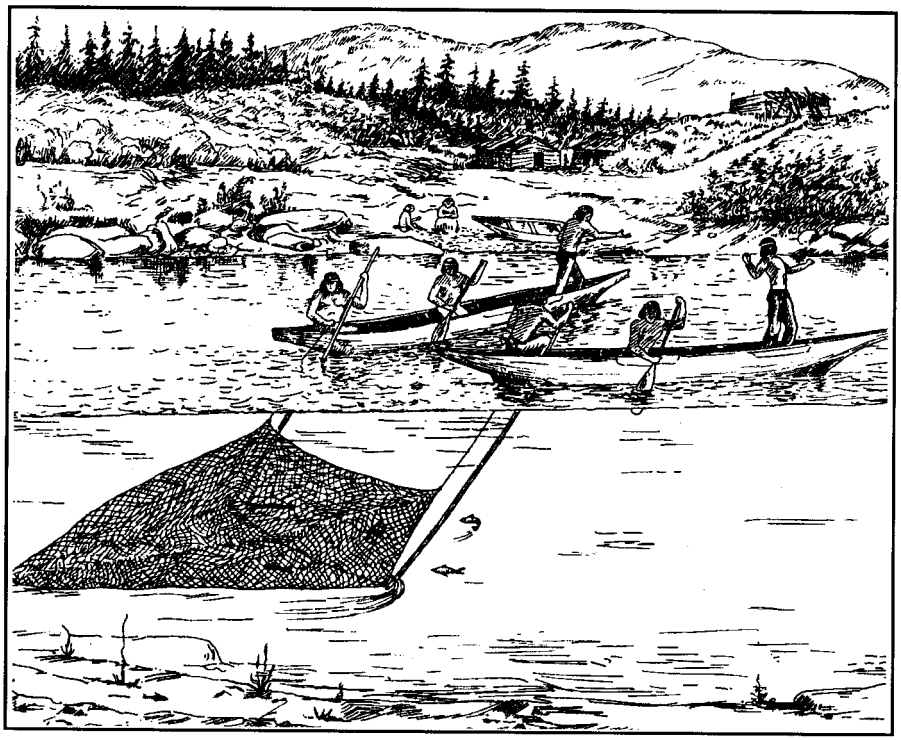
As they paddled along, someone kept thrusting this spear straight down through the water and stabbing the bottom. There was a good chance of bringing up some fish who had been resting or laying her eggs.

Nets

These were all methods for shallow waters. In wide, deep rivers, like the lower Columbia, the fishermen had to go out in canoes, sweeping the fish in with nets several hundred feet long.



A bag net dragged down the river by two canoes

Drying

Men worked night and day during the fishing season. They even slept on the fishing platforms, with their heads against a pole coming up from the trap, so that it would vibrate when an imprisoned fish swam against it. Meantime the women were busy on shore, cleaning fish with their mussel shell knives, piling up the bones as they had been told and hanging the flesh to dry over what amounted to miles of drying racks. This fish drying is one of the important crafts of the Northwest coast. The huge runs of salmon would have been of little help to people who could not store food for the winter. And storing food is not easy in a land where there is no ice and very little sun for drying. The Northwest people might not have been rich at all, had they not developed the method of preserving food by smoking.

Their fires were of alder wood, built in rows along the beach or on the earthen floor of the house itself. Over these were racks, made like arbors with open-work tops. The fish, cut open and spread apart with sticks, hung down

from these like a row of little coats on hangers. The huge Chinook salmon was sometimes cut in narrow strips. Generally fish were left smoking for a week and every day or two a woman would soften them by rubbing and squeezing between her hands. This was to break the fibres so the air could get all the way through them. Fish which dry only on the outside and not inside, will easily rot. It was as careful work as watching toast for there were always some fish to be moved further from the fire and other, fresher ones to be placed near. If the racks were out of doors, the woman must rush to cover them every time it looked like rain, for moisture would rot the fish.

They had to keep watch, too, to see that the children did not play with the fish before they were cleaned. The salmon would resent this and would make the children sick, so that they would pant like a salmon when dying. Then there might be danger from some couple who had just had twins or from a girl who was having the Maiden's ceremony. If these ate the fresh fish, the run would stop. The medicine man must be alert to detect evil minded people who would stop the run by burying the salmon heart in a clamshell, or, worst of all, in a graveyard. If none of these misfortunes happened, the drying fish would enjoy themselves and play like squirrels on the racks when no one could see them.

After the fish was thoroughly smoked, it was folded up like sheets of brown paper and stored away either in bales or in the beautifully woven baskets which formed the Indian pantry. It provided almost enough food for the year. But there were plenty of other fish, in fresh water and salt. The Northwest coast, in fact, is the meeting place for southern fish, traveling north, and cold water fish, going south. In Puget Sound with all its different depths and temperatures, there are seventy kinds good to eat.

Other Freshwater Fish

For instance, there was the lamprey, an eel-like fish which migrates like salmon. Lampreys crawled into holes above the river bank where they could be poked out with poles. "But, if you see one coming out," said the Indians, "don't point at it with your finger, for it will go away." Point with your mouth in the usual Indian fashion. The Cowlitz, when they cooked a lamprey, threw, the head away, still on the roasting stick. If it fell far off, they said, the thrower would have a long life, if nearby, a short one. Up the streams, there were trout and these could be trapped in a wicker basket, another invention of Coyote. He had showed the people how to place it with an opening downstream, and to erect fences slanting from the basket to the shore, so that the fish would swim straight into the trap.

In the muddy water at the river mouths, the flat skate and the flounder moved along, close to the bottom. The simplest way to get them was for a man to wade, stepping on them with his bare feet. He was likely to slip and fall and the fish, said the Cowlitz, knew this well. They had used their slippery backs to play a trick on the South Wind, when he refused to bring rain and none of the

stronger creatures could do anything with him. Skate and flounder lay down near his bed and let him slip on them getting up in the morning. The Mouse bit his nose until he cried and promised rain.

The point where the river met the sea in a line of breakers was the harvesting place for surf smelts. These are little fish, which swim in swarms, or "schools." They do not run every year and no one could tell when they were coming. The Makah, however, used to have some man whose guardian spirit told him in a vision. Then he would give a dance and announce that the fish were on their way. In five days, the breakers would be black with them. All a man had to do was to stand in the water with a long handled net and the waves would pour smelts into it, like coffee from a grinder. Occasionally, instead of smelts, he might get a school of olachen, or candlefish. These are so rich in oil that a dried fish can be lit and burned like a candle. Out at sea or in bays or inlets were the schools of herring and other small fish. Since there were no breakers to pour them into a net, the fisherman raked them out of the sea with what they called a herring rake. In shape it was more like a comb, for it was a long stick, with sharp bones set in one edge. The fisherman swept it through the water as he would sweep an oar, catching the fish on its points and carrying them on into the canoe.

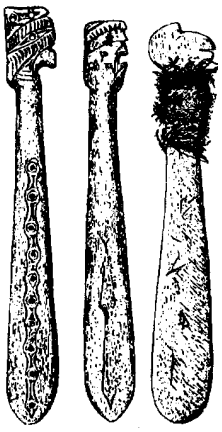
Scoop net for smelts

Salt Water Fish

These were all methods to be used in fresh water or near shore. It was a different matter to go out to sea after the huge halibut and cod. These lay feeding on the bottom, perhaps a hundred feet down and were not to be taken except with ocean going canoes, long lines and special hooks. Only the Makah,

Quinault and Quilleute had such expensive equipment for they were the whaling people, used to ocean trips. Klallam people confess to having been terrified when out with the Makah, and the Indians of Oregon, imprisoned by their rocky coast, rarely went to sea at all.

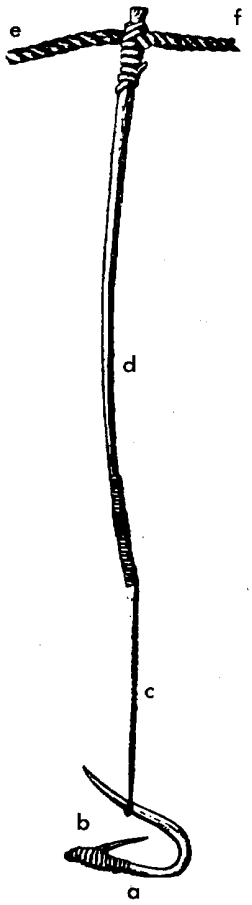
The Makah took more halibut than salmon and they made a good trade in the dried meat. They used to set lines out on the banks, fifteen or twenty miles offshore, then watch all day to see the skin buoy bob, to indicate a feeding halibut. Their line was made of kelp, a long stemmed seaweed, so tough it was almost unbreakable. Several of these stems were knotted together, to make a line long enough to reach the bottom and there its end rested, weighted with a stone. The hook was of wood, large as a horseshoe and so beautifully shaped and tapered that people who see it in a museum take it for an ornament. Actually, the curved wood, with a sharp piece of bone slanting from it, was well adapted to the shape of a halibut's head. Look at the illustration and you will see that this hook is not attached at the end, like a modern one, but at the side. The fish, which has a broad flat head, got his whole head inside and, when he tried to pull back, the bone barb caught his jaw. Then he was pulled up and clubbed. Any heavy stick would have done for the purpose, yet the Makah often carved their clubs so that they are works of art.



Salmon clubs

Halibut and cod had oily livers which the Indians appreciated, even in former days. But the best one of all came from the dogfish, a kind of shark whose, rough skin formed the Indian sandpaper. The Makah used to catch dogfish in nets off the coast in autumn or, sometimes spear them like salmon or hook them like halibut. They learned from, the Nootka of Vancouver Island how to extract the oil by pressing the fish under large, flat stones. Usually, they preferred to let the Nootka do the extracting and to trade for their dogfish oil with dried halibut. Sometimes, too, they got the big sturgeon, which was hunted like a whale.

III-THE HALIBUT HOOK



The halibut hook was a piece of bent wood tipped with bone, the curve measuring 3-4 inches across.

The wood was a knot of hemlock, for these knots are so tough that they remain sound even after the tree has decayed. Moreover, they do not smell of resin, which would scare the fish. The hook maker cut a straight, piece of wood from the knot, about eight inches long and half an inch wide. He smoothed it with stones into a long, tapering shape (a). Then he steamed it over hot ashes. To keep it moist during the process, he enclosed it in a hollow stem of kelp (a seaweed with stems like thick tubes). When the wood was soft, he bent it into the curve seen at (a), then tied it into position to cool and harden. Then he bevelled one end to receive the bone point.

The point (b) was a piece of bone 2-3 inches long, sharpened at one end and bevelled at the other. It was rubbed smooth with sharkskin, the Indian sandpaper, and lashed to the hook with a strip of spruce root or wild cherry bark. A fine string of whale sinew (c) was fastened to its upper end. This, in turn was attached to a tougher rope, (d) and the whole to the heavy cedarbark rope (e) which came down from the canoe, 30 feet or more above.

This heavy rope had a stone at the end (f) to hold it on the bottom where the halibut feed. The hook, floating off from it on its short line, might be baited with cuttlefish. Sometimes it merely had a sliver of fresh white willow wood, sometimes carved in fish shape, tied near the hook so its movement attracted the halibut. The big halibut, which swims flat in the water, got its head inside the hook and, in pulling out, caught its cheek on the bone.

Up above, the long rope might be held by a man in a canoe. Or, it might be double length, passed over the canoe and with a hook and stone at each end. More often, the fisherman attached the tops of his ropes to sealskin buoys and himself stayed on shore, visiting them occasionally.

Shellfish

The big fish were caught by men but there were some kinds of sea food usually gathered by women. Among these were shellfish: clams, rock oysters, mussels and barnacles found on the rocks revealed at low tide. Groups of women went out after these with their baskets, just as they went for berries, and dried them by the bushel for winter use. There are stories of lost girls with no man to fish for them, who lived very well on the seafood they got for themselves.

Chief of these was the clam, in at least six varieties, listed at the end of this chapter. It was the Indians who taught Northwest pioneers where to find these clams and how to appreciate them. They must have been a food of coast peoples for thousands of years for Copalis, a favorite Indian beach of the Washington coast, has heaps of clam shells many miles long and many feet deep.

Groups of families used to journey to such a beach in June and July, when the clams are at their best and milkiest. If they had a beach near home the women and children would walk to it every day or else paddle there in canoes. Sometimes they had slaves to help them. The tale is that Raven, when he was a slave, stole the South Wind's daughter and thus made him stop sending storms, for these drove the tide too far up the beach and the clams were never uncovered. Women had special baskets for clam gathering. These were cleverly made of openwork, which allowed worker's load lighter with every step she plodded toward home.

Once there, she must smoke her clams immediately, if they were to be kept. No kind of food got maggoty more quickly than clams. The smoking, like salmon smoking, took a week or so and required the attention of some woman all the time. First, she steamed the clams in the old "clambake" style, which is an Indian invention. It meant that she dug a hole in the ground, floored it with stones and built a fire on them. When the fire had burnt out, the stones were thoroughly hot and she placed the clams upon them, still in their shells. She covered them with earth or seaweed and let them steam in their own juice for an hour. By that time the shells had opened with the heat. She picked out the clams and what the family did not eat, she dried.

Klallam women liked to soften their clams, particularly the butter clams and cockles which were their favorite eating. The softening method was to lay the clams on planks, cover them with fern leaves and tramp on them. The women say that thin people kept their babies on their backs so as to tramp more heavily. Then the clams were strung on cedar strings, which took up less room than the sticks, and dried some more. At last the shrunken clams, still on their strings, were packed away, looking like huge brown necklaces. They came to be such an article of trade that the strings were made standard size — 40 cockle or butter clams to a string, or 12 of the big, tough horse clams. Inland women would give good bags and baskets for these, even for the horse clams, which a coast family would not touch. So it was worth while to store plenty of them, using openwork baskets which would let in the air and turning them frequently lest they get wormy.

A Klallam couple at home - The woman holds a string of dried clams while at her feet are a serving tray and two cooking baskets. She wears a fringed wool skirt and a cape of dried cedarbark. A man cleaning salmon, wears a poncho of twined cattails and a spruce root hat. The background is cattail mats, which form the house partition.

The slender, thin shelled mussels, clung to the rocks where the tide washed over them. Women went out in winter, which was the best season and pried them off with a knife. Their shells, when broken, were as sharp as a piece of fine china and slivers of the largest mussel shell were one of the regular knives of the Coast people. Tales even tell of a boy who killed his sister's cruel husband by crawling into his bed and stabbing him with a mussel shell knife.

A kind of limpet which the Whites call "China slippers," is so tiny that it is not worth while to cut it from the rocks. Chinook women never bothered with it but Klallam women had a plan for removing it and cooking it all in one action. They found a flat rock, covered with the "slippers," laid seaweed on the rock and put hot stones on the seaweed. As the limpets cooked, their hold on the rock was loosened and then they could be scraped off and carried home. Sometimes it was more convenient to pry off a slab of rock, take the whole thing home and cook it.

At low tide women might find crabs in the pools, particularly those called soft shelled because in summer, when the shell is changing, it is so soft that it can be boiled and eaten with the crab. The larger ones lived in deep water where the men went out in canoes to dip them up by the netful. Such crabs are a feature of coast restaurants today.

Up the streams, the women could, get herring eggs. They might scrape these off the sticks and stones at the bottom of a stream, where the fish liked, to lay them, but a better way was to prepare the ground by laying cedar branches under the water. After the spawning season, the branch would be found full of eggs and each woman could pull out her own and take it home.

B. FULL NAMES OF THE FISH AND SEAFOOD COMMONLY USED IN WESTERN WASHINGTON AND OREGON

(This list gives only the fish generally used and omits many rarer ones, caught in small quantities. Not all of them were caught by all the tribes.)

COMMON NAME	SCIENTIFIC NAME
CLAMS	
Bent Nose	*Macoma*
Butter clam	*Saxidomus giganteus*
Cockle	*Cardium corbis*
Geoduck	*Panope generosa*
Horse clam	*Schizothaerus nuttalli*
Piddock	*Pholadidea penita*
Razor clam	*Siliqua patula*
Rock clam	*Venerupis staminea*
COD AND ROCKFISH (The names are often interchanged)	*Gadus macrocephalus*
Long jawed rockfish	*Sebastodes pancispinus*
Yellow rockfish	*Sebastodes maliger*
CRABS	
Softshell	*Cancer productus*
Red	*Cancer magister*
Cultus cod (really a greenling)	*Ophnodon elongatus*
Dog fish	*Squalus suckleyi*
Eulachon (candle fish)	*Thaleicthys pacificus*
Flounder	*Platicthys stellatus*
Halibut	*Hippoglossus stenolepis*
Herring	*Clupea pallasi*
Lamprey	*Lampetra or Entosphenus*
Limpet (China slippers)	*Nodiolus flabellus*
Mussel	*Mytilus californianus, Medulis*
Oyster	*Ostealurida expansa*
SALMON	
Chinook (king, spring)	*Oncorhynchos tschawytscha*
Sockeye (red, blueback)	*Oncorhynchos nerka*
Coho (silver)	*Oncorhynchos kisutch*
Humpback	*Oncorhynchos garbuscha*
Dog (chum)	*Onchorhynchos keta*
Sculpin	*Scorpaenicthys marmoratus*
Smelt	*Hypomesus pretiosus*
Sole	*Psettichthys melanostictus*
Steelhead trout	*Salmo gairdneri*
Sturgeon	*Accipenser transmontanus*