary by Catherine Haug

[NOTE: Urls for all links shown in References section].

### Introduction

*(Photo of Steve, with Baskets, by Edd Blackler)*

Originally from Michigan, Steve first visited the Flathead in 1997, and returned here to live in 2006. He has had an interest in Native American Crafts and all the wonderful things they could do with natural, native materials. But he began to take this craft seriously 11 years ago, when he met Mel, a man in his 60s who worked with bark and who was to become his mentor.

### Uses for Birch, a History

Steve suggests the book, *Celebrating Birch, the Lore, Art and Craft of an Ancient Tree* by [North House Folk School](#) as an excellent source of historical information and instruction.

The bark can be taken from dead or live trees; Steve prefers from dead trees because of the colors obtained by bacteria working on the bark.

### Birch Bark Pitch, or Tar

*(Photo of Birch Tar from [Jon's Bushcraft Site](#))*

The tar is extracted from the bark by extreme heat. *Celebrating Birch* details method using a several coffee cans, a piece of tin, and a hot fire:

- Tightly pack the can with rolled strips of bark.
- Place can upside down on a piece of tin with a hole in the middle.
- Dig a hole in the ground wide enough for a low shallow pan or cup.
- Set the tin & can over the cup in the hole.
- Surround with a hot fire and cook until the tar finishes dripping into the cup.



See also: [Collecting Birch Tar](#) (from Jon's Bushcraft Site) for details.



### Historical uses of tar:

*(Photo of Cat's ancestral birch-tarred house in Norway, by D. Snyder)*

The mummified “Ice Man” found in Germany (from 3300 BC) had two birch bark containers with him, each 8” in diameter and 6” tall. One to contain glowing coals for the next fire, and the other waterproofed with birch tar.

Birch tar was also found in Greece, inside clay pots or to glue broken handles.

Cat mentioned that tar has been used to preserve wood buildings in Scandinavia for centuries (see photo).

Birch tar can be mixed with beeswax to repair pots and to waterproof the inside of clay pots. Other uses of tar: skis, waterproofing boats, tanning leather, to stop mildew.

### Other Uses of Bark

*(Photo of Cat's ancestral birch-tarred house in Norway, by D. Snyder)*

- In 1881, a farmer in Pakistan found a bundle of birch bark used as a mathematical manuscript from 300-400 AD.
- In 1820 Norway, the people could pay taxes and veterinarian bills with bark Outdoor building
- Shoes: 1” strips of woven bark used in Finland and Norway for shoes. They will go 16 km (9.5 miles) before needing repair.
- Baskets and storage containers
- Canoes
- Musical instruments
- Dye for yarn and fibers
- Food additive (for example, the sweetener xylitol from white birch bark)
- Ground as flour, especially during times of famine
- Medicinally, applied externally for skin problems
- See also [Sugar from Trees](#)

### Working with Roots

Tree roots, such as those from Douglas Fir, Englemann Spruce, Lodgepole Pine and Black sSpruce are all good, but Steve says that Black Spruce from Minnesota is the best. It doesn't dry, crack or fail when bent.

It's best to collect roots in the spring, when sap is on. A good indicator is when flies are thick around the trees. Spruce roots: Dig under the sphagnum moss to the black peat, to find and follow the roots up to 20 feet long. Its best if there are no rocks in the area of the root, to avoid kinks in the root. From [Native Technology and Art](#):

*“The strong roots of Black Spruce make sturdy lashings, and they are ideal for sewing and lacing bark containers, canoes and other items. By poking a few inches into the ground around the base of a spruce tree, a root can usually be located, and then pulled, following the root to its end several yards from the tree.” (5)*

See [Harvesting Spruce Roots](#) for more.

## Preparing the Roots

To remove the bark from the root: put thumb against the root and pull so that your thumb takes off the outer bark, exposing the white root.

Coil the white root after debarking, and soak in water. Wait for it to sink, then it is ready to split. You can use the root whole, but it lays against the surface better when split, such as for sewing bark pieces together.

Start splitting at thickest end. Slice in the center with your knife. Then, holding the root between your knees, steering as you go, split it down the middle to the other end.

If you want consistent width, lay root with round side down against a cutting surface, and carve to size.

Short pieces are also good; you can use multiple lengths to complete the job.

## Working with Bark

*(Photo of Steve’s baskets and roots, by Edd Blackler)*

As mentioned earlier, bark from dead trees has beautiful color, resulting from bacterial rotting from the inside. But bark from live trees can also be used.

For projects, it is best to use a pattern for cutting out the bark. Draw your pattern on sturdy paper (Steve uses underlayment paper for hardwood floors). He brought several basket patterns, from very tiny to a goodly size, for us to inspect. It’s easier to perfect the shape of the basket using a paper pattern, than the bark.

His first example was a Willowing Tray (used by the Ojibwe for harvesting wild rice) made from outside bark and dogwood hoop.



## Cutting Bark

It is very difficult to cut through the bark with a knife held vertically (perpendicular to the bark). It works much better if you position the knife at a 45 angle; then it cuts very fast, with no resistance.

It’s also easier to cut with the grain. when cutting curves, you can feel resistance as you start to cut against the grain.

## Tools for Working with Bark

Steve uses mostly homemade tools:

- steel awls, with Lodgepole Pine handles
- file stuck in a bone
- bone awls
- sewing needles from bone or wood

Awls are used to make holes in the bark for sewing with root. The hole needs to fit tight around the root, so don't take out too much material with the awl.

See also [Jumaka.com](http://Jumaka.com): [Birch Bark Canoe Tools](#).



### Removing bark from the tree

(Photo of harvested bark from [Univ. Mn. Extension: Birch and Birch Bark](#))

The best time to remove bark is in the spring, when just beginning to leaf out, if it is a live tree. Dead trees are best if 2 - 3 years dead.

Pick a clear section, and cut where it won't ruin good bark, holding knife blade at a 45 degree angle to the surface of the bark. Slice into bark and it may pop off. Otherwise, find a sturdy round stick about as long as the piece to be removed; insert it under the bark for the length of the cut, and in the center of the cut area. Then roll the stick to one side of the cut, then to the other side to loosen the bark from the tree. Soak the piece in water, then clean off the surface.

See also [University of Minnesota Extension: Birch and Birch Bark](#).

**Question** from audience: Are there any uses for the cambium layer, the corky substance under the bark?

**Answer:** Yes, You can powder it down to make a flour for bread; you can also use it for tanning leather.

## Cedar hoops

White cedar is used for canoe paddles, and for hoops at the top of baskets, but this tree is not native to our area. Red cedar is native, and can also be used. Serviceberry is abundant and can also be used for hoops.

A hoop knife (aka crooked knife) is used to make the hoops at the top of the baskets. The two ends of the hoop are tapered to make an overlapping "scarf" joint. This knife is also used for fine tuning a white cedar paddle.

## Splitting cedar for hoops

Rough size the piece of cedar, then split it:

Starting at one end, in center, cut into the wood with knife blade. Steer using fingers with pressure on outside of board. Keep splitting down to 1/8" thick.

Pick the side you like best - the straightest cut - then whittle down to desired thickness. Then decide which side is the face.

Cedar bends best in hot water, about 90 seconds, until it's like a noodle. Then bend it around a pot of the right size.

Estimate the overlap for the scarf joint. Mark the overlap and cut the joint by tapering so that the two ends overlap evenly.



## Assemble Basket

*(photo of Ojibwe Berry Basket from [SteveWingard.com](http://SteveWingard.com), with permission)*

If the bark is too dry (not pliable), you can soften it:

- Dip it in boiling water, being careful not to burn yourself.
  - Use an electric iron on “cotton” setting (awkward to do)
  - Leave it 1/2 day in a sauna
  - Hold against sides of wood stove, but be careful as when it gets too hot, the bark will pop and separate.
- Warm smaller pieces in a microwave

Thinner bark is easier to use (more pliable), and remember that grain makes a difference in ease of bending.

1. Bend bark into desired shape; when in position, secure with a stitch or a metal clip through the stitching hole.
2. Using lengths of prepared root as ‘thread,’ and an awl to make holes in the bark, sew sides and bottom of basket together using a whip stitch or running stitch (shown in photo of berry basket), or other desired stitch. Make the holes as you go.
3. Then sew the hoop to the top edge using a whip stitch. Start sewing just past the joint. Use a gauge for spacing the holes, making them as you go. Leave a length of the root where you begin, so that you can hide it later. Make a stitch or two, while holding onto the starting length with the other hand, to secure the stitching. Then continue lacing, pulling tight after each stitch.
4. When you get all the way around, you may need to adjust the taper on the hoop, for a smooth joint. Then lace over the joint, ending in the hole where you started. Tuck the ends under the hoop to hide them. (see Hiding the Join of Root, below).
5. If you need more than one length of root to get around the hoop, leave an inch or so length of the finished length of root, then start the new length of root in the same hole, also leaving an inch or so for later tucking under the hoop.

You can create designs in colored bark from dead trees by scratching/scraping off the color, then rubbing mink oil into the bark, bringing out its sheen and color.

For some basket ideas, check out [Woodcraft Wanderings](#); scroll near bottom.

For different stitching ideas, see [The Micmac Indians of Eastern Canada](#), by Wilson Dallam Wallis, Ruth Sawtell Wallis, pages 72-73.



## Hiding the Join of Root

When wrapping the hoop to the basket with more than one length of root, and when joining the end stitch to the beginning stitch, you will want to hide the ends. this is difficult to explain in words; easier in the doing.

Feed root through hole and send in between hop and basket to hide it;

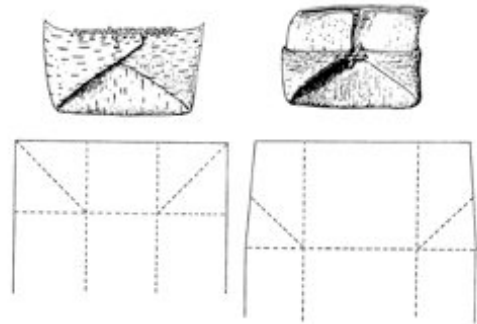
Pinch to hold tight until work a couple more wraps with the new length, then trim off hidden piece. To start next one, pass it through the same hole.

This method should retain its shape after the root dries.

## Birch Bark Cooking Pot

(Bark Boxes sketch from [The Micmac Indians of Eastern Canada](#), by Wilson Dallam Wallis, Ruth Sawtell Wallis, page 71)

This method is from *Indian Handcrafts* (book). This type of pot has been used traditionally for collecting then cooking down maple syrup, but can be very handy if you are stranded in the wild. See [Sugar from Trees](#).



You can make a cooking pot from bark off a live tree. It is pliable enough to bend and fold to form a sort of box. Stitch the ends of the box closed with a length of root in a single stitch, then tie it to hold.

There are two ways you can use this pot for cooking:

- Heat rocks in fire. Use rocks that are high and dry; rocks that have been recently wet may explode in the pot. Put liquid in pot, add hot rocks; water will boil quickly; you may need to remove the first rocks and add fresh hot rocks, before it boils.
- Lay the pot right on the coals AFTER adding the liquid. As long as there is liquid in the pot, and the fire has turned to coals (no flames), the pot will not burn.



## Birch Bark Canoe

(Image of Ojibwe birch bark canoe from [wikipedia](#))

It's probably a good idea to practice making baskets before tackling a canoe; having a mentor or teacher is helpful too.

Birch bark canoes are used by Ojibwe for gathering wild rice. Regulation size for this use is no wider than 36". A 14 foot long canoe takes about 13 weeks to build, and 500 feet of black spruce root, with some left over. They can sell for between \$300 and \$750/foot.

The bark should be at least 1/8" thick on the bottom. The eyes of the bark should be fairly small, and far apart. Check by bending the bark to see what the eyes will do.

Sew together just like baskets.

**Question** from audience: How do you keep the canoe from leaking?

**Answer:** You can seal holes with a chemical sealant, but traditional method is to use warm pitch. To warm it up: Lay pitch on flat rock set at an angle; build a fire under the rock, and the sap will run off the rock into a collector at the bottom of the slope.

Add charcoal to thicken the resinous pitch. If pitch gets brittle, add some fat, such as bear fat. Careful, though, because in warm weather, the pitch will liquify if there is too much fat in the mix. Judge the amount of fat added by the season for use of the canoe

**Question:** What kind of maintenance is required?

**Answer:** Store the canoe for winter at the bottom of a lake; fill canoe with rocks. In the spring, reseal the holes with sealant or pitch.

## Trout Fishing Nets

Steve makes fishing nets using serviceberry branches with a fork in the branch. the main leg of the branch is the handle; the two sides of the fork are bent into a circle, overlapping and wrapping around each other to make the hoop. The netting material is sewn to the hoop.

Cat's note: Steve purchases strong netting material for his nets, but handmade nets can be made by using linen or other strong thread and a special knotting technique known as filet. My Mom used to make this netting for fishermen when she first moved to Bigfork. While this netting method is most commonly used to make lace, the ancient vikings used it for fishing nets.

(photo of filet net from [Filet Lace By the Sea](#))



## Future Classes

(photo of basket from [Steve Wingard's website](#))

Steve will be conducting a class on Using birch Bark for Ravenwood this summer, and may possibly conduct classes the coming winter. You can contact Steve at (406) 837-2546 or [freeemont@yahoo.com](mailto:freeemont@yahoo.com). See also his website: [stevewingard.com](http://stevewingard.com).

## The Plight of Birch Trees

Worldwide, birch trees are declining in number at a staggering rate, as they succumb to the birch bark beetle. Many experts believe that the tree is already sick, with a weakened immune system, before the beetle does its damage. What is causing this sickness and the beetle problem?

Steve is collecting information on birches in different locales, and would appreciate knowing how your birches are faring. You can contact Steve at (406) 837-2546 or [freeemont@yahoo.com](mailto:freeemont@yahoo.com). See also his website: [stevewingard.com](http://stevewingard.com).

## Growing Healthy Birch Trees

Birch is native to our area, and should do well here, were it not for the current problem. If you would like to add birches to your yard, or keep your existing birches healthy, here are some websites with helpful information:

- [www.birch-tree.com](http://www.birch-tree.com): [Birch Tree Care: A Step by Step Guide & Bronze Birch Borer](#)
- US Government Leaflets: [How to Grow and Maintain a Healthy Birch Tree \(na.fs.fed.us/spfo/pubs/howtos/ht\\_birch/ht\\_birch.htm\)](http://na.fs.fed.us/spfo/pubs/howtos/ht_birch/ht_birch.htm) & [Bronze Birch Borer \(na.fs.fed.us/spfo/pubs/fidls/bbb/bbb.htm\)](http://na.fs.fed.us/spfo/pubs/fidls/bbb/bbb.htm)
- [Vinson Lab](http://vinsonlab.tamu.edu/former/john/papers/natooa.htm) on Birch Borer Beetle ([vinsonlab.tamu.edu/former/john/papers/natooa.htm](http://vinsonlab.tamu.edu/former/john/papers/natooa.htm))

## Sources & References

### Books

- *Celebrating Birch, the Lore, Art and Craft of an Ancient Tree* by North House Folk School. Peek inside the book at [Amazon](http://www.amazon.com/Celebrating-Birch-Lore-Craft-Ancient/dp/1565233077) ([www.amazon.com/Celebrating-Birch-Lore-Craft-Ancient/dp/1565233077](http://www.amazon.com/Celebrating-Birch-Lore-Craft-Ancient/dp/1565233077))
- *Indian Handcrafts; How to Craft Dozens of Objects Using Traditional Indian Techniques*, by C. Keith Wilbur. Peek inside the book at [Amazon](http://www.amazon.com/Indian-Handcrafts-Illustrated-Living-History/dp/0871064960) ([www.amazon.com/Indian-Handcrafts-Illustrated-Living-History/dp/0871064960](http://www.amazon.com/Indian-Handcrafts-Illustrated-Living-History/dp/0871064960))
- *Journey of the Ant*

### Web

1. North House Folk School ([www.northhouse.org](http://www.northhouse.org))
2. Mother Earth News: Celebrating Birch ([www.motherearthnews.com/Hands-on-and-How-to/Celebrating-Birch.aspx](http://www.motherearthnews.com/Hands-on-and-How-to/Celebrating-Birch.aspx))
3. Jon's Bushcraft Site: Collecting Birch Tar ([www.jonsbushcraft.com/birchtar.htm](http://www.jonsbushcraft.com/birchtar.htm))
4. Harvesting Birch Root ([basketmakers.org/topics/tutorials/spruceroots.htm](http://basketmakers.org/topics/tutorials/spruceroots.htm))
5. Native Technology and Art: ([www.nativetech.org/willow/spruce.htm](http://www.nativetech.org/willow/spruce.htm))
6. Steewingard.com ([steewingard.com](http://steewingard.com))
7. Woodcraft Wanderings ([www.woodcraftwanderings.org/equipment\\_1.html](http://www.woodcraftwanderings.org/equipment_1.html))
8. Sugar from Trees ([www.dnr.state.mn.us/young\\_naturalists/syrup/index.html](http://www.dnr.state.mn.us/young_naturalists/syrup/index.html))
9. *The Micmac Indians of Eastern Canada*, by Wilson Dallam Wallis, Ruth Sawtell Wallis ([www.amazon.com/Micmac-Indians-Eastern-Canada/dp/081666014x](http://www.amazon.com/Micmac-Indians-Eastern-Canada/dp/081666014x)). Read text at books.google.com ([books.google.com/books?id=vv-UWbD4bCEC&lpg=PA70&ots=H9XdoKbfhL&dq=birch%20bark%20cooking%20vessel&pg=PA72#v=onepage&q=birch%20bark%20cooking%20vessel&f=false](http://books.google.com/books?id=vv-UWbD4bCEC&lpg=PA70&ots=H9XdoKbfhL&dq=birch%20bark%20cooking%20vessel&pg=PA72#v=onepage&q=birch%20bark%20cooking%20vessel&f=false))
10. Filet Lace by the Sea ([www.filetlace.net/history](http://www.filetlace.net/history))
11. Vinson Lab ([vinsonlab.tamu.edu/former/john/papers/natooa.htm](http://vinsonlab.tamu.edu/former/john/papers/natooa.htm))
12. University of Minnesota Extension, on Birch and Birch Bark ([www.extension.umn.edu/specializations/environment/components/birchbark1.html](http://www.extension.umn.edu/specializations/environment/components/birchbark1.html))
13. Building a Birch Bark Canoe: ([www.jumaka.com/birchbarkcanoe/buildingpage/building.htm](http://www.jumaka.com/birchbarkcanoe/buildingpage/building.htm))