



# Eskimo Hunting Bow



**These fragments of an Eskimo hunting bow were a rare find near the Nigu River in Gates of the Arctic National Park and Preserve. Most wooden artifacts decay rapidly and are rarely available to help archeologists learn about early lifeways of Eskimo peoples.**

During the summer of 2008, National Park Service archeologists Chris Ciancibelli and Dael Devenport conducted a field survey in a high mountain valley along the upper reaches of the Nigu, Alatna, and Killik Rivers in the northwestern corner of Gates of the Arctic National Park and Preserve. As part of ongoing efforts to study the cultural resources within the park's boundaries, they documented artifacts, campsites, and other indicators of the historic and prehistoric presence of people on the landscape.

While walking over a gravelly, tundra-covered lakeside terrace at the headwaters of the Nigu River (see map), the researchers noticed a small scatter of sticks. As they approached, they could confirm that the driftwood-like weathered sticks on the ground were actually pieces of a wooden hunting bow.

Finding this bow is remarkable because organic artifacts, such as wood, skin, or bone, are usually found only when preserved in permafrost, even though archeological relics such as stone tools, tent rings, and rock cairns are relatively common finds throughout the Brooks Range. When organic materials are lacking, archeologists can only gain insight into the material culture of a people by way of its stone technologies, losing the information-rich associations of the organic components of hunting weapons and other objects.

---

*The hunting bow was a fixture in most prehistoric cultures worldwide.*

---

## **Analysis of the wooden bow**

When reassembled from six fragments, the bow measures about 127 cm (50 inches) in length. This bow is the most complete specimen recovered to date from the Brooks Range, as only small fragments had been identified previously. Radiocarbon analysis of a small sample from the bow dates the wood to the late 1800s or early 1900s.

After comparing the bow to different known cultural styles, Dr. Claire Alix (a specialist in wooden artifacts at the University of Paris-Sorbonne, France) classified the Nigu River bow as a *reflexed* Western Arctic type bow. Reflexed refers to the shape of a bow, which, when unstrung, forms a "C" that opens away from the hunter. The reflexed Western Arctic type of bow was first described by ethnographer John Murdoch as one commonly used by Eskimo cultures of northern Alaska and the Bering Strait. Murdoch documented their material culture in the late 1800s before the shift toward more modern technologies.

Looking at a piece of the wooden bow under a microscope to identify wood characteristics diagnostic to tree species, Alix concluded that the Eskimos constructed the bow from either spruce or tamarack. Neither species is readily available in the Arctic tundra environment north of the Brooks Range, but both are found along the southern edge of the Range and as driftwood along the Arctic coastline.



### The Eskimo hunting bow

The hunting bow was a fixture in most prehistoric cultures worldwide. Each culture adapted the bow to the local function and environment where the weapon was used. Eskimo hunters migrating from Siberia eastward across the Arctic are believed to have introduced the bow to North America.

Many variations of the bow exist in Eskimo cultures, as the bow has been used to hunt sea mammals, fish, and a variety of terrestrial animals. Construction techniques were equally diverse. Some bows were *composite*, meaning they were made from multiple parts and material types. For example, the handle was often made of a stronger material such as bone, which would add strength to the bow and allow for the use of two separate lengths of wood.

Solid wood bows were strengthened by the application of a “backing” made from braided strands of animal sinew or ivory. This process provides additional structural support to the wood and improves the bow’s performance and durability. Although no sinew was preserved with this specimen, it would have been necessary to assure its proper functioning (see photos at right).

### Other artifacts at Nigu River

On searching the Nigu River site near the hunting bow, park archeologists found other scattered wood fragments and two projectile points. The wood fragments range in size from several centimeters (a few inches) to about 60 cm (about 2 feet). Nearly all of these fragments are notched, drilled, or shaped. Although the fragments are too few to reconstruct and identify their function unequivocally, current consensus is that one drilled shaft of wood is a section of a snowshoe frame, while the remaining fragments are components of a dogsled.

One of the projectile points is a finely-crafted stone arrowhead (see photo at left) that exemplifies a type associated with late prehistoric and early historic period Eskimo groups of northern Alaska. The second is an arrowpoint made from bone or antler and is also typical of Eskimo cultures.

### Dating the artifacts in Eskimo cultural history

The 2008 archeological survey and previous work at the Nigu River site have never documented any metal, or any indication that metal tools were used in constructing the artifacts discovered there. Given the absence of metal, along with the presence of both stone and organic tools, it is probable that all

the Nigu River artifacts, including the bow, were made and used before Euro-American contact was established.

Although Eskimo people are commonly thought of as strictly coastal inhabitants, the archeological record indicates their presence in the Brooks Range for around 5,000 years. The Nunamiut are an inland group of Iñupiaq Eskimos that have inhabited the Gates of the Arctic region for the last 400-500 years. Prior to settling in Anaktuvuk Pass in the 1940s, the Nunamiut were nomadic hunters who relied on the spring and fall migrations of the caribou through the mountains. The Nigu bow is likely a remnant from the nomadic period of the Nunamiut people.



The wooden bow was found at the headwaters of the Nigu River (circled in map at top).

Eskimos using the Nigu River site hunted in this landscape.

Dr. Claire Alix measures the bow to determine its style and material type.

Did Eskimos launch this stone arrowhead also found at Nigu River (bottom photo) with the wooden bow?



The end of the Nigu River bow (upper photo) likely had a braided sinew backing to reinforce the wood, similar to the lashing on an Alutiiq bow from the University of Alaska Museum of the North ethnography collections (lower photo).

### Drawing connections

As archeological survey continues in Gates of the Arctic in the coming years, similar discoveries will help advance an understanding of prehistoric peoples in this region. As a result, the park can offer the experience of solitude *and* the rich threads of culture and place—imagine over the millennia, what it would have been like to subsist at the Nigu River site, what it would have been like to shoot a stone arrowhead from a sinew-braided bow.

### For more information

Chris Ciancibelli or Jeff Rasic  
 Gates of the Arctic National Park and Preserve  
 Fairbanks, Alaska  
[christopher\\_ciancibelli@nps.gov](mailto:christopher_ciancibelli@nps.gov) or [jeff\\_rasic@nps.gov](mailto:jeff_rasic@nps.gov)  
[www.nps.gov/gaar/historyculture/archaeological-research.htm](http://www.nps.gov/gaar/historyculture/archaeological-research.htm)



The fragments of the Nigu River bow have been carefully reconstructed for this photo. Note the two end *nocks* (points) are still intact.