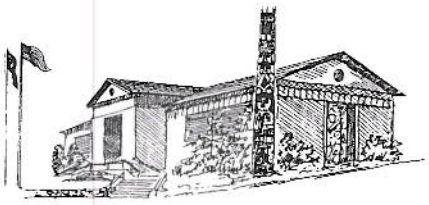
Wood & Waterways

A Look at Tlingit Canoes



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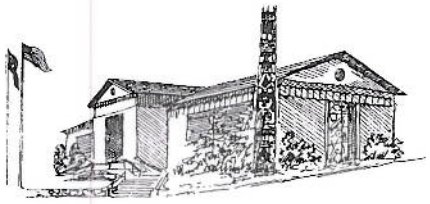

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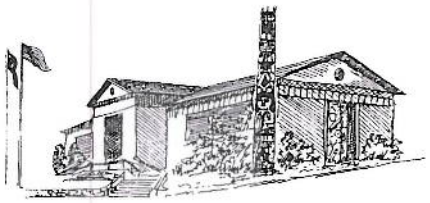

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How to Use this Manual

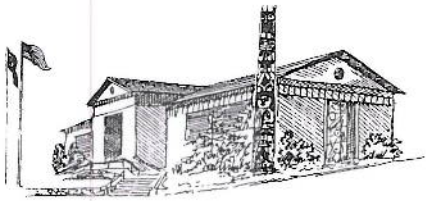
The *Wood & Waterways: A Look at Tlingit Canoes* packet introduces students to the process of Native Alaskan canoemaking and its connection to the Southeastern Alaska landscape. The packet includes a brief history *(Way of Life)* that may be read aloud to the class and followed by a discussion with the provided questions. A map of Southeast Alaska has been included if you wish to display that during this activity.

The *Teacher Resource Information* section of the packet provides more detailed information on how canoes and paddles are made and maintained, salmon and halibut fishing, and Tlingit villages and trade, as well as a glossary of key words and a resource list. Use the information from this section with the *How a Canoe is Made* sequencing activity.

The *Make Your Own Canoe* activity is adaptable for all grade levels. Students follow instructions to create their own canoe and are able to compare their process with Tlingit/Haida methods.

After sharing the information and activities in this packet with your students, we invite you and your class to come visit the City Museum to see our Tlingit canoe exhibit and paddle interactive, fish trap exhibit and interactive, halibut hooks, paddle, and other Tlingit objects, and exhibits on more modern Tlingit history, such as the founding and influence of the ANB and ANS. Please contact the Public Programs Coordinator at 907.586.0966, or email museum.info@juneau.org to schedule a tour.

Juneau Douglas City Museum, 2003, revised 2016.



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Teacher Introduction

The purpose of this educational activity is to show how the geography of Southeast Alaska influenced the Tlingit way of life and the important role canoes play in Native Alaskan society as a result. The activity materials are geared towards grades 2-5; however, they are designed to be easily adapted for younger grade levels. The following highlights the areas of the Juneau School District Social Studies Curriculum to which the canoe activities relate:

Grade 2

- **Understand how the Tlingit people meet their basic needs historically and presently.** Canoes were built differently depending on their use.

- **Identify how Juneau has adapted to the land features.** Tlingit people relied on canoes to navigate the unique geography of southeast Alaska, with its mix of waterways and forested islands.

- **Know the technologies that were and still are being used in Juneau.** Canoes are specifically mentioned in this standard.

Grade 3

- **Know the traditional homelands of the Tlingit/Haida/Tsimshian.** Canoes are part of these Native groups distinguishing characteristics. Different canoes were manufactured depending on available resources and geographic needs.

- **Know the resources used by cultures for food, shelter, clothing & transportation.** Groups used certain types of wood based on availability and accessibility. Native groups depended heavily on canoes, the natural resources (trees), and patterns of salmon for dietary needs. Discuss importance of canoes as a mode of transportation through the numerous waterways in the Southeast region.

- **Understand how the geography and abundance of natural resources in Southeastern Alaska allowed Native groups to establish permanent villages.** Similar to above.

- **Know the technologies that were and still are being used in Southeast Alaska.** Canoes are specifically mentioned in this standard.

- **Recognize and celebrate indigenous science**. Native people of Southeast Alaska developed highly sophisticated canoes adapted to their uses.

Grade 4

- **Understand the influence of land and climate on indigenous Alaskan people and their cultures.** Examine the importance of the canoe for Native Alaska groups in respect to the geography of Southeast Alaska.

- **Recognize the factors influencing patterns in human settlement such as the availability and proximity to resources/land for people to live in Alaska.** In what ways is the canoe a reflection of Southeast Alaska's geography?

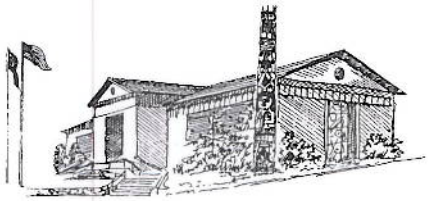
- **Locate natural resources within Alaska and explain the importance and consequences of their use.** Examine the importance of the canoe for Native Alaska groups in respect to the natural resources of Southeast Alaska.

- **Describe ways that individuals use their natural resources to meet their needs (subsistence).** Canoes were vital for Native peoples of Southeast Alaska to travel to whatever food resources were in season.

Grade 5

- **Identify the region's resources and how they impact the people and the land.** Examine cultural aspects of canoe design and use, and how they relate to the geography of Southeast Alaska.

- **Understand how people adapt to their environment and climate in which they live.** Examine how canoes allowed Native peoples in Southeast Alaska to navigate their environment and sustain their communities.



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Wood & Waterways: A Look at Tlingit Canoes

A Way of Life: An Introduction to the Tlingit Canoe

A Read Aloud History for the Class

Much of the Tlingit way of life depended on their ability to navigate the unique geography of the southeastern Alaska panhandle. The heavy rainfall in the area fills thousands of streams and rivers, and the massive mountains, glaciers, and ice fields are no more than 30 miles from the ocean tidewater. As a result of this environment, the landscape consists of an intricate mix of waterways and forested islands, which required a mode of transportation that would allow the Tlingit to maneuver through winding rivers, inside passages, and open sea waters.

The Tlingit created dugout canoes (**yaakw**) of various types and sizes to fit their transportation needs as marine hunters, fisherman, traders, travelers, and warriors. Their high dependence on a reliable vessel required a lot of attention to detail and overall mastery of canoe-making skills and techniques. "Nowhere else in the world was a dugout developed to such a degree of sophistication; no other people have a dugout that could match the speed, capacity and seaworthiness—or the elegant grace—of the sleek canoes of the Northwest Coast Indians" (Stewart, 1984, p.48).

Canoes ranged in size from single man canoes to war canoes, which held 30 or more warriors (Olson, 2001, p.26). Canoes were used as a means of travel, transport, trade, and food gathering. The Tlingit used their canoes to travel to other villages for feasts, clan gatherings, trade, and marriages. They relied on canoes as a way to transport families from the clan's winter village to their summer village and back again. From early spring through late fall, the Tlingit traveled by canoe to hunt and harvest whatever food sources were in season. These sources included fish, shellfish, waterfowl, seal, sea otters, fruits, potherbs and more. Hunting gull eggs, and gathering raw materials for making household tools (roots, grasses, bark, minerals, etc.) involved lengthy voyages, making canoes even more essential to the Tlingit way of life.

The smaller 2-man canoes were built for fishing and hunting; medium-size canoes were used to transport families from their winter village to their summer village and back; and large canoes were used for warfare and/or transporting people and goods. The Tlingit relied on the trees in the forests along the coast for the materials from which to build a canoe. Red cedar and yew were more abundant in the southern areas, while people in the north tended to use spruce because it was more accessible to them.

The most common type of canoe was the spruce (**seet**) canoe. It was used for hunting, fishing, and ordinary travel. The Yakutat of Mount Saint Elias made a small canoe (**ch'iyaásh**) used for seal and sea otter hunting in open waters and travel through the narrow inland waters between Yakutat and Dry Bay. The Yakutat also made a canoe that was used for hunting seal in the ice floes. In addition to being appropriately named the ice canoe, the shape of the canoe was also fitting. "The bow was rounded and strengthened with a knob-like projection above the waterline as a fender and safeguard among the floating bergs" (Olson, 2001, p.84). Another type of canoe that was particularly common among the Stikine, who lived in the Wrangell area, was the moon canoe (**disi yaakw**). Named for its resemblance to a crescent-shaped moon, this small canoe was made of spruce or cedar and used for fishing and hunting. The Chilkat, Dry Bay, and possibly Taku people made "shallow draft river canoes of cottonwood" for fishing and traveling on rivers (Emmons, 1991, p. 84. Suttles, 1990, p. 208).

The Haida were considered skilled canoe craftsmen. Because of their location in the southern region where there was an abundance of large red cedars, the Haida made canoes that were over 60ft. long and had a carrying capacity of 6 to 8 tons (12,000 to 16,000 pounds). The Tlingit headmen often had their war canoes made by the Haida and then decorated the bow and stern with Tlingit crests or other designs (Suttles, 1990, p. 208). A large canoe might even have carved figures on each side of bow (Stewart, 1984, 55). The Tlingit would also name their canoes. The names would reflect the clan's crest or possibly some part of the canoe's character (dancing canoe, lazy canoe, crooked canoe) (Stewart, 1984, 59).

Once the canoe was finished, then came the important job of maintaining it. The delicate construction made it necessary to keep canoes damp and sheltered from the sun. Any canoe hauled up on the beach was covered with bark mats, blankets, or an old sail, and was dampened every morning. Similarly, if traveling in sunny weather, the Tlingit constantly splashed water on the canoe.

Questions

1. What sort of modes of transportation do you use? How does that correspond with today's landscape? (Ferries, Airplanes, Roadways, Airports, etc.)

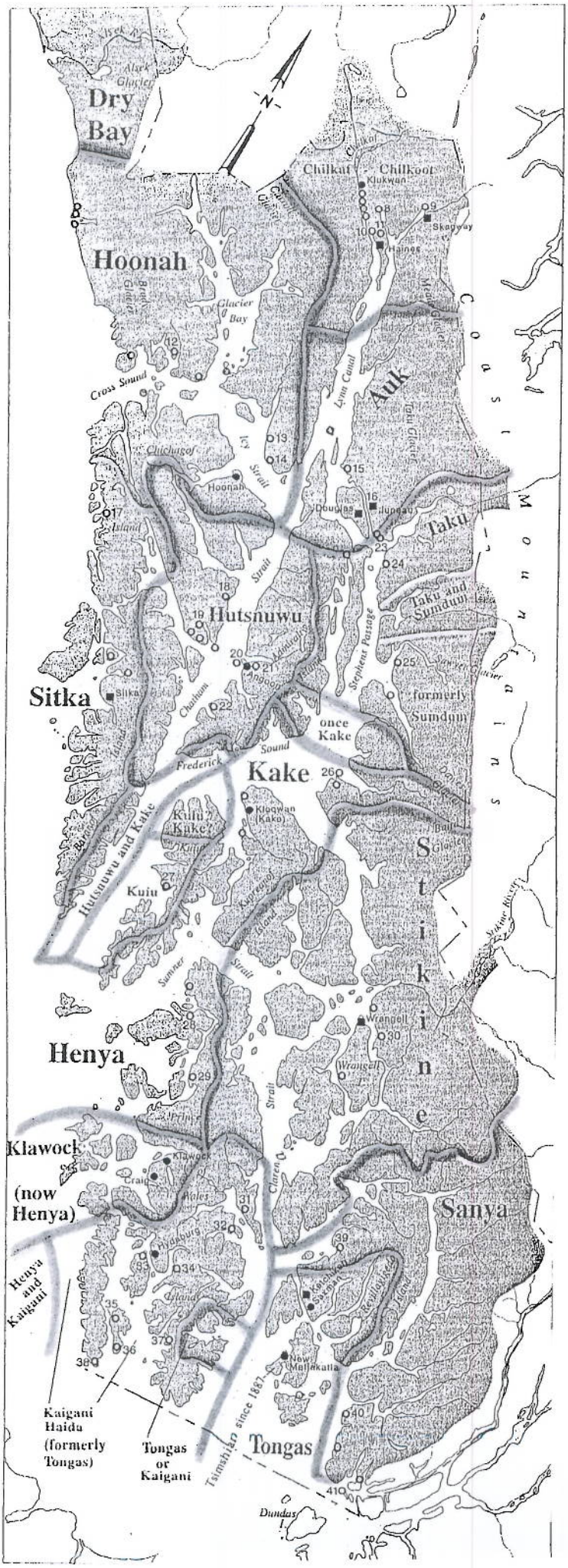
2. How have our waterways changed over time? How does that affect our methods of travel?

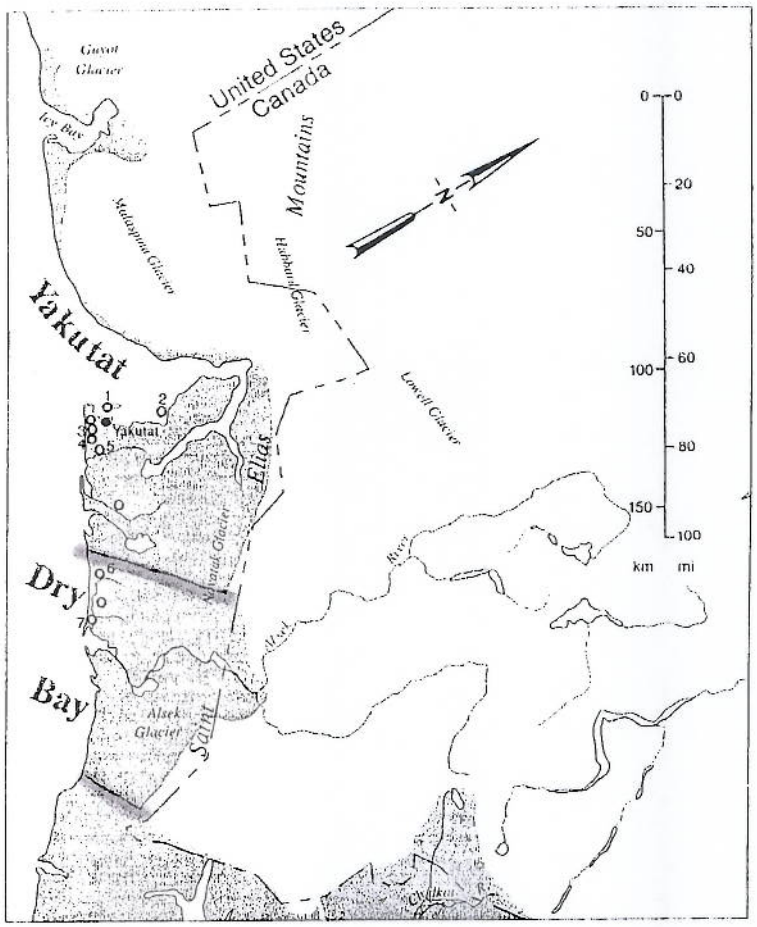
3. Why did people in this area travel in the past? Why do we travel today? How are these reasons similar? Different?

4. Does your family have a boat and/or car? Does it have a name? How did it get its name? What sort of maintenance does it take to keep your boat/ car running smoothly?

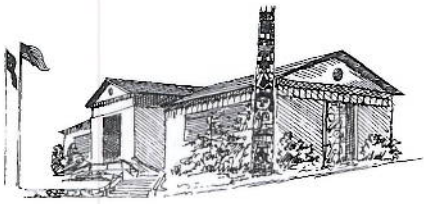
Map

Use the included map (next page) to point out the different areas referenced in this story. The map may also be used to enhance class discussion of the *A Way of Life: An Introduction to the Tlingit Canoe: Questions.*





From: De Laguna, Frederica. "Tlingit"
Handbook of North American Indians: Northwest Coast.
Ed. Wayne Suttles. Vol. 7.
Washington: Smithsonian Institution, 1990. 204. Print.



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Teacher Resource Information

Since the 1980's, and especially in the last 15 years, there has been a resurgence in canoe-making, paddle-carving, and paddling. Since 2008, the unofficial start of Celebration (a biennial festival of Native Alaskan culture) has been the Coming Ashore Ceremony, where canoes land at Sandy Beach on Douglas Island after having been paddled from Southeast Alaskan communities such as Ketchikan, Sitka, Angoon, Hoonah, and Kake.

Modern canoe-making does not differ much from traditional methods, although modern tools such as chain saws are used to help in the process. Modern canoe-paddlers may use fiberglass canoes, rather than traditional dugout-style wooden canoes, while still retaining traditionally carved canoe paddles.

How a Canoe is Made

Canoe-making is usually done by a specialist and one or more assistants. It can take two or more men working a few hours a day about two months to complete a 25 ft. canoe.

The first requirement is to select a tree that has grown slowly in dry soil, since a larger tree that has grown in wet ground is spongy in fiber and would always absorb moisture. The tree's grain should be straight and the wood free from knots. Once a tree is selected, the canoemaker addresses the spirit of the tree with a prayer and asks the trunk to fall in the direction he wishes (Stewart, 1984, 39). In the past, the canoemakers camped by the tree when they first began working. The tree was usually felled (cut down) in November or March when the sap was down, and when it was not too cold to work.

Before the acquisition of iron, the tree had to be scored and worked around by means of a stone adze, wedges, and fire. This early technique was accomplished by placing red-hot rocks inside the chiseled out cavity. The charred wood was then chiseled and adzed out. Another felling technique involved setting fire to the base of the tree, using wet clay to prevent the rest of the tree from catching fire. Modern canoemakers use power tools, such as chainsaws, which makes the process much quicker.

Once the tree is felled, the canoemaker removes the bark from the log and chisels out a section at each end. Next he uses wedges and a hand maul to split out the wood in between the cuts. The canoemaker then roughly shapes the craft and narrows the ends using a large bladed adze. The adze is a very efficient extension of the carver's hand. Essentially, a

hammer and chisel combined in one tool, the adze was designed to pull the blade toward the carver under complete control. The handle (made from a tree branch, often of alder) adds leverage to the carver's swing, and the weight of the tool adds inertia to each stroke. (See a traditional Tlingit elbow adze – **X̲út'aa** - at the City Museum.)

Elbow adze. Donated by Mary Ann Parke. JDCM 99.21.008.

With the help of his assistants and levers, the canoe is then turned over, and the carver shapes the outside hull, bow, and stern, ensuring that it is symmetrical. Once this is accomplished, the canoe is turned right-side-up to hollow and thin out the center of the canoe. This is done either with a hammer and chisel or by burning the wood with hot rocks, depending on the region. Once the canoe is roughly hollowed out, an adze is used to carve out the remainder of the interior to an even thickness (Stewart, 1984, 53).

The sides of the canoe then have to be spread throughout the mid-ship section. To accomplish this, a fire is built alongside the canoe, and stones are heated. The canoe is partly filled with water, and the hot stones are added. Stones are removed, reheated, and added to the water again until steam is produced. A covering of mats, or in modern times, a tarp, confines the steam and allows the wooden sides to soften and spread outward. Once the sides have spread to the correct width, crosspieces are inserted (Stewart, 1984, 54). As the wood cools, it sets as it has been stretched. Depending on the type of canoe, separate bow and stern pieces are attached to the canoe by pegging. All canoes are then sanded and traditionally rubbed with either dogfish skin or hemlock bows, depending on local custom.

At the City Museum, we have a small double-ended canoe on display which was carved at approximately the turn of the twentieth century. Our canoe is a simplified form of the seagoing vessels that plied the main channels and outer coastal waters of Southeast Alaska; it was made for relatively sheltered waters and the lower reaches of the local area rivers and estuaries. It would have been used for short journeys afloat to gather craft materials, harvest seafoods, or for hunting trips close to home.

16-foot Spruce Dugout Canoe (yaakw), c. 1900. Museum purchase from Ferrall Estate Campbell. JDCM 94.46.001.

Canoe Maintenance

The spreading of the walls, together with the delicate construction of the canoe, render it liable to check, or crack, when exposed to the sun. It is necessary to keep the canoe damp and sheltered from the sun. The large war or traveling canoes were only used at intervals and were sometimes placed in a ditch on a shore under a permanent tent-like shelter of boards, cedar bark, and brush. Any canoe hauled up on the beach was covered with bark mats, blankets, or an old sail, and was dampened every morning. When traveling in bright weather, the outside of the canoe was constantly splashed with a deft stroke of the paddle and the inside sprayed with the bailer.

Checks that quickly extended into splits threatened the seaworthiness of the canoe and were usually treated by soaking the wood and drawing the parts together with twisted spruce root. Splits were also caulked with moss or filled with melted spruce gum.

Paddles

Canoe paddles (**Axáa**) are made with as much care as the canoes themselves, shaped to a special form that is the most beneficial for propelling the canoe without undue effort. The paddle consists of the shaft at the center, with a handle on one end and a rigid blade on the other. The blades are carved very thin, and the shaft also tapers toward the top grip. This leaves the thickest portion right in the central grip area, where the most effort is concentrated in the stroke. The paddle flexes slightly, like a bow, on each pass through the water, and the somewhat pointed tip minimizes the disturbance of the surface on the paddle's entry into and exit from the water.

Traditionally paddles of yellow cedar or yew wood are used, as well as spruce, alder, and willow, though today paddles are commonly made of fiberglass or metal as well as wood. A Tlingit paddle will often have a V notched just below the handle. The blade is relatively narrow and tapers to a point. The blade of a Haida paddle is wider than a Tlingit paddle and tapers to a point. A Westcoast paddle's blade comes to a sharp point. This type of paddle was made specifically for trips than involved hunting. After a stroke, the paddler could leave the tip in the water to avoid water dripping off the end, which makes a lot of noise. The Northern Steering paddle was used for steering a larger canoe. These paddles are much larger than other paddles, and they have a long, broad blade. See examples of these paddles in an interactive exhibit at the City Museum, along with an antique Tlingit canoe paddle.

Tlingit Paddle, c. 1900. Donated by Mary Ann Parke. JDCM 99.21.010.

The person in the back of the canoe, or steersman, uses a longer paddle, as much as a third longer. For general travel, the owner of the canoe or the most experienced person takes position of the steersman. Traditionally among the Tlingit, this was an honor that usually fell to an older person of rank, often a woman. Women also assist men with paddling and excel at the task. In family travel, children also help to paddle and learn by doing. Paddle songs keep the rhythm of a steady stroke and help pass the time on a long or tedious journey. (*Ask your Indian Studies teacher if he/she can come in and teach your students a canoe song.)*

Salmon Fishing

Salmon is the most valuable natural product of the Northwest Coast and forms the staple food of the Tlingit. The southeastern region of Alaska is home to 5 species of salmon: king/chinook (**t'á**), the silver/coho (**l'ook**), red/sockeye (**Gaat**), chum/dog (**téel'**), and pink/humpback (**cháas**). The most valuable property of the Tlingit was the fishing ground or salmon stream, which was a family possession, handed down through generations through the mother's clan and always respected by others. Late in spring after other types of food gathering, the Tlingit left their permanent villages in single families or in bands of two or more families and relocated to their fishing camps. At the fish camp, the summerhouse was at the mouth of the stream. The house served a double purpose, as a shelter and a smokehouse.

Salmon were taken in traps, with spear or gaff, or with hook and line, depending on the variety and the water in which they were caught. The lake streams through which the king, sockeye, and coho passed quickly to their spawning grounds were generally barricaded to hold the fish so they could be readily taken. This also delayed their spawning, so that the flesh would be firmer and in better condition. Traps were also employed and were placed at openings in the barricade, their mouths downstream, for the fish always head up current. The trap was attached to stakes at the corners so that it could be adjusted to the height of the water. Fish weirs and traps were controlled by lineage heads (clan leaders) that permitted others to take fish after their needs were met. The City Museum has a 500-700 year-old fish trap from Montana Creek on display, as well as a replica. We also have the Fish Trap Education Binder available on our website: www.juneau.org/library/museum/ResourcesforTeachers.php.

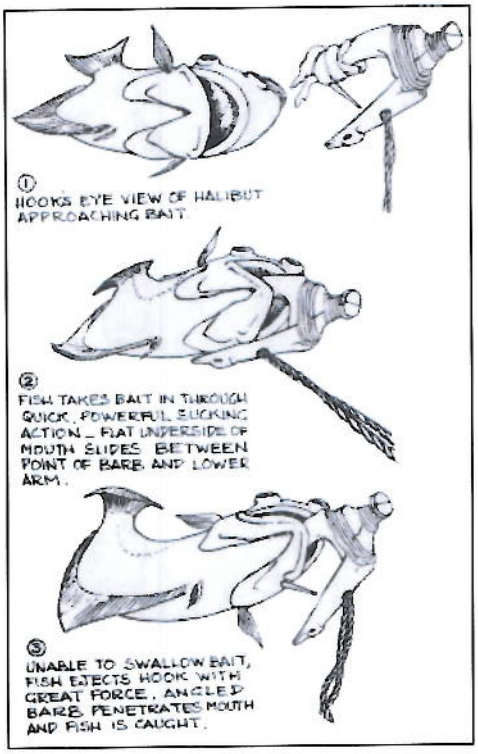
Traditional fishing lines were made from stem or stipe of the bull kelp, or in some instances, strips of whale or sea mammal hides were used. The inner bark of cedar trees was also used to make fishing lines as well as fish nets.

Halibut Fishing

The most ingenious and efficient hooks were made for halibut. Halibut hooks (**náxw**) were designed by the Tlingit to catch the large, bottom-feeding halibut (**cháatl**). These fish average between 30 and 36 pounds, but can grow to hundreds of pounds. The size of the hook and angle of the barb determined the size of the fish caught. Selecting the size of the fish was a safety concern for halibut fishermen as landing a large halibut could be dangerous and tip a canoe. Smaller halibut are also said to taste better.

Traditional halibut hooks consist of two sections of wood lashed together to create a V-shape. A barb is lashed to the lower arm of the V. Originally the barb was made out of bone, but later, with the acquisition of metal from European sources, iron barbs replaced the bone barbs.

The V-Shape of the hook was designed to accommodate the flat shape of the halibut and its method of eating. A halibut draws food into its mouth with a strong sucking action. If the food is acceptable, it is swallowed; if it is not, the food is expelled. A halibut cannot swallow bait wrapped around a halibut hook barb, so it attempts to expel it. This action causes the barb to penetrate the fish's cheek. The V-shape of the hook does not allow the halibut to go forward to release itself, and going backwards only helps to secure the barb. (Pictures on next page.)



"How a Halibut Takes the Hook" diagram from Indian Fishing: Early Methods on the Northwest Coast by Hilary Stewart, page 54.

Halibut Hook, c 1975. Donated by Russ Cahill. JDCM 2001.21.001.

Trade

The Tlingit were involved in extensive trade with the Eyak, Tsimshian, Haida, Subartic Athabascan, Chinook, and other Northwest Coast tribes. These relations were intensified after the arrival of the Europeans. Leaders of the Tlingit clans who owned the "grease trail" into the interior were very rich because they controlled the trade flow and goods. Native trade brought walrus ivory and hides from the peoples of the Bering Sea, native copper from the interior, and dentalia from the south, as well as fine Haida canoes and Tsimshian carvings.

The interior Subartic tribes furnished furs to the Tlingit, especially in the 1800's after sea otter populations were all but destroyed in southeastern Alaska due to over-harvesting by the Russians. When Europeans began trading with the Tlingit in 1839, there was an increased flow of trade goods. Trade undoubtedly stimulated the development of Chilkat weaving (**naxein**), for in the 18th and first quarter of the 19th centuries the Tlingit first wove blankets of geometric designs called Raven's Tail, which, along with Chilkat blankets, are still being woven today.

Villages

Village sites were preferably situated on a sheltered bay from which to view approaching people. Also important were a sandy beach for landing canoes and convenient access to salmon streams, hunting areas, berry patches, clam beds, fresh water, good timber, or special resources, such as halibut deeps, sealing grounds in ice-filled bays, and trails to the interior. In the early 19th century, such villages consisted of a row of large houses facing the water. The beach in front was crowded with canoes under mats and shelters with fish racks.

Here where we live, a village site of the Tlingit people located at the Auke recreational site was called **Aak'w Kwáan Aaní,** small lake people's town. Another village site of the Tlingit people located ten miles southeast of Juneau at the mouth of Grindstone Creek was called **T'aaku Kwáan Aaní** which means geese flood upriver people's town. The Aak'w also had a fish camp at **Dzántik'i Héeni** (Gold Creek).

Key Words and Concepts

Tlingit	The inhabitants of Southeastern Alaska for thousands of years.
Aak'w Kwáan Aaní	A village site of the Tlingit people located at the Auke Recreational site out the road. The name means: small lake people's town.
T'aaku Kwáan Aaní	A village site of the Tlingit people located ten miles southeast of Juneau at the mouth of Grindstone Creek. The name means: geese flood upriver people's town.
Yaakw	Tlingit word for boat or canoe.
Seet	Tlingit word for dugout canoe designed for shallow waters.
Red cedar (laax)	The great height and straightness of the red cedar makes these trees good resources for canoe-making. They range from sea level to 4,500ft and are found from Baranof Island, Alaska, southward to northern California. Red cedars have been recorded as reaching heights of 230 ft.
Yellow cedar (xáay)	Smaller than the red cedar with a maximum height of 145 ft., yellow cedar is also a good material for canoe-making. The softness of the fine grain and even texture of the wood make yellow cedar extremely durable. These trees are found in western coastal mountains and islands north of Oregon through Alaska.
Spruce root (xaat)	Roots from the spruce tree were used in patching holes and cracks that occurred from use with a canoe.
Crest Designs	These designs are used in artwork to tell about the history of the clan who owns the design and has the right to use it. Crest designs may represent animals, natural landmarks, weather, or people.
Adze (Xút'aa)	Ax-like tool used for making canoes.
Dísi yaakw	A small canoe used for fishing and hunting, called the "moon canoe" because of its crescent shape. Made by the Stikine of the Southern Tlingit.
Ch'iyaásh	Canoe made by the Yakutat of Mount Saint Elias that was used for sea otter and seal hunting and traveling through narrow inland waters between Yakutat & Dry Bay.
Naxein	Chilkat weaving; means "fringe about the body."

***Special Note:** Please contact your Indian Studies staff about proper pronunciation of Tlingit words.

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Stewart, Hilary. *Cedar.* Vancouver: Douglas & McIntyre, 1984.

Suttles, Wayne Vol. Ed. *Handbook of North American Indians. Vol. 7 Northwest Coast.* William C. Strutevant, General Editor. Washington: Smithsonian Institution, 1990.

Other Resources

Berg, Paul. *The Tlingit Canoe and the Story of Kaax'achgóok.* Goldbelt Heritage Foundation. Grade Level 7-12. http://www.goldbeltheritage.org/wp-content/uploads/2014/03/The-Tlingit-Canoe.pdf.

Lesson plans relevant to history, literature, writing, and math; all centered around the Tlingit canoe.

Hsu Oh, Leslie. "How Canoes are Saving Lives and Restoring Spirit." *Smithsonian.com.* Jan. 6, 2016. http://www.smithsonianmag.com/smithsonian-institution/how-canoes-are-saving-lives-and-restoring-spirit-180957712/.

Article describing the resurgence of canoe-making and paddling in Southeast Alaska as well as the Raven Spirit **(Yéil Yéik)** dugout canoe, commissioned for the Smithsonian Museum and carved by Douglas and Brian Chilton from Angoon.

Price, Wayne. *North Tide Canoe Kwaan Journey: Haines to Juneau, Alaska, Summer 2014.* https://youtu.be/5MIqdZ_5P7c.

Video shows a traditional Northwest Coast dugout canoe made by Tlingit master carver Wayne Price of Haines, Alaska, and the subsequent journey to Juneau.

Sealaska Heritage. *The Making of a Dugout Canoe in Sitka, Alaska.* 2016. 4 Videos. https://vimeo.com/album/4302894.

Series of 4 videos showing the making of a dugout canoe. The first video gives an overview of the whole process.