

A WORD ABOUT BONE TECHNOLOGY: MAKING TOOLS AND “JEWELS” FROM ANIMAL BONES



Reproductions of ancient bone and antler tools and “jewels” made by LAW demonstrator Jon Endonino: (top) antler billets; (center) bone awls, pins, and a fishhook; (bottom) antler handle with chert knife. Photo courtesy of Jon Endonino.

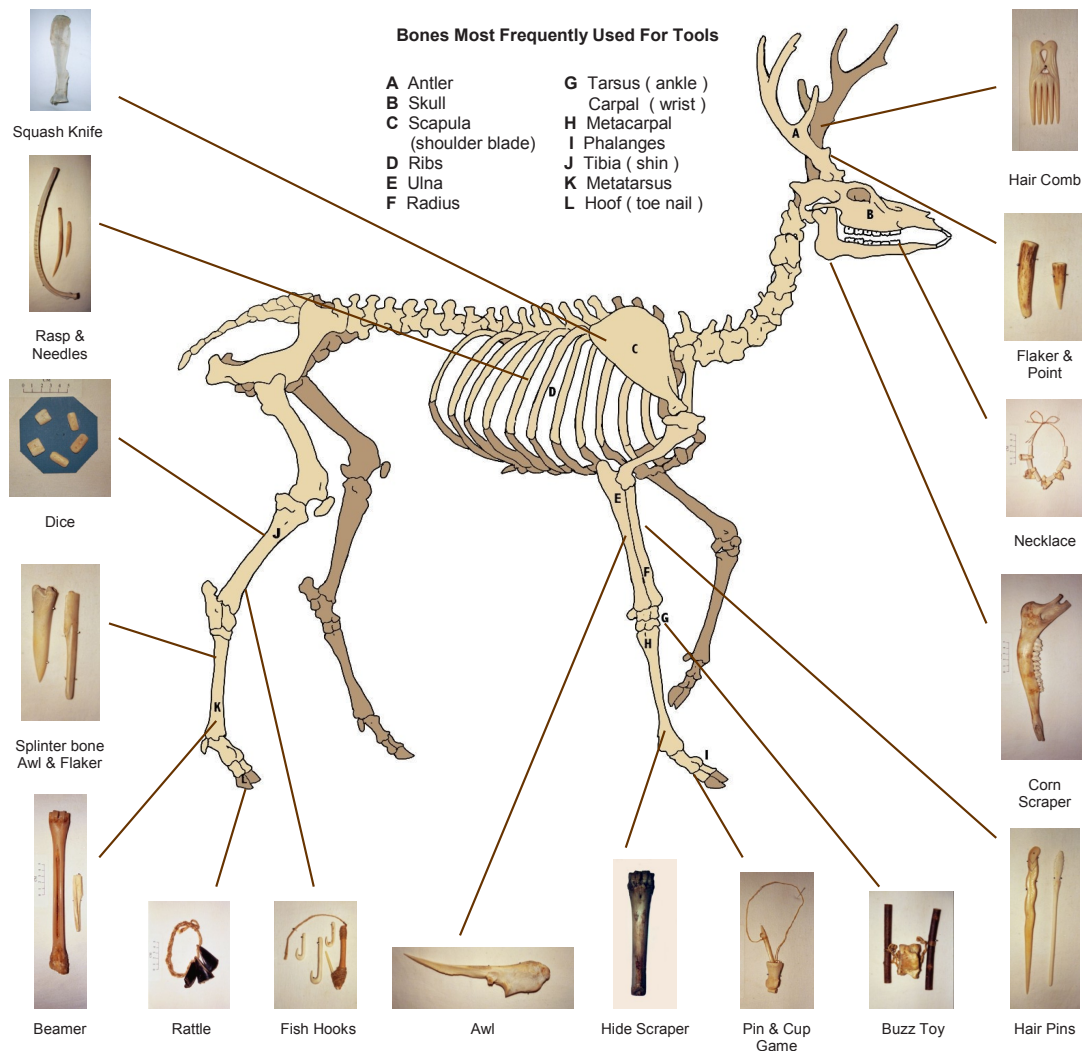
Animals were an important source of food for Kentucky’s ancient Native peoples. But animals were much more than that. Native residents turned animal hides and pelts into clothes and other useful items, such as bedding, blankets, and bags for carrying personal belongings.

And that’s not all! From the earliest hunter-gatherers to the most recent farming groups, Native peoples across Kentucky turned animal bones and *antler* (a bony extension that grows from the skull of male deer and elk) into tools for daily tasks. They used the upper “shells” or *carapaces* of turtles, which are made of bone not shell, as bowls. They made deer limb bones and turkey leg and wing bones into sharp-pointed *awls* for piercing hide or other materials. They created fishhooks and hairpins out of deer limb bones. Bird leg and wing bones were shaped into beads of all shapes and sizes. They strung together drilled deer, elk, wolf, dog, and bear teeth on cordage to make necklaces. They wore these “jewels” in their hair, sewn onto their clothing, and around their necks.

Native Conservation and Ingenuity!

By using multiple parts of an animal, even the inedible parts, Native craftspeople were acting as *conservationists*, because they tried to avoid wasting natural resources. Just look at all the parts of a deer skeleton Native craftspeople used for tools and personal adornments! They selected specific bones or antler for particular items. For example, their favorite bone for making an awl was a deer *ulna*, the thinner bone in a deer's upper front limb.

Deer Bone Tools



Deer bones and antlers Native peoples used to make tools and personal adornments. Infographic by Susan Nelson (2009) available for download at postercanvasgift.com/products/deer-bone-tools-poster.

Native people used some bone and antler tools to make other tools. Lengths of deer antler served as billets for shaping chert (flint) cobbles into scrapers, knives, drills, arrowheads, and spear points. Flintknappers used antler tip pressure flakers to sharpen and resharpen stone tools of all sorts.

Making Bone Tools and Personal Adornments

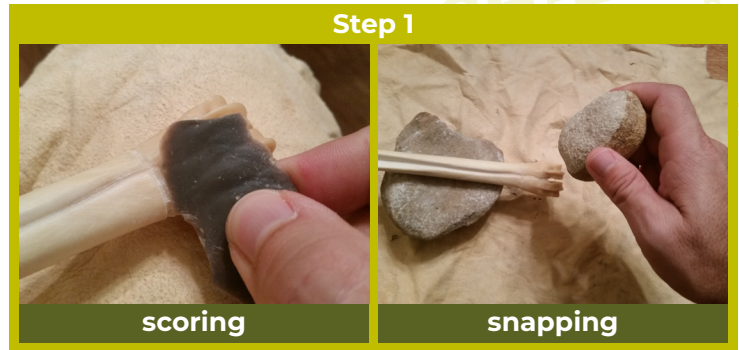
To make bone tools and personal adornments, Native craftspeople had to know the properties of each animal bone. Which section of bird bone made the best bead? How thin could a deer limb bone be shaped and still function as an awl?

It took three steps to modify a bone's shape and size. First came **scoring** and **snapping**. Using the sharp edge of a chert tool or flake, the toolmaker *scored*—cut a groove—into and around the bone. This weakened it. Holding the bone on either side of the groove or using a hammerstone, the toolmaker applied pressure. **SNAP!** The result was just the right-sized piece of bone for the job. Depending on the type of bone, the toolmaker removed the spongy bone tissue and the yellow goopy *marrow* inside it during or after this step.

Next came **scraping** or **grinding** to shape the piece. Again, using a chert flake, the craftsman thinned the bone by carefully *scraping*, or dragging the sharp edge of the flake along the bone surface. *Grinding* involved rubbing a piece of bone against a grinding stone like sandstone. Wetting the stone and the bone object with water helped the process and kept bone dust to a minimum.

Some bones required very little shaping to be useful. *Splinter awls* found in many Red River Gorge rockshelters are a good example. These long pieces of bone had just one shaped end. The rest of the tool remained rough and jagged.

Some decorative items and jewelry were further worked by **polishing** or **drilling**, the third manufacturing step. *Polishing* was fairly easy to do. The craftsman simply rubbed the object against wet leather. In only a few minutes, a shine appeared. The longer (and harder) the toolmaker rubbed, the brighter the shine became.



Steps in bone tool manufacture.
Photos courtesy of Jon Endonino.

Bone tools like awls also become polished through use—at the tip by coming into contact with the animal hides being worked, or at the end where the tool user held it. This kind of polish is different from the polish on personal adornments and jewelry, which developed when the objects rubbed against the cordage that held them.

Native craftspeople spent a lot of time shaping other bone objects. These include the polished and carved bone hairpins worn by groups who lived along the Green and Ohio rivers in west-central Kentucky thousands of years ago. Read “A Hairpin’s Tale” at www.livingarchaeologyweekend.org to learn more about these functional yet attractive hair accessories.

Right: Artist rendering of a Native woman wearing a decorated bone hairpin. Artwork by Katrina Damkoehler (2012).



Drilling was another way craftspeople finished decorative items. For certain adornments—for example, beads or pendants made from animal teeth—the craftsperson *drilled* a suspension hole in the tooth’s root using a *pump drill* tipped with a chert drill bit. With the hole drilled, the bead or pendant was ready to be strung on cordage and worn.



Left: Photographs of tubular bone beads and drilled animal teeth from the Fox Farm site in Mason County, Kentucky. Photos courtesy of Kentucky Archaeological Survey.

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