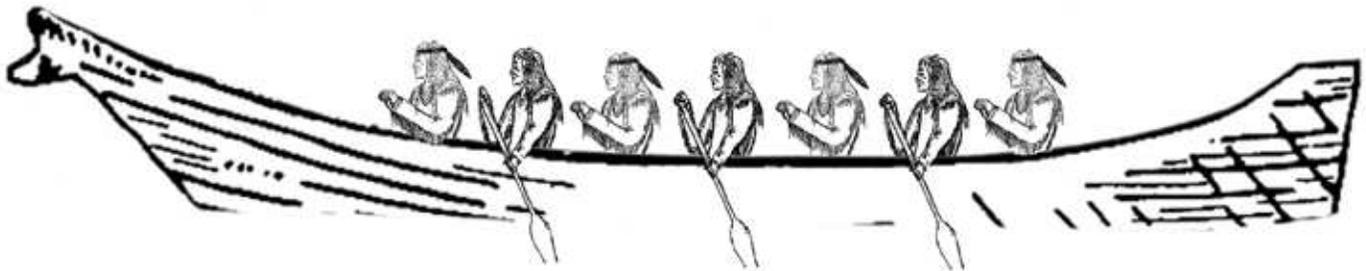


# Watercraft of the First Americans

## Part III: Northern Dugouts, Kayaks, and Umiaks

by Fred Stutzenberger and Matthew Stutzenberger



**Figure 1:** Nootka dugouts were sturdy enough for whaling and seal hunting on the open ocean.

**P**ART 2 OF THIS SERIES described the watercraft of the First Americans who inhabited the Gulf coast and across the interior of North America to the Pacific coast of Southern California. Part 3 will concentrate on the Pacific Coast from what is now Northern California to the Arctic Circle.

Tribes in areas blessed with an abundance of large straight-grained trees would naturally adapt the dugout for open water coastal transportation. Dugouts were the most widespread type of Native American watercraft. Although some of the southeastern tribes used dugouts, this type of watercraft reached its pinnacle in size, versatility and artistry among the tribes of the Northern Pacific Coast.

The dugouts were of two general types. The *Chinook* or “southern style” was used by the tribes from the central California coast north to the Nootka of western Vancouver Island and the Salish and Makah on the main-land. They were V-shaped with flared-out sides and a graceful sheer-line (fore-to-aft curvature from bow to stem) culminating in a projecting prow that resembled a deer or doglike snout (Fig. 1). An extant example of this type of dugout was

(2012) on exhibition at the Thomas H. Kuchel Visitor Center, Redwood National Park, Highway 101, Orick, CA (Fig. 2). This relatively small dugout was shaped from a single redwood log by the Yurok (Klamath River) Indians, the most populous tribe along the California coast. It was designed to be paddled or poled by a single person (note the seat and the foot supports at the rear of the vessel, Fig. 3). However, some of their dugouts approached 90 feet long and a width of seven feet to accommodate 50-60 passengers. Such massive ocean canoes were designed for trade, whaling and sealing rather than as warships. Authentic war canoes were distinctively shaped, a little smaller (up to ~60 feet long) with a protective prow that was high and wide enough to offer some protection to the paddlers against enemy missiles.

The Northern style dugout, used by Tlingit, Tsimshian, Nuxalk and KwaKiutl, was perfected by the Haida of the Queen Charlotte Islands (Fig. 4). It had a rounded hull, flaring sides and a strong graceful sheer along the gunwales rising to high stem and stern projections (Fig. 5). The extended prow sloped down to a near vertical cutwater. The western red cedar was preferred for the construction of dugouts.

**Figure 2:** This Yurok dugout is of relatively recent origin and is much smaller than those used in the Pre-Columbian Era.





**Figure 3:** The seat and footrests of the Yurok dugout were shaped as integral features of the interior.

Before access to steel tools, drift logs were the most desirable. If unavailable, trees were felled using a stone maul alternately with bone, antler or stone chisels and controlled burning. Hand adzes shaped the exterior, often to a finished length of more than sixty feet, before hollowing out the interior. The interior was then filled with successive volumes of boiling water to make the gunwales pliable; wooden “spreaders” were inserted between the gunwales to extend the dugout’s beam beyond the initial width of the log. The upswept end pieces were carved separately, then sewn and pegged to the bow and stern.

The Northern dugouts of the Haida and the Kwakwaka’wakw were symbolically decorated with animal designs (bears, killer whales, ravens, eagles, wolves) using red ochre, black char and accented with rows of animal teeth and shells. Dugouts were ruggedly built to withstand the frequent storms that swept in from



**Figure 5 (above):** This model illustrates the traditional structural characteristics of the NW Coast dugout canoe (Photo taken by permission, Washington State Museum, Tacoma) **Figure 6 (right):** These paddles collected by Ethnologisches Museum der Staatlichen Museen zu Berlin in 1881 illustrate the ethnic symbolism of the Pacific Northwest seafaring tribes such as the Haida and the Kwakwaka’wakw.

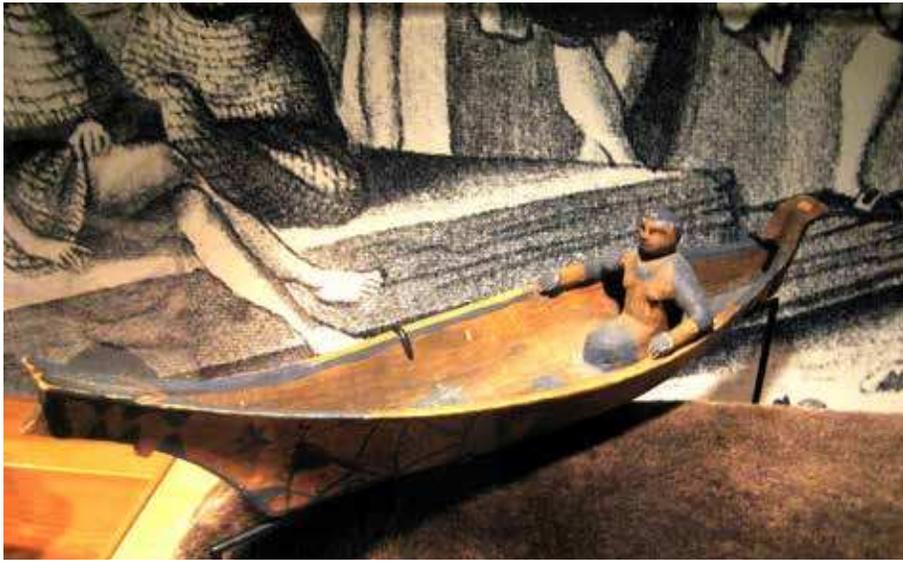
the North Pacific during travel up and down the sea coast to trade, fish, hunt whales and seals, wage war and enslave their neighbors. Dugouts were propelled by up to 50 men using leaf-shaped paddles that were painted with symbolic designs (Fig. 6); the sharpened ends of the paddles also served as impromptu weapons in close encounters with enemy craft.

The stormy ocean and severe temperature kept the Alaskan First Americans in isolation from both European and Asian explorers. The Alaskans knew little of the shape of North America beyond their tribal boundaries or its geographic relation to other continents because their vessels, although well adapted to local coastal navigation, were not capable of sailing great distances over the world’s oceans and back to Alaska. Apparently the Alaskans liked it that way; when the Russian Cossack Captain Mikhail Gvozdev sailed from Kamchatka northward through the Bering Strait



**Figure 4:** Haida war canoes were decorated with animal symbolism.





**Figure 7:** The dugout canoe was such an integral part of Haida culture that even children's toy canoes were faithful copies of the full-sized craft (Photo taken by permission, Washington State Museum, Tacoma)

in the summer of 1732 and tried to come ashore on the Diomed Islands, his crew was met with a hail of arrows. A few days later, at King Island, Gvozdev's ship was approached by an Alaskan Native in a kayak. That was the first documented encounter of native craft with sailing ships. After repeated contact with other Russian sailing ships under the command of Vitus Bering, the Alaskans developed their version of wind power via square sails of woven/felted cedar inner bark. Although relatively crude and difficult to manipulate for tacking in obstinate wind, they eased the monotonous chore of paddling on long trips.

The dugout was such an integral part of Haida culture that even children's toy boats were shaped as faithful reproductions of the full size craft (Fig. 7). However, the days of the Haida culture were numbered when smallpox began ravaging the coastal tribes. In December of 1853, Indian Agent E.A. Starling reported to

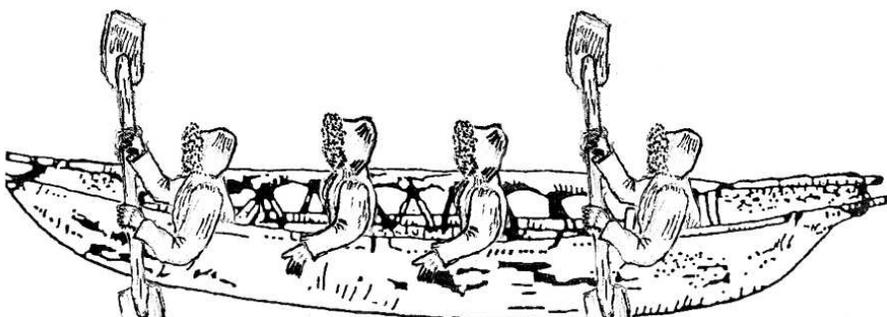
Territorial Governor Gen. Isaac Stevens that the viral disease had spread to every tribe in the Puget Sound area. Some tribes such as the Makahs, lost half of their population and would have probably been totally annihilated if it were not for the vaccination practices of the Catholic missionaries that protected the Spokanes and other tribes willing to receive inoculations. The tribes believed that smallpox was being used as a deliberate destructive force against them in order to take their land. Initially the warlike coastal tribes further north were spared by their limited contact with sailors, traders and agents. However the Haida culture was lost in the 1860's when small pox was transmitted north along the coast from the settlement at Victoria to *Haida Gawii* ("Land of the People"). Ninety percent of the Haida perished in the epidemic that followed. In 1884, the Canadian Government destroyed what remained of Haida art by outlawing the potlatch (a

ceremonial feast involving the lavish exchange of presents between host and guests). The items associated with potlatches and warfare were no longer needed; unfortunately, the Haida artists died without passing on their knowledge of the traditional carving of totem poles, dugouts, ceremonial masks and other artistic items.

Near the Arctic Circle, the availability of wood other than driftwood was extremely limited. The *umiak* (translates as "woman's boat") was the chief means of transport for moving the coastal Inuit family and possessions to seasonal hunting areas and for whaling expeditions. Umiaks were from 20 to 30 feet long and about 5 feet wide at the center (Fig. 8). The frame was constructed of salvaged driftwood or whalebone pegged together with antler, walrus ivory or wood. Seal skins or whale skins were sewn together with overlapping waterproof seams and stretched to dry tightly around the frame (Fig. 9). Because the umiak could carry up to 20 people, ownership was sometimes shared by several families. It was typically propelled by four paddlers using single-bladed paddles (as opposed to the double-bladed paddle common to the kayak). Some variations of the umiak date back to 1000 AD in the Central Arctic. Archeological evidence of its use has also appeared in Greenland, Baffin Island, Labrador, the Mackenzie Delta, Alaska and eastern Siberia.

In contrast to the umiak, the *kayak* (Inuit term *qajag*) was designed as a "man's boat" to carry one or at most two hunters (Fig. 10). Since the far north was treeless, kayakers were constructed from stitched sealskin or sea lion skin stretched over a frame of driftwood that had been lashed and pegged together (Fig. 11). Unlike the umiak, which was often shared between families, a kayak was a personal craft of the hunter. The length was typically three times the span of his outstretched arms. The width at the cockpit was the width of the hunter's hips plus two fists or a little less. The typical depth was his fist plus the outstretched thumb. Thus typical dimensions were about 17 feet long by 20-22 inches wide by 7-8 inches deep (this measurement system frustrated European anthropologists who tried to arrive at "the typical kayak" because each kayak was a unique creation). The hunter built the kayak frame

**Figure 8:** Umiaks were the utility "pickup trucks" of the Alaskan native community.



to closely fit his height and weight. Then his wife sewed the skins tightly together around the frame with an overlapping stitching. After drying, the skins contracted to form a drum-tight shell. The seams were then waterproofed with multiple layers of melted whale fat applied to both sides of the seam. In icy water, the fat had the consistency of candle wax and repelled water very effectively. The sealskin covering seldom lasted more than one season. After the ice closed in, the kayak frame was usually stripped of its covering; the covering was cut into pieces and fed to the sled dogs while the frame was repaired and then stored on a support out of the reach of hungry animals.

The hunters wore hooded *anoraks* or *parkas* made of sealskin with the fur on the inside to protect against the wet and freezing temperatures. A special skin over-jacket, called a *tuilik*, was then laced to the kayak, creating a near-waterproof seal. This enabled the hunter to roll (the "Eskimo roll") to regain posture after turning upside down without getting soaked or water logging the craft. Few native Alaskans could swim, and even if they could, Arctic waters are so cold that a hunter in the water separated from his kayak could not survive for more than a few minutes. The old Inuit said that when a hunter died in a kayak that he must have been borrowing someone else's, because he didn't have the same sense of balance as he had in his own craft.

Kayaks were originally developed by the Arctic natives to fish and hunt seals in the lakes, rivers and coastal waters of the Arctic Ocean, North Atlantic, Bering Sea and Northern Pacific. Traditional kayaks encompass three basic designs: *Baidarkas*, from the Alaskan & Aleutian seas, are the oldest design. They had a rounded shape and numerous *chines* (corners) that give them a blimp-like appearance. The *West Greenland* kayaks had fewer chines and thus a more angular shape, with gunwales rising to a point at the bow and stern. The *East Greenland* kayaks appeared similar to the West Greenland style, but they fit more snugly to the paddler's waist and possessed a steeper angle between gunwale and stem, which increased maneuverability between the congested passages of ice floes. Kayaks from the Bering Strait region were built low and wide with large storage



Figure 9: A cluster of umiaks off Cape Prince of Wales, AK, showing the interior lashings with walrus hide thongs (Photo by Henry B. Collins, Smithsonian Institute Bureau of American Ethnology, Washington DC)

compartments for food, equipment and extra clothing during long trips. The Baffin Island models were long, broad and distinctly flared on the sides for stability in rough seas. The kayak was perfect for hunting seals around the ice flows; an experienced hunter can maneuver quietly between the masses of ice, sometimes keeping a white cloth screen in front of him to fool the seals into thinking that he was just another piece of ice.

Several generalities may be drawn from a study of watercraft used by the First Americans:

The type of vessel used by each native group was determined largely by the materials immediately at hand: birch bark and willow in the northeast, buffalo bull hide on the plains, giant

western cedar in the northwest, driftwood and sealskin around the Arctic Circle. Unlike trading of other commodities, there seemed to be little trading of watercraft (or the materials for their construction) between groups.

The size and structure of watercraft were quite stereotypic within a specified purpose: there were watercraft designed just for war, others for fishing, and still others for trading. Considering the lack of a written language, the ability of oral tradition to keep the designs relatively constant over thousands of years is amazing (compare that to the game in which one person whispers a little story to another as it is passed around the room until it comes back to the originator in almost unrecognizable

Figure 10: The kayak was the specialized craft of the stalking hunter, custom-built sleek and quiet for fishing and seal hunting. Note the tether attached to the harpoon for easy retrieval.

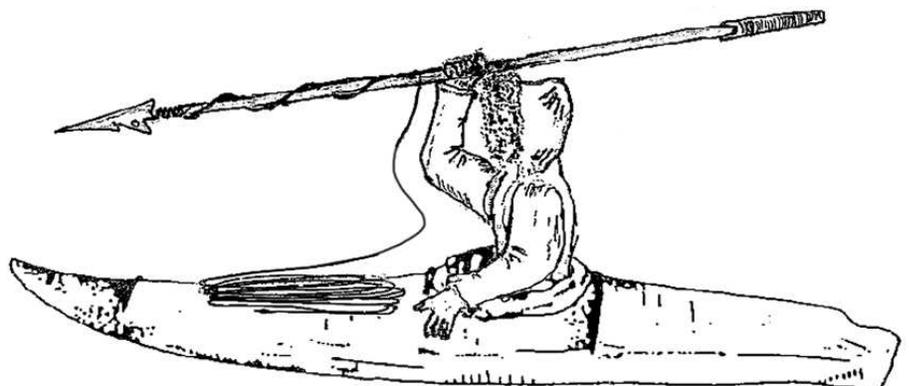




Figure 11: Cockpit of kayak from Point Barrow, AK, showing the interior framing (Smithsonian Photo MNH-399).

form). Constancy of watercraft forms is a testimony to the power of oral tradition and the passage of skills from one generation to another.

Watercraft traditions did not survive for very long after contact with Europeans. This was due partially to the annihilation of the people themselves by disease and warfare, but also to the introduction of new materials and tools (think what changes were brought about by the steel ax or the iron nail). Some watercraft, such as the umiak, were able to make the transition from the stone age to the mechanized age; when outboard motors became available to the Alaskans after WWII, they propelled their umiaks with motors mounted on transoms constructed from rough-sawn boards.

Some watercraft designs were just inherently more versatile than others. The canoe and the kayak come to mind here. Based on observations of a university campus located in an

area of abundant streams and lakes, it would be easy to imagine that there are more canoes and kayaks (albeit of aluminum and fiberglass) operating in America today than there ever were in Pre-Columbian times. A good idea never goes out of style. **M**

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- For more on the variation in traditional kayak designs, visit <http://www.waldenqajaqsociety.org/AboutGreenland.html> and <http://www.athropolis.com/news-upload/master/13-frames.htm>
- For a picture of "Old Masset" a classic Haida war canoe, visit: <http://www.panoramio.com/photo/9867132>