

A Salmon Homecoming Story-based Curriculum For Primary Environmental Education

Presented By



The Tribal Communities of the Pacific Northwest
The Northwest Indian Fisheries Commission
The Seattle Aquarium

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SALMON HOMECOMING: HOW IT ALL CONNECTS

This curriculum is an element of the Salmon Homecoming Education Program. While it is designed to be used by teachers and students at the primary level, it is in many ways applicable to all ages. Other elements of the Salmon Homecoming program include:

The Salmon Homecoming Celebration, held on the Seattle waterfront at the beginning of each school year. This event is based on the premise that through traditional celebration, we not only acknowledge the great significance of a healthy environment to the salmon, but also the connection of these things to our own survival. Our watersheds are our homes. We must appreciate them. We must care for them. Significantly, the Salmon Homecoming Celebration is as much a celebration of peace and kinship between people as it is between each of us and our environment. True progress toward harmony lies not in mindless exploitation and polarization but in understanding and cooperation, built on a foundation of acceptance and understanding.

The Tribal Speakers Bureau: "Voice For The Silent", is a part of Salmon Homecoming. coordinated through the Indian Education Office of the Superintendent of Public Instruction. Its purpose is to encourage face-to-face interaction between teachers and students throughout the state with tribal elders and other representatives of the tribes who have much to offer to the education process. There is, in fact, no substitute for "going to the source" for information about the tribes, or to access the wealth of knowledge and wisdom about our connection with the watersheds in which we all live.

Other elements of Salmon Homecoming include this and other material, as well as the Salmon Homecoming Celebration and video documentaries, publications, etc., some of which are listed in the Teacher Resources section.

The Salmon Homecoming Education Program is quickly expanding into one of the most comprehensive environmental education programs in the state today. There is a constantly increasing interest in connecting with and learning about both contemporary and traditional tribal concepts about natural resources and the environment within which we all live.

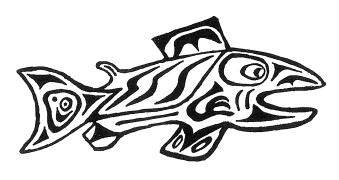
In this time of environmental crisis, this curriculum is a reminder to children that there is hope. Sometimes when children are bombarded with news on ozone holes, the extinction of one species after another, the desolation of habitat, they are forced to live under a sense of impending destruction. A counterproductive feeling of helplessness and hopelessness can loom over them much as the threat of the bomb loomed over the lives of their parents and grandparents.

We must encourage our children, and let them know that there is a positive future if we all work together to help make that future happen. As a teacher who visits many schools I am concerned about the many children who feel they don't belong. This curriculum, through its stories, its message of joining with the rest of the watershed, its hands-on activities and its games, supports the idea that all of us are MEANT TO BE HERE.

We are all ONE WITH THE WATERSHED.

-Bill Frank, Jr. Chairman, Northwest Indian Fisheries Commission

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ONE WITH THE WATERSHED

A Story-based Curriculum For Primary Environmental Education

A Salmon Homecoming Production

Presented By The Tribal Communities of The Pacific Northwest, The Northwest Indian Fisheries Commission AndThe Seattle Aquarium

Featuring Original Curriculum Text, Concepts And Illustrations By Tom Heidlebaugh, Director of the Cedar Tree Institute, editor of OceanEdge, the Journal of Applied Storytelling, and Storyteller.

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INTRODUCTION: THE CARE OF RIVERS

Essentially, the purpose of One With The Watershed is to help young people learn about the salmon and their ecology through Story, Experience and Information. Children learn that what sustains the fish sustains us all. We can share the watershed in harmony. The Salmon Homecoming, sponsored by the Tribal Communities of the Pacific Northwest, the Northwest Indian Fisheries Commission and the Seattle Aquarium, supports this vision.

We honor the salmon because it gives us a great gift. Salmon provides us with unceasing food, as long as we are respectful, responsible and careful. What do we give salmon in return? We give respect, care and response to the watershed that salmon comes home to.

The salmon comes home, after its great ocean journey, to a pool in a stream. In this curriculum, we call the watershed the "Village of the Salmon People". This includes hillsides and forests, cities and pavement. The salmon come home to bears and stoneflies, to pollution and dammed water. Salmon come home to both our bad decisions and stream restorations. Because we are part of the watershed, the salmon returns to us. This is why we must study how to welcome them, how to share the process of restoration with all who welcome the salmon home.

Because the Watershed is so complex, the technology of Storytelling is used. This traditional educational form presents an ecological paradigm of respectfulness. It is a way of immersing students in an experiential narrative that challenges their imagination. This curriculum is built around an ancient Squamish story, echoed by many of the Salish people, about a time long ago, when the salmon went away. Within the ancient tale is a teaching. What must we do, when the salmon go away again? From the oldest traditions, we gain a fresh approach to environmental education.

Basic Native American environmental themes, as well as a process with which the watershed can be understood, are at the heart of this material. When children recognize their relationship with the rest of the natural world, they feel able to expand their knowledge. This story-based work is part of the greater work of healing. "The care of rivers," an elder said, "begins in the human heart."

HOW TO BE PART OF THE STORY:

The Four 'R's of Native Ecology.

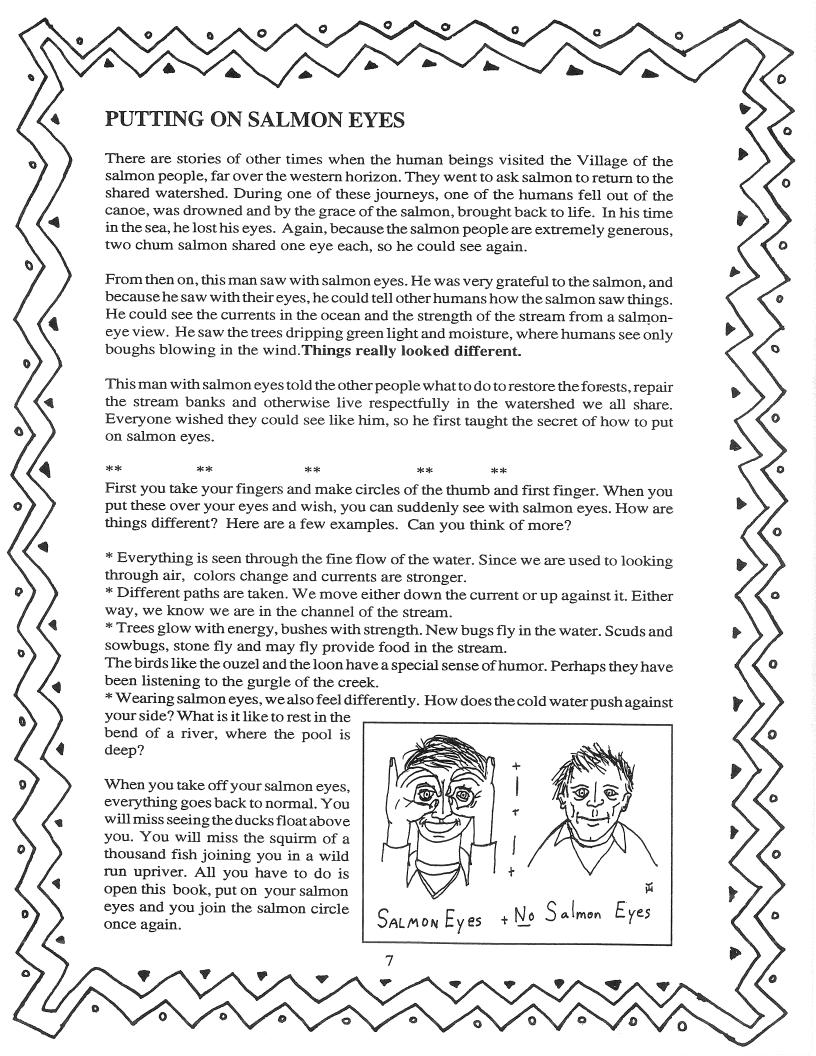
Native American environmentalism has its heart in the middle of the circle of life. We are connected with every other animal, with the rocks, trees, the science and the mystery of the world. Traditional teaching is done through story. A story is able to provide experience and a context in which our children can participate.

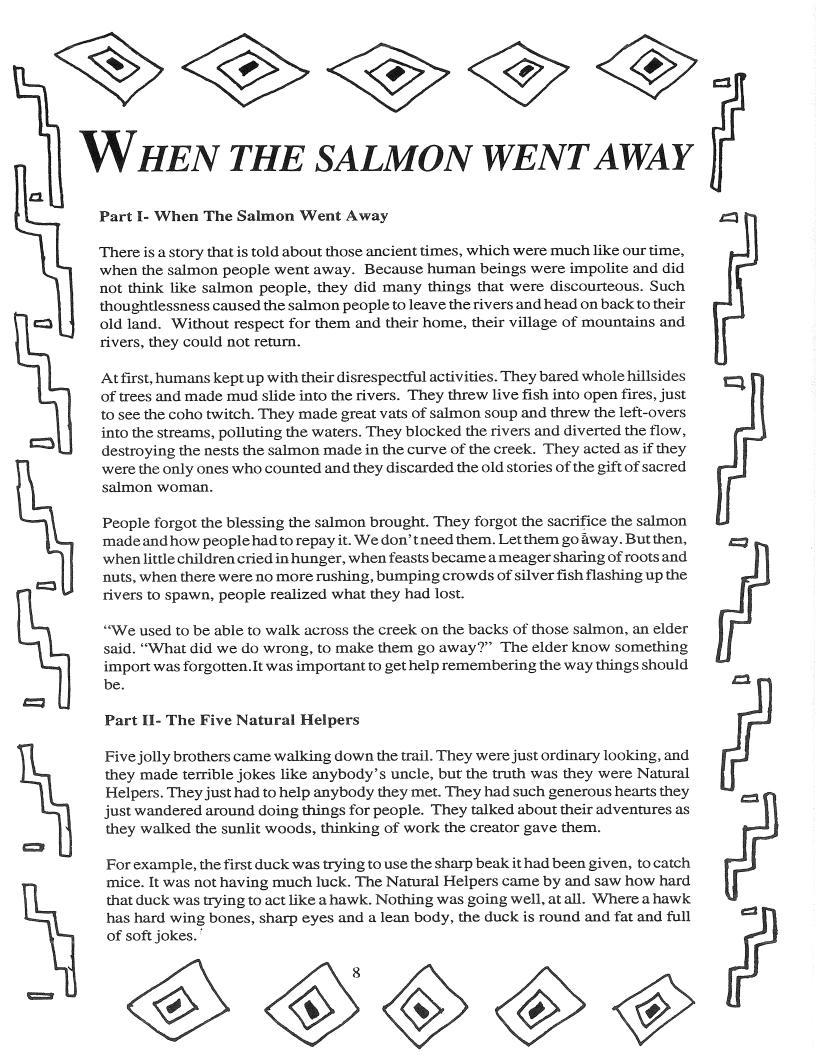
Much contemporary primary level environmental education emphasizes how difficult things are in this world. Perhaps we reflect our adult fears when we really want to share our love for Earth and Sky. Do we want our children to be part of the story of holes in the ozone, habitat disappearance and species extinction? Rather than begin their learning in what can be negative and alienating, this book encourages another way.

Four areas of Native American teachings are fundamental. These Four R's' are steps to understanding:

- * **RESPECT** which is the beginning of wisdom. Our children learn respect when they are shown their place with others in this circle of life. If they believe paying attention to the environment teaches them what they need to know, they will listen with profound interest. Children naturally listen to whoever and whatever will help them grow.
- * **RESPONSIBILITY** is the opposite of passivity. We want our children to know that they have work to do and that they are able to do it. They are able to respond when they are shown how to act, with courtesy and joy, in the presence of salmon, bear, cedar tree and the music of the lark.
- * **RELATIONSHIP** the old stories tell us that once all beings could communicate. If we give our children tasks that help them find connection with things they will have a goal they can share with every other being on earth. We are joined in the circle of life with the cloud and its rain, with parents and teachers and their intentions.
- * **REASON** each of our children has a purpose in the world, because each one of us participates in the community of life. The story of the watershed has a great purpose. Here we sustain and maintain each other. Children hunger to learn the details of all this experience, so they can be part of it. Then they have a reason to be in the watershed.

This book is a means to follow these four processes, to enable all of us to move away from the idea of salmon as only a commodity, just something to sell and not an integral part of a greater unity. When we see ourselves as participants, dwellers in the "Village of The Salmon People", the salmon can return to their rivers and nests. Our children learn how to be ONE WITH THE WATERSHED, our adult fear can be replaced by a shared vision of commitment to healing our environment.





So, these brothers just gave the duck a nice orange bill. They took that small, sharp hunter's beak and pulled it out so it was nice and round like the rest of the duck. Of course, the duck gave up chasing mice, once it had a bill and had to eat bugs and suck pond scum. This first duck wasn't too happy about changing, but when it finally got used to the gift of the brothers, it began to laugh, and duck are laughing to this day. Go to any pond and listen to them chuckle to each other about how funny they looked trying to act like hawks.

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Another time, those brothers found this very tired fish lying at the bottom of the sea, just worn out from rushing around the sea. That fish wanted to be as strong as a dogfish. When this fish saw a little shark swimming along swift and strong, eating everything it found, that flat fish wanted to be the same.

The brothers thought it would be better instead to give the fish two eyes on one side of its head. They just grabbed its eyes and rolled them over so they were both together. They left the mouth where it was. At first, the fish was annoyed, because it stayed fat and flat and on the bottom. But soon it realized the changes brought by the five brothers were more a part of its true nature. That was how the flounder got to be flat and funny as it is now.

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Walking over the mountain, sent on their long journey to help the human beings, they found a rabbit doing its war dance, getting set to go fight this bobcat. That rabbit had on armor and was wishing it had long claws like its enemy, so it could fight better. The rabbit asked the brothers to make it bounce and snarl and be scary, so it could protect its family from the wild cat.

Instead, the natural helpers grabbed it by its tiny ears and pretty little feet and pulled. Suddenly it had long ears and long feet. The brothers explained that this would help the rabbit hear the bobcat coming and be able to run and hide. Then, that rabbit had to give up hunting and become the hunted. This did not make it very happy, until it realized that it was able to run and hide better than anybody else. You better believe that rabbit was surprised at the help it got, but finally accepted its changes and thanked the brothers.

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This tree called Madrona wanted to be straight strong, like the red cedar. When the natural helpers passed by on their way to help human beings, they heard the trees complaint. Indeed, the madrona was a flabby tree, with tiny leaves. It was the color of mud. "I'm just not useful. I'm just not exciting. Nobody wants me for anything."

They made the Madrona so solid nobody could use it for building or carving, too strong for anything except firewood. The Madrona was about to complain when it caught a look at itself in a tidepool and knew it was specially beautiful and even redder than

the cedar. With its big new leaves and peeling skin, the Madrona went to live in groves along the shore, just like the cedar, but especially visible, so paddlers could use the bright colors for navigation on the Northwest waters.

Part III- How Can We Help You?

Finally, these Natural Helpers came to their destination, they were sent to help the human elder. The elder was mourning the salmon being gone and was not prepared for their arrival.

"Hey, you old one, why are you looking so sad?" asked Brother PEOPLE HELPER, starting the conversation.

"We made a few mistakes, and the salmon went back to their village. We can't remember what we should do," said the elder, voice full of pain.

"Don't worry, you will be helped out. You just have to ask for it."

So the elder bowed and said, "Please help us. I can't stand to hear the babies crying from hunger."

The five Natural Helpers laughed, and walked down that river where all the trees had been cut, past the dam that made it impossible for the salmon to reach their nests, by the pool that was full of sour fish soup and finally to the ocean beach where all the mud from the rivers was piled up on the beach. As the brothers asked questions, the elder became more and more ashamed.

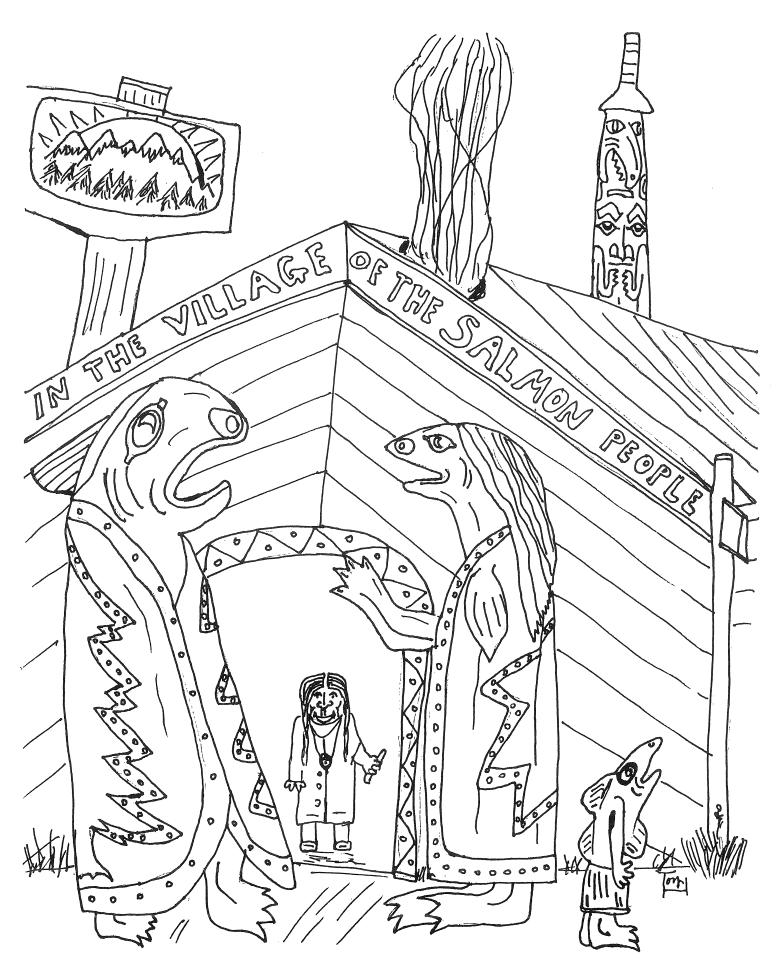
"If you can find the village of the salmon people and get them to come back to the river, we promise we will never again be so careless. They will never want to go away again."

The brothers turned to each other and smiled. It was clear to them that the people needed a strong lesson of respectfulness. They realized that this might be the greatest work the brothers ever performed. First the brothers had to find out where the salmon went. Since the salmon had asked every being to help them keep it a secret, the brothers had to go to the most high Sun.

Since the Sun and the powerful Thunderbird needed to be tricked into revealing the hiding place, the brothers disguised themselves as a huge sparkling salmon to get their attention, and then an even bigger whale. When they finally got the Sun's attention, by allowing Thunderbird to harpoon and try to lift the brother in the whale disguise up into the sky, they proved to the Sun how serious they were. A bright solar ray was sent out over the sea, pointing the way to the island of the salmon people, where their village of six tribes hid them from the greedy human beings.

One of the brothers turned into a canoe and the other brothers got in and off they paddled, following the directions of the Sun to the secret land of the salmon nation.

Being natural helpers, they received lots of help. The wild duck, finally grateful for



its useful bill, showed them how to paddle out into the ocean where the salmon people lived. There they turned into orcas so they could swim down to the village at the bottom of the sea.

Part IV- In The Village of The Salmon People

How beautiful it was, how different from the way people lived, but how similar. The Village of The Salmon People had six great long houses, one for each tribe in their nation. The carved totem poles and marvelous paintings on the walls and door seemed to move with life. When the brothers arrived, many salmon were just coming out of the ocean and stepping onto their feast grounds where salmon ceremonies were held. When the salmon people removed their sparkling salmon skins, they put on beautiful, multi-colored button blanket robes. They looked like people, but they seemed happier than human beings.

"Who are you?" The chief of the salmon people asked, approaching the natural helpers.

"We are here at the request of the human beings, to ask you to come back to the rivers so they can eat again."

"Do you think they are ready for us to return? Will they do things better if we come back?"

"They have promised," said Snow Helper.

"They promised before. How can we know they are willing to learn?"

"Just give them another chance," said Fire Helper.

"Did they give us another chance when they stomped their feet in our nests?" asked the chief.

"We'll help them do better," said Water Helper.

"Can you keep them from catching too many of us, from wasting our gift of flesh and spirit?" the chief demanded.

"Let us bring a few them here, so you can see," pleaded People Helper.

The chief turned to the rest of the salmon people, gathered on the beach.

"We will give those human beings the Test of the Feast. If they can pass it, we will come back to their world."

The Brother Helpers laughed warmly, waved goodby to all the salmon and quick as a bubble they rose to the surface and went to the beach where the human elder sat on a log, waiting for them. They explained that the salmon invited them to a great meal. The elder thought for a long time and then looked down the beach where a young boy and girl were playing. They were carefully building a house out of cedar sticks. The elder called them over.

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- "My grandson. My granddaughter. What is the first thing I ever taught you?"
- "To listen," they answered.
- "And how did I teach you to listen?"
- "You took us out into the woods and sat us at the feet of a cedar tree," said the boy.
- "And how did I ask you to sit?"
- "With respect," said the girl.
- "And how do we show respect?"
- "By opening our hearts to what the tree had to say to us. By giving the cedar tree the gift of our attention," they both answered. Satisfied with their answer, they were going where the salmon were hiding. They were told to bring something as a gift.

The elder told the children. Each child brought one of the sticks they had been building with on the beach.

The five brothers could see that the people were finally ready to go to the salmon village. Catching the tide and riding the current, they were soon far out over the horizon. The sight of land was gone. The human beings felt lost, but the natural helpers just laughed, they were so happy to be going back to the beautiful Village of The Salmon People.

In fact, they laughed and sang so hard the salmon people heard them coming from over the water.

The chief said to two of his young people, "We will have to feed these guests. You will have to do that thing that only we salmon do." And the young people stepped into the water, threw their robes over their heads until they were under the waves and turned into large salmon who swam into the nets to be caught. This was the beginning of the test.

When the five natural helpers and the three people from the human village stepped ashore, they were greeted by a line of salmon people, in their beautiful rainbow button-blanket robes, playing their resounding drums and dancing in a line across the sand, singing the welcome song. Because the human beings looked confused, the first thing the salmon people did was provide them with salmon eyes. This enabled to see the village of the salmon people as it really was.

Part V- The Gift The Children Brought

Remember that the salmon people do not see the world like you and I do.

- *Where we look for a warm, flat, dry place to build our house, they look for cold, pebbly, wet place where their eggs can mature and become fry.
- * Where we like to have possessions to feel strong, the salmon like to give things away, including themselves. Their generosity gives us a completely different idea of wealth and sharing.
- * When the salmon people die, they come back again. This means they live in a circle of life, in which the salmon come back in migration to feed other people and lay their eggs, die off to be revived in their endless return. Because we don't come back after we die, we don't accept dying the way salmon nations do.
- * Where people only see other human beings as friends, the salmon, with its powers (such as homestream smell, goodnest sight, magnetic awareness and easy food finding) knows that everything helps it survive. The salmon knows to be thankful to the rain, the wind and the sloping hill that brings the rain down to the redd, the nest that is home to the salmon.

Also, the salmon with the special, magic eyes they put on for their adventures through the ocean and the watershed, can see their way through even the most dangerous and difficult experience. Perhaps this is the reason they think differently from us. In the salmon view of the watershed, in the flow of the stream, everything comes together.

As the line of welcoming chiefs thanked the natural helpers, they asked permission to come ashore in the land of the six salmon nations. This was the first time human beings had ever been there. The chiefs waited quietly as Brother Wind Helper announced who they were and where they came from..

"Of course, didn't we send for them? Did they remember to bring us a gift from their world?"

The children looked at the sticks they had grabbed, and then held them forward.

"Now this is a gift," the chiefs agreed. A piece of the watershed from their beach. This cedar is a sign that you care. Also, we need dry wood in our wet world. You are welcome to the feast.

The elder and two children and the five natural helpers marched between two lines of salmon people to the great feast, with all the foods of the seashore. There were 7 species of seaweed, sea urchins in herring roe, eulechon oil with halibut eggs and finally, rich, pink, steaming salmon.

Before the feast began, the chief asked the honored guests from the human world, eat carefully. He told them to think of the gift the salmon people gave. When they were finished he told them to save every one of the bones so they could be returned to the water.

After the feast, everyone put the bones in a blanket held by the salmon elders. They

said a prayer of thanks and returned the bones to the water, where they immediately turned back into the salmon boy and salmon girl they had been before the feast. Everyone applauded their transformation and thanked them for their gift.

Part VI- The Test of The Feast

The next night, at the feast, after a day of lessons on how to care for the watershed by the elders of the salmon nation, the young human beings grew curious. Without consulting their elder, they hid a cheekbone and a tailbone under their seat. When the rest of the bones were carefully placed in the blanket and returned to the ocean again, the young salmon people rose up out of the water. One was holding its robe over its face, unwilling to let anyone see. The other was standing on one leg, screaming in pain.

The salmon boy said he could not show his face because half of it was missing. Someone had not returned one of his bones. The salmon girl said only part of her tailbone was returned and now she only had half her legs and it hurt terribly.

Ashamed, the human children pretended to look under their seats on the beach. The boy found the cheek bone and quickly returned it to the salmon elder. The girl found where she had buried the tail bone, and feeling equally embarrassed, returned it to the elders, who then carefully placed the bones in the sea.

The salmon boy ducked under the waves and came up whole. The salmon girl dropped beneath the surf and rose standing on two legs and smiling. Again, everyone on the beach cheered.

The human children looked at their elder, who stared back at them reproachfully. He had tried to teach them how to behave.

So, the human children stood before the salmon boy and salmon girl, faced the salmon chiefs and elders and apologized. "We made a mistake. We were curious and we didn't listen to you. We have been taught better than this. We promise to do better."

Then, the chief answered for all the salmon people. "Because you have apologized, you passed the test of the feast. We will return to your streams. But only so long as you keep learning. Until you see life through salmon eyes you cannot be expected to understand what we want. But you have shown us respect and that is the beginning of wisdom. You humans keep changing and gaining knowledge. As long as you act as humbly as you are now, we will be able to return every year, as regularly as this story is told."

The salmon people were joyous that the human children passed the Test of the Feast. "Now we can teach you our secrets. Now we can return to our home in the watershed. We get so tired of being in one place. Salmon must see trees. We have a saying: We salmon know when we are almost home when we see the reflection of trees over overhead."

PART VII. THE SECRET OF THE SALMON PEOPLE

The children learned many things during the rest of their visit to the island of the salmon people. They understood the sacrifice of the salmon. They understand that the test of the feast was ongoing, and they should never consume too much. They learned how to take care of the watershed, which is like taking care of the bones of the salmon. They were shown how to keep the creeks clear and clean and, finally, study how to look at the streams and forests through the eyes of a salmon.

Things look really different through salmon eyes," they agreed.

The children and their elder were taught four lessons to restore the watershed. When the chiefs and elders finally thought the stories were heard and the teachings learned, they agreed it was time for the humans to return to their world of sunlight and fresh air and tall trees and lapping waves.

"When you have done your work, you will see us swimming back in our millions," the salmon chief said in his farewell speech.

Then the five brothers and the three humans rode happily back to land, thinking about all the things they would have to do to restore the home before the salmon could come home. They remembered the lessons about their responsibility to teach all the other human beings how to restore the home of the salmon people.

When they reached the beach of this world, the human community was waiting. Their elder walked up the tideflat with them to greet the human chiefs.

"We have learned why the salmon went away. We have asked them to come home. They will be coming back, but we have much work to do and we have to learn to look with salmon eyes, sometimes. The greatest secret is that we share the watershed. When we learn this, the salmon people will return."

Everybody cheered. The salmon going away frightened them. People worked hard to carry out the lessons brought back from the salmon village. When the salmon came back to the healed riverbanks and prepared nests, giving themselves so we could eat, their bones were respectfully return to the ocean in honor of the first salmon returning from the sea. And the story was told in many different ways, so people could learn to be one with the watershed, as the salmon people taught.

(The four lessons are provided in this book so we can explore the secrets the salmon people shared. As students and teachers work through the book they will learn the things the salmon wanted us to learn so we could be One with the rest of the watershed.)

FOUR LESSONS FROM THE VILLAGE OF THE SALMON PEOPLE: The home of the salmon is the whole watershed. This includes the streams, the drainage to the streams, the vegetation along the streams and the people who live in the streams. This includes what impacts the watershed, the rain and the machine straightened creek bed. The animals who live along the stream are part of this watershed. In this way, we all live in the Village of The Salmon People, and what we do affects how the fish survive. When the salmon went away, long ago, they left their watershed, the bends of streams and the shaded pools, because human beings were disrespectful. The six tribes of the salmon people returned to their island, far over the western horizon, when we took too many of them and did not consider them when we did things. We did not treat their gift as precious and they all went away. These lessons help us learn to bring the salmon people home. We can ask: * Who are the five natural helpers? How do they act on our lives in the watershed? An example is Brother Rain, who lives in a circle of evaporation and precipitation, flowing through the watershed to the sea and rising again. * What is the Salmon Village that receives the helpers? It is the trees and plants, the Earth and its shape, hills and valleys, streams, rivers and finally the ocean. It is also our actions and our decisions that define this home. * How do the salmon journey to their village? What is their long pilgrimage? How do the salmon travel in their watershed? How do we sustain the flow of the water as the path the salmon take to their redd, their nest? How do we participate in this flow? How do we slow the flow by unbending streams, draining riparian zones, blocking creeks, damming rivers, polluting habitat? How can we open the flow again? * In the return of the salmon people to their source, their home in the watershed, they also return to us. We are part of the watershed, along with the forces which act on the environment, the form that catches the forces, the flow that carries those forces through the form. In this way, we are also a basic part of the resource, along with the salmon, clean water and the way the water moves. The purpose of these tales, teachings, exercises and games is to learn what it means to be ONE WITH THE WATERSHED. 17

THE FIVE NATURAL HELPERS - the first tale told by the Salmon People (part of the training the salmon people gave the children and their elder on the island of the Six Nations).

Our salmon village is called the watershed. It has many parts. From the snowy mountain top to the salty sea, we share our village with all kinds of life. Our elders say we share ourselves by providing feasts for those who live in the watershed. We bring other gifts to the world.

Trees shade our nests so our eggs stay cool and healthy. They thank us for the bodies we leave after our circle of life is completed. This gives them soil to sink their roots in. Also, those millions of insects, mayflies and mosquitoes, are there for us to eat so they don't grow too numerous for the watershed.

With our salmon eyes we see everything in balance. This means that everyone gets to live their life cycle out. If the balance tips over there is trouble. We went away, long ago, when the balance was lost. We said that human beings were disrespectful. Because of this, we left our watershed village to travel far over the Western horizon to our secret island.

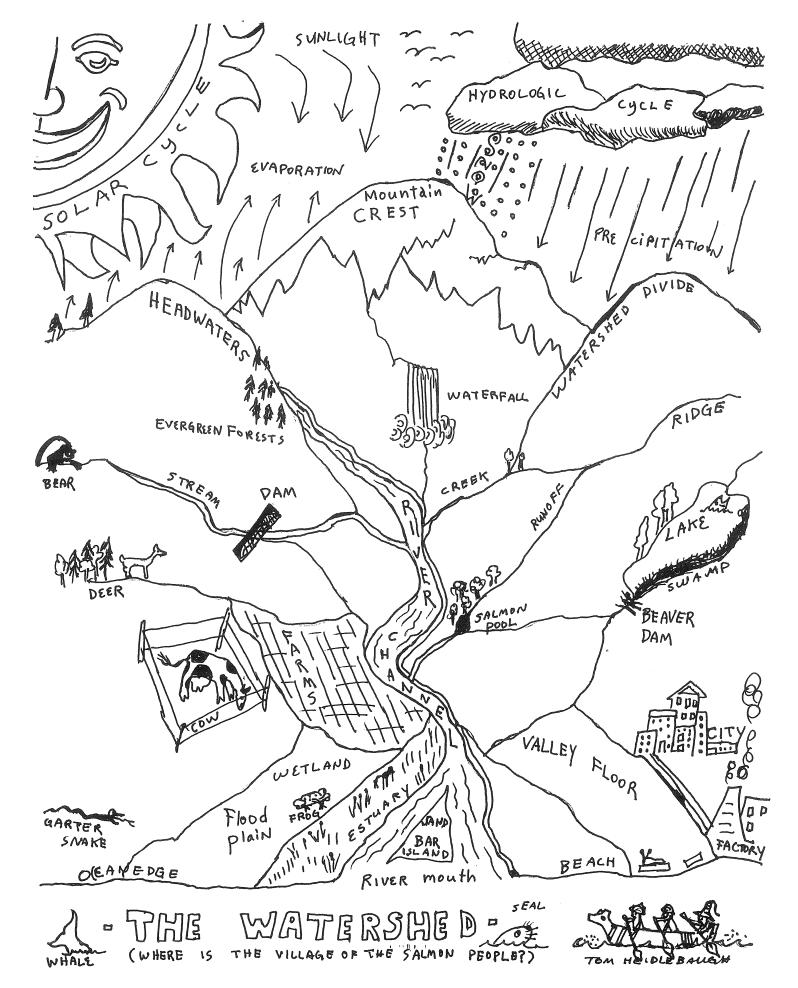
When human beings realized we were really gone, they begged us return to the watershed, to the wonderful streams and rivers of the Puget Sound. The Creator of All Good Things sent five brothers. These five brothers were called Natural Helpers. Whenever they saw somebody who needed something, they had to help out.

We know many stories about the adventures of the Natural Helpers. They wandered the hills doing what they thought was necessary. They helped the duck change from having a hawk's beak to a duck's bill. They helped the rabbit learn how to run away from trouble, instead of fighting. They helped the frog learn how to sleep through winter. They gave the halibut eyes on one side of its face, helped the madrona tree stay red and they finally brought the human beings, to learn from us.

Now the duck may have thought it wanted a nice, sharp bill for hunting. The rabbit may have wanted to be a fierce fighter. The frog wanted to stay up all winter, dancing. But the Natural Helpers knew better. The changes they made can be seen all over the watershed. When we stand by a brook running down a hill, we can still hear their laughter at the next good joke.

Brother Fire Helper, Brother Water Helper, Brother Wind Helper, Brother Earth Helper and Brother People Helper knew they would need all their powers to teach human beings how to be respectful to us and our village, but they took on the task with determination.

These Natural Helpers helped human beings search for us, after we went away. People did not know how to look for us. They did not know where to find us. Through a series of tricks, trips and trust games with whales, Thunderbird and the Sun, itself, these five brothers learned the secret of the salmon.



They helped people explore our mystery. The Five Helpers showed people where our tribes, the Coho, the Chinook, the Pink, the Sockeye, the Steelhead and the Chum were hiding. They taught people how to listen to what we needed.

They taught people how to be respectful of us and the gifts we bring. Finally, they showed the human beings how to live. To tell every teaching of the Five Brothers will take a book as big as a planet, but when ever the sun lights up a forest glade, or a drop of rain falls on a dusty leaf, we know the Natural Helpers are doing their work. Everyone who knows this joins in, working together, united by the brothers and ready to be ONE WITH THE WATERSHED.

The First Teaching:

THE CIRCLES OF THE FIVE NATURAL HELPERS - The Forces of Nature, like Rain falling.

The elders tell us that all of Creation is a circle. Within this great Circle of Life are many smaller circles. It is said that the work of the natural helpers is to help us find our place in the Circle of Life. For more of the story of the natural helpers we have to learn to see invisible things.

How can we do this? First we learn the names of these Five Brothers who are the five circles of the natural world and the five natural helpers from the old story:

- * Brother Fire Helper teaches us how to be warm and brave. He travels any distance. He goes to the sun and back regularly just to make sure the solar cycle is still there. On long, rainy, foggy days in winter it is comforting to remember how Brother Fire Helper is working. Sometimes he looks like a flame with fingers. When people were chilly and soggy all the time Brother Fire Helper taught them how to make just enough fire to get warm and dry. The story of how he brought fire to the hungry is still being told in kitchens everywhere. Whenever we feel the sun push through the clouds we know who is helping, invisible and full of light.
- *Brother Earth Helper teaches us how to be patient. When we pay attention to the slow movement of things we learn how to love where we are. The circle of the Earth is much easier to see than the circle of the sun. So many pebbles are round because river water rolls them downstream. So many hills are round where the rain wears them smooth. Even so Brother Earth Helper is visible mainly through the many kinds of soil and rock that make up the watershed. Whenever we feel the solid land under us we know who is slowly working underground as dark as Brother Fire is bright.
- * Brother Water Helper teaches us about purity. When the rain falls it cleans the air and refreshes the earth. We have no difficulty seeing rain fall but the invisible lifting of water in evaporation is much more difficult to know. We know how we are all mostly water but few of us remember the story of the wrestling match between Brother Fire and Brother Water. It was funny to see them try to keep out of each other's way. For certainly if one brother was stronger than the other we would have either a very dry world or all be fish living underwater.

*Brother Wind Helper teaches us what it feels like to be free. There is a great tale about the time the wind stopped blowing after it was trapped in a cave in the Olympic Mountains. Nothing could hold the wind long of course. We need it too much. Now we feel the wind roll over the mountains and across the water. Nothing can stop it. We are able to use wind ourselves as our lungs pump just like Brother Wind Helper taught us. He knows where all the mountaintops are and the best way to reach where we are going. If only we could join the wind but that is really for the birds to do.

* Brother People Helper, of course, teaches human beings how we are related to all the other people of the watershed. This helper knows how people sometimes become confused and forget why they are here. With gentle help like encouraging us to walk easily in the rain or play happily with each other we can remember that we belong with all the other animals. When we get this sense of equality we and all the other animals can learn what we want to know from each other.

Each of the Natural Helpers tell stories we can see in the air and water around us. We see each of the natural helpers when we learn to look with Salmon Eyes. In the circle of life everything comes together. With Salmon Eyes it is possible to see the five natural helpers in the watershed.

Here are some examples of how the natural helpers, like Brother Fire Helper and his solar cycle tell us stories about themselves.

"I travel a very long way. 93 million miles is nothing to me. That is how far I have to travel to get from the sun to the Earth. In this journey I become light so I can move as fast as anything in the universe. There is a famous story of how Raven hid me so I could be a gift to the world. Of course since I am so powerful you have to be careful how to use me. As fire I can be dangerous. When I enter the watershed I hide in trees and grass. Everyone gets excited when I come out.

"For example, when I enter a pond in the watershed I interact with small living things to make algae and phytoplankton immediately making food that salmon-like. The solar cycle is fun for everybody because when I fall I make things warm and when I rise I move things around. Since hot air rises when I heat a column of air it can lift eagles or make wind blow."

Brother Water Helper agrees. The brothers always travel together even though they make very different circles in the watershed. Brother Water Helper in his hydrologic cycle catches a lift from Brother Fire Helper since all the brothers travel through the watershed together.

"When I fall as rain into the land and trees of the watershed I also rise up. With the help of the solar cycle I rise in very tiny drops that fall again in a never ending cycle. If Fire comes from a long way off Water never goes away." In fact, each child or each tree is mostly made of water.

"I am the same water the dinosaurs drank and you drink. There is never any more or less water than there is today. Water was created all at once and this is a great lesson about balance. That is why I am so special. That is why it is so important to keep me clean and sweet. I was only made once to return over and over again." Just think of all the animals and people and trees who took the same drink of water over thousands of years.

- "Let me give you a lesson in the colors of water. When I run clear as glass down a stream that is the best for the salmon. They can see where bugs are to eat. They see how to find a nest. They see an enemy coming and can run away. Everyone enjoys the sparkling clean river. Taste so good. I have other colors, though, be careful."
- * White water comes right off the mountain snow. The glacier grinds up tiny particles of rock that show up as foaming milky streams. With salmon eyes we are able to swim in this water but we prefer less murky flow.
- * Red water might mean the water is moving too slow. The roots of cedar and fir tree soak in the pond and fill it with a chemical called tannin, which is in tea. We can live in this water for a while, but unless it keeps flowing we move on.
- * Green water is pretty yucky. It is usually the result of too much algae. When there is pollution the sun can start a bloom of bacteria and if you humans can drink it you better believe salmon don't want to.
- * Brown water usually means there has been bad logging erosion run-off from side streams and flooding. Some brown water is to be expected when Brother Rain Helper works overtime. Many times brown water makes life very difficult for the salmon. Silt is fine mud that clogs up our gills fills up our nests and ruins rivers. We can see the bugs we need to eat. We can escape the big fish that eat us. We can see where we should go to rest and lay our eggs.
- * Yellow Black Purple and Orange water I don't even want to talk about. People have done the strangest things to water. Sometimes it isn't even safe to smell a pond. These colors you should avoid. If salmon can't live in it, don't drink it. Isn't it wonderful that most of the Earth is covered by water? The lakes and oceans are full of life. Nobody wants to see any less water but when lakes are polluted and oceans are filled with oil and the deep wells are drained or become too salty it is the same as if there were less water. Then things are out of balance and it is time to learn much more about Brother Water and how I help. Stay wet!

RAIN WALK-

Salmoneyes exercises for wet days with Brother Rain Helper.

I- Go out into the playground or the sidewalks on a rainy day and watch how people move. Do they walk slowly with a smile on their faces? Or do they hunch over as if they were getting little blows from each raindrop? Do people talk about rainy weather as bad? Why do you think this is?

Here are some things to try. The next time it rains walk through it standing up straight. Move slowly. Don't flinch each time the raindrop hits you on your face or your arm or your back. Remember how you used to like to jump in mudpuddles before your parents told you it was a rather muddy habit? Well, here is the chance to do it without getting mud all over you.

Feel how you are part of the cycle of the rain. Do you see how the roots of trees receive the rain? How do raindrops clean the leaves of the trees and drip from the needles of the evergreens? Rain falling is a lovely experience. If you walk through it easily you can always enjoy being out on a rainy day.

II - When there is no rain imagine how everyone else in the watershed feels. How does a mountain feel without the rain turning into snow and lying year 'round in all its crevices? Where is it ever going to get enough water to fill the creeks and rivers? What does a tree do when it hasn't received rain for a long time? Can it spread its roots wider or deeper? How do dogs and birds drink when the puddles dry up?

In the old stories rain is always a wonder. In one ancient tale when a group of heroes had the chance to drive winter away, to send it back forever to its home in the North they chose not to. This is because we need the snow and ice. The same goes for rain. We need it for a rich, strong watershed.

If we can imagine how everyone feels without rain we can also imagine how to be rain joining the clouds that pass by, and falling down with them helping bring water where it needs to be. Where are all the places water can go in this world? As you name them, describe them, or draw them you become a stronger and more aware part of the watershed yourself.



SKOOKUM CHUCK!

A Salmoneyes game. When you play this imagine that you are playing with the Natural Helpers.

Skookum Chuck means good or clean or pure water in the Chinook language. When we play this old game from the Pacific Northwest it reminds us how children in all times and cultures played much the same way. This game helps us look at our environment with new eyes because it is similar to a game played by modern children called SCISSORS/PAPER/ROCK and a old Japanese game called Jankempo.

This game uses three elements: Earth - Water - Fire, and the signs are:

EARTH with the right hand held out like a level field, palm flat and facing downward.

WATER- Point your fingers and thumb down like falling rain into the field.

FIRE- Raise your hand like fire going up into the air. You can wiggle your fingers if you like.

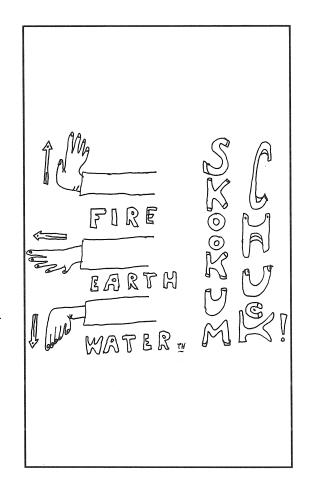
The song goes: EARTH holds WATER WATER stops FIRE FIRE burns EARTH

and the game goes like this -

* Two players face each other and at the word "Go!" bring your hand up from your waist to your shoulder three times with your fist clenched saying one sound syllable at each lift

- 1. SKOO-
- 2. KUM-
- 3. CHUCK! Shout out the word and make the sign for either earth, water or fire. Your choice. Your opposite will do the same. If you tie (make the same sign), do it again. The best two out of three scores the point.

If you do this in teams facing each other you really have to concentrate on the ideas of earth, water and fire to keep score. As you participate you share the excitement of being part of the watershed. And every time you say SKOO-KUM CHUCK you are promising to help bring back clean,good, pure water.



THE VILLAGE OF THE WATERSHED-

The second tale told by the salmon people.

We salmon live in a village that is very different from the towns people live in. To see our home, we say you have to put on salmon eyes. This is not so difficult. Imagine you are under water, swimming up a stream instead of walking up a street. There! You see through our eyes.

If we live in the rivers, where do we rest? Our nests, or redds, are in the shaded pools. We like our water clean and fresh. How do you like your air? We aren't happy in hot, polluted water. It would be like sleeping in a dirty bathtub. Yuck.

The water is not the only part of our watershed. In our village we need gravel for our nests. We need huckleberry bushes and salal for shading. The plants along the edge of the stream also catch the mud and bits of garbage. The grass and shrubs, kelp keep our water pure.

Our village needs trees with complex roots to catch and hold the rain the natural helpers bring in the Water Circle. We need the skin of Earth to be open to catch the falling water. When parts of our village get paved, the storm waters have nowhere to stay. Then the water runs away from the city and reaches the sea, sick with too much metal and rubber and smog.

Long ago, we went away because people stopped respecting us. When we salmon share the gifts for your feasts, we want you to thank us. We want you to appreciate all we do. When too many of us are taken at once, when people are not careful of our needs, we go away.

We are concerned about our home. If the water is blocked in our village by dams, we don't return to where we came from. We can't lay our eggs and start the circle of salmon life all over again. The watershed, where millions of raindrops become one creek, is also the village of every other kind of life. More than Salmon People go away when the watershed is damaged.

The old story tells of the other salmon village, far over the Western Horizon. We have an island that is different from the islands of the Puget Sound. For one thing, our island is under water. For another, each of the six tribes of the Salmon Nation (Chinook, Coho, Chum, Pink, Sockeye and Steelhead) has a lodge with beautiful carvings and paintings reminding us of the watershed. We have feasts and dances all day long, telling stories about the beautiful mountains and valleys and how we miss them.

We tell stories about how people came to our village, guided by the five natural helpers, long ago, to ask us to come back. They promised to take care of our rivers and hills so we would always have what we needed. We told them, "Just live together with us in the watershed and that will be enough."

The Second Teaching:

THE VILLAGE OF THE SALMON PEOPLE:

The Form that catches the Rain.

When the Five Natural Helpers took human beings to the Village of the Salmon People, they went a secret way. The sun showed it to them. In fact, the Helpers had to make a special trip to where the sun could hear their request. To get to the sun was a hard and tricky trip and only the five Helpers could make it.

"Since you see everything, can you point us the way?" Brother Sun Helper asked.

The sun answered, "Because you have promised to protect the home of the salmon people, I can help," and pointed a long ray of light far out to sea, over the horizon.

When the Natural Helpers and the human beings reached the Salmon Village, they were amazed. It looked so similar to their own village along the shores of the ocean.

"That is because everyone sees the world through their own eyes," the Salmon Village chief explained. "I will show you how to put on salmon eyes for your visit to our country, and you will see in a new way. You will ask:

Where does the rain go when it falls? What catches and holds the sun? How do the tress and grass breathe? How do I belong in all this?

When human beings build a village, what do they put in it?

- -water runs through their houses, so they can drink and wash dishes and flush toilets and take showers.
- *water runs through the home of the salmon peoples, so we can have a nest to grow in, so the rivers can flush pollution out of our redds, so we can have oxygen bubbles in our water and keep cool and free of parasites.
- -heat and cool make human homes comfortable.
- *the watershed receives heat from the sun, stores it in carbon, in wood, in stone and then releases it, in a circle of life.
- -when people go home, we know where they are. This is not a strange environment, but a place they understand.
- *In the village of the salmon people, we understand where the thick plants overhang a creek and keep the water shaded and free of silt, so the place is safe and comfortable.
- -a village is full of stores, services, providing what we need. There are many ways for people to share with each other.
- *In the village of the salmon people, there are many complicated ways for fish to share with the stone flies and human beings. An example is the way a bunch of reeds in a wetland can help filter and clean the metals and salts from highway runoff.

- -What other ways can we compare the watershed to a village?
- -How do you think we salmon see our home or village differently from the way we see the same hills and forests.

This watershed is where the waters flow together. We all live in a watershed of some kind. Because all water seeks its level by flowing down hill through the watershed, the smallest little creek flows together with others into a stream which again joins others to become a river, which finally reaches the sea. Unless we could live someplace perfectly flat, we are where water flows.

The visible watershed is the landscape on which rain and snow fall. The marshes, swamps and drainage are what we think of as the salmon's home. But the salmon's home includes more than this river corridor. Fish survive because of the other 99% of the watershed. And most of that is invisible. The watershed we don't see includes every inch of earth the rain hits, every hillside and the highest rocks and plant covers. The geology is the bedrock and sand deposits, the great springs and aquifers which make up the larger watershed.

The Natural Helpers travel through the village of the salmon people, and their work brings the watershed alive. When we change one part of the watershed, like cutting trees close to a river bank, then we deeply change another part. The salmon nest gets covered with mud and eggs can't mature.

We are all aware of the tall tree or the steep slope. These are easy to see. It is the mystery of the soil, which is the largest part of the watershed, that very few people know anything about. We know the rain falls on every inch of the earth. But what kind of soil does it go into?

Did you know there are three kinds of soil? The Immature soil is very simple. It is made of Bedrock and rock fragments, with moss and lichens clinging to the rocks on top. Water doesn't stay long in this earth, which may be recently lifted up by an earthquake. Air filters through and keeps on going.

Young Soil is found on the slopes of mountains. It is beginning to break down, and animals can live in it and on it. The grasses and shrubs are building up earth for beetles to live in. A mole may hunt worms in the new soil, full of pebbles and hard pan but changing. Water stays longer here. It likes to feed the flowers and shift the rocks around underground.

Mature Soil is full of life. It has four levels called the parent material, which is the deep down but porous rock, with sand and silt, clay and gravel. The oxygen and nitrogen cycles are working from there up. Up a bit is the subsoil, with roots from trees reaching through it. The subsoil may include metals like iron, glacial deposits, calcium and layers of bones from animals that lived there long ago.

Above this is the topsoil. This is where most of the life takes place. Bacteria and fungus feed worms and snails. Ants rove the organic jungles. If we could see with salmon eyes we would be amazed at the levels of insects and animals chasing each other around. Rich topsoil has organic material, (meaning it is not just broken rock or clay or sand, but pieces of dead plants and even little animals) that holds nutrients and water for plants to grow in.

As it is with water, color tells us a great deal about soil. The dark-brown or black topsoil is nitrogen-rich and has a great deal of organic matter. This is very useful soil for growing things. Gray, bright yellow or red topsails are low in organic material. Farmers and foresters add fertilizers to these soils to help them grow. Water doesn't stay as long as it does in the dark, rich soil.

The soil with the most pieces of vegetable material and animals holds water better than the immature soil. In a watershed, when all the plants are growing in the soil, and the leaf litter on top is protection from wind and rain like a natural umbrella, the water moves slowly through the year. When the trees and grass are taken away, the soil erodes, washes down into the rivers and makes life very difficult for the salmon people.

We prefer everything in the salmon village to saty in its place. When everything down stream unnaturally, everyone in the watershed suffers and the water doesn't get to move the way it should.

LISTENING TO THE CEDAR TREE -

A Salmoneyes Exercise

The Cedar Tree is a very wise being. It is said to contain all the knowledge of the world, like a great library. The elders say that a cedar tree teaches us how to live. It gives so many gifts and every part of the cedar is valuable for human beings.

A few of these gifts are: Housing planks, roofing and floors, storage and cooking boxes, carved canoes that connect people, clothing and hats, blankets, rope mats and baby diapers, dishes, baskets, fish traps, medicine and material for masks. It provides everything people need except food and it provides means to help us get food.

We use roots for weaving the inner and outer bark for rain hats, dresses and cloaks. The trunk provides fine grained wood that resists rot and stays strong for generations. We use the needles for cleansing and the berries and seeds for medicine. Every part of the tree has some benefit. The tree, growing in cedar groves or groups, likes to live where it is wet.

When you go out looking for cedar trees or looking at any other tree, we learn a lot about listening. The cedar tree gives us so many things that the great carvers are said to be able to look and listen carefully to the cedar tree and see what is in the wood waiting to be brought out through the carver's work.

I - go out where there is a tree (if you can find a cedar tree you are lucky). Learn the name of the tree if you can. Look into the tree and imagine what could be in that tree. Sometimes all you can see is firewood or a 2 by 4 board. Sometimes you can imagine there is a mask or a drum or a carving inside. Let your imagination go. If you listen to the tree with some friends ask what they see in the same tree? Do you each find different things?

II - pretend you are a tree listening to the rest of the watershed. What do you hear? Can you hear birds in the branches? Can you hear squirrels climbing your trunk? How many animals live in on and around a tree? How many insects? How does a tree help them?

III - What is the history of a forest? Can you think of the stages of life of trees in the woods? How do trees get started? How long does it take to grow? What happens to a tree that has no other trees nearby? What if there is a windstorm? What if there is no rain? What are the problems a tree encounters?

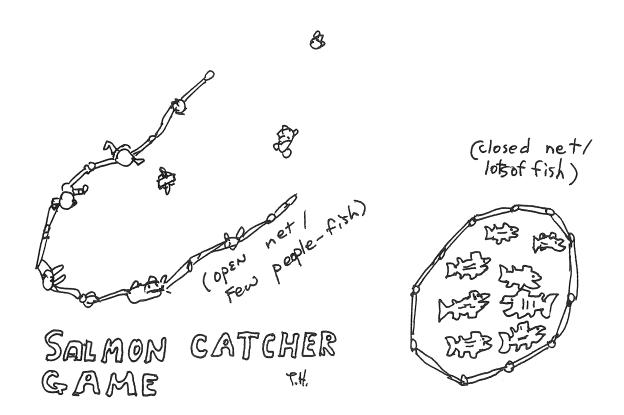
IV - How does a forest help a salmon? Imagine a talk between them. Make up a discussion about sun and rain and people from these two different points of view.

SALMONCATCHER: A Salmon Eyes game

We salmon give the gift of life, but we play hard to get. We will show you how we escape from all the fishcatchers who want us. In this game, there are one to three salmon and four to twelve salmoncatchers, such as a bunch of bears, a chuckle of otters, a hustle of humans or a swoop of eagles. Play this game slowly, like you are moving in the water. Remember to play gently.

Start with one salmon. And four or five salmoncatchers. The catchers join hands and try to close a "net" around the salmon. The salmon gets a 20 foot start and gets to run and dodge and double back (but they cannot slip through the net!) before the ring of salmoncatchers can close on it. The rules are the catchers cannot touch or trip the salmon and the catch is completed ONLY when the ring closes and the salmoncatchers join hands. Once the salmon is caught, everyone cheers and thanks the salmon, which then goes in the salmon weir, where the catch slowly builds until we have a feast.

It gets harder the more salmoncatchers there are. In the watershed, this is the same. It is harder for people, bears or eagles to have a feast if there are too many of them in the watershed. This is especially so if there are fewer fish to catch. Try the game with lots of salmon and few catchers and see how much easier it is to make a feast.



THE SECRET OF THE FLOWING WATERS -

The third Tale told by the Salmon People.

The journey we salmon make down the river where we are hatched is full of risks and adventures. We are lucky to travel with all our brother and sister fingerling salmon. The journey we make circling the ocean is something of a mystery. We keep it that way. This is our salmon secret. To learn about it you must put on your salmon eyes.

The elders tell stories about our ancient village, far over the western horizon. If we go there during our time in the ocean, it is an important part of our journey. Sometimes it seems, from our home creek to our legendary island, we never stop traveling. We must love moving more than almost anything.

We salmon learn how to move from water. It teaches us how to flow downstream. It also gives us the strength to swim against the current, when we need to. Testing our energy against the rush of a river is how salmon dance. When we don't have a stream to swim through, we become lazy.

So salmon know a great deal about flowing. We know that when a lot of water falls, in rain, we are in for flooding. Then, the rivers rise up and fill their lowlands. After such a heavy rain, we may need help restoring our stream banks and waterways. Particularly important to us is the restoration of our gravel redds, or nests.

When our nests are disturbed, we can't live there. It is as if somebody went into your bedroom and turned your bed upside down, forcing you to sleep on the ceiling. If our cold, shaded pool is rebuilt, replanted, or restored it is like falling into a deep, comfortable quilt is for you. We are not so different, except you don't care as much about flowing.

We also love how water drops down a mountain. You call that a 'cascade.' When a fast downhill flow connects us with our redd, we love thrashing up the rushing water. Going upstream, going to our nest, is our great challenge.

There is nothing like zipping through fast water, for a homebound fish.

One more thing about flowing; the river goes through many places. It starts up in the melting snow and rocky slopes and ends in low valleys, swamps and finally its mouth, where it enters the salt water. Imagine flowing water as a giant circle, with evaporation rising from streams and lakes. Then the rain falling is how the circle comes back to Earth and closes. Imagine our salmon journey as a great circle, like the water. We go from the watershed to the ocean and back again, over a period of three to five years.

On the way we learn many things. The river tells us stories about others who also need its water. This helps us feel we are part of the whole land the river covers. We learn about the bears and water beetles who share the flow with us. We enjoy the endless movement we flow with.

This is the secret of flowing water. When we go with it we are carried to the sea. But when we go against the flow, we help keep the great circle alive.

The Third Teaching:

THE PATH OF THE SALMON PEOPLE -

How the Rain moves through the watershed.

The salmon nations made the return journey from their village far out to sea because a promise was made by the human beings by the elder and the children. What was the promise? To allow the continual movement of the five helpers through the watershed so the salmon could come home.

Let us imagine what it is like when everything flows freely. Brother Rain Helper knows how to teach this but everything in the world flows. Gravity causes things to flow downward. We don't sit up in a chair. We sit down in a chair. When the salmon move through the flow it is because they know they can keep going to reach their goal.

Generations of Salmon People are certain of their progress up a particular corridor of the watershed. Each of the six nations of salmon likes a different kind of water flowing. For example:

- CHINOOK salmon which are very large, choose big rivers. They like long journeys against the flow leaping up amazing waterfalls and taking as long as six months to reach their spawning grounds. Of all the Salmon People, Chinook most enjoy everything to be full of energy. Females lay up to 5000 eggs in fast-flowing water. Probably their choice of powerful flowing water has been why they have grown so strong themselves.
- COHO salmon like all kinds of water. Unlike the Chinook they choose quiet side streams calm channels and the most insignificant of winter creeks. What might seem a tiny waterway can still be a marvelous place for Coho nests. If they have a choice the Coho will always take the middle flow looking for water that is neither too fast nor too slow.
- CHUM and PINK salmon don't travel far from the sea. Chum are the opposite of the adventurous Chinook. They choose coastal channels with low flows and if there are any local springs to bring oxygen to their eggs they will just make their nest in the lowest of flows. Pink salmon go a little further upstream and like slightly faster water but both Chum and Pink fry (baby fish) spend their early schooling in the estuaries and beach swamps before they go out to sea. This is where they learn to adjust to salty water.
- **SOCKEYE** salmon ride any river as long as it ends in a lake. They spawn in flow that comes from inlets or even near gravelly shorelines of lakes so their young can grow up in the lake. Sockeye like to swim around and around in circles before they take off on their journey to the ocean, maybe so they can create their own flow.
- STEELHEAD another salmonid fish, make the longest journey of all. They can enter a great river like the Columbia any time of year. They spawn from late winter

almost to summer. Some Steelhead travel as far as the Snake River, sharing their nests with mountain trout, way up in the Idaho wilderness.

Now that we know a little about how each salmon enjoys the fast or slow flow of water, what are some things that stop the movement of Brother Water Helper through the watershed? Remember this also keeps the six nations from reaching their nests and completing their circle of life. All of these are problems human beings can help the salmon people solve.

These are a few examples of what keeps the water from flowing as the salmon want it to flow. There are far too many blockages to put in this short story.

- * Dams are how we control flooding and get electricity. The lakes that build up behind dams can be used to store water or send it to farms. Unfortunately dams slow the flow. The great migrations of the salmon from their nests to the sea or back upriver can be stopped by dams. Sometimes we can build fish ladders and help the fish make their run. Sometimes we can control the flow in a way that makes it easier for salmon to migrate. Always, we can conserve water and electricity so there is more water for fish to swim in, and always we should be sure that dam turbines are screened so they don't kill baby fish swimming downriver. Sometimes dams can even be removed to free the flow.
- * Cities and towns are built for people to live in. This is very comfortable for us but we pave over the watersheds and instead of flow we have stormwater runoff. This means that the rain that falls on a city does not go into the soil or the roots of trees and the branches of bushes. Instead the rain goes into sewers and reaches the sea full of poisons and garbage. Sometimes we can restore the watershed like in a city park. The best thing is for us to be very careful of any new construction or conversion of forest land, wetlands or greenbelts into developed property. Then we will always remember how to keep the water flowing as it wants to.
- * Farms divert the flow to fields and animals such as cows and sheep. The water goes through irrigated land picking up fertilizer and pesticides before running back to the main river. Sometimes we channelize (or straighten) streams and rivers to make more land available for farming or ranching, and sometimes we dike river banks to keep them from overflowing in times of flood. This can destroy salmon habitat, too. We can help by fencing streams so cattle don't break down the banks when they go to the creek for a drink. We can help by controlling herbicides and pesticides we put on the crops so we don't accidently poison the flow. We can also help by keeping streams and rivers in their natural condition, so the water flows the way it was meant to. Then when rain and rivers go through the crops we eat they will be part of the flow and keep us fed and keep us healthy.

* We don't think of **Forests** as stopping the flow because we have seen with our salmon eyes how the trees drink the rain and then send it slowly downhill with gravity to join the stream. But log jams can stop the flow, keeping salmon from going upstream or down. Clearcutting, taking out every tree from a particular place in the forest, can hurt the soil, eroding it and sending water full of mud into the salmon channels. Life along the streambank can be ruined when we log right up to the edge of the river. Trees and brush are needed along streams to slow the flow of rain. They also help keep the water cool, the way fish like it. They provide protective cover for fish, and other wildlife, and provide natural nutrients to the water. They also provide habitat for insects, an important food source for the salmon. We can help the flow by logging selectively, taking out only the trees we need from one part of the woods and then going to another place. We can leave at least 200 yards of trees on either bank of the river to keep the salmon nests and nurseries pure. We can replant many more trees than we cut down. We can remember how important the trees are to keeping the water flowing clean.

*Can you think of other ways to keep water flowing clean and fresh through forests, farming and cities?

From the mountainside to the sea, the pull of gravity and the pressure of the river corridor keeps the water moving as it should. Different salmon like different currents but there is not a bit of the flowing water that does not help the circle of life as long as we remember our responsibility to keep the way open so the journey of the salmon keeps moving as it has for so many thousand generations.

SALMON SCHOOL -

A Salmoneyes Exercise and Fishschool

How did the salmon people teach the human beings on their distand island? Remember how the boy and girl who went to the island of the salmon people learned many secrets and new ways of doing things, so they could come home and prepare for the return of the salmon? You probably think the salmon school would be like the school you go to. But fish teach and learn in a different way.

Let us explore a salmon classroom-

- * The chief of the sockeye took the human children far out over the sea and showedx them all the animals that lived in the water. This kingdom is so different from ours that many fish actually live in schools. The chief showed them how fish swim in circles. "That is how they learn, by sharing with each other."
- * Back on the beach, everyone sat in a circle and one-by-one described what they had seen in the water. As the children joined in, they realized how much they saw when they were on the water. They understood about currents and waves, sharks and orcas, wind and tides. In the Story Circle, they felt they were part of the whole thing and the more times they went around the circle, the more they knew about the ocean.

The chief of the sockeye explained," a circle has great power. When we all share and listen to each other, we learn more and more as we go around. These ideas we want you to take back to your watershed. Try this with your friends. You will see how well a circle works."

The way a circle works is like the way currents move in the sea or the way a rock rolls down hill. It is a very natural way of learning. The two children were asked to try three things when they got home.

- 1. Pick an idea that interests you or somebody in your circle.
- 2. Have a listener, somebody who keeps the story growing.
- 3. Use a storystick, or story stone. Whoever holds this gets to say whatever she or he wants to, from their heart, until they are finished. No interruptions. Remember, this is from your heart, your inner teacher. This takes practice, but it gets more and more interesting as you learn how to learn within the circle.
- 4. When the circle has gone around once, the job of the listener is to tell everyone what she or her heard from the circle. Then, if people want to, they can go around again. The story gets better with more telling.

After the children practiced the storycircle about the sea, they promised they would try this when they got back from the watershed. They understand how just joining in the storycircle would help them be part of the flow of the watershed. They also understood that whenever they were stuck on what to do next in preparing for the salmon return. Whenever the salmon get in a storycircle they figure it out. SO can we all! School-up! Hoyt!

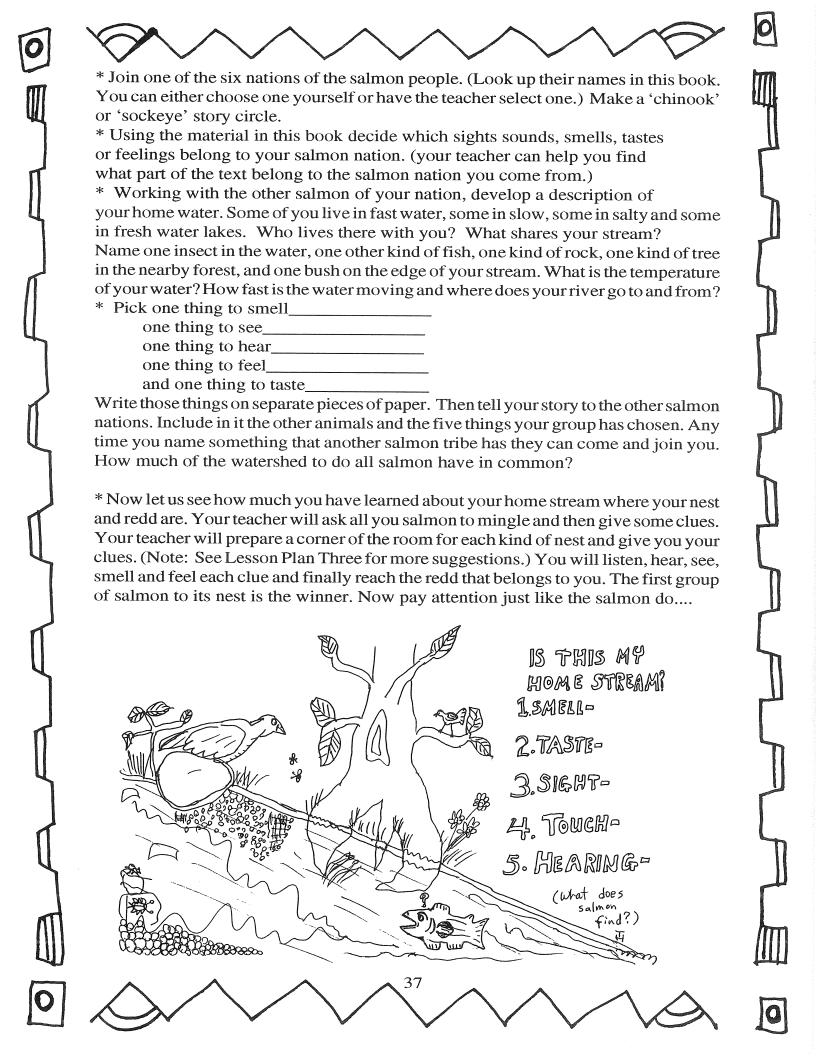
RECOGNIZE YOUR REDD Know your Nest-

A salmoneyes game for finding exactly where you are.

Salmon have a special way of finding their home. They use all their senses, including a special electromagnetic one in their nose that we don't have. These senses are:

- 1. Smell Each stream has a combination of special smells that come from rocks, tree roots, insects, algae, runoff water from upstream, silt, soil, bushes, other fish, animals that use the water like elk or bear and finally that unique smell that only comes from generations of its ancestors living and dying in the same place. It is said that these smells all come together out in the ocean. When the salmon swims across this scent it remembers cool water and shaded pools in its old stream and begins to use its other senses to answer the call home. Do you smell a few stream scents yourself?
- 2. Taste For the salmon this is probably related to smell since the taste of unpolluted clean water is what it is seeking. The main taste change that prepares it to move is from salty to sweet. The water in the sea has many minerals combined to make up that special salty flavor. When the salmon is anadromous, it can live in both kinds of water, is entering the river systems it stops in an estuary for a time to adjust as if we went from breathing air to breathing steam. Then it gets new energy and rushes upriver. Be anadromous like the salmon. Taste fresh water, then salt water then fresh again. Can you imagine the way it changes?
- **3. Sight** This mainly has to do with being able to see its way past obstacles and away from predators like sharks or bears or human beings. But sight also helps the salmon find its spawning ground. Here, it digs the redd with its tail where the eggs are laid and fertilized. Without clear water the salmon has great difficulty seeing home when it gets there. What things does a salmon see under water?
- **4. Touch** The salmon is very sensitive to gravity, to motion, and to the flow of water down the river corridor. The salmon accepts the challenge of waterfalls and rough water. It can tell when the water is too wild or too slow for a comfortable home. Through feeling, the salmon knows when the water is just right. The salmon also feels when the water is too warm or too cold for its eggs to grow up. What other things can the salmon feel about the river?
- **5. Hearing** Salmon may not appear to have ears, but they do hear sound. Try splashing water and watch the fish move away. Sound travels in waves under the surface and salmon have a special way of receiving those noises and other magnetic commotion. Just like a dog hears sounds too high for human ears, so the salmon hears the whole energy of the creek to which it returns. Do you hear the hum of electricity in a quiet classroom?

We are going to play a game using our senses like the salmon to find our nest. These are the rules:



HELPING THE RIVER

(the fourth story from the Salmon People.)

We salmon people are the only beings who can remember the future. We are born in a redd, a nest in the slow, cool elbow of a creek. We grow from eggs to fingerlings and travel slowly to the sea. There we circle for several years. Then we remember where we will be in the future. A combination of smell, taste, magnetic feel and memory tell us where to return.

We go back to the salmon village of the watershed, where we came from. Old stories say that we are from another village, far over the Western Horizon of the sea. We come as a gift to everyone living in or around the rivers of the watershed. We return to our source, so we are called a resource.

It is never easy to know exactly where something comes from. What is the source of a river? Which came first - the salmon or the egg? Where do different people start? Sometimes it feels like we come from two places at once. Part of the story of the Village of the Salmon People considers this.

Because we salmon regularly return to our source, we are considered marvelous teachers. We know the answer to the question of resources. The answer is...we are all a resource to each other. Salmon bring life to the people and the waters. If people fish carefully for us, with respect, they help us. We can bring our gift, year after year, as long as people give their gift of respect back to us.

At the great feasts when people gather, they honor us with stories, songs and dances. They eat our gift with gratitude, saying thank you. People tell stories of the first salmon. They talk about journeys to our nation and how a potlatch we gave them was a test of their responsibility. In this way, human beings demonstrate their part, as a resource to us. When they eat our gift and treat our bones with honor, then we know they will treat our watershed with equal dignity.

Long ago, human beings used to jump right in the rivers with us, being careful not to put their feet in our nests. They cleaned away tree limbs that were blown down from storms. They restored banks that were washed out by floods. They bent flow that had been straightened by Spring Freshets.

They were a part of our river, helping us keep our promise to return home. They knew we salmon had the wonderful ability to remember our future and they gave us the support we needed. Together, we kept the water rich with life, clean and pure, since the rivers were a resource to our salmon people and your human people.

When we all join together, we can remember the future together. We can remember a time when the rivers flow freely, when the dams are opened and the rivers are healthy. We can remember a time when we salmon will run so thick, again, that it will seem that you humans can cross creeks by walking over our backs. That is how it will be, when we are a re-source to each other.

The Fourth Teaching: ReSOURCE-How We All Sustain the Watershed -How Healthy Rainwater Restores the Salmon Nations)

How do we know we are home? For a person home is the place to eat and sleep, study and play. It is the place where you can be with your family. It is where you feel safe and able to grow. For the salmon it is much the same. To share a home with the salmon people there are several things you need to know:

- * A famous environmentalist said, "THE CARE OF RIVERS BEGINS IN THE HUMAN HEART." If we look for a pattern of problems and solutions first, we lose contact with the source of our connection with the water and the fish-- that we sustain each other. None of us is more or less important to the work of caring for each other. We may think human beings are more important because we can have a greater impact, until we try to think of doing without either water or salmon. Once we look at our relationship from that point of view there are none of us more 'important' than the other.
- * What are the Top Ten Rules of The Watershed?
- 10. **Everyone lives on a watershed**. You can't escape it. Don't even try. If rain falls on the landscape water rolls down it.
- 9. Nothing can be thrown away in the watershed. When oil is dumped down the drain it goes where all the rainwater goes, into the home of the fish.
- 8. A cloud can be part of the watershed. It does this through the Water Cycle. What connects the cloud to the earth?
- 7. **Don't step in a redd.** These are the spawning areas in a stream. They look like a circle or curve of clean gravel between one and three feet long. Fall to Spring it is easiest to see these salmon nests. There may well be eggs or baby salmon hiding in that gravel and one footstep upsets everything for them.
- 6. If you cannot drink or take a bath in the water, because it is not clean, the rest of the animals will have difficulty. What works for most life is what works for most human beings.
- 5. If you really listen, pay attention to what is around you in the watershed, your questions will be answered. If you don't have any questions, by spending time on a hillside or by a stream you will soon have many observations that easily become questions.
- 4. 99% of what happens in the stream starts someplace uphill. Think of the height

of the mountains and how they catch the snow and send it to the sea. Think of the moss on a rock and the nitrogen fixed in the mud. Think of a supermarket parking lot pavement and the old stream underneath it, going downhill through culverts.

- 3. The smallest thing can have the most importance. Every part of the puzzle is important. A few pieces of garbage in a tiny riffle can cover a nest in an important pool. A hundred plastic sacks can suffocate thousands of eggs. Everything has a reason. Everything has a place. Nothing in the watershed is without value.
- 2. Everyone works in the watershed. We all have things to do that are useful and important. What we do, though, must be done with both the future and the past in mind. If we only think of feeding ourselves now, we are not participating with the rest of the watershed workers.
- 1. The salmon feed us. The water feeds the salmon. We keep the water flowing and clean. In the circle of life, we are a resource to each other.

These are the rules for a sustainable membership in the ecology of mountains and rivers. Sustainability means ability to continue and support ourselves. When we know the rules of the watershed we recognize our roles in a sustainable environment. If I plant two trees for every tree I cut and I cut the trees very carefully then I am supporting sustainability.

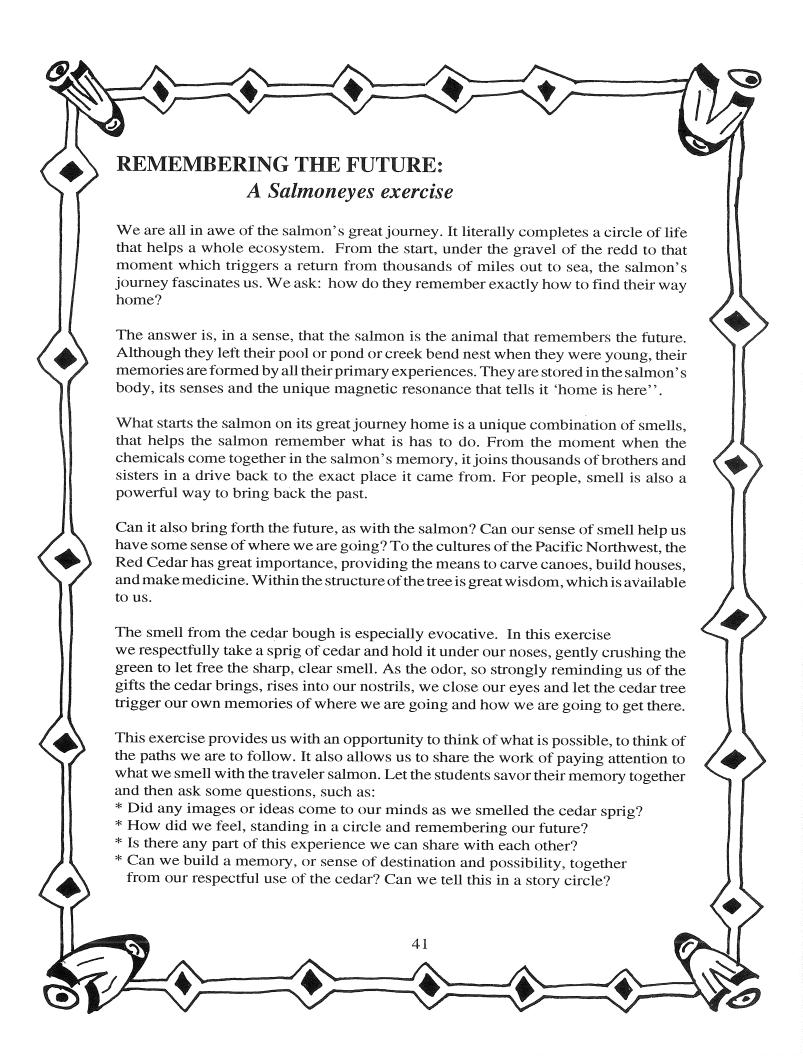
To understand how these rules apply to a salmon creek, we need to think all the things we remember about a creek. Start writing these down:

-banks -bushes -rocks -trees -waterfalls -puddles-dams -pools -channels, etc.

The list can go on and on, but once you have a solid list, write what could go wrong beside each topic. For a rock, think of it being washed out of a bank and into a narrow channel, where it blocks the flow and catches construction debris, building up a backwater. For a bush, think of a huckleberry bush being full of berries and providing shelter to several families of insects until a herd of cows tramples it at the edge of the stream...

Once we have this list of problems and concerns, let us try to figure out what human beings can do to help the creek. What could we do to make things worse? This would make four columns to draw. Your teacher can help you see how much important work we have to do in a stream. There are so many ways we can participate.

This is an example of how we share our work with the water and the salmon. Together we are resources to each other. If we let the stream go, it could become blocked by a strong storm. If we did too much to the stream, it might be our home but stop being a home for the salmon. It is up to us to learn about the way we share the watershed, and tell a story together about what to do.



SOCKEYE BINGO:

A salmoneyes game for the undersea casino.

In regular bingo someone calls out letters and numbers until someone gets five squares in a row and shouts BINGO! They win.

Since everything is different in the watery world of the salmon, when you shout "BINGO!", you lose and you get to figure out how to go back to playing again. So the prize is getting to keep playing.

The categories are: WATER, TREES, SALMON, RIVERS and PEOPLE. When the teacher names a subject each student decides where it fits on the bingo board. As long as the subject does not negatively affect the topic nothing is marked on the board. Once there is a problem the board is filled in. For example:

SOCKEYE is in the middle of the board. Now let's guess.

- * FLOOD Is this water, tree, salmon, river or people? You decide.
- * CLEARCUT Is this people, trees, water or salmon?
- * DAM Is this water, tree, salmon, river or people?
- * OVERFISHING Is this water, salmon, river or people?
- * APARTMENT BUILDING Is this water, trees, salmon, rivers or people? (At each question students get to guess. After they've made their decision the question is discussed by teacher and other students. Then a decision is made as to where the X goes. Students do not change their answer once the discussion ends since we want to see who reaches BINGO first!) Note that many of the squares can be either positive or negative.

The first student who gets to BINGO gets to share what things made the problem in the watershed. Now everybody gets a chance to help clear up the concern. What do we do? After all five issues have been considered the student gets to Lift the BINGO, removing the line of X's. Then, everyone shouts SOCKEYE! which means the board is clear again. The salmon can keep swimming through their river in the watershed until the next BINGO!

This gives all students a chance to understand the things that hurt the salmon and lets them figure out what to do to help. If we are a resource to the salmon people then we need to use our skills to understand their needs and help them keep swimming.

SOCKEYE BINGO

PEOPLE	WATER	SALMON	RIVER	TREES	
воу	RAIN	СНИМ	RIVULET	ASPEN	
GIRL	SNOW	PINK	CREEK	ALDER	
MAN	LAKE	SOCKEYE	STREAM	PINE	
WOMAN	FOG	CHINOOK	RIVER	FIR	
ELDER	OCEAN	СОНО	ESTUARY	CEDAR	

CLUES: (Make up more of your own. The list is endless.)

1.mountain	2. flood	3.driftnets	4.lightning	5.rock	6.storm	7.farm
8.dam	9.silt	10.factories	11.dog	12.bear	13.bug	14.garbage
15.parking lot	16.clearcut	17.birthday balloons	18.snake	19.sewage	20. cow	21.old car
22.meeting	23.apartment	24.classroom	25.city	26.worm	27.story	28.song
29.hamburger	30.swamp	31.ice	32.tractor	32.fire	33.bushes	34.book

TEACHERS' GUIDE

The story of the salmon people contains a new world. To native people of the Pacific Northwest it is an important story that contains concerns that may help us all become one with the watershed. The story is provided in whole and in four sections based on the four aspects of this environment.

To bring the salmon people home, we have to restore the home they used to have. To welcome the salmon nation we must recognize how we are able to shape, heal or destroy the watershed we are part of. Just like a beaver changes the shape of a pond, we have restructured our watershed. This curriculum, through story and specific teaching, helps us and our children be an active part of the welcoming environment into which the salmon returns. Our goal, using the structure outlined below, is to help ourselves become ONE WITH THE WATERSHED.

These are the aspects of this program, what we must go through to bring the salmon back to the creeks and rivers. It is designed around the four ways we can consider this watershed where all of us live:

l. FORCE (like the RAIN) is what acts on the watershed visible and invisible. Showers, snow storms and tides, the pressures of development such as buildings, pavement and population are some of the visible forces. The five cycles are: the solar cycle, the hydrologic cycle, the oxygen cycle, the nitrogen cycle and the bio-cycle (sun, water, air, decomposition and life systems).

Wind, geologic movement, planning processes and the stories people tell are some of the invisible forces.

- "ONE WITH THE WATERSHED" explores this through:
- stories and experiences.
- games and activities.
- explanation and awareness
- goals, bibliography and support system.
- 2. FORM (like the FOREST) is what receives the force. The tree receives the rain. The soil receives the run-off. The valley receives the roadbed. The student receives the understanding. The visible form is the landscape, the city and the life within them.

The invisible form consists of ideas, the decisions we make and the way we apply this process. It is the way we redesign our territory to fit what we think we need. The forms include both the percolating soil and the river corridors.

- "ONE WITH THE WATERSHED" defines this through a context in which children see themselves participating, using:
- Illustrations and clear designs;
- Ways to understand what we share and do in this form;

- Activities that encourage children to experience their terrain;
- Games that are like the games played in the Pacific Northwest hundreds of years ago which were in turn learned from the games played by crabs and otters and the six nations of the salmon.
- 3. FLOW (like the RIVER) is how the force moves through the form. Water flows downhill. The hill connects the heavens with the ocean. Then the water is lifted up as condensation in the cycle that shapes the direction of things.

The invisible flow is how gravity and pressure shape movement. It is the way ideas move, concepts connect and new approaches allow us to deal with things in different ways. This includes the impact of such things as the runoff from asphalt, paving and the decisions to open the gates of the dams.

"ONE WITH THE WATERSHED" considers this through:

- recommend participation in activities such as habitat enhancement, improving spawning conditions, and stream surveys;
- Learning the conditions that make things move and keep things from moving through the watershed, and how the flow continues;
- Learning what can be done to support the flow and heal the watershed of its impediments;
- encouraging hands-on involvement in exercises and movement activities.
- 4. ReSOURCE (salmon and water together) deals with what sustains us. This is where we reach the balance between needs and wants, between the fish that sustain us and the oceans and streams and habitat that sustain them. This is where harmony is reached by going to the source and returning with awareness.

The visible ReSources are day and night, the soil, the animals, vegetation and water that have offered themselves to our hunger and human need.

The invisible ReSources are the wind in the air, the movement of currents, heat and cold soil nutrients. These resources are the spirit in which we understand our relationship with all the entities of the watershed and the waters fed by it. They require ongoing attention and participation. Changes are happening continually and so is our understanding of what it takes to be a resource or to use a resource respectfully. Our sensitivity involves us in this bigger picture.

"ONE WITH THE WATERSHED" provides this through:

- Using the story-based process to create the basic reciprocity at the heart of being resource-full;
- Following major cycles of the watershed: The hydrologic cycle, the salmon's life cycle, the movement of the seasons and the human developmental process as connection with the watershed (challenge, preparation, experience and action);
- Carrying the watershed awareness into areas of personal experience;
- Reading and further ReSource ReSearch-Going back to the basic knowledge.

In a time of environmental crisis and perceived incoherence for many of our children, this manual is intended as a reminder to those children that there is hope. Sometimes, when children are bombarded with news on the ozone holes, the extinction of species, the desolation of habitat and the threat they live under, that sense of impending destruction and failure looms over their awareness much as the threat of the 'bomb' loomed over the lives of their parents and grandparents.

One of the things we want to do is encourage children, to let them know that there is a positive future, and they have work to do in making that future happen. As a teacher who visits many schools, I am concerned about the many children who feel they don't belong. This manual, through its stories, its message of joining with the rest of the watershed, its hands-on activities and games, supports this idea, that each of us, each child is MEANT TO BE HERE.

STORY-BASED MATERIAL: SUGGESTIONS FOR TEACHERS

This book is part of the larger educational process provided by your schools, communities, tribal and non-tribal government agencies, and corporate and conservation organizations who all want our children to understand the complexity of the watershed. Because this subject does not lend itself to easy explanation we are using story-based techniques which allow children to:

- 1. Find their own understanding of natural process, i.e.
- 2. Experience the processes taking place in the watershed;
- 3. Know how to relate and share their activities with others in the watershed through the medium of storytelling;
- 4. Anticipate positive awareness of nature so when students feel that they are out in the watershed they expect to be safe and capable of positive exploration of a healthy habitat;
- 5. Make up their own minds to use their creativity to develop a deep internal sensibility, like a personal treasure that helps them interpret further participation in the life of the watershed from their own perspective.

To help accomplish all this, this book provides:

- * Some notes on the goals of Native American environmental education;
- * Part of the ancient Salish creation story of the time long ago when the salmon people went away. Within the story are literally hundreds of clues as to why the salmon left and how to bring them back, but the core issues to discuss with students are:

RESPECT (for another species than ourselves), RESPONSIBILITY (to carry out certain tasks that conscientious members of the watershed must perform) RELATIONSHIP (with a complex core of patterns and life forms in the web of the watershed), REASON (to be a participant in the greater meaning of the four aspects of the watershed as detailed in the four chapters)

When our children are provided these four processes, Native American teachers and elders have always believed the youth will take up their own search for meaning. Story is a living being, an organism within which the child's curiosity and creativity can explore and grow.

- * Four chapters exploring the aspects of FORCE (What acts on the Watershed), FORM (What receives the Forces), FLOW (How the Forces move through the Form) and ReSource(How this cumulative relationship brings us all together for mutual benefit).
- * Each chapter has four parts a small story from the Village of The Salmon People takes a concept from the larger traditional story and focuses on a more intensive understanding. There are also story-based lessons on the cycles in the watershed and their impact on the watershed, the kinds of soil that hold the water, on how the salmon relate to different stream types and on ideas of sustainability.
- * Each chapter includes games, activities and projects your children can read and explore for themselves. These games are traditional to the Pacific Northwest Tribes and each of them is designed so you can discuss what the children learned from playing them. These explanations are detailed in this section. Each chapter also has exercises such as Putting on Salmon Eyes, Remembering the Future, Rain Walking and other techniques for unique experiential activities in the watershed.
- * There are sample lessons for each of the chapters. By reading the Great Story and the sub-stories you can develop as many additional activities as you choose. With these four lessons, one for each aspect, there are sections provided that can be amplified at school, home or in the community.
- * Further books with additional environmental science knowledge specifically for children in the Pacific Northwest are annotated in a special section. You can obtain these books through most library, school or city or county environmental education programs.
- * Suggestions for further activities including letter writing and developing ongoing watershed projects.

NOTE: A principal concept of this material is that if we work to restore the damage we've brought to the hills and valleys, the water corridors and estuaries, the salmon will find their way home. If we learn to prioritize active participation in the life of the hillside and valley, rather than seeking commodities through development and exploitation, the circles of life taught by the Five Brothers in the ancient tale will continue to sustain us all.

STORYCIRCLES and SALMON CYCLES

One of the primary learning techniques of Native American tradition is the Story Circle. There are actually many hundreds of ways to use the circle, from everyone telling a long traditional story or speaking on a subject from their heart, to passing a story stick in silence from one person to the next.

There are a few rules to the story circle:

- l. Whoever holds the story stick is heard without interruption.
- 2. The circle facilitator can set the tone and tell the first story or give the first idea but after that the circle takes on a life of its own. Let the circle elicit the truth of its experience.
- 3. When any idea is considered in the circle each person adds to the wisdom of the circle.
- 4. Generally, everything fits in the circle but criticism, judgement or comment on what someone else has said. This can take place elsewhere. The process implies that each person will respond to those who have spoken before and encourage the anticipation of those yet to talk.
- 5. The circle is a metaphor for the larger circle of the world and the process of using the circle is a way to be part of the larger cycle of things.

The Story Circle develops student skills and can be used for a wide variety of whole language skills. Students can build narratives, share ideas, outline and then compose a science project narrative or tell a story of their group participation in the watershed. These stories are experiential. This is perhaps the core process of Native American Storytelling.

Every indigenous nation from the Puget Sound and Olympic Peninsula cultures to the Columbia and Snake River traditionally used story as a primary means of educating young people. Not only are stories experienced directly but they challenge the young imagination and respect the inner wisdom each child owns. Storytelling is the most efficient way of involving young people in the deeper ideas of ecology.

After being told a story several times (and we all know how people love hearing their favorite tales over and over), children were asked to practice with their friends or on their own and then come back and tell the tale in their own words. This was done without criticizing their efforts but allowing them to draw coherence out of their efforts. To understand the complex ideas of environmental integrity, the use of listening and sharing techniques inherent in a Story Circle enhance the commitment to the watershed.

LESSON SUGGESTION ONE - FORCE

Forces that act on the Watershed contain endless projects for classes. The Audubon Manual of the Environment says there are five cycles that act on the greater ambience of the watershed.

An example is:

-THE HYDROLOGIC CYCLE - Transpiration, respiration, evaporation and precipitation-- the movement of water through the whole watershed. Brother Water Helper in the ancient story relates to this force. Students love to observe the movement of the hydrologic cycle since we so readily share in it drinking and eliminating liquid and walking through mud puddles.

RAIN WALKING

OBJECTIVES:

- 1. To observe impact of rain on watershed;
- 2. To participate in the Hydrologic Cycle;
- 3. To discover the rules of water such as its power process and transformation.

DURATION OF LESSON:

- 1. A 40-minute class period;
- 2. A period of time determined by students;
- 3. A recognizable seasonal flow;
- 4. Opportunities to report of observations.

ACTIVITIES:

l. To observe how the forces of rain impact the watershed it is important to understand how rain falls, how it covers an area and what would happen if a piece of ground was kept from getting wet over a period of time.

Cover a section of ground with clear plastic during a rainy time of the year so light can get through but water cannot.

- * You have now created a piece of the watershed where the rain does not fall at least for a while. What happens to bushes or grass under the plastic. How long can it go without rain before it starts to look different from the area around it?
- 2. After you go out in the rain have a story circle to share how it feels. These are some suggestions:
- * Have each student describe what it felt like to have rain on your face on your tongue on the palms of your hands on your eyelids;

- * Tell a circle group story where each student adds a little bit to the rainy walking experience;
- * Now give everyone a different role in the watershed.

Each student can be a hillside, a bear, a cedar tree, a huckleberry, a streambed, a sandy path, a crow, a dragonfly, a snake, a swamp and a cat. (You can make your own list.) Now, in a circle, describe how each member of the watershed feels when it rains.

- *This is the beginning of awareness of the scientific method. We want to help children expand their knowledge of their relationship with the rest of the natural world. From a preliminary story circle about the rainfall have everyone choose one observation that we all agree on. This hypothesis is some idea that students want to find out about (like how rain affects a bear). Gather data, perhaps by exploring where a bear can live, or pretending to be a bear in the rain. This is getting data. Test the hypothesis. In other words, look at a dog in the rain if you haven't a nearby bear. Both animals probably respond the same. Now see what you have learned. Compare your new ideas from the circle to your first idea. Discuss your new awareness of rain.
- * From this rainwalk you may have enough to develop a group Rainbook with stories, drawings or photos of where the rain falls, where it goes and how the water stays pure or becomes polluted. You can include daily rain measurements and daily comments on water motion.

LESSON TWO - FORM

It may be difficult to find a forest in an urban area but most of us will be able to find a tree. As part of the vegetation that is so important to the infrastructure of the watershed, the forest serves as a sponge, absorbing and holding water that fills underground springs, above ground streams and groundwater. The trees regulate the flow of water so we still have streams percolating out of the soil and roots, even at the end of a dry summer. Without trees we have soil erosion, flooding and sedimentation into streams that damage salmon habitat.

These elements of a forest can be replicated with a small growing box in the classroom in which students can observe how presence of vegetation slows water flow and performs the above benefits, while taking it away saturates the soil and turns it into mud.

LISTENING TO THE CEDAR TREE

OBJECTIVES:

- 1. To understand the growth process of trees in a forest.
- 2. To experience in a story-based metaphor the impact of a tree on other living things such as people or salmon.
- 3. To discover how a tree supports and sustains the watershed.

DURATION:

- 1. A series of short sessions within regular class periods observing the growth-box;
- 2. A period of time for the listening circles, to be determined.
- 3. Four seasons of observation of whatever trees are local.

ACTIVITIES:

- l. LISTENING is an important part of the Native American Storytelling tradition. Whereas children at school may be encouraged to ask questions, and even interrupt when they have an idea, in traditional stories children are encouraged to be silent only indicating by such responses as haboo that they are paying attention. Only after the story is completed are children asked to discuss what they heard, even retelling the story, similar to when children recount a movie, but with more precision and care.
- * Listening can also be a way to let the imagination enhance the experience of a tree. This can be dealt with in many ways. If a stethoscope is available, try listening to a tree to hear any possible sound. The cedar tree, for example, emits a small hum. Then have a story-circle. Have each student share one word or thing the tree might say.
- * The second kind of listening is the kind the tree does. We imagine the tree listening to every other thing in the watershed. Have the children imagine they are different parts of the cedar tree. What do the roots hear? What does the outer bark hear? The inner bark? The trunk? The heartwood? The branches and the needles? What does the crown hear? Each child can pick a different part to respond from. The story-circle can build how the tree perceives the watershed.
- 2. OBSERVING: Pick a tree, any tree near the school, and perform a brief study of that tree. The students can answer a series of questions like:
- * What kind of tree is it? name and species?
- * Where is it growing what is it near? What kind of soil? Are there other trees growing in the area?
- * Describe the tree in details and with your imagination. How tall is it? What color is it? Is it evergreen or deciduous? With our imaginations can we find anything original about the tree that makes it different from other trees of its kind? Does it have a private name and history?
- * Who lives in the tree? Can we find anything living on the tree?
- * Visit the tree at least once in the fall, once in the winter and once in the spring, and compare your responses with the previous season. You have now become Tree Watchers.
- *Have any of the students, as a special assignment, found another tree or different kind of tree in their neighborhood? Have them make a special report and compare with what everyone has observed about the class tree.
- 3. FORM A FOREST: Have each student, through observation or research, name a different tree or bush in the forest. Talk about how valuable a forest made up of many kinds of trees is. How is each tree different? (There is less disease in diverse forest. Is this climax/old growth or is this a second-growth forest? Is the tree harvested? How is it useful? To people? To other life?)

Once everyone is a tree, discuss what is missing. Are there annual and perennial plants, weeds, grasses, or shrubs in this forest? Are there short-lived trees, like aspen, which may eventually die off and make way for longer-lived evergreens? Or do we have oaks? Why might certain trees grow in certain areas and regions? (I.E., weather or terrain.)

Let the students discuss what it is like to be part of a growing forest. Has this helped them understand the complexity of a forest? Or the fact that they are part of an inter-connected web?

LESSON THREE - FLOW

Being aware of the connection of things, from the circles of life to hydrologic cycles is a central part of Native American environmental teaching. This is an area we can duplicate by exploring circles on many levels. We can have story circles in which students take part in the way circles shape awareness. We can experience stories from a developmental perspective in which the work of the group builds the narrative. We can assist the circle by being aware of what stops the circle from being complete.

OBJECTIVES:

- 1. To understand how elements move through the environment.
- 2. To consider ways of keeping the flow going and maintain connection with the circles of life through the linking that wind, water and science provide.

DURATION: 40 minutes (can be part of a cycle of days or one day.)

ACTIVITIES:

- l. Using the Storycircle technique have the students choose a stream type as discussed in the lesson. Based on the description have the class determine what kind of salmon will dwell in that particular kind of flow.
- 2. Retell a favorite part of the Salmon Story. Ask the students to point out where things are moving smoothly and where the narrative flow is stopped. How do things get moving again?
- 3. Have the students break into groups and retell this part their own way in modern times.

(You may have to go to each group and suggest ways to translate the concerns they are considering to modern times.)

A list of questions might include:

- a. Why did the elder ask the Five natural helpers to come to the human village?
- b. What did the students take with them to the salmon village? Why did the salmon people like the gift?
- c. How long did it take to reach the Village of The Salmon People? How long did the human beings stay there?
- d. How long did the human children have to restore the home of the salmon in

the watershed before the salmon came back? What sign were the salmon waiting for so they would know it was time to return?

people

4. Prepare a salmon next from the clues in the third teaching and then put up visual and written clues. In the Coho corner, for example, you'll find 'narrow banks', 'not too slow water', plus clues the Coho kids create in their own story circle.

LESSON FOUR - ReSOURCES

If we are aware of our relationship with the salmon and the water we are aware of our responsibility to both the other beings with whom we share the watershed and the habitat the elements that shape its form. The work on resources project helps students explore the question: WHERE DO I BELONG?

If children feel they are a fundamental member of the circle of life they can explore the rules and consequences of this feeling.

OBJECTIVES:

- 1. To use the rules of the watershed as a means of understanding ideas of belonging to the natural world.
- 2. From these ideas further explore the requirements of sustainable ecological practice.

Duration: Two 40 minute class periods for each goal..

ACTIVITY I:

- 1. Review the ten rules of the watershed. Ask students to work in pairs and write out the rules of the watershed. Now ask them to write out the classroom rules as they understand them. For example: Everyone Works in the Watershed and Clean Up Your Desk.
- 2. Have each pair share one classroom rule and one watershed rule that they think are similar. Appoint a recorder to write down each set of rules.
- 3. Discuss the difference between an agreement and a promise (an agreement is usually something that people work out to get along. A promise is something people commit to that they feel they cannot change.) Decide which of these rules is an agreement and which is a promise.
- 4. Ask if there are any rules the students might change.

Encourage the students to listen in a supportive manner because out of this you are drawing a sense of their goals and ambitions, their awareness of how to belong to either a classroom or a watershed.

ACTIVITY TWO:

- 1. Role Play with three groups: Salmon / Humans/Water.
- 2. Breakout the three groups so they can build their group characterizations.
- 3. Form three circles when you bring them back together and have each group discuss from their special character one of the rules of the watershed. i.e. Nothing can be thrown away from each perspective.

- 4. Notice the similarities and differences of each group in their role playing.
- 5. Now have them form a larger circle again and share your insights on how different things seem from the salmon's point of view or the interesting ideas the water has about the fish that swim in it. The point of this exercise is to experience the relationship and how each part of the watershed serves the other. The storycircle technique can also be used to consider other ideas such as flow and habitat restoration.

APPLIED STORYTELLING:

Teachers have a technology which is thousands of years old called Storytelling. It helps us all learn how to be part of life. Although all teachers use Story in their work, there is little attention paid to the disciplines, practices and applications behind the telling. Native Americans developed this special gift of Story into a participatory process that is still used in traditional cultures. It is also a basic tool for the classroom. Story gives teachers a powerful, interdisciplinary form that brings experience into context for children. Through Story, students efficiently retain what they learn and apply it more consciously to a variety of school activities. In Whole Language activities, Story is a basic tool. After all, We all want to be part of the story.

The Four Posts to the Longhouse of Story are:

- I. WE ARE ALL STORYTELLERS each and every one of us, particularly children in school, need to know this. In telling the stories of their own lives, they need the appreciation, the sense of respect and responsibility that comes with storytelling. The skills required to tell a story well are fundamental to learning and basic to every person's development.
- II. STORYTELLING SUSTAINS COMMUNITY The exchange that takes place in the storytelling experience is an essential ingredient to social connection. The inverse is also true. When we stop telling each other our stories, community goes away. So, how do we set up story-based experiences? This curriculum models an approach and encourages each teacher to follow their own narrative. After we get the T.V. turned off, how do we turn learning into an immersive activity? The sharing implied in Story provides the key.
- III. EACH STORY IS A LIVING BEING -a teacher's work is to recognize how each child is a story, complex and wonderful, full of risk and potential. Our job is to help that story unfold. As the child find the thread of his or her personal tale, the child begins to know coherence in a confusing world. Story should no more be manipulated for ideology than a child should be shaped against her or his story.
- IV. STORYTELLING IS ABOUT LISTENING -Performing is not as important as paying attention. Traditional elders always begin by teaching children to listen to the heartbeat of the earth, the silence of their hearts. When children learn to listen, they feel they are part of the life they want so much to live.

From these core principals, schools can build a story process into any area of learning. Environmental studies and writing are integrated in the support that Story provides. Applied Storytelling allows the teacher to turn the classroom, the school year and the very act of teaching into pieces of the great experience of being human.

NATIVE AMERICAN TEACHINGS:

Based on Cedar Tree Teachings of elders of the Pacific Northwest Tribes and the text LOOK TO THE MOUNTAIN by Dr. Gregory Cajete of Santa Clara Pueblo.

This is a brief outline of deep principals upheld by many traditional cultures that are transferable to contemporary society. The terms used by contemporary ecologists are also indicated.

l. SEVENTH GENERATION THINKING - Considers our responsibilities in terms of both our future and our past. We honor our ancestors back at least seven generations when we make an important decision that affects our society. This means we take their way which worked well for so long into account when we plan a new road or teaching process. It doesn't mean we can't change but that we change carefully.

We honor our descendants not only because they carry the future but because we will be their ancestors and we are responsible for how they will live. This means we leave wetlands and regenerate deforested slopes so our great-great-great-great-great grand-children thank us for our decisions. This is called "intergenerational equity" by ecologists.

- 2. LISTENING IS PARTICIPATING Paying attention is considered the beginning of all knowledge. Traditional teachers will point out to children that the Creator gave us two ears but only one mouth, so we listen at least twice as much as we talk. Children are taught to consider that everything has wisdom and that if we learn the skills of listening we can hear the voices of the animals and plants and mountains. Listening is not what happens when we tell children to shut up. Rather it is what happens when we give them the capabilities to open up. Ecologists call this sensory integration.
- 3. WE ARE A GIFT TO EACH OTHER In a consumer society the goal is to acquire more than is used so there is a surplus that creates wealth. In a society based on sharing the individual is aware of her or his responsibility, giving in equal value to what is received. This can be as simple as keeping toxic chemicals out of local waters or as difficult as asking the basic questions of mutual interdependence.
- 4. WE ARE ALL ON A JOURNEY TOGETHER We grow and change in much the same way other living beings do. This Link to Life both supports us and challenges us. If we learn where we are meant to go from other living beings we also learn how to behave in this interspecies adaptation.
- 5. WITH CAREFUL WORK WE CAN RESTORE OURSELVES TO BALANCE-Much of Native American environmental activity is ceremonial. This is conscious community action that acknowledges the basic harmony of the natural world and the unique ability human beings have to get out of balance with that existence. The two steps are to recognize when we are not connected and then restore ourselves to stability.

About The Story:

The Village of The Salmon People

A story belongs to a people. It is not to be misused or marketed like a trademark or a filmscript. Although some versions of the Salmon Village story are in the public domain, some stories belong to a family or clan and can rightfully only be told by a member of that group. Thus, permission was asked of a Squamish teacher before "One With The Watershed" was begun.

A story has a spiritual element. It is not to be used carelessly. Tribal elders say that the rest of the circle of life is listening when we tell a story. That does not mean we have to be pompous or overly serious. A light heart and a humorous attitude are fundamental to even the most important story. It does mean that the work of the story is important and a level of respect is basic to the telling.

No story is carved in stone. When each of us leaves the story circle we come away with our own version of the story. We add our own ideas, our own experiences our own understandings. There is nothing wrong with this. Although a story is not supposed to be manipulated to make a point that is not inherent in the original, i.e., forcing Snow White and the Seven Dwarfs to be a lecture against mining, we are allowed to play with the details (so each of us sees the salmon village). There is not one correct version of this story that has lived for thousands of years.

Every story is only a piece of a greater story. In the Salmon Village story each teller brings a different emphasis. In this curriculum, for example, certain pieces of the story that respond to environmental issues in the watershed have been emphasized.

The most basic rule of storytelling is to enjoy the story. So teachers should let children act out pieces of it. Each class, indeed each child, should be permitted to find their own way to relate to The Village of The Salmon People.

Finally, this curriculum does not purport to tell a full and authentic version of the traditional story. Different parts of the story have been brought forward to express ideas of respect, relationship, responsibility and reason through the wealth of ecological ideas in the old teachings.

TEACHERS' SUPPORT AND ReSOURCES

There is a lot of help available to teachers involved in the effort to help their students understand that they are "One With The Watershed". Part of this process must certainly be the pursuit of accuracy in relating the history of the tribes in this country. It is unfortunate that many stereotypical images of the tribes have persisted through the years. It is also unfortunate that there has been so little attention focussed on the Wisdom of The Elders. For thousands of generations, the indigenous people of this land have understood that they are part of what is now commonly referred to as the ecological system. They have understood that the watersheds are our homes, and that the gifts of Nature must be respected. It is fundamental to quality education for all children to experience this wisdom, and to learn to celebrate life in all its various forms. As this is done, so will we be full circle. Based on the tried and true lessons of the past, we can all take a wiser course of action in the future.

The following brief history is provided for your background. For more information about the tribes and indigenous philosophies, we recommend that you be in contact with the tribes in your vicinity. A list of tribes in Washington is provided for your convenience.

THE TRIBES OF WASHINGTON

In order to teach children about the tribes and the environment, it is important to know something about their history and the rights they have retained pertinent to natural resource management. It is important to know something about their perspective on the environment in which we all live. Following is some brief, pertinent background information for teachers. For more information, please refer to the teachers' resource section of this curriculum. There you will find appropriate literature, documentaries and information about "The Voice For The Silent" Speakers Bureau. Teachers are encouraged to use this resource to secure tribal speakers for classrooms and assemblies, and to be in contact with the tribes in their vicinity. A list of tribes is included.

A TRIBAL HISTORY

By Bill Frank, Jr.

Indians have respected and cared for the natural resources of the Pacific Northwest since the great Ice Age. Through the centuries, they shaped their existence around salmon, and other natural resources provided to sustain them. The meat kept them healthy, as did the spiritual and cultural strength they derived from these resources. Tribal customs and ceremonies have always reflected harmony with Nature, kinship with its elements and deeply felt gratitude for the gifts provided by Mother Earth.

For thousands of years, the tribes have practiced conservation. They have provided for the escape of fish to the spawning grounds prior to commencing the harvest. Its noted that enhancement was even practiced by some tribes to restock streams affected by drought and other natural causes long before non-Indians ever set foot on this land.

Indian people have always known that all things are connected...the river with the land, the fish with the fisherman... In 1854, Chief Sealth (Seattle) expressed belief in these things as recorded in the

Seattle Sunday Star:

"Every part of this country is sacred to my people. Every hillside, every valley, every plain and grove has been hallowed by some fond memory or some sad experience of my tribe...The very dust under your feet responds more lovingly to our footsteps than to yours, because it is the ashes of our ancestors, and our bare feet are conscious of the sympathetic touch, for the soil is rich with the life of our kindred."

All things are connected. For the past 500 years, the native people of this land have told this to those who have come here from other parts of the world. But no one listened.

Five hundred years ago, the Pacific Northwest had an abundance of salmon. Every river system, even those flowing from the deep interior, supported incredible runs of salmon.

It was a gift that deserved reverence and respect. But the westward expansion of the United States was to take precedence.

In the 1850s, the United States entered into treaties with Indian tribes located in Washington Territory as part of the settlement of the West. In these treaties negotiated by Territorial Governor Isaac Stevens, the Indians traded their land interest for the exclusive use of the lands within reservations, the right of continued fishing, and other guarantees.

These rights were soon forgotten by the non-Indians, but never by the tribes. Federal and state governments allowed the urbanization and intensive settlement of the area, the rapid development of dams for electric power, unbridled logging and irrigation, and the pollution of watersheds, which reduced the quality and amount of accessible spawning grounds and rearing habitat for the treaty protected fishery resources.

The tribes protested, but still no one listened. So, we went to court.

Those efforts resulted in the landmark <u>U.S. v. Washington</u> (Boldt) Decision that reaffirmed treaty Indian fishing rights and further established the tribes as co-managers of the resource.

Washington State continued to resist the recognition of treaty Indian fishing rights, however, still choosing not to listen, and through 1983 the state and the tribes consistently fought each other in court.

Because the state and tribes could not work together, the court took over management of the fishery resource by default. Almost every fishery management decision was made by the court, with state and tribal biologists arguing before a federal magistrate every step of the way.

It slowly became obvious that the job of managing fish must be done cooperatively, if it is to be done at all. The only alternative is to leave management in the hands of the courts... until the last salmon is harvested.

In 1984, a new era of cooperation was established. The tribes and state have not looked back since. Today, tribal/state litigation over fishery issues is the exception, not the rule. But most importantly, despite common opinion, most salmon runs in western Washington are in generally good condition, given available habitat.

The initial efforts at cooperative management proved successful. Management of the resource improved, as did the relationship between the tribes and state.

THE LEGAL BASIS FOR COOPERATIVE MANAGEMENT

On-Reservation:

Indian nations ceded millions of acres of territory to the United States government through treaties, which reserved land, water and other rights for future generations. In exchange for these lands, the federal government agreed to protect Indian lands and respect the sovereign rights of the tribal nations to govern their people. Treaties are the "Supreme Law of the Land" under the U.S. Constitution. They remain legally binding contracts that are enforced to this day.

As sovereign nations, the federally recognized Indian Tribes have the same rights as any self-governing nation. These rights include enacting laws and programs to protect the environment within their jurisdiction. Tribal government powers can even exceed those of other governments because the tribes manage their lands both as landowner and regulator. As a result, the authority of the tribems regarding environmental matters, can be greater than that of states.

Today, the role of the tribes with respect to environmental regulation on tribal lands is becoming clear. Recent Congressional amendments to the Clean Water Act and the Safe Drinking Water Act, for example, provide more precise roles for tribal governments. The amendments also allow the United States Environmental Protection Agency to treat the tribes as "states" in regards to regulatory and program support provisions of the acts. In addition to becoming eligible for federal grants to develop and implement EPA programs on-reservation, the tribes also have gained increased control of off-reservation pollution sources.

Off-Reservation:

From time immemorial, Indians of the Pacific Northwest have depended on salmon for their very existence. Salmon were, and are today, an integral part of every facet of tribal life and culture. In an attempt to preserve their culture, when treaties were signed, the tribes reserved certain rights to natural resources, including:

- * The exclusive right to fish within their reservations and rights to fish at "all usual and accustomed fishing places..in common with citizens";
- * The right to hunt;
- * The right to gather shellfish;
- * The right to gather roots and other foods.

The rights reserved by the tribes are protected under the United States Constitution, which declares that all treaties are "the supreme law of the land"..."and the judges in every state shall be bound thereby..." Treaty rights, as a federal action, thereby supercede state law.

There were two segments in U.S. v. Washington: Phase I and Phase II. Phase I involved the of the nature and extent of tribal fishery harvest rights. Those basic harvest rights were affirmed by the United States Supreme Court in 1979 and the federal court has retained jurisdiction to fully implement those fishing rights.

The tribes argued in Phase I that the right of taking fish incorporates the right to have treaty fish protected from environmental degradation (U.S. v. Washington, Phase II).

In response to the tribes' claim, the court stated, "the most fundamental prerequisite to exercising the right to take fish is the existence of fish to be taken. In order for salmon to survive, specific environmental conditions must be present: (1) access to and from the sea, (2) an adequate supply of good-quality water, (3) a sufficient amount of suitable gravel for spawning and egg incubation, (4) an ample supply of food, and (5) sufficient shelter. An alteration of any one of these essential requirements will affect the production potential of anadromous fish. Furthermore, the court indicated that "it is undisputed that these conditions have been altered and that human activities have seriously degraded the quality of the fishery habitat."

Over the years, there has been a gradual deterioration and loss of natural fish production habitat in Washington

streams. Although there are many individual factors contributing to this, the general trend toward reduced production habitat is more the result of a combination of activities performed by man — activities which alter and destroy one or more habitat conditions required for successful fish production. Generally, these factors can be categorized under the broad headings of watershed alteration, such as forestry, water storage dams, industrial developments, stream channel alterations, and residential developments.

In 1980, Federal Judge William Orrick ruled in favor of the tribes, saying that the State government must refrain from degrading fish habitat as required by the Stevens Treaties. "Were this trend to continue, the right to take fish would eventually be reduced to the right to dip one's net into the water...and bring it out empty," wrote Judge Orrick.

Impact and concern of the Orrick decision was far-reaching. In response to Orrick's decision, the Washington State Assistant Attorney General stated, "the ruling could lead to the tribes' having veto power over real estate projects, logging practices, highway construction and the use of pesticides in the western half of the state."

The Assistant Attorney General went on to say: "The decision could affect literally everything that touches the environment. The potential for impact on the economy and development and use of resources would be substantially greater under this decision than anything we've seen under the 1974 decision (Phase I). This may address how we continue our forest practices, the use of pesticides, what water may be withdrawn from rivers, where you can build highways and docks, real estate development and shopping centers — the whole bit."

Despite the potential for litigation of Phase II issues, the tribes, state and others have attempted to resolve disputes cooperatively instead of resorting to the courts. This approach to cooperative problem solving is the basis of natural resource management in Washington today.

The cooperative natural resource management approach that has been applied in Washington State over the past decade is unparalleled in the nation. These policies, coming together at this time in our history, offer a unique opportunity for the federal government to fulfill its legal and moral responsibilities to Indian tribes.

BACKGROUND: THE TRIBES AND FISHERIES MANAGEMENT

The treaty Indian tribes of western Washington are each distinct and sovereign governments which regulate and coordinate their own fishery management program. Each maintains a fishery management staff, which typically includes a fisheries manager who oversees staff working in the areas of harvest management, enhancement, habitat protection and enforcement. Typically, the fishery manager receives direction on the development and implementation of the tribe's program from the tribal chairperson and council. Determinations made by these people are made with consideration of tribal harvest needs, as well as the resource itself, such as protection of weak stocks, habitat protection, etc. The primary responsibilities of tribal fishery management efforts are to provide resource protection, as well as to meet various social-economic needs.

Tribal fishery management staffs are highly professional. Tribal biologists, for example, are generally graduates of the same colleges and universities as state and federal biologists. Tribal policy officials are also well experienced, and continue to operate under the traditional Indian philosophy that management decisions made today must be made in a way that will benefit the generations to come.

Tribal harvest management staffs develop fishery plans, analyze fishery options, develop run size forecasts, monitor catch and allocation, do catch sampling, assess spawning escapement and analyze stock status. The programs are highly efficient, and operate with jet age technology, blended with traditional values.

Tribal hatcheries in western Washington have released millions of coho, chinook, chum, pink, steelhead and sockeye salmon every year over the past two decades. These salmon provide fishing opportunities for Indian and non-Indian fishermen throughout their migration cycle. The enhancement program of the tribes represents a major commitment to maintaining fisheries as well as restoring naturally spawning stocks. However, enhancement is but one tool that must be considered in comprehensive management. It is essential that habitat be protected to assure

that salmon returning home have an adequate home to return to.

Through the years the tribes have been integrally involved in many efforts and programs intended to provide this protection. Following are a few example programs in which the tribes have been integrally involved, in the pursuit of these objectives:

The Pacific Salmon Treaty:

In 1985 the cooperation of the tribes, state, sport and commercial fishing groups, federal fisheries officials, and others resulted in the Pacific Salmon Treaty. The Pacific Salmon Commission was formed to implement the treaty. The Commission provides regulatory advice and recommendations to the two countries, representing the interests of federal, tribal and state governments, as well as those of sport and commercial fishermen.

Tribal representatives are active at every level of the Commission. Tribal members have chaired the U.S. Section of the PSC, the three regional panels, and the bilateral technical committees that make recommendations to the panels and Commission.

Timber/Fish/Wildlife

For many years, the only thing that was certain in the battle between fisheries interests and timber interests in Washington was more uncertainty.

Cooperation by all of the parties was not an option that had been considered up to the point in 1986 when the Timber/Fish/Wildlife Agreement was formed. The tribes, the state, the timber industry and environmental organizations all gathered in an effort to find cooperative solutions. The result is an agreement that is unique in the nation. TFW is not an institution. It is a living process built on trust, commitment and above all, cooperation.

Watershed Planning:

In 1986 an ambitious new cooperative process was initiated by the tribes and state to manage and enhance salmon fisheries on a watershed-by-watershed basis. It was called Watershed Planning, and it represented an effort to focus energies on the solving of site-specific problems and thus maximize the benefit of such efforts to fish stocks, as well as increase meaningful cooperation in peoples' own "back yards". The process has developed into a new regional cooperative process called the Salmon and Steelhead Stock Inventory (SASSI), which is laying the foundation for the restoration of salmon runs. The inventory has already provided the most comprehensive status report on salmon in Washington waters, and is now engaged in recovery strategy. The SASSI report indicated that of 435 wild stocks inventoried, 43 percent are considered relatively healthy, 28 percent depressed, 3 percent critical and 26 percent unknown.

It is important to have as good an understanding of the status of fish stocks as possible if efforts to protect and restore these stocks is to have real meaning. Then, in following with the watershed planning process, it is important to approach recovery in a comprehensive manner. In some watersheds, enhancement and broodstock programs might play an important role. In others, it may be clear that salmon have been shut out from their spawning grounds by pollution, dams or overuse of water. In all watersheds, it is clear that salmon must have good habitat, as well as clear passage, and that land use activities ranging from subdivision to hydropower and industrial growth can impact these needs in a major way.

There are ways available to modify such impacts, and help salmon survive. But first the decision must be made whether or not salmon are worth the effort to find such solutions. The tribes submit that the answer to this is yes. Salmon are worth saving, and it is the responsibility of everyone, everywhere, to understand this and to take an active role in the recovery and ongoing protection process. It is further their responsibility to do so in a responsible, well-informed manner. That is what Watershed Planning is all about.

There are many such programs at work today. To learn more about them, please refer to the resources and bibliography sections of this curriculum.

INDIAN TRIBES IN WASHINGTON STATE

Chehalis Tribe P.O. Box 536 Oakville, WA 98568 (206) 273-5911

Colville Confederated Tribe P.O. Box 150 Nespelem, WA 99155 (509) 634-4711

Hoh Tribe HC 80, Box 917 Forks, WA 98331 (206) 374-6582

Jamestown S'Klallam Tribe 305 Old Blvn Hwy Sequim, WA 98382 (206) 683-1109

Kalispel Tribe **Box 39** Usk, WA 99180 (509) 445-1147

Lower Elwha S'Klallam Tribe 5218 Chief Brown Ln. 1666 Lower Elwha Rd. Port Angeles, WA 98362

Lummi Indian Tribe 2616 Kwina Rd. Bellingham, WA 98226 (206) 734-8180

Makah Tribe P.O. Box 115 Neah Bay, WA 98357 (206) 645-2205

Muckleshoot Tribe 39015 172nd Ave. SE Auburn, WA 98002 (206) 939-3311

Nisqually Indian Tribe 4820 She-Nah-Num Dr. Olympia, WA 98503 (206) 456-5221

Nooksack Tribe P.O. Box 157 Deming, WA 98244 (206) 592-5176

Port Gamble S'Klallam Tribe 31912 Little Boston Rd. NE Kingston, WA 98346 (206) 297-2646

Puvallup Tribe 2002 E. 28th St. Tacoma, WA 98404 (206) 597-6200

Quileute Tribe P.O. Box 279 LaPush, WA 98350 (206) 374-6163

Quinault Tribe P.O. Box 189 Taholah, WA 98587 (206) 276-8211

Sauk-Suiattle Tribe Darrington, WA 98241 (206) 436-0132

Shoalwater Bay Tribe P.O. Box 579 Tokeland, WA 98590 (206) 267-6766

Skokomish Tribe N. 80 Tribal Center Rd. Shelton, WA 98584 (206) 426-4232

Spokane Tribe P.O. Box 100 Wellpinit, WA 99040 (509) 258-4581

Squaxin Island Tribe SE 70 Squaxin Lane Shelton, WA 98584 (206) 426-9781

Stillaguamish Tribe 3439 Stoluckquamish Ln. Arlington, WA 98223 (206) 652-7362

Suquamish Tribe P.O. Box 498 Suquamish, WA 98392 (206) 598-3311

Swinomish Tribe P.O. Box 817 LaConner, WA 98257 (206) 466-3163

Tulalip Tribes 6700 Totem Beach Rd. Marysville, WA 98270 (206) 653-4585

Upper Skagit Tribe 2284 Community Plaza Sedro Woolley, WA 98284 (206) 856-5501

Yakama Tribe P.O. Box 151 Toppenish, WA 98948 (509) 865-5721

All tribes have education programs, as well as natural resource management programs and cultural programs. You can reach representatives of these programs, or receive additional referral information, by calling the numbers listed.

It is an outstanding idea to be in contact with the tribes in your vicinity, and to develop positive communication relationships. Here you will find some of the most well informed scientists and researchers, as well as policy officials, educators and cultural resource representatives. Some tribes have outstanding visitor centers and museums, as well. Try to arrange a tour of the watershed you live in, with tribal speakers to assure that you hear the full history of the area. Arrange to bring your kids to a potlatch, canoe event or Pow Wow. Visit a tribal hatchery or watershed restoration program. In short, do whatever you can to help build bridges between the tribal and non-tribal communities. The greater the communication, the better the relationship will normally be, as well as the opportunity to help your students get truly involved with the understanding and caretaking of your watershed.

Various tribal organizations are also able to be contacted for more information and further resources. For more information, contact:

The Northwest Indian Fisheries Commission 6730 Martin Way E Olympia, WA 98506 (206) 438-1180-Olympia, (206) 424-8226- Mt. Vernon, (206) 374-5501- Forks

The Columbia River Inter-tribal Fisheries Commission 729 NE Oregon, Suite 200 Portland, OR 97232 (503) 238-0667

Point No Point Treaty Council 7999 NE Salish Lane Kingston, WA 98346 (206) 297-3413

Skagit Systems Cooperative P.O. Box 368, Reservation Rd. LaConnor, WA 98257 (206) 466-3450

THE VOICE FOR THE SILENT

When we learn how to listen, everything in nature speaks to us. The mountain and the ouzel, the grain of sand and the vast forest have so many things to tell us. But, in our times of hurry up and bottom line, we seem to stop hearing these elements of the world beyond our immediate interests. Overdevelopment, poor resource management and just plain human insensitivity have rendered the natural world silent to us.

Through the Office of the Superintendant of Public Schools Indian Education Division, attn:Patsy Martin Old Capitol Building, Olympia, WA 98504 (206) 753-3635

a group of Native American teachers, environmentalists, storytellers, elders, traditionalists and leaders is coordinated to serve as a VOICE FOR THE SILENT. As a speaker's bureau and educator's support group, participants can come to your school or community program to speak on behalf of the salmon, the rivers, the mountains and the sea. When you have heard the Pacific Northwest Native American perspective, from a wide ranging group of dedicated people, you may find youself listening with refreshed awareness to the song in the wind and the pleas of the salmon and the watershed.

Books and materials-

For further activities, projects, scientific knowledge, philosophy and stories.

- 1. INDIANS OF WASHINGTON AND THE ENVIRONMENT, compiled by Project Learning Tree, available, in addition to numerous other curricula and resources, through the Indian Education Office of the Superintendent of Public Instruction, Olympia, WA 98504. Background on the tribes, traditional stories, and K-12 classroom exercises primarily focusing on timber-fish and wildlife.
- 2. SHARING THE JOY OF NATURE and SHARING NATURE WITH CHILDREN by Joseph Cornell DAWN PUBLICATIONS, 14618 Tyler Foote Road, Nevada City CA 95959. -experiential and expressive exercises by an old master of
- getting out there and being in tune. Cornell provides lots of activities built around what he calls Flow Learning with four stages of Nature Awareness (Enthusiasm Attention Experience and Inspiration)
- 3. PROJECT WILD-PROJECT WET- Distributed by Western Regional Environmental Education Council supported by Western State Departments of Education and Fish and Game. -An interdisciplinary supplementary conservation education program for educators of K-l2 with lots of good learning games and activities with specific pertinent objectives. 4. THE PRACTICE OF THE WILD essays by Gary Snyder, North Point Press 850 Talbot Berkley CA 94706- thoughts on being careful and connected with the deep rules of nature. Presents the 'good manners' of the wilderness and how to participate. Good background for teachers.

- 5. WALPOLE ISLAND FIRST NATION Water Quality Monitoring and environmental education handbook -1994. Like Project Wild a well-developed program of specific activities built around both awareness and action for a broad range of students. Uses Native Perspective as a core principle.
- 6. EARTHEDUCATION-A New Beginning and EARTHKEEPER,S by Steven Van Matre and Bruce Johnson, The Institute for Earth Education, Box 288 Warrenville, Illinois 60555. Promotes the experiential feeling and the idea that the love of nature must precede any other learning. Provides Natural Awareness skills and anchoring techniques. EARTHKEEPERS is an extensive program that can be brought into any classroom.
- 7. FOREST STREAM and SOUND: A Guide to Conducting Water Quality Camps for Children and Families Wendy Burt, Stream Team Coordinator, City of Olympia Public Works Department, Water Resources Program, P.O.Box 1967, Olympia WA 98507-1967 (206) 735-8598. Material developed by Eva Shinagel and Jana Dean. Sensory awareness exploration, teamwork, ecological simulations, habitat studies. Goals: connection understanding and positive action.
- 8. SUSTAINING THE EARTH: An Integrated Approach by G.Tyler Miller Jr. Wadsworth Publishing Company, Belmont CA some of the richest background information for teachers including concepts, problems, connections and solutions. Diagrams/drawings and a presentation of ecological complexity. Good preparation for classroom activities.
- 9. The National Audubon Society Almanac of the Environment, The Ecology of Everyday Life 1994 Valerie Harms A Grosset/Putnam Book. A new standard with basic information and a good balance for comparing ideas with Sustaining the Earth. Good focus on community action to be taken.
- 10. ADOPTING A STREAM A Northwest Handbook by Steve Yates, 1991, Published by The Adopt-A-Stream Foundation and distributed by University of Washington Press J. Baldwin of the Whole Earth Review sees this as a call to action. It is both a well-written presentation on the salmon and their habitat and a modeling on what schools and community can do to restore that habitat.
- 11. 50 SIMPLE THINGS KIDS CAN DO TO SAVE THE EARTH by the EarthWorks Group by Andrews and McMeel a Universal Press Syndicate Company, Kansas City & New York. Gives a sense of empowerment to children. We can only imagine young people reading this and harassing their parents into good energy habits. A positive approach to all the frustration a young person feels.
- 12. FIELD MANUAL FOR WATER QUALITY MONITORING an Environmental Education Program for Schools Published by Thompson-Shore Inc. Dexter Michigan. Mark Mitchell and William Stapp, 2050 Delaware Ave., Ann Arbor Michigan 48103. Part of the GLOBAL RIVERS ENVIRONMENTAL EDUCATION NETWORK (GREEN) Project, a broad ranging student-based program being developed with tribes and Native American groups. Associated with Salmon Homecoming. This program is for the student working on testing water quality, cleaning rivers of heavy metals, studying the impact of land use practices, computer networking and environmental work. For information on program in Washington State, contact Northwest Watershed Education Alliance, c/o Lisa Bryce Lewis, (206) 522-8489.
- GETTING STARTED, A GUIDE FOR BRINGING ENVIRONMENTAL EDUCATION INTO YOUR CLASSROOM. Developed by the National Environmental Education and Training Foundation, 915 15th St. NW, Suite 200, Washington DC 20005. Bringing environmental education into the classroom, why and how to do it.
- 13. LOOK TO THE MOUNTAIN an Ecology of Indigenous Education by Dr. Gregory Cajete of Santa Clara Pueblo. Published by Kivaki Press, Durango CO, 1994. This is a new direction in environmental education and how central it is to the new directions in story-based learning. Coming from his own traditions and developing new techniques for education Dr. Cajete has broken new ground and demonstrated how a Native American

perspective literally transforms the vision on which our society stands.

- 14. HABOO Native American Stories from Puget Sound. Translated and Edited by Vi Hilbert, Lushootseed Research and the University of Washington Press 1985 Ms. Hilbert has gathered the authentic stories and legends of her own Skagit traditions as well as other nations of the Salishan cultures. The book is a primary text when studying the teachings of the elders of the Lushootseed language group.
- 15. CHANGING COMMUNITY The Graywolf Annual Ten Edited by Scott Walker, Graywolf Press, St. Paul Minn, 1993. A commentary with such ecologists as Terry Tempest Williams, David Suzuki, Vaclav Havel, Thomas Berry and Gary Snyder about the relationship between cultural and biological diversity, the ecological model of community and other bio-regional considerations.
- 16. INDIAN FISHING (Early Methods on the Northwest Coast) by Hilary Stewart, 1982, Douglas & McIntyreVancouver and University of Washington, Seattle. Line drawings and photographs of the traditional technology of the Pacific Northwest, basic for studying how native people lived in harmony with their environment for thousands of years. Stewart's other books, such as CEDAR are equally valuable.
- 16. CLEARING- Environmental Education In The Pacific Northwest; A Collection Of Ideas, Activities And Resources About Our Environment. For teachers and educators of all age levels, 19600 S. Molalla Ave., Oregon City, OR 97045.
- 17. WHO SPEAKS FOR THE WOLF, Three Strands In The Braid And The Walking People, By Paul Underwood, Oneida, 'Turtle Woman Singing'. Outstanding story-based material for teaching. Can also be reached at A Tribe of Two Press, P.O. Box 216, San Anselmo, CA 94979, (415) 457-6548.
- 18. KEEPERS OF THE EARTH AND KEEPERS OF THE ANIMALS, Joseph Bruchac, Fulcrum, Inc, Golden CO. Powerful native story teaching using science and Indian myths, focussed on themes such as Sense of Peace and Photosynthesis and providing endless projects.

ADDITIONAL SUGGESTED BACKGROUND READINGS

- 1. U.S. v. WASHINGTON (The "Boldt Decision"), U.S. District Court, Reprint by West Publishing Co, St. Paul, Minn. (Local Law Library).
- 2. NORTHWEST INDIAN FISHERIES COMMISSION PUBLICATIONS, including NWIFC NEWS (subscriptions on request), Comprehensive Tribal Fisheries Management, A Holistic Approach; Comprehensive Water Resource Management, The Timber-Fish-Wildlife Agreement, The NWIFC Annual Report, and other pertinent publications as available through NWIFC, 6730 Martin Way, Olympia, WA 98506. Also recommended are publications as available through the Columbia River Inter-Tribal Fisheries Commission.
- 3. TREATIES ON TRIAL, Fay G. Cohen, U. of Washington Press, Seattle, 1986.
- 4. UNCOMMON CONTROVERSY, American Friends Service Committee, U. of Washington Press, 1974.
- 5.COOPERATIVE MANAGEMENT OF LOCAL FISHERIES, Edited by Evelyn Pinkerton, U. of British Columbia Press, 1989.
- 6. ART IN THE LIFE OF NW COAST INDIANS, Erna Gunther, Superior Publishing Co., Seattle, 1966.
- 7. CUSTER DIED FOR YOUR SINS, Vine Deloria, U. of Oklahoma Press, 1984.
- 8. INDIAN GIVERS, Jack Weatherford, Ballantine Books (Random House), New York, 1988.
- 9. INDIAN LEGENDS OF THE PACIFIC NORTHWEST, Robert H. Ruby and John A. Brown, University of Oklahoma Press, 1981.
- 10. MOUNTAIN IN THE CLOUDS, A Search For The Wild Salmon, Bruce Brown, Collier Books.
- 11. LAND OF THE QUINAULT, Published by Quinault Indian Nation, Taholah, WA 98587.
- 12. QUESTIONS AND ANSWERS ON TREATY RIGHTS, Revised in 1993 by HONOR (Honor Our Neighbors' Origins and Rights), 2647 No. Stowell Ave., Milwaukee, WI 53211. Also available through NWIFC, Olympia WA.

Note: There are many excellent curricula, books and other teacher resources. This is merely a sampling. Many of these include additional resource lists. In addition to contacting tribes and tribal organizations, many local, state and federal agencies also have outstanding resource information, including: The U.S. Department of the Interior (Bureau of Indian Affairs, U.S. Parks Department and other bureaus), The U.S. Forest Service, The U.S. Environmental Protection Agency, The Washington State Department of Fish and Wildlife, The Washington State Department of Ecology/ Puget Sound Water Quality Authority, The Washington State Department of Health, and many city, county and other municipal agencies. Recommended private conservation associations include Trout Unlimited, The Northwest Renewable Resources Center, United Indians of All Tribes, People For Puget Sound, The Washington Environmental Council, The Audubon Society, and others.

AUDIO-VISUAL.

- l. THROUGH SALMON EYES Approx. 20 minutes. This video takes the viewer into the watershed the river corridor and the journey of the salmon people through the ancient story and the wisdom of the elders. Presented by Salmon Homecoming, produced by the Northwest Indian Fisheries Commission. This video was produced in association with this curriculum, and is highly recommended for use in teaching the concepts incorporated in "One With The Watershed". Funded by Title II grant, through the Office of The Superintendent of Public Instruction. Available through ESD's, Voice of The Silent (Tribal Speakers Bureau) representatives and the Northwest Indian Fisheries Commission (for exchange videotape).
- 2. SALMON HOMECOMING--BUILDING BRIDGES- Approx. 17 minutes. This video describes the various elements of the Salmon Homecoming program, and the "building bridges" concept. Presented by Salmon Homecoming, produced by NWIFC. Funded by Title II grant, through the Office of The Superintendent of Public Instruction. Same availability as Through Salmon Eyes.
- 3. MOON'S PRAYER, WISDOM OF THE AGES- Approx. 55 minutes. This video explores the relationship between the tribes and the environment. An Emmy Award-winning production that addresses history and is based on the "Wisdom of The Ages". Produced by The Northwest Indian Fisheries Commission and KIRO-TV. Partially paid for with grant from Puget Sound Water Quality Authority. Same availability.
- 4. FULL CIRCLE, INDIANS OF WASHINGTON- Approx. 55 minutes. This video provides a comprehensive look at tribes throughout the state, yesterday and today. Produced by the Native American Sub-committee of The Washington State Centennial, chaired by Bill Frank, Jr. Same availability.
- 5. LEGACY OF THE SALMON PEOPLE- Approx. 20 minutes. Explores tribal history, the development of the Northwest Indian Fisheries Commission and of cooperative natural resource management. Includes statements by U.S. Senator Daniel K. Inouye, former Senator Dan Evans, Bill Frank, Jr. and representatives of the State of Washington, the timber industry, sports fishers, etc. Produced by NWIFC in 1986. Same availability.
- 6. ALL THINGS CONNECTED- Approx. 20 minutes. Explores the significance of

water, the growth of a stream and the development of the Timber-Fish-Wildlife (TFW) Agreement, with spokespersons from all associated governments and entities. Produced by NWIFC. Same availability.

7. FROM TIME IMMEMORIAL- Approx. 20 minutes. A comprehensive look at Indians and shellfish, the historic and contemporary relationship. Simultaneously produced background publication available on request. Produced by NWIFC with funding provided by the Administration For Native Americans. Same availability. 8. SALMON SAYS: Pacific Northwest Song for the children of the watershed. By Tom "Laughing Bear" Heidlebaugh. Audio cassette, includes songs sung at Potlatches and Pow Wows based on traditional songs from the Canoe and Salmon Nations, "to be sung in harmony with the rest of the watershed". Approx. 40 minutes of sing-along songs for all ages. Prepared to accompany the "One With The Watershed" curriculum. Available at many record stores and performances, or send \$10 to Heidlebaugh at 8423 S.19th, Tacoma WA 98466 (206) 564-5515.

If you want to help the watershed what do you do?

- 1. Teach and be taught. Do not act in a vacuum. Be in touch and be accurate. This begins with better knowledge about the status of the salmon runs. (The State/Tribal cooperative inventory, the 'SASSI' Report is recommended. Contact the Washington State Department of Fish and Wildlife, Natural Resources Bldg., Olympia WA 98504) Reading is fundamental for everyone. So is personal contact, with tribal elders and other tribal representatives. Call them. Go see them. Attend tribal cultural events. Break bread together. Bring them into the classroom. Remember, it is important to listen to the Wisdom of The Ages. It is also important to go to the source to learn about tribal, and cooperative local, state and federal watershed restoration and other management activities. Attend the Salmon Homecoming Forum and other forums. Talk to officials. Ask questions. Pick up literature, etc. Visit the Aquarium. Go on nature tours. Contact the Indian Education Office of SPI, (206) 753-3635, and ask for any and all materials available.
- 2. Write letters to the Governor, City or County Commissioners, United States and State Senators and Representatives, federal, state and local agency directors, etc. Refer to the phone book, State Scan Book or Federal Directory.
- 3. Write letters to The Editor of newspapers drawing attention to problems regarding watershed restoration, needs for improved environmental education, etc. Write letters supportive of cooperation in watershed restoration and natural resource management. Also monitor related news and feature coverage, and respond as appropriate. Remember, not all letters need to be critical. Supportive letters are also needed, both to the source of those who make comments in the public or press and to the media. Example, U.S. Senator Patty Murray made the following comment in the Morning News-Tribune on July 31, 1994:

"I guess the culture is part of me. The fighting culture. If you look at those salmon fighting to get back upstream that is the independent culture that is a natural part of the Northwest we don't want to lose."

Join Senator Murray, and the tribes, in this fight.

4. Actively support Project GREEN, (206) 553-1104, or Water Weeks, (206) 943-3636., or similar educational programs.

- 5. Get on a computer network, such as EcoNet, an international network committed to serving organizations and individuals working for environmental preservation and sustainability. This is an outstanding way to share ideas, information and results with students, teachers and organizations all over the world. Contact the Institute for Global Communications, Attn: GREEN/EcoNet, 18 DeBoom St., San Francisco CA 94107, (415) 442-0220.
- 5. Join a conservation program, i.e., Trout Unlimited, the Washington Environmental Council, Audubon Society, or a local program of your choice. Participate with environmental education programs such as Adopt A Stream, Streamwatchers, etc. Contact SPI, Olympia WA 98504, your regional office of the Department of Fish and Wildlife, the Department of Ecology, EPA, etc. for more information.
- 5. Recycle, don't pollute. Encourage others to do the same, through public participation, sponsoring a forum or conference, setting up public displays, etc. Contact your local office of the Department of Ecology, EPA, etc. for more informat6. CELEBRATE THE WATERSHED! It is your home. Love it and respect it!

GLOSSARY

Algae - simple organisms usually living in the water that are able to grow in sunlight and provide sustenance for fish.

Anadromous - Salmon and sea-run trout that live a majority of their lives in salt water but come back to their fresh water homes to spawn.

Cycle- In many Native American traditions we speak of the Circle of the World the Hoop of Life. This means so many important things- We are all connected and responsible to each other: the dragonfly to the bed of reeds the bear to the rotten log full of juicy ants the hungry human to the generous salmon.

A cycle also is a flow a movement to things. Water falls in rain and snow and rises in evaporation. Water falls through runoff surface drainage and earth infiltration and rises in fog and the exhalation of plants and animals. This cycle is intricate and never ending and we not only see it all around us we are an important part of it.

Another cycle in the watershed are the solar cycle in which the heat and light of the sun enter soil and vegetation water and rock and are sent off into photosynthesis through which plants grow and evaporation through which water is lifted into the air. Again we know how deeply we are involved in the solar cycle when plants are stripped from a streamside and the water becomes too warm to support the viability of salmon eggs.

Finally acycle implies a promise. What has gone away will return. There is a reason a pattern to our four seasons of Summer to Autumn to Winter to Spring. When we accept this changing we become part of it. The more we know about it the more we participate in it. Just like the salmon people we have promised to keep to the circle of life.

The cycle of the salmon begins with the developmental stages of the egg and moves through to the final life stages when the dying salmon lays and fertilizes its eggs. These steps are: - the fertilized or eyed egg hatches.

- the alevin still has the albumen sac attached and lives under the river gravel until the egg sac is absorbed.
- the fry stay around their redd as they learn to find food and understand water.
- the fingerling is the stage up through the first year of growth in fresh water.
- the smolt begin to travel down river beginning their pilgrimage to salt water.
- as the smolt mature they begin a one to five year period of migration through ancient and accustomed routes on the sea.
- the fully grown adult salmon return to the estuaries and adjust to fresh water again before they return to their home for the last time.

Ecology - the study of how plants animals and physical components such as sunlight water soil and air interact.

Estuary - a body of salt-water often at the mouth of a river where salt water mingles with fresh water. It is an important place for rearing and transition of most salmon.

Habitat - the place where a salmon or any other animal lives and obtains its need for food and shelter.

Redd- the Salmon's "nest".

Riparian - what lives in or along a stream or lake or other wetland area.

Spawn - to deposit and fertilize fish eggs.

Watershed-literally a shedding or parting of the waters it is also a gathering place where water brings living things together. The watershed is where people and salmon trees and valleys are connected by falling rain and flowing water. 99% of what happens to a stream takes place outside its bed in the watershed made up of what receives and releases water to the ocean and the air.

A watershed is such a beautiful complex and subtle thing that no other word considers the complete process. In a watershed is the habitat of bears the environment where bees pollinate salmonberry blossoms the rain falling on every square inch of a hillside and draining down to become a mighty river. It includes the geology the chemistry and the mystery that makes every salmon creek a different world.

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