American Indian Perspectives

Nature, Natural Resources and Natural Resources Education

An Interim Report of the

Northwest Center for Sustainable Resources

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The Northwest Center for Sustainable Resources (NCSR) is a collaborative effort among educators, employers, and others to enhance natural resources programs at community colleges and high schools and to provide a clearinghouse for information on sustainable natural resources.

A Center of Excellence funded by the National Science Foundation's Advanced Technological Education program, the NCSR will incorporate innovative teaching methods, state-of-the-art technology, knowledge from cutting-edge research, and hands-on field experiences into natural resource technology programs.

Major goals for the project include integrating community college programs into a "seamless education" from K-12 through university, working closely with employers in curriculum development, emphasizing work experience for students through internships, and developing core programs that prepare students to work as technicians for organizations dealing with aquatic and terrestrial ecosystems.

Programs feature environmental monitoring, mapping, instrumentation, and other related skills woven within the context of managing complex ecosystems. Program graduates will receive technician degrees, and have advanced skills, or they will receive degrees which transfer to 4-year colleges and universities. Combining improved curricula with an information clearinghouse for natural resources education, the Center will provide an effective model for education/employer alliances for the nation.

Introduction

"To get some Indian perspective into the sciences around the United States is terribly important. It's becoming more and more that tribes aren't as isolated...and it's important that people in the field of sciences alert their students that are going out to work for private companies or public agencies to inform them about the treaty rights and the sovereignty of Indian tribes so that when we sit at the table we can resolve issues in a friendlier manner that helps everyone. Because when we talk about land and air and water, it travels through everyone's country, and everybody needs it from the farmers to the ranchers to the people that live in the city.

"It's really gratifying to me to see that the people in the science field are taking a more holistic look...Just as our Creator created things that related to each other, it seems to me that people in the sciences are starting to relate to each other; the people that deal with the water, the land, and the chemicals—they all are starting to deal with each other in a holistic way; and I think this is beneficial to the earth and to all the people."

Bob Tom,
NCSR Native American Consultant
From the NCSR *Tribal Forum* videotape

"[Students graduating today] will face a world made daily more complex by rapid scientific and technological developments. America is becoming an increasingly technology-oriented society, and to cope with such a world, it is critical that the population be literate in science... The greatest benefits will only be realized from a science education that includes all racial, ethnic, and cultural groups..."

Julia V. Clark
Introduction, *Redirecting Science Education—Reform for a Culturally Diverse Classroom*
Corwin Press, 1996

These quotes underscore the fact that science curricula, particularly natural resources-based science, should include understanding indigenous people's perspectives. A key goal for the Northwest Center for Sustainable Resources (NCSR) is to bring these American Indian perspectives into classrooms of the 21st Century.

In this effort, this report provides the following information for educators:

- American Indian perspectives on natural resources—both historical and contemporary —including cultural, spiritual, and traditional perspectives
- Educational models from tribal colleges and other educational institutions
- Resources and information relating to tribal perspectives—including land management, cultural and traditional beliefs, and treaty rights
- The NCSR partnership model with Native American tribes and activities such as *The Tribal Forum*, with planned preparation of curriculum modules

It is our pleasure to share these *Perspectives* with you.

Susie Kelly
Director, NCSR

"Bimaadiziwin o'ow nibi
Jiigibiig nindana kiimin
Jiigibiig ningaganoonaanaan Gizhe Minitou
Jiigibiig Ninbabaamadizimin
Nin Miki go-imin wisiniwin minikwewin nibi kaang
Nin dinawamaaganag ayaawag nibi kaang
Gi-bizhigwaadenimoa Gizhe Manitou maji-mashkii
atooyegnibikaang Ji-ganawendamang nibi gigi minigoomin
omaa gidakiiminaan."

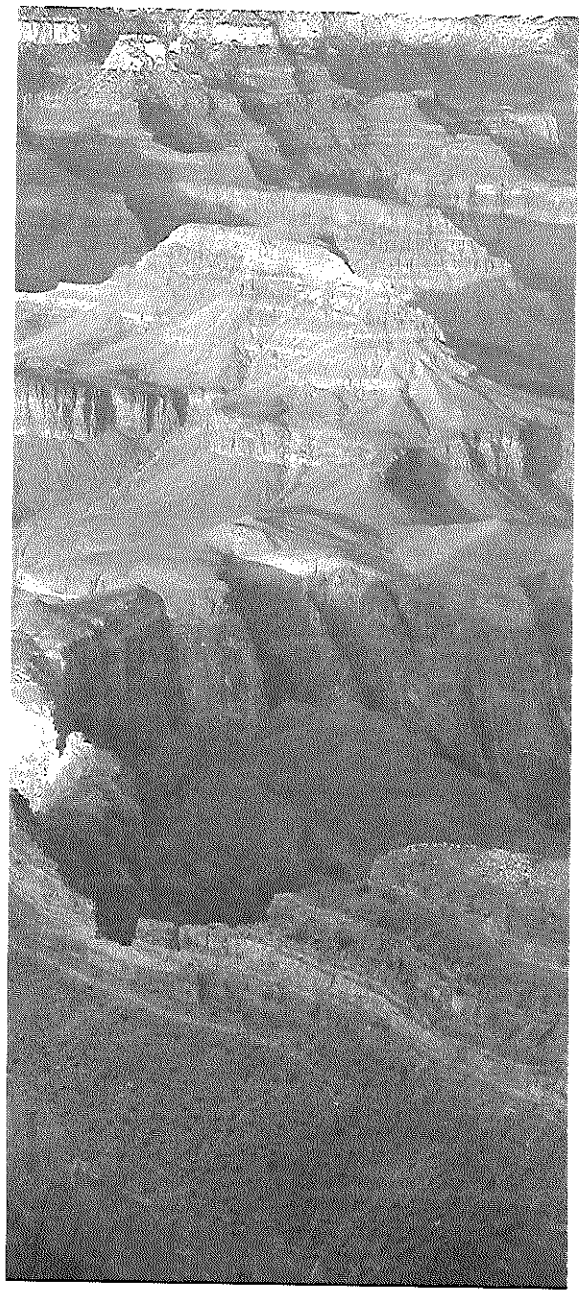
"Water is life.
We are the people who live by the water.
Pray by these waters.
Travel by these waters.
Eat and drink from these waters.
We are related to those who live in the water.
To poison the waters is to show disrespect for creation.
To honor and protect the waters is our responsibility
as people of the land."

Winona LaDuke
(translated from the Anishinabe by Marlene Stately)
"Like Tributaries to a River The Growing Strength
of Native Environmentalism,"
by Winona LaDuke,
Sierra magazine, Nov./Dec. 1996, pp 38-45

Historical and Contemporary Perspectives

"The earth is the mother of all people, and all people should have equal rights upon it."

Chief Joseph, 1879
Nerburn, p 19



Nature and the Wisdom of the Great Chiefs

**Books by Kent Nerburn, 1994;
Eli Gifford and R. Michael Cook, 1992;
Albert Furtwangler, 1997;
Gary Null, Ph.D., 1998**

We begin this report with some insights into American Indian culture, including lore, speeches, and rituals which exhibit central themes of nature and natural resources. We will present perspectives that include the use of natural symbolism and the sacred nature of the land by examining various historical speeches, and present information on spiritual and ceremonial traditions. Finally in this section, contemporary views on Indian culture, family, and other aspects are provided by Robbin Rhoades of the Quinault tribe.

Ed. note: for brevity, page numbers are presented in italics, and they relate to the book being reviewed or referred to.

The Wisdom of the Great Chiefs, a book written by Kent Nerburn, presents three famous speeches by chiefs Red Jacket, Joseph, and Seattle[1]. At the time of publication, Nerburn was involved in many facets of Indian education, including being a member of the National Indian Education Association and a consultant for the American Indian Institute. Highlights of these speeches are included in this report because they illustrate the role of nature in Native American culture. Symbolic statements include: Chief Red Jacket of the Seneca—*"[The Great Spirit] has taken His garment from before the sun and has caused it to shine with brightness upon us."*; Chief Joseph of the Nez Perce—*"The earth is mother of all people, and all people should have equal rights upon it."*; and Chief Seattle of the Suquamish—*"There was a time when our people covered the land as the waves of a wind-ruffled sea cover its shell-paved floor."*. The reader is cautioned to keep in mind that these speeches are based on translations and written transcriptions by those present at the time. This is exemplified by the numerous, and questionable, renditions of Chief Seattle's famous speech—see pp 9-17. The importance of cautious interpretation is elucidated by Albert Furtwangler in his book *Answering Chief Seattle*, 1997, where he comments (44):

> *"...looking to Indians for exotic spiritual depths is a very old story, and along with*

[1] Chief Seattle is more correctly "Seathl," "Sealth," or "Sealtth." For more explanation, see Rhoades' article, p.29.

"Red Jacket's speech shows us the strength and faith of the traditional way...Chief Joseph's speech takes us along the journey of a people from free, loving, and hopeful children of the land to a fugitive remnant pursued through forests and mountains into a tragic submission on the windswept foothills of the Rockies. Chief Seattle's speech begins as an eloquent eulogy to the Indian people, but soon rises to become an admonition to us all, and a bonding together of the Indian and non-Indian into a common fate.

"Accord these men—Red Jacket, Joseph, and Seattle—the honor they deserve... These are wise men. They have much to teach..."

Kent Nerburn

> *it comes the very old practice of making an exotic figure the spokesman for ironic or satiric reflections on supposedly civilized ways...the Indian appeared in print early as a wise or naive figure for satire. He also appeared very often as a great public speaker, a noble savage distinguished for his oratory against a backdrop of doom..."*

Seattle's speech, one which is widely quoted around the world, is closely scrutinized in light of new questions historians are raising regarding its validity. Furtwangler states:

> *"Is the Seattle speech a surviving record of an actual event? Or is it a fabrication from white men's pens and presses, a subtle reshaping of history designed to mold Indian ideas or characters into a justification of modern developments? The available evidence lends itself to both interpretations. The text printed in 1887 contains many telltale touches that seem not contrived but authentic, accurate reflections of conditions and Indian beliefs in the 1850s. On the other hand, it is also a manifestly translated text. It bears many marks of the white American settler who wrote it and of the like-minded readers he addressed."*

Furtwangler continues to caution readers that recorded speeches of the time should be viewed as suspect in terms of their actual validity. The author advises discretion when reading and interpreting them.

Chief Red Jacket, 1805

This speech (5-11) was given by Chief Red Jacket in the summer of 1805; its occasion was a meeting of the assembled chiefs of the Iroquois federation. Red Jacket was chief of the Seneca people, the westernmost tribe of the great Iroquois Federation of Tribes that lived in the area we now know as upstate New York.

The meeting was called to bring the federation's leaders together to hear the request of a young missionary named Cram, who had been sent among them by the Evangelical Missionary Society of Massachusetts. The Society was hoping this effort would establish Cram among the Iroquois and thus further their education in the Christian religion. Red Jacket spoke after Cram and other chiefs present at the meeting. (note: It is Cram whom Chief Red Jacket refers to as "friend/brother" in the speech.)

"Friend and brother, it was the will of the Great Spirit that we should meet together this day. He orders all things, and He has given us a fine day for our council. He has taken His garment from before the sun and has caused it to shine with brightness upon us.

"Brother, this council fire was kindled by you. It was at your request that we came together at this time. We have listened with attention to what you have said. You have requested us to speak our minds freely.

"Brother, listen to what I say...There was a time when our forefathers owned this great island. (The Seneca, like many other tribes, refer to this continent as a "great island.") Their seats extended from the rising to the setting of the sun. The Great Spirit had made it for the use of Indians. He had created the buffalo, the deer, and other animals for food. He had made the bear and the beaver, and their skins served us for clothing. He had scattered them over the country, and had taught us how to take them. He had caused the earth to produce corn for bread.

"Brother, our seats were once large, and yours were very small. You have now become a great people, and we have scarcely a place left to spread our blankets. You have got our country, but you are not satisfied. You want to force your religion upon us...You say that you are right, and we are lost. How do you know this to be true?"

At the end of the speech, Red Jacket rose and approached the missionary with his hand extended. The missionary refused to take it (11).

Chief Joseph, 1879

Chief Joseph of the Nez Perce is considered by Native and non-Native people alike as one of the greatest of all Indian leaders. Joseph was a singular man with a deep and abiding sense of justice and an unshakable love for his people and the land to which they were born. He is well known for making the famous thousand-mile exodus in a failed attempt to leave the U.S. and live in peace—where he said: "From where the sun now stands, I will fight no more forever."

The following speech was given by Chief Joseph in Washington, D.C. on January 14, 1879, barely a year after he had submitted his people to the U.S. military only forty miles from the Canadian border. This speech (13-18) is an appeal to congressmen and politicians to plead the cause of his people, the Nez Perce. Perhaps more than any other, this speech embodies the experience of American Indians after the arrival of Europeans on North American soil.

"My friends, I have been asked to show you my heart. I am glad to have a chance to do so. I want the white people to understand my people. My name is In-mut-too-yah-lat-lat—*Thunder Traveling over Mountains.* I am chief of the Wal-lam-wat-kin band of the Chute-pa-lu, or Nez Perce. I was born in eastern Oregon, thirty-eight winters ago. My father was a chief before me.

"We did not know there were other people besides the Indian until about one hundred winters ago, when some men with white faces came to our country. They brought many things with them to trade for furs and skins...Our people could not talk with these white-faced men, but they used signs which all people understand. These men were called Frenchmen, and they called our people '*Nez Perce*' because they wore rings in their noses for ornaments. These French trappers said a great many things to our fathers, which have been planted in our hearts. Some were good for us, but some were bad.

"The first white men of your people who came to our country were named Lewis and Clark. They also brought many things that our people had never seen. They talked straight, and our people gave them a great feast as a proof that their hearts were friendly. At first our people made no complaint. They thought there was room enough for all to live in peace, and they were learning many things from the white men that seemed to be good. But we soon found that the white men were growing rich very fast, and were greedy to possess everything the Indian had.

"My father was the first to see through the schemes of the white men.

"Next there came a white officer[2] [Governor Isaac Stevens of the Washington Territory] who invited all the Nez Perce to a treaty council. My father...refused to have anything to do with the council, because he wished to be a free man. He claimed that no man owned any part of the earth, and a man could not sell what he did not own. My father was invited to many councils, and they tried hard to make him sign the treaty, but he was firm as a rock, and would not sign away his home. His refusal caused a difference among the Nez Perce.

"(Joseph's father said upon his death) 'When I am gone, think of your country. You are the chief of these people. They look to you to guide them. Always remember that your father never sold this country...Never sell the bones of your father and mother.'[3]

"I buried him in that beautiful valley of winding waters of the Wallowa country. I love that land more than all the rest of the world. A man who would not love his father's grave is worse than a wild animal.

"The white man has no right to come here and take our country. We have never accepted any presents from the government. Neither Lawyer[4] or any other chief had authority to sell this land.

"We were like deer. They were like grizzly bears. We had a small country. Their country was large. We were contented to let things remain as the Great Spirit Chief made them. They were not, and would change the rivers and the mountains if they did not suit them.

"All men were made by the same Great Spirit Chief. They are all brothers. The earth is the mother of all people, and all people should have equal rights upon it. You might as well expect the rivers to run backward as that any man who was born a free man should be contented when penned up and denied liberty to go where he pleases. If you tie a horse to a stake, do you expect he will grow fat?

"If I cannot go to my own home, let me have a home in some country where my people will not die so fast. In-mut-too-yah-lat-lat has spoken for his people."

[2] This was the same Governor Stevens Chief Seattle purportedly met with when delivering his famous speech.

[3] In the years following his father's death—and in an effort to uphold his father's wishes and keep his land for his people—Joseph led his people, along with other non-treaty Indians, on the famous thousand-mile flight through the rugged country of Oregon, Idaho, and Montana, in an attempt to get to Canada where they could live in peace.

[4] "Lawyer" was the name of a Nez Perce chief, and his name arose because he was a great talker.

Chief Seattle, 1854

No speech ever given by an Indian leader has been so widely quoted, or so widely revered, as the speech given by Chief Seattle in 1854. Seattle was the son of a Suquamish chief, whose people lived on the islands across Puget Sound in Washington State. The first printed version of the speech was written by Dr. Henry Smith and appeared in the October 29, 1887 edition of the Seattle Sunday Star (Gifford and Cook 1992). According to Smith, its setting was a cold December day on the shores of the area the Indians called "the Whulge" (now Puget Sound). Over a thousand Indians had gathered to await the arrival of a ship carrying Isaac Stevens, who had recently been appointed by President Pierce to serve as the governor of the newly-created Washington Territory. The Indians knew little about Stevens, but they knew that he carried their fate in his hands. Their vigil on the wintry shores was as much an act of curiosity as a gesture of respect. (note: The gathering purported by Smith is brought into question in Furtwangler's book. For more, see pp 12-17).

After Stevens emerged from the ship and gave a short speech, Seattle knew that the haughty little man who had little respect for the Native people represented the end of the Indians' dreams and visions as a free people. So it was with a sense of sadness, mixed with no little contempt and scorn, that Seattle rose to speak in response to the new governor.

Seattle's words have been preserved in many documents, and the speech has become an icon of the modern ecological movement (Furtwangler, 4). The version of the speech given here (63-76) is that which is considered closest to what he actually said the version transcribed by Dr. Henry Smith as he sat on the shores of the Whulge, listening to Seattle speak.[5]

[5] There have been several versions of Henry Smith's speech. In 1987, a German scholar named Rudolph Kaiser presented four different, loosely-related versions: Smith's original publication, which first appeared in 1887; a 1969 translation made by William Arrowsmith; a new speech, based on Arrowsmith's version, but freely composed by Ted Perry in 1970-71 for an ecological filmscript; and an adaptation of Perry's speech, made into an inscription at the Spokane World's Fair in 1974 (Furtwangler, 4).

"Yonder sky that has wept tears of compassion upon my people for centuries untold, and which to us appears changeless and eternal, may change. Today is fair. Tomorrow it may be overcast with clouds.

"My words are like the stars that never change. Whatever Seattle says, the Great Chief at Washington[6] can rely upon with as much certainty as he can upon the return of the sun or the seasons. The White Chief (Governor Stevens) says that the Big Chief at Washington sends us greetings of friendship and goodwill. This is kind of him, for we know he has little need of our friendship in return.

"His people are many. They are like the grass that covers vast prairies. My people are few. They resemble the scattered trees of a storm-swept plain. The Great Chief sends us word that he wishes to buy our lands, but is willing to allow us enough to live comfortably. This indeed appears just, even generous, for the red man no longer has rights that he need respect. And the offer may be wise also, as we are no longer in need of an extensive country.

"There was a time when our people covered the land as the waves of a wind-ruffled sea cover its shell-paved floor. But that time long since passed away with the greatness of tribes that are now but a mournful memory. I will not dwell upon, nor mourn over, our untimely decay, nor reproach my white brothers with hastening it, as we too may have been somewhat to blame. But let us hope that the hostilities between us may never return. We have everything to lose and nothing to gain.

"Our good father at Washington...sends us word that if we do as he desires, he will protect us. His brave warriors will be to us a bristling wall of strength, and his wonderful ships of war will fill our harbor so that our ancient enemies...will cease to frighten our women, children, and old men. Then in reality will he be our father and we his children. But can that ever be?

"Your God is not our God...Our God, the Great Spirit, seems...to have forsaken us. Our people are ebbing away like a rapidly receding tide that will never return. Day and night cannot dwell together. The red man has forever fled the approach of the white man, as the morning mist flees before the morning sun.

"However, your proposition seems fair and I think that my people will accept it and will retire to the reservation you offer them. Then we will dwell in peace, for the words of the Great White Chief seem to be the words of nature speaking to my people out of dense darkness. A few more moons, a few more winters—and not one of the descendants of the mighty hosts that

[6] In the original version of the speech as it appeared in the Star, Smith added this rather awkwardly-placed parenthetic explanation of "the Great Chief at Washington" "...What Seattle says, the great chief, Washington, (The Indians in early times thought that Washington was still alive. They knew the name to be that of a president, and when they heard of the president at Washington they mistook the name of the city for the name of the reigning chief...) can rely upon..."

once moved over this broad land or lived in happy homes, protected by the Great Spirit, will remain to mourn over the graves of a people once more powerful and hopeful than yours.

"But why should I mourn at the untimely fate of my people? Tribe follows tribe, and nation follows nation, like the waves of the sea. It is the order of nature, and regret is useless. Your time of decay may be distant, but it surely will come...For even the white man...cannot be exempt from the common destiny. We may be brothers after all. We shall see.

"Every part of this soil is sacred in the estimation of my people. Every hillside, every valley, every plain and grove, has been hallowed by some sad or happy event in days long vanished. Even the rocks, which seem to be dumb and dead as they swelter in the sun along the silent shore, thrill with memories of stirring events connected with the lives of my people. And the very dust upon which you now stand responds more lovingly to their footsteps than to yours, because it is rich with the blood of our ancestors and our bare feet are conscious of the sympathetic touch.

"And when the last red man shall have perished, and the memory of my tribe shall have become a myth among the white men, these shores will swarm with the invisible dead of my tribe. And when your children's children think themselves alone in the field, the store, the shop, upon the highway, or in the silence of the pathless woods, they will not be alone. In all the earth there is no place dedicated to solitude. At night, when the streets of your cities[7] and villages are silent, and you think them deserted, they will throng with the returning hosts that once filled and still love this beautiful land. The white man will never be alone.

"Let him be just and deal kindly with my people. For the dead are not (altogother)[8] powerless.

"Dead, did I say? There is no death. Only a change of worlds."

[7] In 1854 Seattle was a "village" of no more than a few dozen inhabitants [Furtwangler (64-65)]. In fact, there were only a few thousand settlers in all of western Washington in 1854. Chief Seattle had most certainly seen Olympia, the capitol, but his words about "cities" in Smith's rendition of the speech can refer to nothing like a city as we now know it.

[8] The original version of the speech shows that Smith included the misspelled "altogether"; also, the original version of the speech ended at *powerless*. The ending, "Dead, did I say? There is no death. Only a change of worlds" is variously attributed to Clarence B. Bagley and others (Furtwangler, 24-25); for the original unedited version of the speech, see Furtwangler (12-17).

Debates over the Seattle Speech

Ed. Note: Many in the educational community use the Seattle speech for various reasons (oftentimes the version by Ted Perry). This section of the report examines some current authors' views about the speech, and presents controversial evidence of its very existence.

Two books are presented which discuss the authenticity of the various versions of the speech (Gifford and Cook) and challenge basic tenets of its original version by Dr. Henry Smith (Furtwangler).

The Most Popular Version of Seattle's Speech

How can one sell the air?

By Eli Gifford and R. Michael Cook, 1992

In recent years there has been much debate about Chief Seattle's 1854 speech. The main controversy centers around the authenticity of the version of the speech most popularly attributed to him. In their book, Eli Gifford and R. Michael Cook present three forms of Seattle's speech: recorded by Dr. Henry Smith, by Ted Perry, and adapted by William Arrowsmith.

Using the three versions of the speech, Gifford and Cook present the following outline of events and different publications:

I. The first printed version of the speech was written by Dr. Smith and appeared in the October 29, 1887 edition of the *Seattle Sunday Star*.

II. In the late 1960s, William Arrowsmith, a professor of classical literature at the University of Texas, came across a paragraph of Smith's version of the speech. Likening Seattle's prose to the Greek poet, Pindar, Arrowsmith decided to re-edit the original version (*note:* Arrowsmith's version of the speech is not presented in this report—see Gifford and Cook, 57-76). He developed a sense of the syntax used by regional tribes during that time by talking to elders of these tribes.

III. The best-known version of Seattle's speech was written by Ted Perry, a theater arts professor and playwright at the University of Texas and a good friend of Arrowsmith. Perry was under contract to the Southern Baptist's Radio and Television Commission to write several films on topics of his choosing, including one on the contamination of our planet. In 1970

Excerpts[9] from Ted Perry's *How can one sell the air?* Inspired by Chief Seattle:

"Every part of this earth is sacred to my people. Every shining pine needle, every tender shore, every vapor in the dark woods, every clearing, and every humming insect are holy in the memory and experience of my people.

"The sap which courses through the trees carries the memories of the red man...Our dead never forget this beautiful earth, for it is the mother of the red men. Our dead always love and remember the earth's swift rivers, the silent footsteps of spring, the sparkling ripples on the surface of the ponds, the gaudy colors of the birds. We are a part of the earth and it is a part of us. The perfumed flowers are our sisters; the deer, the horse, the great condor, these are our brothers.

"So when the Great Chief in Washington sends word that he wishes to buy our land, he asks much of us.

"What Chief Seattle says, the Great Chief in Washington can count on as surely as our white brothers can count on the return of the seasons. My words are like the stars. They do not set.

"So Chief Seattle will consider the offer of Chief Washington. We will consider.

"No, day and night cannot live together. We will consider your offer. What is it that the white man wishes to buy, my people ask me? The idea is strange to us. How can you buy or sell the sky, the warmth of the land, the swiftness of the antelope?

"We will consider your offer. In his passing moment of strength, the white man thinks that he is a god who can treat his mother (the earth), the rivers (which are his sisters), and his red brothers, as he wishes. But the man who would buy and sell his mother, his brothers, and sisters would also burn his children to keep himself warm.

"So we will consider your offer to buy our land. Day and night cannot live together. Your offer seems fair, and I think my people will accept it and go to the reservation you have for them.

"We will live apart, and in peace.

"Your dead go to walk among the stars, but our dead return to the earth they love. The white man will never be alone unless, in some distant day, he destroys the mountains, the trees, the rivers, and the air. If the earth should come to that, and the spirits of our dead, who love the earth, no longer wish to return and visit their beloved, then in that noon glare that pierces the eyes, the white man will walk his desert in great loneliness."

[9] Even this excerpt shows that Perry's version of the speech, adapted from Arrowsmith's, diverged significantly from the speech reported by Dr. Smith in 1887. E.g., Smith's version began, "Yonder sky that has wept tears of compassion on our fathers for centuries untold...;" compared to Perry's, "Every part of this earth is sacred to my people..."; and the ending of Smith's: "...The white man will never be alone. Let him be just and deal kindly with my people, for the dead are not altogether powerless." compared to Perry's, "...If the earth should come to that, and the spirits of our dead, who love the earth, no longer wish to return and visit their beloved, then in that noon glare that pierces the eyes, the white man will walk his desert in great loneliness."

Perry attended an Earth Day rally at the University of Texas where he heard Arrowsmith present his version of the speech. With Arrowsmith's permission, Perry used the text as the basis for a new, fictitious speech which served as the narration for a film on pollution and ecology called *Home*. Along with other changes, and without Perry's knowledge or permission, the film's credits stated that the script was a speech spoken by Chief Seattle. No credit nor acknowledgment was given that Perry had, in fact, written it. Other adaptations have followed.

Answering Chief Seattle

By Albert Furtwangler, 1997

The mystery of Chief Seattle's famous oration has been carefully examined in a recently- published book by Albert Furtwangler (*Answering Chief Seattle*, University of Washington Press, 1997). Interested readers are encouraged to read this book to gain insight into the author's views surrounding this world-famous narrative.

Furtwangler, a native Seattleite whose family settled in the area over 100 years ago, states:

> *"In 1887, a columnist in a Seattle newspaper published a long speech by the Indian leader after whom the city was named. The writer claimed that Seattle had made this speech at a great meeting on the waterfront in the 1850s, a good thirty years earlier. The speech was a reply to some remarks by the first territorial governor, Isaac L. Stevens, and it protested against the disappearance of Indian lands and ways under the pressure of recent white settlement. Over the years this speech has been modified, rewritten, embellished, broadcast, excerpted, popularized, discussed, and carved into many a monument. But exactly what it is, how it emerged into print, and what its occasion was or could have been have remained inadequately explained (preface vii-xi)."*

The Speech—*Chief Seattle Becomes World Famous*

Chief Seattle has become world famous in this century for a long and moving speech he made in the 1850s, just before his lands were taken from him and his people. In a "great gathering on the shores of Elliot Bay (according to Dr. Smith's account)," Governor Stevens spoke first, outlining the general terms of a proposed treaty. Smith reported that Seattle towered over the little governor and spoke extensively, seeing prophetically into the future of his region and even into the global dilemmas in which we now live (3).

Following Dr. Smith's account, no other source or record of this speech has turned up since 1887. No earlier notes, fragments, or closely parallel speeches by Seattle have come to light. What has emerged instead over the decades is a heightened awareness about Indian oratory, a recognition that it has often been celebrated by literate Europeans and Americans for their own purposes. It has been used to hold Indians at a distance, as noble, tragic, but very different people. Speeches of protest, in particular, show up again and again in American history as documents that prove the greatness of a "vanished" or "vanishing" race (preface, vii).

> *"There is a very thin thread of possibility that Henry A. Smith actually heard and recorded some kind of speech by Chief Seattle in front of Isaac I. Stevens on a great public occasion at the Seattle waterfront (47)."*

Among the few facts that are known (through Isaac Steven's papers published by his son in 1900) was that in March 1854, Stevens had to return suddenly to Seattle following an incident near Whidbey Island in which Indians killed two white settlers. A public meeting was held with Seattle and other chiefs on March 11, 1854. It was at this meeting that Governor Stevens chose to name Seattle as principal chief of Indians in the area and that he would hold another chief and Seattle "responsible for the good behavior of their respective people...." At the meeting, "... Seattle made a great speech, declaring his good disposition toward the whites (50)." Yet Furtwangler states that, "this March 1854 occasion of peace making hardly suits Seattle's famous speech...; it leaves little scope for a scene of stately leave-taking on Seattle's part... (51)."

The author continues reviewing records of a January 1854 gathering, and other possibilities, and he presents a speech recorded in 1850 by Benjamin F. Shaw [David Buerge, "The Man We Call Seattle," printed in the June 29, 1983 *Seattle Weekly*, pp 24-27 (25)]: Shaw reported that his party came upon a group of Indians on the east shore of Elliot Bay where the city of Seattle would be established a few years later. A large man spoke to the party through another Indian who spoke Chinook-jargon. Although Shaw admittedly did not transcribe what he heard verbatim, his summary included (59) these quotes:

"My name is Sealt, and this great swarm of people that you see here are my people; they have come down here to celebrate the first run of good salmon. As the salmon are our chief food we always rejoice to see them coming early and in abundance, for that insures us a plentiful quantity of food for the coming winter. This is the reason our hearts are glad today...

"We know that Native Americans have a long history of understanding the relationship between humans and the earth...Although we may never know exactly what Chief Seattle said, we believe that he was probably as eloquent as subsequent versions of his speech portray him to be."

Gifford and Cook (25)

I am glad to have you come to our country... We want your blankets, your guns, ...We need all these things that you make, as we do not know how to make them, and so welcome you to our country...We wonder why the Boston men should wander so far away from their home and come among so many Indians?"

This speech has telltale quotes and setting similarities which may indicate they are the actual source of Smith's rendition of the speech. However, Shaw reported this event two years after it happened; therefore, it is hard to know how well it represents the actual contents of the speech (60).

"What Seattle 'said'"—the Original and all versions recounted

Smith's article first appeared in the *Seattle Sunday Star* ("Early Reminiscences. Number Ten. Scraps from a Diary. *Chief Seattle—A Gentleman by Instinct—His Native Eloquence. Etc., Etc.*) on October 29, 1887. There is just one surviving copy of this article. It is on a damaged sheet of newsprint, even though librarians have done their best to reinforce and preserve it. The article is housed in the Newspapers and Microforms department of the Suzzallo Library at the University of Washington.

Important reprintings of the speech include: 1891 (James Grant), 1930s (various authors), 1969 and the1970s (Arrowsmith, Perry, and other modern interpretations).

Furtwangler states, *"Regardless of its questionable origin, since the speech was printed in 1887, it has circulated widely in popular histories of the city of Seattle and its region—and more recently, it has been reprinted and widely broadcast as a challenging admonition against modern industrialization, pollution, imperialism, and civilized folly. It has been quoted, excerpted, and repeated in speeches, broadcasts, films, pamphlets, and children's books. It has become known worldwide as a treasure of indigenous American wisdom. Again and again the speech has been presented as a symbolic encounter between indigenous America, represented by Chief Seattle, and industrialized or imperialist America, represented by Governor Stevens (3)."*

About Dr. Henry Smith

Some perplexing questions haunt the seemingly "authentic" version of the speech published by Henry A. Smith in 1887. In 1854, Smith was a young doctor who purportedly took notes as the speech was being translated on the spot. It was his version of the speech that appeared in the Seattle Sunday Star on October 29, 1887, as a tenth installment of a column he wrote, and its heading suggests that he copied his own diary to celebrate a hero from his past (9).

The speech was based on his records and recollections, and no witnesses or records corroborate his account. Smith directly states that his version is an imperfect rendering of a speech he heard through translation, some 33 years or more before he put it into print. What any current reader can study, therefore, is at best an echo of Chief Seattle's words and ideas, or, at worst, an account woven from faulty memory, imperfect notes, or "pure fabulation (5)."

Chief Seattle and Isaac Stevens

Seattle and Stevens apparently respected each other, and probably considered themselves friends. Seattle, from numerous reports, was friendly towards whites and was outgoing in creating alliances. An excerpt from statements made by the two men at Port Elliot on January 22, 1855 supports this (57):

Governor Stevens: "...Does my venerable friend Seattle object (to what I've said)?"

Chief Seattle: "I look upon you as my father. I and the rest regard you as such. All of the Indians have the same good feeling toward you and...Dr. Maynard (a physician who was also present)[10]..."

Some points Furtwangler makes regarding these two men and the famous speech:

Stevens would have recorded the speech.

Stevens, a valedictorian and soldier trained at West Point, was an inveterate keeper of journals (55-56). Although reports describe him as an irresponsible drinker, among other negative personality traits, his accounts of particular Indian speeches are sometimes extensive—if he heard something striking, he recorded it in his papers, and he recorded dozens of speeches. In short, that Stevens did not record a speech by Chief Seattle, particularly one with such authority, is remarkable.

Seattle was a Catholic.

Seattle's religious affiliation may contradict the speech's statements: "...Your God loves your people and hates mine...Your religion was written on tables of stone by the iron finger of an angry God, lest you might forget it...Our religion is...written in the hearts of my people (62)."[11] Notably, Seattle had been converted to Christianity by Jesuit missionaries many years earlier and he remained a Catholic of sorts.

"The aim of this study is not to authenticate or debunk the speech, but to bring to light the many layers of its mystery inadequate evidence about its origins, conflicting evidence about its main ideas, and conflicting attitudes toward those ideas in the American tradition. [Dr. Smith's version of the] speech printed in 1887, authentic or not, seems likely to endure as a provocative challenge to any thoughtful reader of later times..."

Albert Furtwangler, Answering Chief Seattle
preface, p ix

[10] Dr. David Maynard was one of the original settlers in what would become Seattle. He had a small store where he traded goods with Indians and immigrants. He also practiced medicine, served as a justice of the peace, notary, and local Indian agent. He slowly went broke with improvident generosity and various schemes (64). Since Seattle dealt with Maynard, and they were apparently friends, it was probably Maynard who proposed naming the place "Seattle" in veneration of the Indian leader (63). The village was named Seattle on May 23, 1853; and, by extension, it became the official treaty name of the Indian who lived nearby (65). Historians report that the chief was (at least at first) uncomfortable at having his name used for the settlement because he feared his spirit would be called and disturbed after his death.

[11] These excerpts from the original speech are not provided in this report.

"Old Chief Seattle was the largest Indian I ever saw, and by far the noblest looking. He stood six feet full in his moccasins, was broad shouldered, deep chested, and finely proportioned. His eyes were large, intelligent, expressive, and friendly when in repose, and faithfully mirrored the varying moods of the great soul that looked through them. He was usually solemn, silent and dignified, but on great occasions moved among assembled multitudes like a Titian among, Liliputians, and his lightest word was law..."

Dr. Henry A. Smith
"Chief Seattle A Gentleman by Instinct..."
Seattle Sunday Star
October 29, 1887
Furtwangler, p 10

At his death in 1866, he was buried with funeral services of the Catholic Church, according to an extensive account published a few years later (61). Most likely, Seattle observed and balanced some Christian rituals with traditional tribal beliefs and practices. Regarding the above-mentioned speech excerpts, this raises the question of how much of these passages are believable as the voice of even a loosely practicing Catholic (61).

The Speech and Ecological Context

"The main theme of the speech is not reverence for the land or the environment—as modern ecologists would have it—but the persistence and immanence of tribal spirits...Mysterious guardian spirits will endure and continue to cherish or haunt the place long after the upheavals of invasion by other people with other gods (36)."

With this statement, Furtwangler points to Smith's use of the word "tahmanawis" in the third paragraph from the end of the speech[12]. Chinook jargon, the word can be interpreted as spirit, magic, medicine, or mystery. As it is used in the speech, the word can be interpreted as either: 1) a result of rough notetaking by Smith, or 2) shamanistic acts and all the performances belonging to the secret societies of the North Pacific Coast. In this usage, *tahmanawis* denotes a ritual or secret ceremony—and this meaning fits well with the idea of funeral rites or gestures in "a tear, a tamanawus, a dirge." Furtwangler explains that the term used in this way may be an important clue towards the meaning of the entire speech—touching the deepest themes of Seattle's protest.

[12] A section of the speech's original version, which is not presented in this report, states that, "Men come and go like the waves of a sea. A tear, a tamanawus, a dirge, and they are gone from our longing eyes forever...even the white man ...is not exempt from the common destiny. We *may* be brothers after (all). We shall see...(16)."

Using this interpretation, according to Furtwangler, Seattle's speech takes on the following meaning (35):

"The invaders live by a very different understanding of what is sacred. They have come, abandoning their own homes, to dislodge a people who have inhabited the region so fully that every hill, valley, plain, and grove has been hallowed by fond memories. The time has come for Indians to depart and face their nemesis. But the spirits of these people will remain."

Thus, *"The white man will never be alone."*

Concluding Statements from Furtwangler

Without Smith's sole account of this speech made by a great chief, which has provoked authors to reexamine the authenticity of the event, there would be little to suggest that Chief Seattle once made a formal, noble oration to the governor at the waterfront on Elliott Bay. With Smith's account, the evidence seems to allow a slender possibility that some such address was made in January or March 1854 (55); or, it was based on another event entirely—such as Shaw's report.

After several stages of transmission and scholarly editing, the speech remains clouded in doubtful texts and confused appraisals. In various inaccurate forms it has been circulating for a generation, not only in the popular press but also in university courses in American history and literature. Some recent textbook editions have dropped the speech or added cautionary notes about its origins, but it is still featured in others as an authentic voice crying out of the wilderness of the American past (29).

Authentic or not, the speech seems likely to endure as a provocative challenge to any thoughtful reader of later times (preface, xi). And regardless of its mystery, the legend of Seattle and his speech remains irrepressible (9). It appears in dozens of publications, including widely respected histories, collections of American documents, and anthologies of American literature. To the historian, it still presents an intriguing example of how a story or an idea can persist in the face of overwhelming evidence that should demolish it. To the student of literature, it presents a no less sobering instance of the exalting and dissemination of a very suspicious text (5).

"We may be brothers after all.

We shall see."

Chief Seattle, 1854
Nerburn, p 74

Nature and Indian Traditions, Rituals and Legends

Following from the speeches just presented, Native American legends, spiritual teachings, and rituals are rife with references to the natural world. To illustrate this, excerpts are provided from *Secrets of the Sacred White Buffalo* by Gary Null.

The book begins with the following story (excerpted from preface, pp V-VII):

According to Lakota Sioux lore, it was during a time of famine. A woman appeared wearing white buffalo skin and carrying a sacred pipe. She explained that the pipe's wooden stem represented the trees and everything else growing from the Earth. The red bowl symbolized the flesh and blood of all people, and the smoke was the breath of their prayers going to Wakan Tanka, the Creator. The woman demonstrated the pipe ceremony, where offerings were made to the four directions while drums played and sacred songs were sung.

The people learned important things from this woman. She taught them the connection between sky and Earth and of the unity of all life. She explained how offering thanks to Wakan Tanka with the pipe yielded many blessings on Earth. Before departing, she promised to return when the time was right. As she walked off into the West, she stopped, kneeled to the Earth, and rolled over four times. She turned into a buffalo, changing color with each turn. First a black one, then brown, red, and finally, a white female buffalo calf. She then disappeared into the distance. The people followed her teachings and were never again hungry.

The author, Null, makes these comments regarding this story:

While Wakan Tanka is known to originally have been the Creator and Controller to the Sioux, over time her legend filtered across the world. She pervades all things, including the Earth, sun, moon, stars, animals, and humans. Also known as *White Buffalo Woman*, her myth is credited with teaching people how to pray, what are the right words to speak, and what are the right gestures. Even today, the white buffalo is the most sacred of all things to the Sioux and to others who believe in her powers.[13] Those outside Native American culture rarely understand the significance of the white buffalo.

[13] Apparently, Wakan Tanka's promise was fulfilled in 1994 when a white buffalo was born in Jamesville, Wisconsin. According to Null, "White buffaloes are rare, but this one, they say, is unique beyond belief, because as prophesied, it changed color several times after birth, going from white to black, to red, to yellow, then again to white." This buffalo has great symbolic significance to Native American tribes, and can be likened to the response of a Christian to the second coming of Christ (p V).

"Holy Mother Earth, the trees and all nature are witnesses of your thoughts and deeds."

Anonymous, Winnebago Indian Tribe
(p V)

And most people still have stereotypical images of Indians—this is the unfortunate result of movies, television programs, history texts, and other forms of twentieth-century media. A further lack of understanding stems from Native Americans' unique view of the world. They believe nature is divine. They believe they are only a part of nature, not here to dominate it. Thus, their ceremonies center around the idea of the regeneration of Mother Earth.

Yet never before has the world been in such dire need of these understandings. As the twenty-first century approaches, our natural resources are rapidly dwindling, and new diseases are surfacing at an alarming rate. Considering the threat of global self-destruction, a long and serious look at the Native American way may indeed be a beneficial alternative. Perhaps before we can move forward, we must be willing to learn from the past.

Some stories and rituals from Null's book:

Cleansing through smudging (pp 53-54)

Smudging, a common practice among Native Americans, is a cleansing of energy by burning sage, tobacco, and sweet grass. Chinook shaman John Joseph says these substances emit scents known to please the Great Spirit; he explains, "Sweet grass grows high in the Rocky Mountains. A gift from the Creator, it is said this grass never dies. It is one of the great smells reminding us of the mountains and open air. Sage is the cleanest smell of the desert. It is also a present from the Creator. Tobacco is another gift. Our thoughts and prayers are carried on its smoke. It carries the two great smells of the mountain and desert. It is a visual representation of our thoughts and prayers being transported."

Smudging is performed by mixing the sweet grass, sage, and tobacco in a bowl, commonly an abalone shell. The ingredients are burned, then the smoke is blown or fanned over a person. Often an eagle-feather fan is used. Native Americans believe prayers and thoughts contained in the smoke are carried to the Creator on the wings of eagles. They fly the highest and are in direct communication with the Creator.

Smudging plays a central role in traditional healing ceremonies. It is believed once negative energies are cleared out, a sense of peace and relaxation replaces them. This puts spiritual difficulties to rest. Joseph says, "Western medicine looks at and deals primarily with physical causes, often not considering the spiritual well-being of the individual. There's a big difference between healing and curing. Curing is a quick fix. The spiritual side must also be fixed in order for the healing to be long-term. Smudging is often combined with other modalities that get to the root of illness. These might include speaking with a shaman, taking long walks, fasting, praying, and engaging in purification ceremonies."

The Earth-Day Ceremony—*Our Planetary Mother* (pp 57-58)

According to Eagle Man (an author from the Oglala Sioux tribe), the Sioux Nation takes Earth Day very seriously, even performing a ceremony in its honor. The ceremony is held outdoors where the four directions and the powers of the Earth are invoked. Thus, the Energies will know the people are giving Mother Earth their full support and respect. Acknowledging the four directions is a common part of many Native ceremonies. Here they are connected to the ecology and environment.

Eagle Man explains the reasoning: "We speak of life-giving rains coming out of the West. We talk about clean waters. We ask, 'How can we help make the water clean?' We talk about wasting less water. We also speak of fighting for the nonpollution of our water sources. We turn to the North and appreciate cleanliness and purity. We know we are on an uphill battle, like all environmentalists. We beseech the North power to fortify and give us great strength to endure in our venture into environmentalism.

"We beseech the East power and speak of knowledge. We speak of education and the things our children need to be productive adults. The results are already seen. Children are less likely to throw trash out of car windows. I recently drove somewhere with three others in my car. One dumped the water from his paper cup out of the window, but he wouldn't think of throwing the cup out. If he had, I would have stopped the car, turned it around and made him pick it up. He would have been chagrined and admonished for his behavior. One paper cup may not seem like a major

problem, but if many people do the same thing, the results will be devastating to our Earth.

"We talk about knowledge. We go to the South power and beseech for bounty to be taken away from those who waste. Often business executives are concerned only about making money. Sometimes they don't care about taking their bounty and applying it to Mother Earth's needs. We beseech for the bounty to be distributed to people who will put it toward the good of the Earth."

Eagle Man says ultimately the directions lead to communion with the Creator. Indians do not focus directly on the all-seeing Great Mystery alone. Rather, they speak to his creation as it is manifested in nature, represented by each direction.

Sacred Shields—*Physical and Spiritual Protectors* (p 63)

Medicine shields were used by Native Americans for spiritual as well as for physical protection. Physical safety was aided by the size of the shield and the material used to make it. Most shields were made from the hard rawhide from the hump of the buffalo. The rawhide was cured, making it dense so arrows were unable to penetrate it. Even bullets from early flintlock rifles were often repelled by the rawhide. Eventually more powerful bullets did penetrate them.

For spiritual protection the shields were circular. They were decorated with power symbols and objects of personal significance. A Native American might draw a picture of an animal or insect he felt close to, or perhaps one that was in a dream. For instance, buffalo, eagles, ants, wolves, or deer might be found depicted on a warrior's shield. The idea for the motif usually came in a vision or was provided by someone highly respected. The animal or insect was believed to add power and protection by allowing the owner to see where the enemy was. Sometimes parts of animals were attached, such as eagle feathers, bear claws, or wolf tails. Smaller shields, known as replica shields, were also made. However, these were worn primarily for protection from evil.

Native American artist Tchin explains the importance of medicine shields as power symbols, "I think all people understand the power of things. We understand, as human beings, we are somewhat weak. We need other things to help and protect us."

Medicine and Totem Poles (pp 63-64)

The Totem pole is a column of wood, usually cedar, carved with figures that have strong symbolic meaning for the tribe or the family who owns the totem. Totems are common only in Northwestern tribes, including those in Alaska. The various poles depict animals, fish, birds, and creatures from tales and legends.

Some of the more common carvings and their meanings include:

Mountain goat	Symbol of nobility
Moon	Represents height or status
Grizzly bear	Embodies strength
Killer whale	Ruler of the seas

The family's personal symbol is carved into the pole, denoting ownership. Motifs for protection from disease, accident, and other illness are also included on the poles. As such, they are believed to offer protection as well as status and family identification. The poles are often painted in bright colors and are extremely beautiful.

Medicine poles were used by the Mandan Indians. Plains people, they lived near the

"Screaming the night away
with his great wing feathers
Swooping the darkness up;
I hear the Eagle bird
Pulling the blanket back
Off from the eastern sky."

Invitation Song of the Iroquois

upper Missouri River. Mandans used the medicine pole in the same manner as the Northwestern tribes used the totem pole. It served as a symbol of the totem animals; again, a source of power, prestige, and protection for the family. The poles were taken down at night and during bad weather, much as the American flag is today. It was decorated with various animals and colors, depending on the tastes as well as the beliefs of the family.

Ceremonies—*Vision Quest and Pipe* (pp 3-4)

The underlying purpose of most Native American ceremonies is to help humans know themselves and the world by connecting through the earth to a higher power. Regardless of how varied were ceremonies among tribes, they usually held tightly to an original meaning. There is a common cosmology that unifies much of the Native American continent. An example is the several variations of ceremony known as the "vision quest." The basic idea is always to provide people with deeply sacred moments to reflect on their lives. It can be thought of as Native American metaphysics. Ceremonies have been practiced for thousands of years; through ceremony, Native Americans believe in the healing powers of these right-of-passage traditions and accept them as their religion.

Symbolism is often similar among different North American tribes; they include the sun, moon, buffalo, eagle, beaver, mountains, lakes, trees, elk, and many other natural icons. These symbols used in ceremonies and their meaning among North American tribes are often similar; for example, symbols used on totem poles of Alaskan Eskimos may have similar meanings as the motifs handcrafted on garments of Florida's Seminole tribesmen.

The Pipe Ceremony provides a good example of Native American ceremony. It is a sacred ritual for connecting physical and spiritual worlds. Gabriel Horn, author of *Native Heart: An American Indian Odyssey* (4) explains: "The pipe is a link between the Earth and sky. Nothing is more sacred. The pipe is our prayers in physical form. Smoke becomes our words. It goes out and touches everything. It becomes a part of all there is. The fire in the pipe is the same fire as is in the sun. It is the source of life. Tobacco is used to connect the worlds because the plant's roots go deep into the Earth. Its smoke rises high into the heavens."

Whales in Ceremony

Neah Bay, Wash. As fellow members of the tribe watched on live TV, Makah Indians in a hand-carved canoe harpooned a gray whale Monday for the first time in 70 years, renewing an ancient tradition that defines their culture. A larger fishing boat joined the hunters and began slowly towing the carcass to Neah Bay, where the 2,000-member tribe declared a holiday.

With the 30-foot whale carcass partially beached and partially submerged in shallow water, one bare-chested Makah jumped atop the whale and sprinkled it with eagle feathers. The three-year-old female whale was being butchered on the beach, its meat and oil distributed among the tribe to be used for ceremonial feasts. Environmentalists decried the killing, which was accomplished through a combination of the traditional—the cedar canoe, its hand-carved paddles and the whalers' ritual prayers—and the modern, including .50-caliber rifles and motorized boats.

For centuries, the Makahs hunted the huge gray whales that migrate along the Pacific Coast between Alaska and Mexico. The tribe stopped hunting in the 1920s, after the grays were decimated by commercial whaling. Yet whaling still looms large in Makah culture, with images of the animal emblazoned on the high school and used as the backdrop for traditional dances. So after gray whales were taken off the Endangered Species List in 1994, the tribe sought to resume whale hunts to preserve their culture on their remote reservation. They won international permission to kill 20 whales through 2004.

Up to last fall, however, no living Makahs had ever even been on a whale hunt. Few had ever tasted whale meat. The successful hunt "restores a missing link in our heritage," said Arnie Hunter, vice president of the tribal whaling commission. Joddie Johnson, owner of Makah Maiden restaurant in Neah Bay said of the hunt: "There's no words that can express what's inside; very full of pride, honor, respect of the whale for the warriors and the warriors' respect for the greatness of the whale."

May 18, 1999
Excerpts from: Makah hunters take whale
Peggy Anderson, The Associated Press
Corvallis *Gazette-Times* newspaper

Yosemite Valley's Miwok and The Legend of Tis-sa-ack

The Miwok of Yosemite Valley were people who took from the Earth with a "please" and gave back to the Earth with a "thank you." Using only what they needed from the Earth, the Miwok made baskets from roots, willows, and grasses. Baskets were used as utilitarian tools, such as for winnowing acorns, catching fish, cooking and storing foods.

The Miwok Indians used legends to explain their natural surroundings. One follows:

Tis-sa-ack was an Indian maiden from the Mono Lake area, who intermarried with Nan-gas, an Ahwahneeche from the Yosemite Valley. They had a son named Kela. After living with Tis-sa-ack's family for seven years, Nan-gas decided to move his family back to the Valley. Discontented with her husband's decision, Tis-sa-ack whined, complained, and nagged the whole way while Kela cried for food. Nan-gas was anxious to complete the trip and kept pushing his family to move forward. After several days they arrived at Mirror Lake. Weakened from the journey, Nan-gas set out to hunt for food and told Tis-sa-ack to gather berries. Instead, she fell asleep. When she awoke she drained all the lake's water. Upon returning, Nan-gas was furious and he picked up a stick and beat her. In defense, Tis-sa-ack picked up her carrying basket and threw it at him. The Great Spirit was angered at their behavior and turned them into stone.

Tis-sa-ack became Half Dome and Nan-gas became Washington Column. The carrying basket is Basket Dome, and the baby carrier became Royal Arches.

From: "Yosemite Teacher Intern Program—*There is a Yosemite in Every Classroom Door*," sponsored by The National Park Service and The Yosemite Association.

"Human beings
have a responsibility
not only to society,
but also to the earth."

George Amiotte,
a Lakota medicine man
Null, p VII

Contemporary Thoughts—Vision Quest

*The following is an article which appeared in **Sky Magazine** (August 1998). Rhoades speaks about numerous contemporary issues in American Indian culture.*

What Robbin Rhoades knows about his tribe—and what he will teach his children

By Polly Anna Sheppard

"I am a member of the Quinault Nation, a conglomerate of seven affiliated tribes: the Quinault, Chehalis, Chinook, Cowlitz, Hoh, Queets and the Quileute. Our most commonly used language was called 'Chinook-jargon.' It was recorded because we used it with European traders, along the Columbia River. The river was the main source of transportation, about 150 miles inland.

"In transition, spelling was acclimated to sound. The meaning and correct spellings were sometimes unknown.

"While trade with Europeans brought us new technology, it also delivered new diseases our people lacked immunity to fight. The price we paid? Lives. Over 70 percent of northwestern tribes perished after initial contact with European explorers. Death of many people came, to our astonishment, without war. Taking with them our stories, our spirits and mythology. The tribal language slipped through my fingers like lives of ancestors I never met face to face. I never knew the nature of these words. I never fluently spoke my thoughts through them.

"From the mid-1800s to the early 1900s, our diminishing tribe was subjected to government schools. My grandmother, Catherine Hawks Lorton, was sent to one of these schools. She was shamed and punished for speaking her language or attempting to pass on tribal traditions. Today, when I ask her questions about our culture, she is quiet, reluctant to teach me. Speaking our language embarrasses her. She did not teach it to her children and grandchildren. I am left to find out about my ancestors and traditions from books and tribal documents.

"In a spiritual sense, I believe my spirit guides lead me. Gaining strength and power within the tribe involves this practice I share with my children, Lillian and Josiah. Vision quests are meditative methods of acquiring spirit guardians, or Tomanawos [pronounced "toe-MAN-o-wuhs"]. As children mature to adolescence, they take solitary vision quests into the forest to seek their Tomanawos. These spirits may come in

animal or human form. The more Tomanawos you acquire, the stronger you are spiritually.

"A glimpse of a cougar makes that animal a source of spiritual power. When the cougar is your Tomanawos, your strength is feline-like, silent and respected. An encounter with the eagle gives you sharp eyesight, exactness, the ability to soar outward and broaden your perspective. The black bear is shy and quiet but owns sheer strength which humbles those he encounters. Whether a tribal member finds his guidance and identity in the cougar, bear, eagle or elsewhere is a matter of great privacy. The events or accomplishments of our vision quests are rarely discussed.

"The Klokwalle ["cloke-wall"] is a spirit that only allows those in impending danger to glimpse him. He appears from the forest or perhaps in a canoe from the ocean. He wears a large, black, bearskin robe and slips away in the darkness of twilight. That is a Quinault's sign that danger may be ahead. However, in passing successfully through that danger, one can accomplish great things. You may say a sighting of the Klokwalle is a bit of a mixed blessing.

"Since I have not found the answers to many of my questions about my family's history, I rely on other tools to teach my children. I stress oneness with nature as an important method to develop a strong sense of spirituality. My children are too young now to venture alone into the forest on vision quests. When I am with them on the river or in the forest, I talk with them a great deal about the animals, their spirit and their nature. When Lillian and Josiah are older, perhaps teenagers, I hope they will seek these values on their own. They will have a stronger connection to their heritage. Something my generation lacked.

"Pop American culture bleeds into my children, manipulating their behavior in ways I've come to expect. The most obvious being their unnatural desire for more material goods than they could ever possibly need or use. Everywhere they look, the false need for material wealth is forced upon their impressionable minds. They get it at school and, of course, from television. I'm sad to say, because of my upbringing, they also get some of this desire from me.

"The most alarming and potentially harmful effect that society has upon my children has to do with the stigmas that are often attached to Native Americans. The 'savage' description of European explorers rides along unchallenged in school history books. My 4-year-old daughter gave an example of this when I recently took her to a powwow.

"As we arrived at the event, Lillian saw a man wearing a traditional headdress, a buckskin shirt, pants and moccasins. She told me that she wanted to go over and see 'that Indian.' I went to the man and told him that my daughter would like to meet him. As I presented Lillian to the kind, elderly man, Lillian pulled away and showed aversion. With my assurance that it was safe to approach and talk to the man, Lillian finally shook his hand. After a short conversation, we took our seats at the powwow. I started to talk to the children about native dances when suddenly Lillian blurted out, 'I don't want to be a mean old Indian, because they shoot people.'

"I realize that this is an idea that will subside as my daughter grows older and becomes more knowledgeable. I know that scars will remain and that other more subtle and harmful stigmas exist. I am concerned about how these stereotypes and misconceptions will affect my children's self-esteem both in the immediate and distant future.

"Regardless of how far we travel, how extreme the cultural agenda, people remain the same.

We have values, hope and strive for a better future for our children. Within my native culture, I will always feel a sense of loss, knowing so much culture is missing. In the world of the Hoquat [Quinault for "white man"], I feel an emptiness, like I've lost a part of my soul. I imagine it is that very emptiness that causes our people to seek numbness from drugs or alcohol.

"Many people wonder why Native Americans today have social difficulties like alcohol and drug abuse. I think it comes from a loss of identity, a loss of spirit. This is a symptom seen in any culture. Its remedy is found in how we connect and instill values in our children. So I strive to give my children a strong sense of their identity—in hopes they will not seek addictive or self-destructive behaviors.

"In tribal tradition, the father chooses Indian names for his children. I allowed my children to choose their own names. The names they chose both came from my great-great-great-grandmother, Cha'isht Wassequah. Lillian, who is named after her aunt, chose Cha'isht ["cha-eesht"]. Josiah, named for a biblical king, chose Wassequah ["wah-see-quah"]. It's a bit unconventional to allow them to choose their own names. But I see children are guided more with their heart in these matters. I am guided more by my head. I am learning to make more decisions with my heart. That's why I let my children choose for themselves.

"The meaning of Cha'isht Wassequah was lost. Even the spelling and pronunciation are questionable. Since the names were recorded by the Hoquats, we may never know the correct pronunciation or spelling in English. For example, Chief Seattle has an entire city named after him. His name was really Sealtth. This name was very difficult for white men to pronounce. It's 'seal' with a 'th' sound from the beginning of the word 'the'. This may give people an idea of how scarce the correct historical information may be concerning Native Americans. When it comes to exploring the history of my culture, I am very limited.

"For example, I cannot choose native medicine over the Hoquat's 'modern' medicine for my children. The native medicines are lost. I cannot choose trade and barter over the use of money. Money is the only way to provide my children with food, clothes, warmth and education. It is now a fact of my life. I must learn the Hoquat's way.

"I grew up off the reservation; this may be why I see the importance of understanding the Hoquat's world. I know my livelihood depends upon this world. The very survival of my culture depends on the growing understanding between my people and the Hoquats. Quinaults who grew up on the reservation may not see the importance of these things. They call people like me an "apple Indian." That means that I'm red on the outside and white on the inside. That could be true. But I see growth, knowledge and wealth in that future.

"In past Quinault culture, wealth was something to be flaunted. In a material sense, wealth was measured by how much you could give away at a potlatch. It is a gathering or feast given by a person who has acquired material wealth, so that he may give that wealth away. It may seem strange to you, showing your wealth by giving it away. Imagine this in America. Ha! Not today.

"Wealth is also having a skill, like canoe carving or fishing, to supply the family with food and housing. It is knowledge and understanding, as well as honor and bravery. These are the things we have come so close to losing. They are also the values which hold us together as a tribe and a nation. They are our hope for the future. You see, we are not living in a dirt-floor tepee. We have running water, cable television and computers. We also have something else. We have our heritage.

"Even though much is lost, the Quinault Nation has a strong sense of heritage. I do not reject the modern world. Yet I do not stand idle as my heritage slips unseen into the twilight forest like the Klokwalle. I strive to face the trials that come. It is my hope to venture beyond *oyhut*, the end of the trail, toward great accomplishments."

Rhoades Map

The Quinault Nation inhabits the Olympic Peninsula of Washington state. The western side of the peninsula is cradled in the Olympic Mountains, a barrier for the warm, wet Pacific air that creates a temperate rain forest. Robbin Rhoades and the members of his tribe live immersed in a world rich in natural resources: The rain forest is home to more than 1,000 plant types and about 50 species of mammals. The peninsula's glacier-fed rivers and streams are renowned for and plentiful with salmon.

Rhoades, 40, is twice divorced and the father of three children. The two children from his second marriage, Josiah, 6, and Lillian, 4, live with him. His son Tristan, 13, from his first marriage, visits frequently. Rhoades makes his living as a boat-builder and salmon-fishing guide in Amanda Park, Washington, on the Quinault Reservation. "It's interesting to me," he says, "that my ancestors were leaders in boat building as well as fishing. There are boats still being used in Tokeland, Bay Center and Westport that were built by Joseph George, my great-great-grandfather." Rhoades has traced his family back through four generations in order to give his children a sense of identity and heritage.

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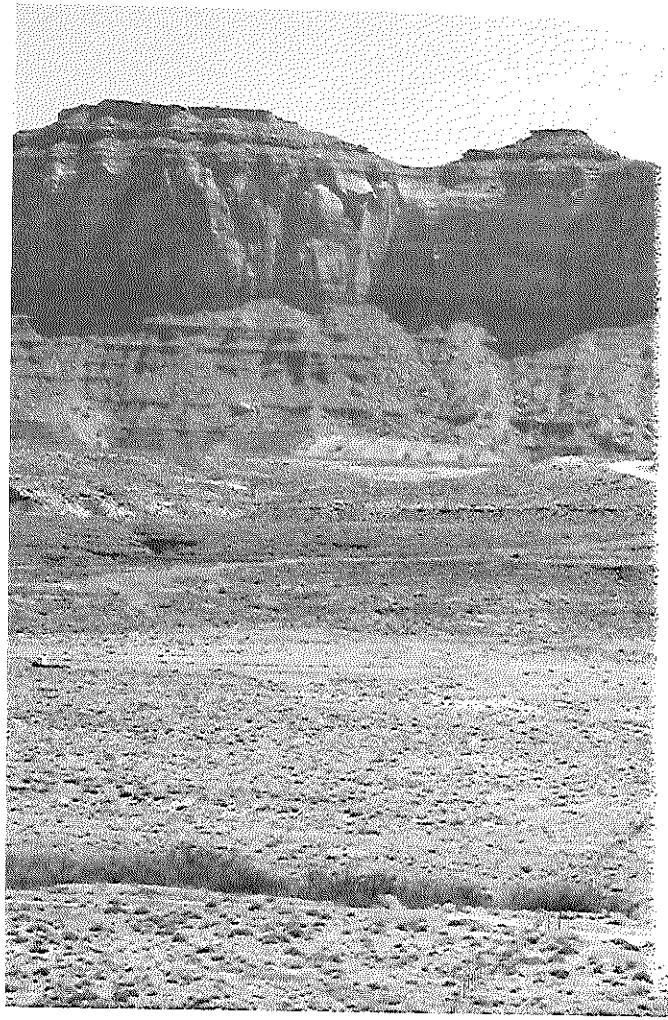
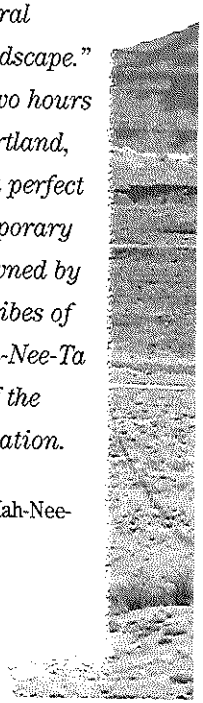
Educational Perspectives



Kah-Nee-Ta Resort

Kah-Nee-Ta ("root digger") Resort—is touted as "shining like a diamond in the rough against Central Oregon's rugged landscape." Located less than two hours from downtown Portland, Kah-Nee-Ta offers a perfect blend of the contemporary and the ancient. Owned by the Confederated Tribes of Warm Springs, Kah-Nee-Ta is the centerpiece of the 600,000-acre reservation.

From the brochure for Kah-Nee-Ta Resort



NCSR Tribal Forum at Kah-Nee-Ta Resort

In the next section, we examine some perspectives on education. We start with the Center's Tribal Forum, where instructors from both tribal and non-tribal colleges met to discuss natural resource-based curricula. Then we add perspectives gathered from a survey of tribal colleges. Information is presented on educational opportunities unique to the Indian community—Salmon Corps and Salmon Camp. And two articles which appeared in the ***Journal of Forestry*** *describe educational issues and endeavors at Haskell Indian Nations University and Oregon State University.*

We end this section with a list of recommended Internet sites and videotapes to use in the classroom and as resources.

Opening Address

Judith Vergun, Ph.D.
Professor, College of Oceanic and Atmospheric Sciences
Oregon State University

Vergun, who serves on the center's advisory committee, provided the opening address for the NCSR Tribal Forum. The forum was held July 7-10, 1998 at Kah-Nee-Ta Resort on the Warm Springs reservation in central Oregon.

Instructors and college representatives from tribally controlled and non-tribally controlled two-year colleges and four-year universities met to share knowledge, issues, and work-based applications for natural resources and environmental technology programs.

Information about the NCSR Tribal Forum is presented in a proceedings document and videotape. These are available free of charge through the center.

The following is Vergun's opening address to the group:

"I am a professor at Oregon State University, in the College of Oceanic and Atmospheric Sciences. I am an ecologist, and my primary

interest is working with natural systems—hoping that we can regenerate natural systems, and mostly hoping to save what is still left. I'm working with Jane Lubchenco—she's an ecologist of global stature and I have just started a new project with her which is called the *Aldo Leopold Leadership Program* (see textbox on p. 36).

"We are just getting the program off the ground to be able to communicate science effectively to those people who make policy, those who are educators, and others. Our aim is to bring current information that we know about science to the forefront of the public's mind. We decided to name our program after Aldo Leopold because he has been and still is visionary with regard to natural systems.

"What he talked about in the quote we just saw, [referring to Leopold's famous quote: "*The outstanding discovery of the 20th Century...*" (see sidebar opposite page) on the NCSR's promotional videotape] are really traditional Indian views and understanding of the systems. So he actually discovered for himself the same thing that many Indians have known for a long time—about the value of everything, and the systems relationship of all things.

"Traditional Indian and indigenous knowledge is a focus of my work. Mostly, my work is with American Indian cultural and natural resources. I work in the Pacific Northwest, Alaska, and Hawaii. One of the things we are doing is hurrying as fast as we can to recover some of the information through oral histories from our elders who know a lot of things. Since it's been an oral tradition, none of these things are written. We're hoping we can save enough information to see if we can recreate some of the management practices that were so effective and efficient in sustaining natural systems and people who live within them.

"I thought I would give you a little bit of history about how some of our programs evolved at the university. *The Native Americans in Marine and Space Science Program* began in the late 1980s. One of the things that we did was decide that we'd like to have an internship program for undergraduate Native students to work as if they were graduate students in research projects and have the opportunity to explore ideas in science and education. We work with students from the mainland, and Alaskan and Hawaiian natives. Over ten years, we have made some really nice connections with the students' tribes and communities.

"Another project we have is the class featured in NCSR's Interim Visions Report entitled *Ecosystem Science of Pacific Northwest Indians* (see textbox on p. 38). The College of Agricultural Sciences at OSU recognized that there was absolutely no Indian perspective on anything that they taught, so they asked me if I would teach the class, and I said, 'No, because I'm not a Pacific Northwest Indian. My affiliations are from elsewhere, and you should hire a Pacific Northwest Indian person to teach the class.' Since they couldn't hire a new instructor, I told them the next best thing was to design the class with the right people from the tribes of the Pacific Northwest—then have the tribes identify the people who should be teaching.

"It took us a year to design the class, and now it's become a core curriculum course at the university. We talk about traditional Indian perspective on ecosystems—of pre-European contact management of all this area and what it looked like (of course it appeared to have no management, but there was a lot of management going on). One of the textbooks I use for the class is *Before the Wilderness* (Blackburn and Anderson, Eds., Ballena Press, 1993). Wilderness only 'happened' when the European-Americans settled here—before

"The outstanding discovery of the 20th Century is not television, or radio, but rather the complexity of the land organism. The last word in ignorance is the man who says of an animal or plant: 'What good is it?' If the land mechanism as a whole is good, then every part is good, whether we understand it or not. If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering."

Aldo Leopold
Round River
From the Journals of Aldo Leopold
1952
Published posthumously
by Luna B. Leopold
pp146-47

Aldo Leopold Leadership Program

From www.leopold.orst.edu

Newsflash!

BALTIMORE, Md. Scientists have announced an innovative new program to train "scientist communicators" for the future and hopefully improve the flow of accurate, credible scientific information to policy makers and the general public on critical issues of the environment.

Under this concept, some of the nation's leading environmental scientists will become "Aldo Leopold Leadership Fellows" and more actively share their expertise in water and air quality, diseases, fisheries, agriculture, contaminants, global climate change, endangered species and other critical issues with local communities, the news media, political leaders and local, state and federal policy makers.

The program is named for Aldo Leopold, an environmental scientist who communicated his scientific knowledge eloquently and effectively. Oregon State University will operate the new program on behalf of the Ecological Society of America, supported by a $1.5 million, five-year grant from the David and Lucille Packard Foundation.

"The current rate of ecological change is unprecedented in the history of the Earth," said Judith Vergun of Oregon State University, the project director. "We have current scientific knowledge about threats to the environment. The public deserves to be well informed, and our public policies should be based on this knowledge. But often the knowledge does not reach the public and policies often reflect information that's 20 years old."

That vast gap between common perceptions and scientific reality has to be bridged, experts say. The new program is designed to make professional communicators out of researchers who usually think more in terms of professional journals than newspapers or legislative committees.

"We envision a leadership and communication training program designed to help environmental scientists become more effective communicators of science to the public and policy makers," said Jane Lubchenco, an OSU distinguished professor of zoology. "The need for clearly presented, scientifically credible information on environmental issues is greater now than ever before."

How the Program Works

A group of twenty tenured, academic scientists from a wide range of environmental fields of study will be chosen during each of the next three years to attend two separate one-week workshops for intensive study in five areas: 1) providing leadership within the scientific community; 2) providing scientific input to the policy process; 3) communicating with the news media; 4) interacting with the corporate sector; 5) working with non-governmental organizations.

"Completion of this program will allow scientists to be designated a *Leopold Leadership Fellow*," Vergun said, which organizers expect to become an honor of some distinction. Along with the participants' other scientific and academic credentials, it should help some of America's finest scientists gain more public attention, credibility and help the public, media and policy makers know to whom they can turn for high quality, credible, scientific analysis.

"Of course, there's also an expectation here that these researchers will accept the responsibility to speak out on these issues," Vergun said, "We'll look for people who take that charge seriously."

that, it was not wilderness—just home. We talk about those kinds of things, and there are a lot of people who bring us information that is very important about the way natural systems were managed here in terms of salmon and plants and forested ecosystems. What we're trying to do is get back to the opportunity provided by that kind of management, and to see if we can bring back some of our natural systems that are looking like they're long gone. One of the things we're doing is reintroducing the use of fire—there's a lot of traditional Indian burning that cannot be carbon dated because the fires didn't produce fire scars—they weren't that big a fire event.

"Now I want to spend a little time talking about trust responsibility, because it's always confusing when we're talking about Indian rights on ceded lands. This was an important issue between 1787 and 1871. During this period, hundreds of U.S. treaties were developed, and Indians mostly got land in exchange for promises. Indians trusted the U.S. to fulfill the promises, which were given in exchange for their land—that is the trust relationship. Federal government's obligation to honor the trust relationship and fulfill its treaty commitments is the trust responsibility. These are the terms you often hear when discussions are about treaty rights.

"In what ways can tribes benefit from the trust relationship with the U.S.? Tribes are eligible to participate in federal Indian programs, such as housing, welfare, education, resource management, employment training, and legal education areas. Does the trust responsibility ever operate to the tribes' detriment? Yes—there is a constant clash between the federal government's trust responsibility and the tribes interest in self government. Indians are entitled to federal protection, not federal control. The extent of holding the trust and protecting treaty rights has turned into a dominating, and somewhat paternalistic, activity—depending on circumstances. Oftentimes this hasn't worked very well. There are people in the tribes, and especially a lot of our young people now, who are coming back to the reservation who not only understand Western education and Western science, but they also are committed to traditional Indian beliefs and perspectives. These young people really have a lot to offer. A result is that the Bureau of Indian Affairs (BIA) is being forced back to the basic tenets of trust responsibility (for more information, see pp. 110-112).

"Trust resources differ depending upon the location and the specific tribe who uses them. Of course, natural resources are found both on and off reservations—which means they're on 'ceded lands.' There are millions of acres of land ceded by Indians to the U.S. government in exchange for their reservation lands. While managing these lands is important, Indians and non-Indians have responsibilities to one another—thus, tribal members develop and retain partnerships and construct working relationships with other resource management jurisdictions and authorities such as the U.S. Forest Service, U.S. Bureau of Land Management, and state and local government agencies. This does not mean 'revealing secrets' or private information about using medicinals or ceremonies, etcetera—what we're talking about is helping educate people about Indian ways that, otherwise, non-Indian people would not know to respect.

"I wanted to give you an overview of the kinds of things that we're looking at that have to do with education and working with tribes and natural resources. We're hoping we can work with other groups like the *Ecological Society of America*, *American Association for the Advancement of Science*, and government agencies to see how we can come together to bring knowledge to the table that otherwise would be unavailable.

"The goods and services that our natural systems provide us far outweigh anything that our tech-

Ecosystem Science of Pacific Northwest Indians (AG 301/507)

Course Overview

This three-credit course is designed and presented by Dr. Judith Vergun and Pacific Northwest Indian and Alaska Native tribal members. Interdisciplinary and comparative in approach, its summary area of focus is natural ecosystems, the different views of European Americans, Pacific Northwest Indians, and Alaska Natives toward those systems, and the impact of these different views on power relationships, public policy making, and gender role status. Oral presentations by Pacific Northwest tribal members constitute a central component of this course. Presentations include pre-contact, Traditional Indian ecosystem management, a discussion of treaty rights on ceded and usual and customary use lands, termination and restoration, trust responsibilities, and prognosis for the future. The course explores the contemporary impact of treaty agreements on natural resource use and current land-use controversies.

Course Goals

The course is designed to help the individual recognize, understand, examine, and even question her/his own biases. Students are encouraged to explore the relationship between their world view and their individual and collective life histories.

Course goals, numbers one and two, are based on the Oregon Indian/Alaska Native Education State Plan. Goals numbered three and four reflect OSU's Difference, Power, and Discrimination course criteria guidelines:

1. To promote more effective education for American Indian students, and all students, by assuring meaningful participation of American Indian people in planning, implementation, and administration of education.

2. To recognize the dignity and worth of all individuals and their participatory roles in society.

3. To recognize the origins, operation and consequences of different types of discrimination, including both structural power differences and our individual, personal biases.

4. To understand how positions of power and differing values of natural systems by Euro-Americans have influenced changes in Pacific Northwest ecosystems and lifestyles since the time American Indians managed the lands.

nology can perform or provide for us. For instance, if you look at the clean, good-quality water that a natural watershed produces, and at a forested system that not only provides trees, but foods, berries, medicinals, and basket-making materials—these are systems that provide things that are really important to sustaining life and culture. There are many, many things in the system, and technology alone could never rebuild it once it's lost. It is very important to preserve what we have naturally and see how we can use it in a sustainable way to live in the future.

"So these are our projects—there are a lot of them. We have lots of things going on, and we love it! It's really been an important relationship, too, with the *Northwest Center for Sustainable Resources* and programs they are doing, because then we can connect with more people to let more know about what kinds of things we think are important."

"The rates of change that we're seeing right now in terms of our ecosystem devastation are greater than ever before in history. We're losing our diversity; we're losing a lot of the services that natural systems provide because we're losing our natural systems.

"The Indian perspective that's interesting for us in all of this is that pre-European contact here on this continent, there was a great deal of management of these systems, and a lot of the understanding of that has been lost with the people as they die because it was oral tradition and a lot of it wasn't recorded in a written way. So the work that I do as an ecologist with our native tribespeople is to try to recapture that information and take a look at our natural systems (or what used to be those natural systems) to see if we can incorporate some of the understanding, knowledge and experience that was here for 10,000 years into our policies and our education and our management of those systems so that we can get back to a more natural diversity—and the native plants and species that are in this specific area."

Judith Vergun
From NCSR Tribal Forum video
July 1998

Water, Salmon, and Treaty Rights

Lynnwood, Wash.

Washington state tribal leaders have faulted lawmakers for inaction on state water management and efforts to protect wild salmon. During a two-day conference of the Northwest Indian Fisheries Commission, tribal leaders said they share the federal government's concern and determination to make sure Washington rivers and creeks flow with enough clean water to support a growing list of wild salmon declared threatened or endangered under the federal Endangered Species Act.

Bills at this year's legislative session intended to force farmers and urban dwellers to conserve more water for fish died in committee, beaten down by interests including developers and Eastern Washington farmers.

"The legislature missed the point," said Terry Williams, a veteran member of the fish commission and chairman of fisheries and natural resources for the Tulalip Tribes of northwest Washington. "They still don't understand what the Endangered Species Act is and what it could mean to the state's economy if the state doesn't work with the federal government and the tribes to restore threatened runs from Puget Sound chinook to coastal coho," he said. Officials from the National Marine Fisheries Service say that proper water management is crucial; at issue is growing urban use and irrigation—this results in not enough water getting into streams to support salmon in some areas. "Water, or lack of it, will push litigation [by tribes]," Williams said.

The tribes hope the federal government ultimately will do the job through enforcing the Endangered Species Act. But the tribes have a weapon on their side that predates the listings of 18 salmon runs in Washington in the past three years: an 1855 treaty and a 25-year-old federal court decision upholding the treaty. In that court decsion, U.S. District Judge George Boldt ruled that the treaty entitled many Washington tribes to half the salmon harvest; in this pivotal ruling, the judge in effect said the tribes had a right to enough water to sustain the salmon. "Using the Boldt Ruling, tribes could return to court and seek orders securing enough water to protect salmon," Williams said.

The threat of such a lawsuit, at least in part, was what compelled former Governor Booth Gardner to hammer out agreements with the tribes to cooperatively manage fish resources in the early 1990s. Thus, by law, tribes play a pivotal role in management of water and salmon in Washington.

May 7, 1999
Excerpts from: *Tribes criticize Washington salmon plans*
Hal Spencer, The Associated Press
Corvallis *Gazette-Times* newspaper

"Even the Indian way is not black and white—even in different communities we do things differently. Yet, in a broader sense, we need to understand the philosophy of Indian people—how they deal with and dealt with the land. We need to recognize the difference between the Indian and the Western European way. The elders saw the difference and understood the difference. Young people now need to hear about these differences. You don't have to adopt our lifestyle, but we should work together and share our ways with each other. Indian people have made contributions to society, art, architecture, and land management. There is a lot of movement toward the protection and preservation of the environment. There is a sense of logic and common sense when we see a dirty river and we want to clean it up—and we need to become emotionally and spirituality engaged. How we do that can be a sensitive issue."

Bob Tom
NCSR Tribal Forum
Kah-Nee-Ta resort

Perspectives Shared at the NCSR Tribal Forum

July 8, 1998

A major goal for the Tribal Forum was to give instructors (from both tribal and non-tribal educational programs) a chance to share their curricula, and their innovative ideas, with the others. Below are some of the elements shared. (note: colleges are listed alphabetically)

Chemeketa Community College, Salem, Oregon

Ara Andrea

Representing Chemeketa's Forest Resources Technology program, Andrea stated that the Pacific Northwest is a political hot-seat as far as natural resource management, and we need to look at alternative methods for managing resources. Dominant and important categories in this realm include logging and silviculture.

Students really need to have good verbal and written communication skills—this is a very top priority. The technician is different today; one of the biggest role changes is being a good communicator; they are no longer just gathering data and measuring, and now they have to write and report what they saw or did in the field. Manipulating a Geographic Information System (GIS) (using ArcView) database is important for two-year students.

Diné Community College, Shiprock, New Mexico

Sue Wolf

Wolf presented exercises from the Introductory Environmental Science course that she teaches in the community college's Environmental Program. "The Resource Use Study" (what happens to the resources after we use them) incorporates relationships to the land and interviews with elders to find out what they did 50 to 60 years ago. Different measurement techniques are used so students are comfortable with gathering data and making calculations without depending solely on published results.

Wolf also works with a National Science Foundation Grant with a focus towards sustainability. "We need to re-establish the relationship with the earth—maybe through spirituality." Wolf continued to explain that through projects like those she's developed, students are making connections with the land through problem solving and applying and making decisions.

Dull Knife Memorial College, Lame Deer, Montana

Judi Davis

Davis stated that all classes in their Natural Resources/Environmental Technology programs are transferable. They offer a unique ethnobotany class which studies edible wild plants.

Davis commented about developing curriculum modules for tribes nationally: "How do you individualize the courses? The areas are different and the tribes are different." Other comments on American Indian perspectives in curricula included: "We have to make something educational instead of making it a stereotype. How can you teach a medicinal ceremony without teaching the ceremony?—Or use a sweat lodge, teepee, or butcher a deer to reinforce the lifestyle. It reaches into storytelling. We need to differentiate between these without 'stepping on toes.' A local approach is the best, instead of generalizing a curriculum."

Everett Community College Everett, Washington

Sally VanNiel

VanNiel, speaking about the college's Environmental Science curriculum: "We have started a new class called 'What is Science?'. It is team taught with biology and physical science instructors. Students develop titles for a term paper and they work on it as a team, and then present it as a team. Many times there is a split in the final answer and two sides won't agree, then they realize that science is like that and has been like that since the beginning of time. They begin to appreciate that we'll never have 'all the information' to come up with 'all the right answers,' but at some point scientists must stop gathering information and start fixing some problems with the best knowledge available."

Grays Harbor College, Aberdeen, Washington

Don Samuelson & Jenny Coffing

Samuelson and Coffing presented information on the college's Natural Resource Technology program. They spoke about courses in *Watershed Ecosystems*, *Aquaculture*, and other course materials which will be offered through the center. Two capstone courses have been developed to explore and compare different ecosystems; each require students to apply concepts they learned earlier in the program. Teamwork is a big part of the curriculum, and students have to problem solve and design studies. A strong science background is imperative for problem solving—students need to know the reason why they are doing what they are doing.

Haskell Indian Nations University, Lawrence, Kansas

Brenda Brandon

Brandon spoke about Haskell's Technical Outreach Services for Native American Communities (TOSNAC) program and their Environmental Research Studies Center. Funded by the Environmental Protection Agency's Superfund program, the TOSNAC program provides credible, non-biased science and engineering information to Native American communities and other stakeholders in hazardous substance decision-making processes. Stakeholders include coal mines, paper mills, and others who have contaminated a tribal property. "Through TOSNAC we facilitate and/or mediate to clean or clear it up faster," Brandon stated. The process is site specific because each tribe has different needs.

Northwest Indian College (NWIC), Bellingham, Washington

Gleyn Bledsoe

NWIC's Natural Resources/Environmental Technology program is trying to fill the evolving needs of their students, and staff are developing programs geared towards Native Americans. Bledsoe stated these students have different attitudes and different needs, and these vary among tribes. Integral to the program's success is recognizing the differences between the tribes.

The new two-year program will present information about the environment from a spiritual side, a subsistence side, and an economic side. Classes will be integrated and multidisciplinary; they will include speech, writing, and mathematics.

To incorporate a Native American perspective, faculty will have elders come in and speak to the class. This "Elder Perspective" will be integrated throughout the training program. Elders are the communication of the past and the future: "What is the history? What are the treaty, ceded, and other Native American rights?" Classes will address Native American fishing rights, and shellfish aquaculture. Different attitudes between native and non-native people will be examined, and this will provide students the opportunity to recognize the importance of creating partnerships for management.

Salish-Kootenai College (SKC) Pablo, Montana

Jayne Yatchak

Yatchak, a recently-graduated student from SKC, talked about a one-year research paper/project she worked on which integrated tribal culture and classes which were strengthened by having elders come in and talk to the students. In her education, history of tribal government and tribal environment were very important. Having classes geared toward their tribes was very important.

Shasta College, Redding, California

Dave DuBose

Shasta's Natural Resource Program in the Center for Science, Industry, and Natural Resources is offering a new one-unit course called "Ecosystem Management from a Native American Perspective." Taught by a Native American woman, DuBose shared samples of labs offered in the course. He also spoke about a very popular class offered through Shasta's "LIFE—Learning Integrated with the Future Environment" program, where five teachers team up with 60 students each semester; the course deals with many different aspects of culture and natural resource use.

Washington State University (WSU), Pullman, Washington

Aaron Miles

Representing the College of Agriculture's Natural Resources Department, Miles asked the question: "How can WSU accommodate the growing needs of tribes in natural resources? What are the immediate natural resource-related needs, issues, and challenges?"

WSU offers degrees in Natural Resource Management, including programs in entomology, and a Department of Biological Systems Engineering with majors in Agriculture Technology & Management and Research, and Crop & Soil Sciences (CSS). GIS (with ArcView software) is incorporated into CSS classes.

The Confederated Tribes of Warm Springs — Host of the NCSR Tribal Forum

During the Forum, the group learned about the Tribes and visited the National Fish Hatchery and Department of Natural Resources located on the reservation.

History of the Confederated Tribes of Warm Springs

Centuries before Europeans set foot on the North American continent, three tribes—the Wasco, the Walla Walla (later called the Warm Springs), and the Paiute—lived along the Columbia River and near the Cascade Mountains of western Washington and Oregon. Each tribe was unique in its history and heritage. The Wasco were primarily fishermen and traders, while the Warm Springs depended more on game, roots and berries for subsistence. The Paiutes did not rely on fish, and migrated frequently for plants and game. During the 1800s, the way of life for these tribes changed as waves of immigrants arrived from the eastern regions. The three tribes were forced to relocate onto the Warm Springs Reservation, which meant an adjustment to a new land resource, federal policies, boundaries and sharing of land.

In 1934, Congress passed the Indian Reorganization Act (IRA), and the Wasco, Warm Springs and Paiute tribes ultimately signed the agreement. This led to the formation in 1937 of the Confederated Tribes of the Warm Springs Reservation of Oregon. The tribes established a constitution and by-laws for tribal government. In the early 1950s, the people of Warm Springs made the decision to strive for economic independence from the federal government.

Currently there are 3,740 enrolled tribal members, with 3,089 members residing on the reservation. Although the reservation lands, located in Central Oregon, are not the ancestral home of the tribes, they are rich with natural resources. Tribal members have made strides toward a self-sufficiency that others have not been able to accomplish. Tribal leaders are conscious of the importance of utilizing resources on the reservation in a sustainable fashion so that future generations can live as those before them.

National Fish Hatchery

The Warm Springs Reservation is home to the Warm Springs National Fish Hatchery, which is operated by the U.S. Fish and Wildlife Service (USFWS) on lands leased from the tribes. The hatchery is co-managed by the USFWS, and the

Mavis Shaw comments...

on how she became interested in, and finally achieved, a career working in the National Fish Hatchery on the Warm Springs Reservation in Warm Springs, Oregon.

"I'm the assistant manager at the Warm Springs National Fish Hatchery. I'm a member of the Confederated Tribes of Warm Springs. My family's been involved in fisheries for as long as anybody knows. My mom was raised in the houses that are at the base of The Dalles' Dam. My family's been a fishing family forever.

"I got involved in the fish hatchery, which is operated by the U.S. Fish and Wildlife Service but run in conjunction with the Confederated Tribes at Warm Springs. The more I worked here, the more I wanted to become involved with the actual handling of the fish, and actually raising the fish. Nobody said it would be easy and it was not, but it's been very, very nice. The Fish and Wildlife Service has been great about fulfilling what they said—they would get a tribal member in the management [of the hatchery], and they did; and the tribe is just happy to have been a part of paying for some of my education to get me here.

"Anything that involves water is a part of why any of us are here, because without it, we won't be..."

From the NCSR Tribal Forum video
July 1998

tribes have sole management responsibility for fishery resources on the reservation.

Established in 1966 and located on the Warm Springs River, a tributary of the Deschutes River, the hatchery began to stock reservation waters with salmon and trout. Each spring, Chinook salmon are released from the hatchery. The salmon travel down to the Deschutes River, and then into the Columbia River, and ultimately to the Pacific Ocean—totaling approximately 300 river miles. The salmon typically return to the hatchery as four-year-olds from April to June. Approximately sixty percent of the adults are spawned each year; production of salmon each year at the hatchery is about 630 fish.

The Warm Springs tribe and the staff at the hatchery encourage tribal members to attend college, primarily in the natural resources field. There are job opportunities with assistance for tuition and some expenses for those who study fisheries and then work for the hatchery.

Department of Natural Resources

Lands on the Warm Springs Reservation are topographically and ecologically diverse, and they support numerous tree species and vegetation types which span many age classes; forests include old-growth stands, oak and juniper woodlands, mixed conifers, noble fir and mountain hemlock, and extensive stands of ponderosa pine.

Forest management planning is based on an Integrated Resource Management Plan (IRMP) which was adopted in 1992 following passage of Tribal Resolution 7410. The resolution called for an integrated approach to be used in all future planning. Notably, the tribes imposed their own regulations before government regulations were imposed on similar types of management—in effect, making the Warm Springs activities a truly pioneering effort.

The IRMP includes 1,000 continuous forest inventory plots which are analyzed about every 10 years. These plots are then broken up into forest stands; altogether, 12,000 units are delineated on forest coverage maps. Currently, the DNR has inventoried approximately one-third of the reservation, and a recalculation is done after each annual cut.

Some highlights of the IRMP and recent management decisions include:

– the tribes develop integrated and team-developed management plans which incorporate flexibility to change as new science or conditions warrant; management teams include fisheries biologists, soil scientists, range conservationists, timber specialists, and silviculturists. Plans produced must undergo review and approval by the Tribal Timber Committee and finally the Tribal Council

– the annual cut of timber has been reduced since the IRMP was done

– a spotted owl program has been established, and it appears that the reservation provides productive habitat for the owls

– biological diversity "islands" have been established, including 1,000-acre forested blocks that have old-growth characteristics—these are maintained on a 250-year harvest rotation schedule

– buffer zones are maintained on all streams

– big game studies are underway, involving cougar, deer, elk, and bear, and similar studies are being conducted on bird populations, including bald and golden eagles, and osprey; the reservation is home to approximately 3,000 to 4,000 deer and approximately 1,000 elk; annual hunts are allowed for deer and elk

– a solar-continuous water project is being conducted—this project utilizes solar panels to bring water up and away from creeks and rivers to a trough for cattle, which keeps them from fouling the water

– there is close cooperation with the U.S. Forest Service and the U.S. Bureau of Land Management both on the reservation and on the tribes' ceded lands

– Geographic Information Systems (GIS) is used extensively

– overall management elements are protection and enhancement of all natural resources

Questions asked about Warm Springs tribal natural resource management at the NCSR Tribal Forum

Answers are provided by Dave Smith, Range Conservationist for the Warm Springs Department of Natural Resources

1. What are some of the more emotionally based appeals you've heard from the tribe regarding forest management?

When we did the forest plan (IRMP), I can tell you what the most emotional appeal was—it was the look of the forest. Clearcutting, leaving big scars on the land, was a very emotional thing. Protection of fish and wildlife species, especially salmon, was important. Today, there are four priorities for management: water is the first priority, fish is second, big game is third, and cultural plant food and medicinal plants is fourth. We utilize that priority system in developing management plans. We always keep these priorities in the back of our mind—water resources must be protected for tribal fisheries and wildlife resources; and the appearance of the forest and utilization of resources by tribal members is important.

2. Talk about your major cutting systems.

We don't use clearcutting. Our heaviest kind of cut is a seed tree cut, leaving approximately 5 to 10 trees per acre. We also use shelterwood cuts, leaving about 15-25 trees per acre. And we precommerically and commercially thin stands. We also do selection system cuts in pine stands.

3. What other points would you like to add?

Huckleberries are of primary concern to tribal members, and we are trying ways to manage for them, including using prescribed burning and reintroducing the species as nursery-grown stock. Overall, since its adoption by the Bureau of Indian Affairs in 1992, the IRMP has been of interest to many tribes, even from Canada; we've given numerous tours, meetings, and seminars explaining our approach, and people have come from as far as Spain, Russia and all over Europe to view how we put the plan together.

A Conversation with Judi Davis

American Indian Students and Post Secondary Education

Judi Davis is Vice-president of Academic Affairs and a part-time instructor at Dull Knife Memorial College, a tribally-controlled college in Lame Deer, Montana.

*The following conversation occurred among Davis, Susie Kelly, and Donita Gray-Krueger on a trip between Central Oregon Community College, Bend, and the Warm Springs reservation in Warm Springs, Oregon, at the NCSR Tribal Forum. During the taped conversation, Davis made a number of interesting and poignant remarks regarding education and Native students. We share them with you here. [note: comments from Kelly and Gray-Krueger are in **bold italics**.]*

Student preparedness and college programs, and funding assistance

"Many community colleges and well over half of tribally-controlled colleges offer open access for students. All students can attend; however, most tribal colleges receive no state funding, only federal funding. Thus, we are very dependent on federal dollars and are subject to the whims of Congress. Federal appropriations have been at times uneven, and we've had years with no funding increases, but actually decreases, and the college has run on loans until funds were made available from Washington, D.C. The federal structure has imposed unique strains on our college system.

"The federal structure also imposes limitations on our students. Most of our Indian students are first generation, low income, and qualify for Pell, but Pell grants do not pay for developmental classes—and this can be an entire year of classes for some. There is also a cap now on funding available through Pell grants. A surprisingly high number of students come in thinking they're going to take a few classes, and then they decide to go for their bachelor's and they've used up three years of their Pell grant.

"One student I know didn't withdraw; he got straight Fs because he never went to a class. And because he didn't know the system, he didn't know how to ask questions, and he couldn't get help from his advisors. He lost his access to funding through the financial aid system.

"Other problems I frequently see are having so many unmarried students with children or divorced parents, both men and women; many are first-generation college students, and they don't know the structure or the system; and funding doesn't last forever, you know, and if students drop out of classes, they have to pay their Pell back within so many days."

"Is it because students are not being advised in high school or there's not enough attention—even at the tribal college?"

"At a tribal college they have a really good success rate because when they walk in the door there is somebody there that they know, and there are probably relatives working there that they can go to, or there's somebody that explains things to them. When there are dropouts, somebody knows and goes and finds them. We have a gal in the office that turns in reports that say, in effect, '...I haven't seen so-and-so on Thursday.' It's either academically or through absence that they are failing or need the attention, and she goes and finds them and finds the problem. Some non-tribal colleges also have people who help the students—they keep track of them, and make sure they attend classes.

"The big problem with many incoming college students is they come out of high school unprepared or under-prepared. They don't want to study, and perhaps they've figured out that they can come into the class and say, 'I'm going to be gone tomorrow for cultural reasons,' and the reservation's public school has been told to not even ask questions. These schools 'have learned' to not ask important questions to really account for students' absences, but we're getting away from that more and more. So on one hand there is an issue of Native students not attending classes for real obligations, and on the other, schools need to be vigilant in checking students so they do not try to get away with excuses.

"Another issue is the generation of people that went to, or was forced into, boarding school—the students' parents—that will excuse their kids from classes. They'll back their kids because schools were traditionally 'the bad guys.' The boarding schools basically stole these parents from their families.

How to improve on college education

"The main thing is that the college and its programs are suited to the community, and that students feel part of and are aware of their community. Some things that could be incorporated into education include the salmon in Oregon, and you know it's not fish in Montana, it's buffalo or grass and cows, or it might be something else like sage and cedar—there's always something. And different tribes have different issues; for instance, if you go down to the Navajo reservation and you kill a spider, that is absolutely wrong because they were helped by Spider Woman. If it weren't for Spider Woman and other spiders, there would be no Navajo. You don't kill a spider there. And once we had a man make a snake pit for his fifth graders. He was a wonderful teacher, but Indian girls that were having their period could not look at a snake or even get near one. And until somebody told him that, what were those kids supposed to do? Or in other tribes, the girls cannot come to school when they have their periods, and this is serious in their culture—I mean that if they go to school, they will have female troubles and never be able to have a child."

"So there are cultural or spiritual barricades to school also, along with parental disenchantment with their experience in boarding schools?"

"Yes, and also the parents are often lacking knowledge about the school systems and how to deal with them. When I was teaching, parents would call me at home and ask questions about calling and asking the secretary about how they would get their children out of school for a dentist appointment. They feel the schools are not safe, and they are not comfortable with them. And colleges are even more foreign because they just don't have experience with them.

"A colleague and I were talking last night about racial discrimination. I once had a friend, a man who was 50 years old, who sat in on college courses in music; and the instructor said there was no Native music to the United States. After hearing this, I brought in many tapes that I had in my collection of Native music, and the teacher apologized to my friend and the class. This man was a Ph.D. and didn't even know about Indian music!"

"So in that case there is a lot of ignorance."

"Yes, education in many respects is not culturally rich or sensitive. It's important not just in the cultural sense, but also in the history of a region and the history of the local tribes."

"But there are a lot of people who really are ignorant."

"Those who are ignorant hear about gambling on the reservations and that everybody's rich. That's not true for every tribe. Tribes are very different in what type of gambling they have, and how much money they bring in. For instance, some only operate a bingo parlor and their entire profit, their entire income from

Technology Infrastructure Study of American Indians and Alaska Native Communities

In August 1998, President Clinton directed the Department of Commerce to undertake a technology infrastructure study of American Indians and Alaska Native Communities. This report was released in June 1999. Below is listed some highlights of the report's findings that are especially pertinent to those working on outreach and consultation processes. If you would like a copy of the full report you can download it at **www.doc.gov/eda/html/reports_pubs.htm.**

– Only 39% of rural households in Native communities have telephones compared to 94% for non-Native rural communities.

– Approximately 26% of tribes report that they do not have 911 service.

– 44% of tribes have no local radio stations, and for those tribes with radio stations, these stations are rarely tribally owned.

– Of rural Native households, only 22% have cable television, 9% have personal computers, and of those, only 8% have Internet access.

– In rural areas, 12% of Native households lack electricity and 23% lack gas.

– Nearly 90% of Native schools and libraries have both computers and Internet access.

"I was going to school with a younger girl who was part Indian. She wasn't a bad student; she was an average student but she worked hard and got Bs and Cs. She went and told her professor that she had cancer and he called her a liar. He said, 'I've heard that.' But she did. And she got a letter from her doctor. 'I don't want to see it,' he said. And she walked out of school that day and didn't come back. And she didn't look like an Indian—it wasn't race. The teacher was just a real jerk. But I suppose they hear every excuse."

bingo in a year, is about $60,000, which provides a job for two or three people, and that's all. So not every tribe is rich."

"What would you say about tribal colleges in general?"

"Tribal colleges are, according to Paul Boyer 'the one bright light in Indian education'—and that's a quote from a Carnegie Foundation-funded study on tribal colleges by Boyer. In my master's thesis, I reported on a number of study results on Indian education at tribal colleges, including that 50% of the students that go to tribal colleges complete a degree at a four-year institution. Without the tribal college experience, only 7-15% of students who go right into a four-year institution, or more than 85% of our students, drop out of a four-year college.

"There's something about Indian culture and students not 'dropping out'—it's called 'stopping out.' For instance, if there's a family crisis, or similar events, such as their wife is going to have a baby, or they don't have money and their car isn't working very good, they'll stop out for a year and work, or do whatever they have to do. They don't consider they dropped out."

"They call it 'stop out,' really?"

"Yes. And they plan on coming back. You ask them, 'When are you going back to school?'. They may answer that it may not be for two to three years, but many of them do come back and finish. Or they will finish little by little by little. But they will just stop out for whatever reason is needed, because it's family—and their family understands if there is something going on—so they do not admonish the students for missing school.

"For example, if the Hopis are having home dances in the spring, the students don't attend school; if they did, they would be forsaking their people, their religion, and their culture. Even if it's a week before midterms, and even in colleges at larger institutions, these students are really being torn—but they must stop out. They want to go to school, but at the same time they have obligations.

"If your mother is dying, you stop out of school—and it's the same no matter what it is in similar situations. It's hard for institutions to deal with individuals with constraints like that, but it's the equivalent to maybe making a first communion, or something similar."

"Yes, you just wouldn't miss it no matter what the day."

"But the schools need to understand. I can understand that people would need to be educated in a similar way. But these students, although they may not want to leave school, have family telling them what is going to happen to them if they don't do this or that; and they're pulled, especially if they are younger. When I teach, if there is a big funeral, and I know that half my students will be attending, I will cancel class that afternoon."

"Is there any answer for the educator who can't change their midterm—can they perhaps make the timing more flexible?"

"I think it has to come from the administration to say 'you're going to have to understand there are reasons and you'll get to know your students and you'll know those that are lying.'"

What's coming—NCSR and an American Indian Perspectives Curriculum Module

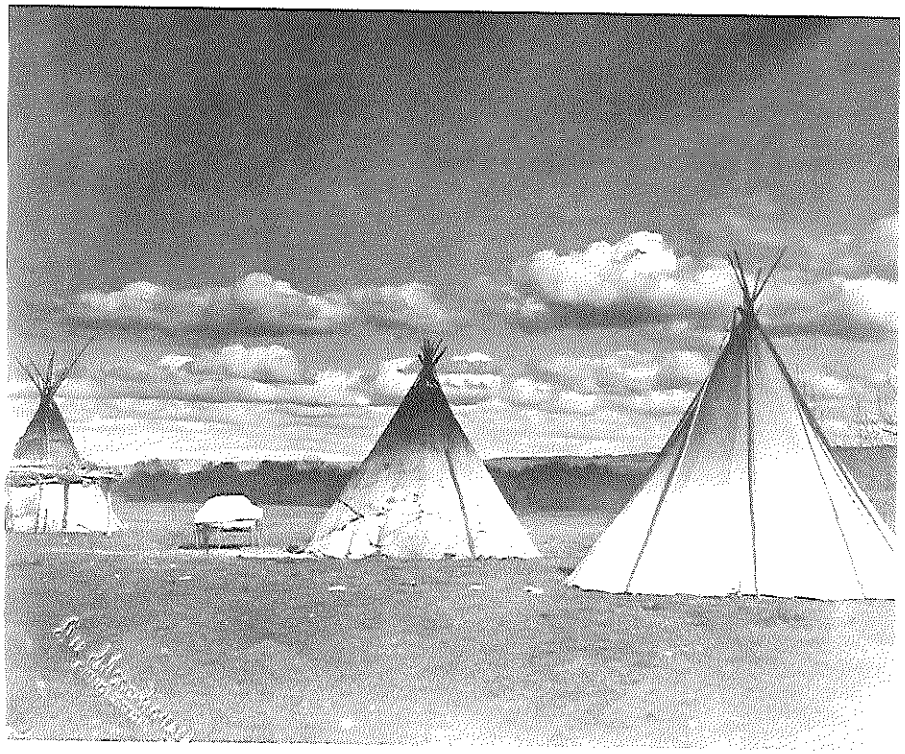
As a result of the Tribal Forum and followup activities, the Center and its partners in the tribal community are currently developing a resource database and curricular materials.

"My real hope is that we eventually come up with some sort of a class on Indian Perspectives, or key issues others should understand about tribes. It should be available to everyone, and include some readings and lessons that any two-year college professor could use. Instructors would be encouraged to invite an Indian person in to talk.

"The primary goal is to educate non-Indians—we need to find ways to get people to establish an emotional and spiritual tie to natural resources," Bob Tom.

The module(s) will be based on a watershed model which incorporates into lessons: physical boundaries and geographic location, air, climate, water, natural history, culture and oral tradition, and social, political, and economic aspects of watersheds from the Indian perspective.

Draft modules are currently being prepared; anticipated date for completion—summer, 2001.



Fort Belknap College, Sitting Bull College, and Mesa State College—A NCSR Survey

An 11-question survey was distributed to tribally affiliated college natural resource programs. In this section, answers to that survey are provided.

The Center thanks these contributors:

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[note: through a NSF/ATE project grant (NSF/ATE/DUE #9454633), Topper has worked in partnership with 14 tribal colleges over the past four years developing environmental technology curricula which serves tribal colleges. Topper's program will be referred to as the "Mesa State partnership."]

1. Describe your college, location, student enrollment numbers (most recent) and major programs you offer that deal with natural resources (e.g., Natural Resources Technology, Environmental Science, Forest Resources Technology).

Fort Belknap College (FBC) is a tribally-controlled community college located on the Fort Belknap Indian Reservation in north central Montana. The college was chartered in 1984 by the Fort Belknap Community Council, which serves as the governing body for the Assiniboine and Gros Ventre Tribes of Fort Belknap. The stated mission of the college is "to provide quality post- secondary education for residents of the Fort Belknap Indian Reservation and surrounding communities. The college will help individuals improve their lives by offering them an opportunity to maintain the cultural integrity of the Gros Ventre and Assiniboine Tribes as well as succeed in American technological society." As of Fall Quarter 1998, Fort Belknap College had an enrollment of 175 students—with 31 students enrolled as Natural Resource majors.

Sitting Bull College (SBC) is an institution founded by the Standing Rock Sioux Tribe 25 years ago. The college is located in Ft. Yates, North Dakota with outreach centers in

McLaughlin, South Dakota and Mobridge, South Dakota. The college currently has 232 students enrolled. Most degree programs are two year; however, several four-year degree programs are offered in conjunction with other institutions. Programs that deal with natural resources are Environmental Science, Bison Management, Agribusiness, and Farm and Ranch.

Mesa State College (MSC), Grand Junction, Colorado, has 4,300 students, and major programs include Environmental Science, Environmental Technology, Biology (ecology emphasis), and Environmental Geology.

2. Comment on any or all of the following as they pertain to your educational program(s):

- Sustainable Natural Resources
- Ecosystem Management
- Field Sites and Field-Based Laboratory Activities
- Distance Education
- Transfer of Courses to four-year Colleges/Universities

SUSTAINABLE NATURAL RESOURCES AND ECOSYSTEM MANAGEMENT

Fort Belknap College These topics are addressed in several courses in FBC's Natural Resources program core, including Ecology, Environmental Science, Sampling Methods, Range Management, Forestry, Restoration Ecology, and Fish & Wildlife Management. In addition to their coursework, students investigate these issues through participation in required field practicum experiences and summer research/internship opportunities. In all cases, sustainability and ecosystem management are explored within the local, reservation context.

In particular, Fort Belknap College has focused on two areas of study to address these issues: wildlife management and water quality. Working with the Fort Belknap Fish & Game Department, students are involved in various wildlife studies. They study the tribes' bison herd of approximately 400 animals and its impacts on the 10,000-acre pasture where they roam, and they observe bison behavior, describe plant communities, monitor vegetation along transects, and determine carrying capacity. These projects serve to address issues of sustainability and ecosystem-based management. Students have also worked with Tribal Fish & Game on their black-footed ferret reintroduction program. Since September 1997, Fort Belknap Reservation has been the site of several black-footed ferret releases. Students have been involved in ferret release and monitoring efforts, and they have also collected GPS data points and plotted this information using GIS technology. Ferret reintroduction on Fort Belknap has also led to increased attention to prairie dogs and their associates. Students have worked on projects measuring prairie dog town acreages on the reservation and collecting fleas from prairie dogs, small mammals, and coyotes (looking for potential carriers of plague—see textbox on opposite page). Students are also assisting state and tribal officials with studies of burrowing owls and mountain plovers, two species of concern which make use of the prairie dog town micro-environment. In studying prairie dogs and black- footed ferrets, students are exposed to a wide range of sustainability issues, including endangered species management, genetic viability, parasitism, and community-based ecology.

Sitting Bull College At SBC, courses such as Ecology, Environmental Science, Wildlife Management, Bison Management, Range Management and Soil Science promote the wise and sustainable use of the land, water and animal

The Most Endangered Mammal

In 1985, the black-footed ferret (*Mustela nigripes*) bore the dubious distinction of being "the most endangered mammal in North America." No more than 10 or 11 were known to remain in existence in 1981. A decision was made to capture those survivors in the hope that they could be bred in captivity. A federal recovery program was established, and today, the goal for ferret re-establishment is 1,500 ferrets distributed among at least 10 different areas by the year 2010.

What happened to the ferrets?

Their biggest problem is that they rely on prairie dogs as the main staple in their diet—prairie dogs comprise at least 90% of the black-footed ferret's diet. In the days of the "Old West," prairie dog towns were wiped out by ranchers and farmers. The rodents were considered threats to cattle and sheep (and still are), and all-out assaults on prairie dog towns were subsidized by the government—poisoning with strychnine was preferred. In the early part of this century, prairie dogs were also slain by an even more insidious killer. It was the same bacteria that claimed a third of Europe's human population during the Fourteenth century— *Yersina pestis*, bubonic plague. It appears to have reached the New World by sailors or shipboard rats; but on this continent, rather than becoming an epidemic among humans, the form of the disease which affects animals, termed *sylvatic plague*, spread rapidly among native rodents in Western states. The combined onslaught of plague and extermination by humans destroyed prairie dogs in 98% of their home range.

Black-footed ferret populations plummeted in the wake of losing their main food supply. Adding to their demise, the carnivorous ferrets were forced to resort to scavenging meat—and often what was available to the starving ferrets were strychnine-laced carcasses of prairie dogs or coyotes. Distemper also killed many of the bandit-masked weasels.

Today, what is the status of the ferrets?

Due to the extraordinary rescue efforts in 1981, all known black-footed ferrets alive today are descended from a small group of seven ferrets. Although captive breeding was successful through 1986, producing upwards of 250 offspring from the original group captured, reintroducing ferrets to the wild has been less successful. In 1997, a captive population of 200 to 300 was producing about 100 young yearly, and since 1991, about 500 ferrets have been released. Yet only 75 have survived in the wild. The poor survival rates are largely due to the same reasons that got the ferrets on the endangered species' "intensive care list" in the first place—hunting of prairie dogs, sylvatic plague, and distemper. A hopeful situation for ferrets is being provided on the Fort Belknap Reservation (see textbox p. 62).

The black-footed ferret today is still one of the world's rarest mammals. Douglas Chadwick, a biologist, states, "Our society can't quite bring itself to begin working hard to help these keystone mammals of the Great Plains ecosystem prosper...nevertheless, that is precisely what is required."

Rescuing Our Rarest Prairie Predator
Douglas H. Chadwick
Defenders, Magazine of Defenders of Wildlife
March/April 1991, pp 10-23
-and-
Fresh Try for Ferrets
Douglas A. Chadwick
Defenders, Magazine of Defenders of Wildlife
Winter 1997/98, pp 14-27

Blessings on Animal Brothers

On a low hill next to an awakening prairie dog town, *Assiniboine* and *Gros Ventre* Indian men sit in a circle on the grass to pass around a sacred pipe. They have come to offer thanks to the Creator and ask him to bestow blessings upon some of their animal brothers. Indians on the 400,000-acre Fort Belknap Reservation are praying for the highly endangered black-footed ferret.

The tribes are part of the federal ferret reintroduction program, and the main problem on reservation lands is dwindling prairie dog populations. In 1991, reservation lands supported about 24,000 prairie dogs; in 1997, numbers had decreased to 11,000.

This decrease in prairie dogs coincides with the tribes' own hunting practices. Eradication of prairie dogs still reigns on the reservation. In 1997, the Fort Belknap tribal natural resource department sold about $20,000 worth of prairie dog hunting licenses. Some even find amusement and make a sordid sport of hunting the animals—using high velocity, flat-trajectory bullets, hunters can make prairie dogs explode into bloody pieces. Those involved in this activity call themselves the "Red Mist Society."

Yet the tribes are working to bring back the ferrets. The tribes' rescue effort includes sharply curtailing prairie dog hunts, and perhaps more significantly—restoring and protecting entire ecosystems. Interestingly, parallel efforts to protect ecosystems for bison populations on the reservation may bode well for ferrets, too. "In our prayers, we asked the Creator to let the ferrets multiply and help mend the circle of life," says Sonny Shields, a tribal leader. "All of these things belong here. We humans can't live without animals, because we are a part of the same circle."

Fresh Try for Ferrets
Douglas A. Chadwick
Defenders, Magazine of Defenders of Wildlife
Winter 1997/98
pp 14-27

resources of the Standing Rock Sioux Reservation. Sitting Bull College and the Standing Rock Sioux Reservation is located on the mid- to short-grass prairie at the breaks of the Missouri River along the North Dakota/South Dakota border. The spiritual attachment of the Lakota/Dakota people to the land and all of its inhabitants is a very important part of their culture. The sustained use and wise management of this ecosystem is a prime consideration of the tribe. The teaching of these courses reflects this view.

Mesa State College reports that sustainable natural resources course components are being considered by a number of their partner colleges. Sometimes these topics are taught within specific classes (i.e., not as stand-alone courses), and to a limited extent. A couple of tribal schools are looking into developing full programs in this area. This is a natural issue for Native Americans as they view the land they live on as their path to future survival, so they must view natural resource use as a sustainable issue. Ecosystem Management is taught by a significant number

of the tribal colleges and by Mesa State, and it is generally taught as a component of natural resource classes.

FIELD SITES AND FIELD-BASED LABORATORY ACTIVITIES

Fort Belknap College The Natural Resources Program has set up a trailer to serve as a field site in the tribal bison pasture. College students and tribal employees use this site for conducting the study activities described earlier.

Sitting Bull College does not have field-based research sites of its own; nevertheless, field trips and laboratories are an integral part of these courses. In addition, internships are primarily field-based experiences for students in these degree programs.

Mesa State College In the Mesa State partnership, field activities are employed by all partners. Field activities are generally incorporated as field labs and independent study projects. The main hurdles are having the necessary equipment and time to develop comprehensive exercises.

DISTANCE EDUCATION

Fort Belknap College Beginning Winter Quarter 1999, Fort Belknap College will offer selected courses via live, two-way interactive video to a remote site in Hays, Montana, which is located on the southern end of the Fort Belknap Reservation (35 miles from the FBC campus). Also, the college currently receives courses from Montana State University-Northern and the University of Great Falls. In addition, the college also has satellite downlink capabilities, which are used occasionally.

Sitting Bull College At Sitting Bull College, Interactive Video Network (IVN) courses are brought into the college from a number of other colleges and universities—courses include Biology I and Physics I.

Mesa State College In the Mesa State partnership, distance education is being used by all colleges to some degree. Topper comments: "The success of [Distance Education] is not proven yet. American Indians seem to need more hands-on and personal contact than distance learning can generally supply."

Fort Belknap College's Natural Resources Program

Fort Belknap College offers one degree—an Associate of Arts in General Studies. The degree includes a number of emphasis areas, one of which is Natural Resources. The Natural Resources Program and curriculum was first developed in 1992 by a working committee made up of tribal and Bureau of Indian Affairs (BIA) natural resource professionals, reservation farmers and ranchers, FBC staff and faculty, and a number of interested community members. The college began offering courses in the Natural Resources Program in 1993. Since that time, the program has grown into the largest course of study at the college. The Natural Resources Program is designed to provide students with a basic understanding of natural resources, environmental issues and cultural knowledge, while preparing them for entry level employment or continued education in natural resource-related fields.

At Fort Belknap College, 63% of all Natural Resources graduates have transferred into baccalaureate degree-granting programs in fields such as biological science, environmental science, water quality, and natural resource conservation. Over the past three years, 100% of non-transfer graduates have found employment in natural resource-related fields.

TRANSFERABILITY OF COLLEGE COURSES

Fort Belknap College participated in the preparation of a college course transfer guide for the entire Montana University System. Courses listed under this agreement are transferable to any school within the system. The transfer of other courses depends upon their acceptance by the admissions office and/or academic advisor at the receiving school. FBC has no formal articulation agreements for program and/or course transfer at this time.

Sitting Bull College At Sitting Bull, articulation agreements are in place with North Dakota State University for the Agribusiness, Farm and Ranch, Agriculture Transfer, and Bison Management programs. Environmental Science students can transfer to a four-year program at Ogalala Lakota College. Less formal agreements are in place with the South Dakota School of Mines.

Mesa State College reports that articulation to four-year colleges continues to be an issue. It is being dealt with on a state-by-state basis. But among two- and four-year institutions there are still impediments—e.g., "Are the courses up to par?". Topper reports that more communication and interaction is needed among two- and four-year colleges.

3. Describe your programs' emphases and requirements in the following areas: Science, Mathematics, Communication, Technology

Fort Belknap College All degree programs at FBC have the same general education requirements. In mathematics, all students must successfully complete College Algebra (MATH 200) with a grade C or better. In communications (written and oral), students must successfully complete Composition I (ENG 111) and Public Speaking (SPE 117). The general education technology requirement is Introduction to Microcomputers (CSC 100).

Fort Belknap College, Water Quality Issues, and Learning Experiences

A major issue focus for students at Fort Belknap College in the Natural Resources Program has been water quality. Since the late 1970s, Montana's largest cyanide heap leach gold mine (Zortman-Landusky) operated just off the southern boundary of the Fort Belknap Reservation in the Little Rocky mountains. These were highly disputed lands that were ceded by the tribes to the U.S. government through the Grinnell Agreement of 1895. The mine recently closed when its parent company, Pegasus Gold, Inc., declared bankruptcy. The company was cited with numerous violations of the Clean Water Act, and its presence has many Fort Belknap residents concerned about impacts on local water quality. The tribes have filed several lawsuits against the company.

The College's students have worked with the Fort Belknap Environmental Protection Office to assist in ongoing efforts to monitor water quality of reservation surface waters. Students have performed field practicum and/or summer internships with the agency. Currently, three natural resources graduates are employed full-time in the tribes' Wetlands, Water quality, and Environmental Mitigation projects.

In 1997, Fort Belknap College, in collaboration with the Tribal Environmental Office and a local citizens' group (Island Mountain Protectors), received funding from the Environmental Protection Agency's (EPA) Environmental Justice Office to carry out a Community-University Partnership (CUP) project. Funding has allowed the College to hire a hydrologist, establish a sophisticated water-quality lab (featuring an atomic absorption spectrometer and other analytic equipment), sample and analyze groundwater and sediments, develop a reservation-wide water quality data clearinghouse, and support student research assistants.

These efforts combine to address questions of the viability and health of aquatic resources on the reservation. They respond to concerns about human drinking water and municipal water resources, as well as the ecological health of the Little Rocky mountains, which provide important timber, wildlife, recreation, and religious opportunities for the reservation community.

The Natural Resources Program at FBC contains a series of core courses and electives. Students are required to complete all core courses and at least three (nine credits) of electives. Core courses and electives are listed below.

Natural Resources Core
Montana Wildlife (3 credits)
Ecology & Lab (5)
Animal Kingdom & Lab (5)
Plant Kingdom & Lab (5)
General Chemistry & Lab (5)
Physical Geology (3)
Natural Resource Issues (1)
Principles of Hydrology (3)
Environmental Science (4)
Sampling Techniques (3)
Field Practicum (3)
Environmental Ethics (3)

Natural Resources Electives
Introduction to Soils (3 credits)
Forestry (3)
Range Management (3)
Introduction to GIS (3)
Fish & Wildlife Management (3)
Restoration Ecology (3)

Sitting Bull College At Sitting Bull College, current degree programs in natural resources require a minimum number of courses in the basic sciences, and introductory chemistry, biology and physics are offered via IVN. Intermediate Algebra is the highest math course offered, and a course in communications is required for all two-year degree programs. The college is now on the Internet and students have access to an upgraded computer laboratory. Hardware and software for GIS is available, and faculty work closely with the Standing Rock Natural Resources Department to make use of it. Student internships are anticipated in this area in the future.

Mesa State College reports that courses in science, math, communication and technology are generally being dealt with by the tribal colleges at a very basic level. There is great need for remedial courses to bring students' competencies up to college level—and this continues to be a struggle. In terms of technologies, some of the colleges are beginning to use GIS & GPS; this activity is in its early stages at most colleges. Computer-based learning has been used for a long time at a few partner colleges.

4. What specific steps do you take to recruit, retain, and graduate students?

Fort Belknap College hopes to bolster efforts in recruiting students in the future. The college makes every attempt to retain and graduate students by providing advising and counseling services, tutoring, faculty referrals, scholarship opportunities, work study positions, and an effective Student Support Services Program. In addition, FBC's science programs offer scholarships targeted specifically for science students. The Natural Resources Program also offers paid field practicum and research positions during the academic year; between 12 and 15 students also receive summer support through paid internship/research programs. Year round academic involvement and financial support have been identified as critical factors in retaining students from year to year. Finally, the College's American Indian Science and Engineering Society (AISES) chapter plays a role in retaining students through various enhancement opportunities.

Sitting Bull College The Environmental Science program at Sitting Bull College will graduate its first students this spring. Programs in Agribusiness, Farm and Ranch, and Bison Management were just initiated in the spring of 1998. Several half-hour programs on the local radio station (KLND) as well as numerous announcements of the programs are used to

What is AISES?

From website: www.aises.org/

Mission Statement

The American Indian Science & Engineering Society (AISES) is a private, nonprofit organization which nurtures building of community by bridging science and technology with traditional Native values. Through its educational programs, AISES provides opportunities for American Indians and Alaska Natives to pursue studies in science, engineering, business and other academic arenas. The trained professionals then become technologically informed leaders within the Indian community. The Society's ultimate goal is to be a catalyst for the advancement of American Indians as they seek to become self-reliant and self-determined members of society.

History and Goals

The American Indian Science and Engineering Society was created by American Indian scientists, engineers and educators in 1977. In view of the high dropout rates and low college enrollment and graduation rates of American Indians compared with all other ethnic groups in the United States, and the severe underrepresentation of American Indians in the science and engineering fields, Native professionals resolved to create an organization that would identify and remove the barriers to academic success for Native students.

Through a variety of educational programs, AISES offers financial, academic and cultural support to American Indians and Alaska Natives from middle school through graduate school. AISES also trains teachers to work effectively with Native students and develops culturally-appropriate curricula and publications. AISES builds partnerships with tribes, schools, other non-profit organizations, corporations, foundations and government agencies to realize its goals.

AISES especially helps American Indian students prepare for careers in science, technology, engineering and business. American Indians live on lands with abundant natural resources and potential for development. With proper management of these resources by skilled Indian professionals, tribal nations will be able to take giant steps to diminish the persistent problems of alcoholism, poverty, suicide and despair, and to build strong and sustainable Indian communities characterized by self-determination and self-reliance.

recruit students. A newly-created advisory board is now engaged to find ways to promote the programs and increase student enrollment. The best recruitment tool so far has come from word of mouth among the students. Faculty are planning to visit high schools on the Standing Rock Sioux Reservation in the coming year to promote programs.

Mesa State College reports that recruitment, retention, and graduation of students requires active interaction with the community and with students. Building community trust is a key issue. Once students are enrolled in a college program, they need personal attention and flexibility. For example, if there is a hunt and a student needs time off school, there should be ways to accommodate this—or else that student may leave the program.

5. Comment on the following:

A. Student interest, success, and preparedness for programs (e.g., from high schools to two-year colleges)

Fort Belknap College Student interest in Natural Resources at FBC has been consistently high. Unfortunately, too many of the students who begin the program do not graduate, and FBC needs to improve its student success rate. Many of our students are not high school graduates, and they did not have a very successful high school career or had to return to complete their GED. Yet even high school graduates do not enter FBC prepared to succeed at the college level. Most students must take several preparatory courses (especially in math and English) before enrolling in graduation requirement courses (College Algebra, Composition I, etc.). Unfortunately, these additional courses make it very difficult for students to complete their chosen course of study in two years. Not only does this increase the likelihood of a student dropping out or quitting prior to graduation, but it also eats away at their financial aid opportunities in the future—especially Pell grant support.

Sitting Bull College Because the programs are so new at Sitting Bull College, there hasn't yet been adequate time to deal with many of these issues. The program has been "easy to sell" thus far because of the great opportunities that now exist for Native American students in natural resource fields. However, preparation of students coming out of local high schools in the sciences is a concern. This issue will be addressed with visits to high schools to encourage students to start thinking about careers in natural sciences and the great opportunities open to them. SBC also offers a summer camp opportunity for students to learn more about the sciences and hopes are to expand these opportunities for students.

Mesa State College Topper reports that students tend to be interested in, but are not well prepared for, college studies in terms of basic math, science and communication. Students are most successful with hands-on and integrated learning, and with the use of many different learning approaches. The connection between culture and education is very important—showing students these connections through science can be very successful. Making these connections creates graduates with a better understanding of how to deal with environmental issues than traditional western teaching can ever provide.

B. Student transfer success (e.g., from two-year college to four-year colleges and universities)

Fort Belknap College Students from FBC's Natural Resources Program have experienced success when transferring to four-year science programs in biological science, environmental science, resource conservation, and similar

programs. Several students have completed a Bachelor of Science degree in two years following graduation from FBC, while others must take an extra year to do so. Students appear most successful when transferring to another tribal college (e.g., Salish-Kootenai College [SKC]) or by staying close to home (Montana State University [MSU]-Northern in Havre, Montana). Factors limiting student transfer success include a lack of formalized articulation agreements, problems with course-by-course transfer of FBC classes as electives, financial hardship for students involved in relocating to four-year schools, and problems with quarter-semester conversions of course credits. FBC remains on a quarter schedule, while, aside from SKC, all the four-year schools to which students transfer are on semester schedules. Many times this results in students receiving fractions of credits for courses taken at FBC, or needing an additional credit or two in a given class to meet the four-year school's graduation requirement. This tends to increase the amount of time students need to complete their programs.

6. It is accepted that one of the best learning methods for Native American students is an experiential way of learning. Do you use hands-on, field-based approaches? If so, what benefits have you realized?

Fort Belknap College Field-based and hands-on learning are given priority in many of FBC's Natural Resources courses. Friskics notes, "The most obvious and important benefit of this approach is that students enjoy it—they like to get out and do things. By making learning an enjoyable experience (contrary to so many previous unenjoyable educational experiences), students more readily engage the subject matter at hand. It also seems that students are more likely to remember things they do, as opposed to information they receive, and so these methods improve their retention and comprehension. Field trips offer a crucial opportunity for students to connect classroom learning with a relevant and meaningful context— the world around them. Using the reservation as a frame of reference and a study site helps students see that what they learn has practical implications that make a difference here and now."

Sitting Bull College Laboratory courses at Sitting Bull College often include field trips, and they are an essential part of programs. Halvorson states that, "Hands-on experiences seem to enhance the learning that Native American students receive. These experiences seem to spark the interest of the students in the subject matter." The summer camp program has also received a very positive response.

Mesa State College Similarly, Mesa State partner colleges have developed curricula which incorporate experiential learning, and courses have extensive field labs and projects. Topper says, "experiential learning is imperative to successful learning."

7. Please comment on the following statements (quotes came from the NCSR Tribal Forum at Kah-Nee-Ta Resort in Warm Springs, Oregon, July 1998):

A. "Tribally-controlled college natural resource programs should strive to graduate Indian students to help fill the important need for Indians in professional positions with the Tribes. Programs should have a strong Tribal and cultural emphasis since these graduates must be able to 'walk in both worlds.'"

Friskics agrees, and Halvorson adds, "Indian people should be able to determine the fate and use of reservation lands. These decisions

should be made in the context of their spiritual and cultural heritage as well as sound scientific practices. Native American students should fill the majority of these positions in the future. The number of these positions is limited, however, and other opportunities for employment should also be explored." Topper notes that he, too, fully agrees with the statement, and he adds, "We have had annual meetings with our partner colleges for the past four years, and this always comes out as being important. However, implementing it is very difficult. There is no 'recipe' available—only with agreement among individual faculty and administration, and guidance and support, will this to work."

B. "Courses and programs should consider the whole system, rather than its individual parts, and connectivity; they should imply systems perspectives to gain insights into the nature of ecosystems and the ways they respond to the stresses imposed by human activities. From an aboriginal perspective, 'traditional ecological knowledge' is a way of knowing and thinking about ecosystems. It is not just about wildlife, but about food webs and wildlife habitat, including land, waters, ice and snow. And because people are a part of the environment, human activities are a part of traditional ecological knowledge. It is becoming apparent that all ways of thinking about ecosystems are helpful in developing an ecosystem approach. No one way is sufficient."

Friskics thought this was well stated, and Halvorson states, "the spiritual and cultural heritage of the Lakota people and, I believe, most Native American cultures is a more 'holistic' approach to the land and its resources. The teaching of courses in natural resources at the tribal colleges should take this into consideration." Topper adds that, "This statement is related to statement A.—as the connectivity of the earth is a traditional part of Indian beliefs."

C. A major Oregon university has undertaken a distance education pilot project with a large Oregon tribe. Through this pioneering effort, the university is delivering baccalaureate programs in natural resources and environmental sciences throughout the State of Oregon. Comment on the need for this type of education outreach to reservations.

Fort Belknap College Friskics feels that there is a need for these kinds of collaborations because like many tribal colleges, FBC is too small and isolated to offer all the four-year degrees people in the communities need. Also, tribal college students can benefit from the abundance of resources and expertise at large universities. However, tribal colleges also need to retain a healthy skepticism about such programs. First, distance learning has major limitations related precisely to the hands-on, experiential and field-based learning affirmed in Question 6 of this survey. In addition, the collaboration must have the character of a true partnership—one that will truly meet the needs of reservation communities and the distinctive mission of tribal colleges. Finally, will university partners demonstrate a strong commitment to the perspectives presented in questions 7A and 7B?

Sitting Bull College Halvorson comments, "Tribal colleges are small in size and cannot possibly offer all of the courses available at the larger colleges and universities. Therefore, this kind of cooperation is essential for tribal colleges to offer quality programs."

Mesa State College Topper states, "There is a need, but we must be careful not to impose programs upon tribes. Local development and assessment of needs is what is required, and this should not be done by an outside entity. When needs are not assessed locally, it is generally unsuccessful; reasons include

mistrust and misunderstandings on the part of the outsider."

D. "The Indian way is not 'black and white'—even in different communities we do things differently. Yet, in a broader sense, there are needs to understand the philosophy of Indians—how they deal with and dealt with the land. We need to recognize the difference between the Indian and the Western European way. The elders saw the difference and under stood the difference—young people now need to hear about these differences. Non-Indians don't have to adopt our [Indian] lifestyle, but it will be better if we work together and share our ways with each other."

Friskics agrees that this is very true, and Halvorson adds that, "It is important that cultural values of Indians be carried on by the younger generation. Tribal colleges should play a large role in preserving and enhancing these important and good values." And Topper states, "I agree with the statement, but we also need to see the similarities among our cultures. Not everything is contradictory. An example is applying the Dine' philosophy to problem solving. There are direct parallels between Western and Indian ways, and we have to be open enough to see them and make the connections. This can decrease the polarizations we all tend to perpetuate."

8. It has been recommended to the Center that Native American perspectives be incorporated into natural resource and environmental science programs via presentations by American Indian people. Do you do this, and how?

Fort Belknap College Friskics answers, "Yes. As a non-native, I rely primarily on guest speakers to present these ideas. It's important to work with people in the local community, invite them into the classroom, and show that their perspectives are very valuable; and they, of course, vary from person to person. Partnership projects between the Natural Resources Program and community groups and/or tribal government really help open up these lines of communication. Also, we encourage students to do research projects in the community, and they must seek information and/or bring someone in to speak to the class. This way, students must seek out those who are authorities on a given subject, and they take ownership of the knowledge presented or acquired."

Sitting Bull College Halvorson reports: "We do some of this and, I believe, we should do more of it. The trick is to identify tribal elders who would be willing to participate and have the knowledge to help educate the students. Currently, the director of our Bison Management program has contributed this knowledge to his students and has given lectures to other classes in the natural sciences. He also has a good knowledge of other tribal members who could contribute to this experience."

Mesa State College Topper adds, "Our partner colleges invite tribal elders to speak. Many have cultural consultants hired full time, but others need more resources to help implement this type of activity."

9. What resources (e.g., texts, stories, written speeches and speakers, videotapes, art) do you use to incorporate Native American perspectives into your curriculum?

Fort Belknap College At FBC, local speakers serve as the best resources. Their words carry weight that those in books can't—even books written by other Native Americans. Friskics explains: "Of course, that doesn't mean that books aren't useful. Recently, I've used books such as: *Sacred Ways of Knowledge: Sources of Life* by Peggy Beck, Anna Walters, and Lee

Walters (Navajo Community College, Dec. 1977); traditional stories from Alphonso Ortiz and Richard Erdoes' collection; contemporary stories and essays by Sherman Alexie and Susan Harjo; the words of Black Elk from *The Sacred Pipe: Black Elk's Account of the Seven Rites of the Oglala Sioux*, Civilization of the American Indian Series, Vol. 36, 1989; and a video by Dan Wildcat of Haskell Indian Nations University. My colleagues in the department use other sources, but they also draw upon the expertise that resides within the people of the Fort Belknap community."

Sitting Bull College Sitting Bull College relies on tribal speakers to incorporate Native American perspectives into the curriculum.

Mesa State College Mesa State adds that tribal cultural resources varies by college program. Topper states, "One problem is that there is a lack of specific documentation and knowledge of local Native American perspectives and culture. Elders are dying. With their death, so dies the knowledge. We have been providing resources to the colleges to help research and document cultural knowledge as related to environmental science and natural resources. Much more needs to be done in this area."

10. What particularly innovative ideas or programs do you "showcase" on your campus regarding natural resource or environmental science programs (e.g., a model science facility or model field-related study activities for students)?

Fort Belknap College is proud of the collaborative activities it has undertaken with the *Tribal Environmental Office* and *Island Mountain Protectors*. Several students have given presentations at meetings and symposia across the country. The program prides itself in having past graduates now working for the tribes. The Environmental Science course was recently showcased at a summer meeting; the class employs an entirely lecture-free format, where student groups conduct local issue investigations following an *Action Research Community Problem Solving* model. Students have done some excellent work in this course and really enjoy the format.

Sitting Bull College At Sitting Bull, the most innovative program is the Bison Management program which specifically incorporates into the course curriculum the spiritual and cultural relationship of the Lakota people to the bison. A holistic view of bison and their relationship to the land is central to the program.

Mesa State College Topper comments that often "showcases events" are rare at tribal colleges due to lack of time and resources. Although heightened exposure may be helpful, there really isn't the time or resources to do this. He adds that this type of activity can contradict some Native American cultural values.

11. Describe other noteworthy issues or insights you can provide about your programs; e.g., Are there Indian organizations that help your program and students?; What are your major hurdles in teaching?

Fort Belknap College Organizations that have helped FBC's students include Fort Belknap Tribal agencies, AISES, Montana Fish, Wildlife & Parks, Natural Resource Conservation Service, and the Native American Fish & Wildlife Society. The biggest hurdles in teaching are the heavy course loads that limit the amount of time and energy one can devote to preparing innovative and engaging classes—there never seems to be enough money to implement ideas and programs in the most effective manner.

Sitting Bull College works closely with the Department of Natural Resources of the Standing Rock Sioux tribe. This relationship is expected to grow—especially in the area of GIS and GPS technology. SBC has also begun a working relationship with Standing Rock Farms in the agricultural programs. The biggest hurdle currently faced in teaching is the preparation in the sciences that most students bring to SBC. Preparation needs to be improved and SBC faculty plan to work closely with high schools to help this situation.

Mesa State College Topper reports that one of the major hurdles in teaching at tribal colleges is having non-natives teaching. He feels tribal colleges need local tribal members who are qualified to teach. Another major hurdle is a lack of resources available for teachers to develop successful programs. Tribal college faculty must teach too many different subjects—many of which are widely diverse.

Topper summarizes in noting that there is a need for curriculum assistance in areas of sustainable natural resource management and ecosystem management at tribal colleges. Towards this and other ends, the Mesa State partnership is planning to submit grant proposals to increase resources to help find tribal speakers for classrooms and field activities (e.g., hiring tribal consultants). Also, tribally-affiliated colleges need to research and document cultural knowledge as it relates to environmental science and natural resources.

"Teaching in terms of the inter-connectedness of the earth, culture, and problem solving is important."

Karl Topper
Mesa State College

Environmental Education for those with Limited Opportunities—
Earth Conservation Corps and Salmon Corps

Megan Callahan-Grant
Director of Education and Training
Earth Conservation Corps Northwest
Salmon Corps
Portland, Oregon

Earth Conservation Corps

Earth Conservation Corps (ECC) provides young adults with limited opportunities from Washington, D.C. urban communities (*Eagle Corps*) and Native American communities (*Salmon Corps*) the chance to make something of themselves in the face of uncertain futures. ECC volunteers devote their time and energy into cleaning up their environment. In return, Corps members attain a sense of pride, opportunities to learn, and promises for a real future.

ECC is working with local community leaders and environmental groups to build a natural partnership between youth and the environment. In addition to volunteer work experiences, Corps members benefit from weekly training and educational days that teach them about subjects like nature, science, art and history and expose them to environmental professionals from ECC partner organizations and communities.

ECC works in partnership with governmental, corporate, environmental and community organizations around the country to identify areas where both young people and the environment need help. Through partnerships with *AmeriCorps* and others, we are able to offer our members education scholarships of $4,725 upon completion of 1700 hours of service, as well as a modest weekly stipend, health insurance, and child care.

Salmon Corps

Youth from five western Native American tribes—Confederated Tribes and Bands of the Yakama Indian Nation, Confederated Tribes of the Umatilla Indian Reservation, Nez Perce Tribe, Confederated Tribes of the Warm Springs Reservation of Oregon, and Shoshone-Bannock Tribes—and one urban community (North/Northeast Portland) are working to protect and restore the natural environment and to strengthen and revitalize their communities through a year of service and learning. *Salmon Corps* members have planted tens of thousands of trees, built over 365 miles of fence to protect riparian areas, and released over 4.5 million young salmon into the Columbia River Basin.

"Indian people of the Columbia River have a unique connection to the land that has sustained them since time immemorial. Salmon—the central icon of culture, spirit and economic well-being for tribes—has been in severe decline for several decades, and is facing extinction throughout the Columbia Basin. As historical stewards of salmon in the Northwest, tribes have stepped forward to protect and restore the salmon, watershed by watershed ..."

In addition, they have worked with SMART (Start Making A Reader Today) and HeadStart programs to provide reading help to children, chopped firewood for community elders and single mothers, and participated in cultural and community events.

Sixty percent of Salmon Corps members enter the program without a high school diploma or GED. Of this number, seventy-five percent finish the Salmon Corps program with a diploma or GED. In cooperation with our tribal partners, we also provide educational placement testing which enables us to identify learning disabilities and other challenges which could interfere with members' educational and career development. Over forty-seven percent of Salmon Corps graduates are currently holding family wage-earning positions; twenty-three percent are pursuing post-secondary education. Twenty percent of graduates return to the Salmon Corps program for a second year.

Why Watersheds?

Indian people of the Columbia River have a unique connection to the land that has sustained them since time immemorial. Salmon—the central icon of culture, spirit and economic well-being for tribes—has been in severe decline for several decades, and is facing extinction throughout the Columbia Basin. As historical stewards of salmon in the Northwest, tribes have stepped forward to protect and restore the salmon, watershed by watershed, through action and education.

Columbia River tribes have identified watersheds as the appropriate unit for addressing salmon restoration in the Columbia Basin. In 23 watersheds throughout the Basin, the tribes reserved rights to hunt, fish, and harvest resources in their treaties with the United States Government signed in 1855. In these watersheds where hundreds of generations of

tribal people have hunted, fished, and gathered, the tribes are leading intensive efforts to protect and restore habitat for salmon.

Earth Conservation Corps believes that watersheds are also the appropriate scale for environmental education. In these tribal communities, it is simply not possible to separate the natural environment from the cultural environment. Salmon Corps is based on a holistic approach to environmental education. This approach begins with a watershed and includes everything within it: plants, animals, humans, water, trees, buildings, businesses, schools, science, oral history, language, and much more.

In partnership with the tribes, Salmon Corps is applying a place-based service learning model of environmental education creatively and successfully in the Columbia Basin. Through environmental restoration and community service projects, as well as formal and informal education and personal development activities, Corps members explore broad concepts in environmental protection and management beginning with the watersheds where they were born and raised. By delivering environmental education on a practical scale (a watershed), we are helping Corps members build the skills and self-esteem they will need to take on bigger challenges—like college, career, family and community leadership.

Education: The Old and the New

Salmon Corps is combining traditional tribal environmental knowledge, skills and natural resource management practices with cutting-edge science and technology to develop a new kind of interdisciplinary environmental manager. Through the incorporation of native languages, traditional arts, and cultural resources education into the program, young people are reclaiming connections to their communities, history—and the land.

States, tribes and agency agree to create salmon panel

"We have done what is right for us politically. We have done what is right for us economically. But looking at the condition of the salmon, it is hard not to be ashamed of what we have done to the salmon and the Columbia and Snake rivers." Ted Strong, Director, Columbia River Inter-Tribal Fish Commission (CRITFC) [note: CRITFC represents four western tribes with treaty rights to salmon.]

Corvallis *Gazette-Times*, Jan. 30, 1999

Education Elements of the Salmon Corps Program

TEACH Days:
Twenty percent of Corps members' time in the program is spent on educational activities. These "Training, Education, Art, Culture, and History" ("TEACH") days range from visits to fish hatcheries, museums, and seminars, to lectures by environmental professionals, to classes in job skills, resume preparation, and interview techniques, to visits to colleges and universities. TEACH days frequently include instruction in native languages given by tribal elders. During this training, Corps members learn the names of native plants and traditional medicines as well as modern-day tools they'll use to care for the environment in their home watersheds. TEACH days also include lectures on native parenting skills, health and wellness issues, and community development.

Cultural Education & Training Camp:
Each year, Salmon Corps members gather at a remote wilderness site to learn aboriginal lifeways skills from tribal elders, professionals and artisans. On July 8-12, 1998, 84 Corps members and staff gathered at Indian Lake on the Umatilla Indian Reservation. Tribal elders and native and non-native professionals taught the following courses: Native Plants and Traditional Medicines, Tulee Mat Making, Flint Knapping, Atlatl Making, Basket Weaving, Print Making, and Wilderness Orienteering. Tribal professionals and members of tribal government were invited guest speakers in the evenings. For Corps members from Portland, this was their first exposure to wilderness and tribal culture. The Portland Corps members participated in all activities along with Corps members from the Yakama, Nez Perce, Umatilla, Warm Springs and Shoshone-Bannock Tribes.

Education and Career Conference:
Salmon Corps has hosted annual Education and Career Conferences in 1998 and 1999. These two five-day conferences were held at Eastern Oregon University, LaGrande, Oregon, serving over 150 Corps members, with over 60 invited speakers, presenters and visitors. The conferences have exposed Corps members to the college environment, and allowed them to meet and develop relationships with professors and other professionals as they've explored subjects ranging from fisheries science and management to linguistics and arrowhead flaking. Corps members have also participated in a Washington State University field workshop on watershed monitoring. The conference has been sponsored by the Northwest Center for Sustainable Resources, Wildhorse Casino, Indian Head Casino, and Eastern Oregon University.

Salmon Corps introduces young people, many for the first time, to educational institutions, and brings education to the field at a level that compares with college courses in depth and breadth. In addition to learning, Salmon Corps members complete the circle of environmental education by teaching and mentoring younger members of the community through programs like HeadStart and the SMART reading program. School children and their teachers are also included in Salmon Corps field projects, where Corps members teach and reemphasize their skills in environmental protection and restoration.

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Portland State University:
In cooperation with Portland State University, Corps members have opportunities to take college courses for credit. Last year, PSU's History Department offered a course in Oral History to Corps members from each site. Students interviewed tribal elders in their communities on past and current conditions around the Columbia Basin. Students collected additional information while attending a gathering of elders from the four river tribes at Rock Creek Longhouse in March; this historical event represented the first gathering of elders from the four tribes since the 1930s, when the construction of dams on the Columbia began in earnest. Students learned techniques for recording and archiving oral histories, and the information they collected has become part of the permanent historical record housed by the tribes, the State of Oregon and PSU. This year, PSU will offer a course in Environmental History to Corps members. Corps members and PSU professors will alternate class meetings between Portland and one of the reservation program sites. Students who complete the course receive three to five college credits, free of charge, from PSU; they also gain the assurance that they can perform college-level work, which encourages many students to enter college who may not otherwise have had the confidence to do so.

Grays Harbor College:
Through a partnership with Grays Harbor College in Aberdeen, Washington, we are working to provide two-year college credits in fisheries and natural resources management to Corps members for their service and study throughout the program year. Using a compilation of the year's training and educational experiences, Grays Harbor matches the experiences to coursework from the Fisheries and Watershed Restoration curricula, and assigns credits accordingly. This year, Corps members will be able to earn between ten and 19 college credits through their participation in Salmon Corps. These credits will be transferable among five colleges in the Pacific Northwest. Corps members, as a result of this state-of-the-art educational partnership, get credits and confidence to take on college; Grays Harbor gets increased enrollment of Native American students, and potentially the scholarship benefits of students who choose to enroll in Grays Harbor's programs.

Partners and Neighbors

In addressing salmon restoration at the watershed scale, Salmon Corps actively works to involve watershed neighbors in environmental service projects. Private landowners, nonprofit groups, volunteers, school children, teachers, business owners, and members of local government participate regularly in Salmon Corps projects, contributing to the development of community stewardship of the watersheds where they live and work.

The Salmon Corps program benefits from a wide range of educational partnerships. The

tribes provide basic educational services, including GED testing, as well as drug and alcohol counseling. Grays Harbor College, Eastern Oregon University, and Portland State University provide educational resources; Grays Harbor and PSU provide college credits, free of charge, to Corps members. Program partners such as the Columbia River Inter-Tribal Fish Commission, the U.S. Department of Energy and Louisiana-Pacific Corporation provide in-kind support, technical assistance, mentors, and internships for Corps members and graduates.

A Lot of Work, Learning and Fun...Salmon Camp

By Don Motanic with Jeffry Gottfried and David Hatch

Western Forester—Oregon, Washington, Inland Empire, Alaska Societies of the Society of American Foresters. Portland, Oregon. Volume 43, Number 8. November 1998. p 6.

"We had to collect the samples from the (Yaquina) Bay, study them, then put them back...we had to collect the samples from the (Columbia) River, study them, then put them back...it seemed like the whole week at Salmon Camp was collecting samples, study them, then put them back. If we did something wrong, the counselors would make us do push-ups. We would also make the counselors do push-ups if they messed up—that was funny. It was a lot of work...we did learn a lot, but it wasn't all work—we had fun too."

–Krista Motanic
(Umatilla), 12-year-old Salmon Camp participant

My daughter described her experience at Salmon Camp and seemed to relive how busy they were during the week of working, learning and having fun. I could see by her eyes and hear the sigh in her voice that a parent knows the experience was worth the efforts of many people involved with the youth camp.

A natural resource youth camp for local tribal students has been developed and sustained over the past seven years through a unique partnership. The partnership includes the Oregon Museum of Science and Industry (OMSI), Oregon State University, Portland State University, Grand Ronde Tribe, Siletz Tribe, Confederated Tribes of Warm Springs, Columbia River Intertribal Fish Commission, and the Lower Columbia/Willamette River Professional Chapter of the American Indian Science and Engineering Society (AISES). Salmon Camp is a natural resource youth camp designed for Native American students between the ages of 11 and 15.

Salmon Camp participants are selected from the Portland metropolitan area, the Confederated Tribes of Warm Springs, Grand Ronde Tribe and the Siletz Tribe. Students are chosen based upon their essay in which they discuss their interest in participating and what they would bring to the program.

Salmon Camp consists of a week-long journey for the students which includes actually travel-

ing, like a salmon, from the Pacific Ocean up the rivers of the Cascade Crest. The students work with and learn from natural resource professionals associated with the partnerships. The students also experience science from local tribal cultural backgrounds. The students participate in demonstrations such as collecting aquatic samples (and putting them back), visiting The Dalles Dam fish ladder and taking forest inventory measurements. The week ended with an afternoon at the Kah-Nee-Ta Resort pool and an evening eating traditional food while attending a pow-wow.

Dave Hatch and OMSI's Jeff Gottfried originally conceived of Salmon Camp and received funding for the program from the Howard Vollum Charitable Trust of the Oregon Community Foundation since its inception. The U.S. Fish and Wildlife Service and Bonneville Power Administration have also provided funds for a number of years. Many youth camps focus on high school students, but Salmon Camp works with the junior high age group that is entering a critical phase of viewing math and science as either a subject to survive or thrive on. The Salmon Camp participants know the subjects are hard, but they look for something or someone to show them the fun part of math and science.

The Salmon Camp "someones" are the counselors involved with Salmon Camp and one of the most important aspects of the program. The counselors are students which are made available through Dr. Juduth Vergun of the Oregon State University Native Americans in Marine Science Program. After more than a year, my daughter can still remember two counselors that will effect her life, Toby Wright and Stewart Morigeau. Toby provided a good female role model and my daughter felt comfortable asking her questions about school and life. Krista remembers Stewart's humor and that he made them work hard, and that he also did a few push-ups during Salmon Camp. They share their experiences with the students and demonstrate by their own example that everyone has a different path to a successful career.

Foresters and other science professionals seem to know a lot about science, but do foresters know a lot about teaching or coaching youth about science? Many members of the Society of American Foresters utilize Project Learning Tree and other programs have provided teaching tools for professionals. In the Pacific Northwest, there's another science teaching tool for Native American youth called Salmon Camp. It's a lot of work, learning and fun.

Don Motanic is a technical specialist (forester) for the Intertribal Timber Council in Portland, Ore. Jeffrey Gottfried is vice president of the Oregon Museum of Science and Industry in Portland, and David Hatch is an engineer for the City of Portland's Traffic Division.

Holistic Education in the Natural Resources

By Gail L. Sloan and Bill Welton
Journal of Forestry. Volume 95, Number 11, November 1997. pp 37-40

The natural resources program at Haskell Indian Nations University, in Lawrence, Kansas, seeks to prepare Native American and Alaska Native students to manage tribal forests without sacrificing their traditional beliefs and practices. The program, established in 1988 through a partnership with the USDA Forest Service and the Bureau of Indian Affairs, combines holistic resource practices and education with partnership and placement programs for its students.

Haskell's natural resources program grew out of a coincidence of problems. In 1987 the college administration was ready to expand Haskell's associate degree offerings, which then were limited to an associate of applied science for vocational and business students and an associate of arts for students transferring into bachelor's degree programs. Haskell wanted to develop a two-year, transferable degree leading to a bachelor of science degree that would serve current and future tribal personnel needs and provide Haskell students with sound career opportunities elsewhere. A questionnaire asking about immediate and future personnel needs was sent to tribes across the country.

Early that same year a federal resource agency's personnel recruiter contacted Haskell's biology faculty to obtain the names of students who might be interested in summer jobs in the Northwest. In March these students were offered, and accepted by mail, positions on trail and fire crews: work would begin in June. In mid-June Haskell's job placement center director began getting calls from irate resource supervisors trying to find out why the Haskell students they had hired had not reported for work: only 25 of the 50 students had shown up. The explanation revealed both needs and opportunities. The students had not realized the costs and planning necessary to fulfill the responsibility they had accepted: they had not had money for plane or bus tickets to the job site, most did not own cars, and many needed work boots that cost more than $100 a pair. In May, when the students had returned to isolated reservations and homes without telephones, the jobs that had once looked so appealing seemed unattainable. Many stayed on the reservations and took minimum-wage jobs in familiar environments.

Simultaneously, the results from Haskell's survey of tribal needs indicated that tribes across the country faced a common problem: few Native Americans had professional-level degrees in forestry and related resource fields. Clearly, a demand existed in both Indian and non-Indian organizations for American Indian and Alaska Natives majoring in natural resources. The problem was to address and overcome the obstacles.

In 1988 Haskell pulled together a diverse group of people eager to help the college build a sound academic program in the natural resources. This group included Indian and non-Indian BIA and Forest Service managers, a Society of American Foresters (SAF) staff person, and two university resource program chairpersons. They identified four major obstacles to the entry of students into natural resources careers:

1. Inadequate academic preparation for college and inadequate cultural support at major universities lessened American Indian and Alaska Native students' chances for success in baccalaureate programs.

2. These students are seldom recruited for natural resources majors in college and generally not exposed to opportunities, role models, and mentors in the field.

3. They frequently lack summer work experience and are unaware of cooperative education positions in natural resources.

4. They often cannot pay for tuition and travel expenses to college and summer jobs.

An SAF report affirmed that of the approximately 3,500 students graduating each year with forestry-related majors from SAF-accredited universities, only 15 were Native American students. As the only intertribal university with a completely American Indian and Alaska Native population, Haskell believed that with assistance from tribal organizations and federal resource agencies, it could create a program to address those challenges.

Haskell appointed a natural resources advisory board, which now includes representatives from the Native American Fish and Wildlife Society, Intertribal Timber Council, USDA Forest Service, Bureau of Indian Affairs, Bureau of Land Management, National Park Service, Natural Resources Conservation Service, Environmental Protection Agency, US Geological Survey, and US Fish and Wildlife Service. These organizations have worked with Haskell to remove educational, financial, and cultural obstacles to students' academic success and identify the current and future needs of the tribes, agencies, and students. The approach considers the whole of a student's needs, rather than singling out a particular issue as the problem to be solved.

On-the-Job Experience

Haskell's multi-agency work-study program provides summer jobs for first-year and sophomore students in good academic standing who want to learn more about natural resources. Students are invited to apply for summer positions with the Forest Service and other agencies, which pay wages equal to a federal GS-3 or GS-4 salary and may also offer travel expenses and housing. Frequently, the students have not yet declared a major. Their jobs may be described as blind dates: the students look over possible careers while the employers evaluate each student's potential. Some students are assigned to "shadow" natural resources professionals in a variety of careers.

Another summer opportunity meets tribal needs while giving Haskell students hands-on, career-building experience. Since 1992 forest inventory crews from Haskell have collected information on forests, soils, and hydrology

on lands of 15 tribes in Kansas and Oklahoma. This program, involving the Bureau of Indian Affairs, tribal elders, and Haskell, is designed to assist forest managers. The inventory data are formatted for tribal computer programs and fed into a geographic information system at Haskell. Students are selected to do the inventories based on their interest in natural resources management careers. They are then trained in plot sampling, forest measurements, dendrology, and integrated resource planning. Many of the 27 students who have benefitted from such employment have subsequently returned to their tribes and supervised similar inventory programs. The methodologies learned have practical applications for students as they complete degree programs in natural resources.

At the end of the summer, students who express interest in the natural resources and have demonstrated competence in the work meet with the natural resources liaison at Haskell to discuss the requirements and benefits of a cooperative education appointment. Students who select natural resources as a major can apply for co-op education appointments offered by cooperating agencies and tribes. Selected students can receive financial aid. They also receive professional mentoring and summer employment after their sophomore year at GS-4 to GS-5 levels. These summer jobs are structured work periods designed to integrate field experience with academic course work. Upon completion of their baccalaureate degrees and co-op programs, students are eligible to be appointed to non-competitive career ladder positions with the agency or tribe. Students who decline an offered career ladder position must repay the financial assistance.

Currently, Haskell has graduated 16 co-op students who have transferred to 11 universities, and 11 students have completed bachelor's degrees in natural resources fields. Some tribes, including the San Carlos and White Mountain Apache in Arizona, have begun their own cooperative education programs for students who pursue forestry and other natural resources degrees. Many of these students get their start in the natural resources program at Haskell. More than 80 are enrolled in the natural resources curriculum during any one semester at Haskell, and at least 35 students are annually placed in summer jobs that in 1987 experienced a 50 percent no-show rate. With an orientation program and a supportive environment, the retention rate improved immediately, to 95 percent in 1988. The 1997 retention rate was 96 percent: all 44 students reported and only two left before summer ended.

Academic Preparation

Besides addressing inadequacies in students' high school preparation, Haskell must address the nontraditional nature of its students: many are more than 18 years old, many have families, and some are returning to college after having had disappointing academic experiences years earlier. The natural resources staff recognizes that these students differ from the typical college freshman and addresses their needs through continued student contact, work and academic counseling and support systems. The nontraditional students often turn out to be the most successful cooperative education students. They have seen how career choices are limited by lack of postsecondary training, and if their tribes' resources are managed by non-Indians because there are no appropriately educated tribal members, they are especially motivated to succeed.

Haskell chose to build its natural resources curriculum as a transfer program, not a technical-vocational one. Input from the tribes and potential employers revealed that many American Indians find work as technicians but are stymied in career development because

they lack professional degrees. Accordingly, Haskell's natural resources program prepares freshmen and sophomore students to transfer into a natural resources-related program at a university granting a bachelor's degree. Because most natural resources baccalaureate programs have rigorous math and science requirements, Haskell's degree requires 63 credit hours, including pre-calculus or higher-level math courses, and at least 15 hours of lab science. Haskell students in the program are strongly encouraged to take elective hours in math and science as well.

Haskell has developed college transfer agreements with more than a dozen universities, specifying which Haskell courses will be accepted as equivalents or substitutes for baccalaureate requirements. Students seeking to transfer to other institutions work with Haskell's natural resources liaison, who may run interference to determine which Haskell courses will count toward the bachelor's degree. These contacts become personal contacts for the transferring student and have resulted in out-of-state tuition waivers, housing assistance, mentors, and introductions to student support groups, thereby creating a welcoming climate for the transfer.

Mentors and Role Models

Alumni of the Haskell natural resources and co-op education program have graduated from four-year institutions with baccalaureate degrees in forestry, ecology, range management, soil conservation, landscape architecture, wildlife and fisheries management, recreation and park management, and geographic information systems. A database developed at Haskell tracks these alumni, who are asked to advise and mentor students transferring to their alma maters. This reflects the traditional Indian way of treating all members of the community as extended family and entrusting elders with the responsibility of teaching and supporting younger people.

Because Haskell is a small university with limited funding, instruction in the natural resources relies on outside help. The Forest Service supports the program by funding the natural resources liaison position, and the Bureau of Indian Affairs trust division provides money for administrative support and travel. The primary natural resources instructor is funded by the other five agencies on the natural resources advisory board. Guest presenters from county, state, federal, and tribal organizations provide not only insight into the field of natural resources and its philosophical and management implications but also Alaska Native and American Indian role models. Alumni of the program who discuss their career and university experiences are the most persuasive advocates for higher education and careers in the natural resources.

Innovative Education

One of Haskell's most valuable classroom resources is its 60 acres of on-campus wetlands, which act as a filter between urbanized Lawrence and the Wakarusa River. The Haskell wetlands provide a focus for environmental science research by interdisciplinary classes studying water quality analysis, surveys of faunal and floral species, plant-insect interactions, the physiochemical analysis of secondary compounds of wetland plants, plant-soil biomediation, and landscape genesis and geomorphology. Off-campus, a forest and savanna within the Clinton Reservoir complex, administered by the Army Corps of Engineers, are another field laboratory, as are the Kansas Ecological Reserves (University of Kansas), the Baker Wetlands (Baker University), the Konza Tallgrass Prairie Reserve (Kansas State University), and the University of Missouri's School of Natural Resources.

Finally, Haskell maintains an environmental research studies center to serve American Indian colleges and universities nationwide. The center coordinates faculty research in hazardous substances and other environmental problems on American Indian lands, and the information is disseminated through tribal leaders, the *Earth Medicine* newsletter, and interactive televised training programs. The center's advisory board provides Haskell students with additional opportunities to interact with natural resources professionals.

School Lessons

Recognizing the cultural differences in education between American Indians and Euro-Americans, the holistic education at Haskell Indian Nations University is based on the sacred circle. The natural resources program (both on campus and through employment and cooperative education experiences) supports partnerships that combine family and community support, educational preparation, work experience, financial assistance, and mentors. Thus students learn in a holistic educational atmosphere, without abandoning their traditional spiritual reverence for Earth.

The success of the Haskell program is best measured by the number of employers who recruit the same Haskell students to return to their duty stations year after year until the students can be hired as permanent employees. Success is attributable to four factors:

1. Haskell's administrators and faculty are committed to providing quality education to American Indian and Alaska Native students in a culturally sensitive environment.
2. Working in partnership, federal agencies, tribal organizations, and Haskell recognize shared needs and collaborate to enhance students' educational and employment opportunities.
3. The continuous mentoring program encourages students while they are at Haskell, on summer placements, and after they have transferred to baccalaureate programs and embarked on their professional careers.
4. Graduates willingly contribute their time, experience, and credibility to encourage new students.

Haskell now offers a four-year bachelor's degree program in teacher education and is developing a four-year degree program in environmental sciences. The recent designation of Haskell Indian Nations University as a land grant institution by the Equity in Education Land-Grant Status Act of 1994 will bring in more support services and funding.

Colleges and universities intent on building a successful natural resources program can adapt elements of the Haskell program to their own institutions. For example, setting up advisory boards that are a source of internships, cooperative education positions, role models, and mentors can have far-reaching results. Member organizations can also provide supplies and equipment—last generation computers, for example, and surplus lab equipment—for classrooms and be effective advocates before state legislatures, tribal governments, and Congress.

Other schools can also develop informal chains so that students who interned last year can be mentors to this year's placements, and students who have transferred to a bachelor's degree institution become the link for incoming students. This year, the first Haskell co-op to complete a natural resources degree is now in a management position and is supervising and mentoring a new co-op student.

It is important to honor those who have succeeded. Haskell holds a reception each fall

for students who have completed their summer assignments and invites first-year students who have expressed an interest in the natural resources program; the keynote speaker is often a Haskell graduate. Although honoring successful tribal members is a tradition among Native Americans, the concept has a place in all institutions.

By maintaining cultural identity and accepting the challenges and opportunities offered by modern society, Haskell students bridge traditional and modern cultures. These students contribute to a diverse natural resources workforce in local, state, and federal agencies across the country. Many students return to their tribes or local BIA offices as professionals and thus use their expertise within their cultural base. Such professionals may be the most valuable resource the tribes have.

Gail Sloan serves on the Center's National Visiting Committee.

Natural Resource Education—A Partnership Between Northwest Indians and Oregon State University

by Judith R. Vergun, Edward C. Jensen, Paul S. Doescher, and Ross R. Racine

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Society is becoming increasingly sensitive to the diversity of cultures that exist within the United States—and increasingly aware of advantages associated with including culturally diverse views in significant policy and management decisions. However, the information flow is often limited by important cultural differences, some readily apparent and some much less so. While this tenet is easily observed in the social arena, it is equally true in the management of natural resources.

For example, millions of acres of forest and range lands in western North America lie within Indian reservations. Many of these acres have been managed less effectively than they could be, in part because information about management philosophies and techniques has not flowed freely between Indian and Euro-American cultures. Too often, communication has been one-way and recommendations have been presented in culturally insensitive ways. More often than not, education often has been ineffective in improving this situation. Nonetheless, educational programs can help solve these management problems if they are conducted in ways that acknowledge and account for cultural differences. This article describes how a culturally sensitive natural resource education program was developed for the Warm Springs Indian Reservation in central Oregon, how it heightened awareness of good land management techniques, and how it paved the way for other mutually beneficial programs between two cultures.

Why Did We Do This?

For many years, members of the Confederated Tribes of Warm Springs (Wasco, Warm Springs, and Paiute) observed a steady decline in the quality of forest and range resources on their reservation in central Oregon. Problems included the replacement of perennial native grasses with invading weeds; loss of habitat and forage for wildlife and domestic animals; increased erosion; decreasing productivity of huckleberry fields; and changes in riparian zones that degraded fish habitat. More effective management of

resources was needed, and tribal members sought ways to alleviate these problems. For at least two decades, natural resource specialists from outside the reservation have been invited to recommend improvements in management practices on the reservation. These attempts have often failed—partly because they were not sensitive to Indian culture and tradition, and partly because they were based on one-way communication rather than on partnerships. Tribal members receiving the advice frequently did not understand it well, and specialists failed to follow up with appropriate on-the-ground assistance. In short, these attempts at on-reservation education did not work—and many tribal members were unable to leave the reservation to participate in other types of educational programs. This created a need and a desire for an on-reservation education program that effectively shared information and was sensitive to the traditional ways of Northwest Indians.

The OSU/Warm Springs Natural Resource Education Program was initiated in direct response to these needs. Its goal: develop a culturally sensitive education program to help improve understanding of natural resource issues and practices on the reservation. To overcome limitations of the past, it would be offered on the reservation; be designed in partnership with tribal members; offer information that was clearly and immediately applicable in managing reservation lands; and be sensitive to traditional Indian culture and values. In addition, it was to provide tribal members an opportunity to earn university credit and enhance their career opportunities without leaving the reservation. The underlying assumption of this partnership-based approach was that exploring and understanding both Indian and non-Indian communities would result in a more effective education program.

Important Cultural Differences

In designing this program, it was vital to understand important differences between traditional Indian and Euro-American views of education. According to a special report by the *American Indian Science and Engineering Society* and the *College Board Educational Equality Project* (1989), much has been written about school reform in America but little attention has been given to American Indian students. The few reform efforts for Indians often met with failure or limited success because they did not secure the approval of tribal members or consider Indian cultural values and agendas. The report noted that Indian people wanted their children to acquire basic academic competencies and subject-matter knowledge, but they also wanted students to value their Indian culture and traditions when they emerged from the educational pipeline. A key issue for American Indians was how to reconcile Indian culture and traditions with formal education.

Deloria (1991) [*Indian Education in America.* Boulder: AISES Publishing], Mander (1991) [*In the absence of the sacred.* San Francisco: Sierra Club Books], and Campbell (1991) [Are traditional and modern education incompatible? *Winds of Change*, 6:100-109] identified a number of important differences between American Indian and Euro-American views of education. While they specifically considered the education of children, their comparisons are helpful in thinking about learners of all ages. Although it is easy to oversimplify complex views, a few differences were especially helpful in designing the Oregon program (see "Educational Views and Learning Styles," pp. 94-96).

Frustration on Both Sides

The cultural differences between traditional Indian education and Euro-American schooling are, in fact, pervasive and profound. Indian students raised in a traditional atmosphere,

for example, are often confused when they enter a non-Indian system. Written tests, unfamiliar social norms, formal school buildings, and advancement requirements to be met within a specified time frame are often overwhelming for Indian students. In addition, a non-Indian curriculum often lacks culturally appropriate information and educational materials for Indian students. This tends to alienate Indian students and the Indian community at large. Also, the small number of Indian educators creates an unusual situation for Indian students, who learn by observing and following the example of their own people.

On the other hand, Euro-American educators are often frustrated in their attempts to educate Indian students. Historically, little communication occurred between tribal members and non-Indian educators. Communication is also limited because Indian students are taught to listen, to be quiet, and not to draw attention to themselves by speaking out in a classroom setting. This makes it difficult for Euro-American educators to interact with Indian students and to determine their level of understanding. With so little opportunity for communication, it is often difficult to help Indian students.

Because of these cultural differences, Euro-American educators frequently failed to meet the needs of American Indian and Native Alaskan students. Thus students commonly suffered from insecurity, ambiguity, and alienation—and often dropped out of school altogether.

Designing a Culturally Sensitive Program

How were these important differences accounted for in the design of the Oregon program?

From the beginning, a strong partnership was established by appointing two program coordinators: one representing the tribes and one representing the university. These coordinators then worked to include all tribal members in the program's design. Using written questionnaires, personal interviews, and informal conversations, they surveyed tribal leaders, resource specialists, and individual tribal members. The coordinators then developed a list of natural resources topics of local importance: watershed and riparian management, fire ecology and management, forest grazing, plant development, and rangeland grazing.

During the first academic year, visiting specialists from Oregon State University, government agencies, and local communities presented a series of eight seminars on these topics. All speakers were briefed prior to their presentations about cultural differences that could potentially influence their interaction with tribal members. Tribal members of all ages and positions were invited to participate.

Following the seminars, tribal members were again surveyed to determine which seminar topics were most interesting and helpful, and which they would like to learn more about. These topics formed the basis for a more indepth course offered during the second year of the program. The resulting course consisted of nine sessions, each three to four hours long. Topics included rangeland management; geology and soils of the reservation; fire ecology; watershed management; forest grazing; livestock management and grazing systems; plant identification and ecology; and economics. The course was conducted from October 1989 through April 1990, the traditional time of year for storytelling for Northwest Indians.

Merely offering this college-level course accomplished one of the program's primary goals: providing culturally appropriate education on the reservation. Participants who completed the entire course received a certificate from the university acknowledging their accomplishments.

But how was it more sensitive to traditional Indian ways than previous efforts? Here are just a few examples:

– Content was designed in conjunction with tribal members, the potential participants of the program. All tribal members were given the opportunity to help shape the curriculum.

– All events were multigenerational. Everyone was invited to attend. Participants varied in age from 16 to 74 years.

– Attendance was voluntary. However, only those completing all sessions of the course received a certificate.

– Participants were not required, or even expected, to answer questions in class. Instead, "break-out" periods were scheduled for participants to share ideas and ask questions in an environment that did not bring attention to themselves.

– Major principles and practices were demonstrated in the field. This helped ensure relevancy and application and also extended educational opportunities throughout the year.

– No formal assessment procedures were used, and there were no set achievement levels. There were no exams, few out-of-class assignments, and no grades. Pre- and post-instruction questionnaires both set the stage for instruction and assessed progress. Self-assessment and individual feedback between instructors and students became the primary means of determining academic progress. Participants interpreted course information through their own perspectives and were not judged by the standards of others. However, full attendance and participation were required to receive a certificate.

– All instructors were briefed on etiquette for this particular cultural situation. For example, they were instructed not to call on individual students in class, to be very patient when soliciting responses from the group (silence is not uncomfortable in American Indian culture), and to expect less eye contact than with non-Indian students.

Evidence of Success

Evidence of success of the educational component of this program was largely qualitative and testimonial—in keeping with traditional Indian approaches. One measure of success was actually offering an on-reservation program that tribal leaders, tribal members, and representatives of Oregon State University felt good about. Significantly, everyone who enrolled in the program attended all sessions and earned a certificate of completion. Learning clearly occurred, and management practices on the reservation have been affected.

In addition, valuable lessons were learned about significant cultural differences in concepts of education and communication, and about developing programs that account for and benefit from these differences. As well as developing a natural resource curriculum that met a variety of objectives, this partnership-based approach resulted in a memorandum of understanding between the Confederated Tribes of Warm Springs and Oregon State University. It called for a continuing partnership-based, multilevel, multigenerational natural resource education program conducted on the reservation; long-term plans for on-reservation research to address local needs and study native plants; a permanent on-reservation structure to house education and demonstration projects; and opportunities for cost-sharing and co-staffing for a variety of mutually beneficial programs. In addition, one tribal member associated with the program has since completed a master's degree, and several major research

efforts have been initiated that address topics of cultural significance to the Warm Springs tribes (e.g., culture and management of huckleberries in tribal forests).

In short, what began as an educational effort has had significant ramifications beyond education.

Extensions to Other Situations

While the project described in this paper focuses on a specific educational program, lessons learned in conducting the project extend far beyond the educational arena. Although many assume that there is a single dominant culture in North America, it is increasingly clear that this single culture actually comprises numerous subcultures—based on factors such as ethnicity, religion, occupation, geography, and social stratum. It is also apparent that natural resource professionals—whether educators, managers, field specialists, or policy makers—must be able to cross these cultural boundaries in order to design and implement successful programs.

The specific educational program described in this paper may present principles useful in other situations. Perhaps its two greatest strengths are that it was developed *with* rather than *for* a specific group of people, and that it honored their specific cultural and educational needs. The project revealed numerous lessons that are important for all natural resource professionals:

– Community leaders from different cultures are likely to desire similar outcomes from natural resource programs—increased understanding of specific knowledge, techniques, and issues. But these must not come at the expense of cultural values and traditions. It is both possible and desirable to work toward the two goals simultaneously.

– In developing natural resource efforts, it is vital that participants understand all cultures involved and incorporate that knowledge into the design, development, and implementation of the program.

– Examining other cultures in an attempt to understand them causes one to examine and better understand one's own culture—and the benefits of that are manifold.

– The desire for education, and what it can mean for our children, is an important bond between people of different cultures. This bond can serve as a gateway to a tremendous array of programs, agreements, and connections that will benefit both cultures.

As participants in the OSU/Warm Springs Natural Resource Education Program, we reaped great benefits from being involved in the development process. We cannot overstate the importance of the two-way learning that occurred throughout the project.

Educational Views and Learning Styles: A Comparison

Responsibility and behavior

Traditional Indian Views

It is the student's responsibility to learn to fit into the community. This view endorses the concept that there may be a new place developed by an individual—one not yet identified by others. This patient view allows for the time it takes to accomplish this learning. Patience also extends to unusual behavior—perhaps someone is learning something that others know nothing about.

Euro-American Views

It is the school's responsibility to educate the student according to standards developed by the system. Most of the time, the student is expected to follow someone else's design and to fit into acceptable group behavioral patterns. Little patience is extended to students who perform outside the "norm."

Time constraints and achievement levels

Traditional Indian Views

Each student moves at her or his own pace. There are no predetermined schedules or achievement levels.

Euro-American Views

Students are expected to perform at a certain rate and progress with the class. They are expected to perform according to prescribed achievement levels in a predetermined amount of time.

Age groups and length of education

Traditional Indian Views

Education is multiaged and multigenerational. It is a continuous part of life—there is no definable beginning or end. All people are expected to continue learning throughout their lifetimes.

Euro-American Views

Students are grouped into classrooms by age, generally isolated from students of other ages in other classrooms. Schooling begins with kindergarten and is required through 12th grade. For some, it continues further.

Responsibility for education

Traditional Indian Views

Education is an ongoing responsibility of the entire community; each community member is responsible for the education of others.

Euro-American Views

Schools have the primary responsibility for educating students. Individuals, especially those who are not parents, are not responsible for educating students.

How children are expected to learn

Traditional Indian Views

Children are expected to learn by listening, observing, and participating in community activities.

Euro-American Views

Children are taught to read and write and to learn from books in a written language.

Locations for learning

Traditional Indian Views

Education takes place in the home and in the community through daily interactions and practices.

Euro-American Views

Education is viewed as taking place primarily in school buildings.

Truth

Traditional Indian Views

There is no one truth that everyone must know. Truth is individual and personal and exists for each person in her or his own way. This is undisputed.

Euro-American Views

One universal body of knowledge should be learned by everyone.

Standards

Traditional Indian Views

Students are not judged by predetermined standards that correspond with class levels and age groups. Performance of tasks, awareness of the lessons of Mother Earth and Father Sky, and concepts of interrelatedness are valued but not judged. There are no written exams.

Euro-American Views

Students are judged by definite standards. Written exams are a common form of judging. Test scores are acceptable relative to other students' scores. Levels of acceptable accomplishment are predetermined.

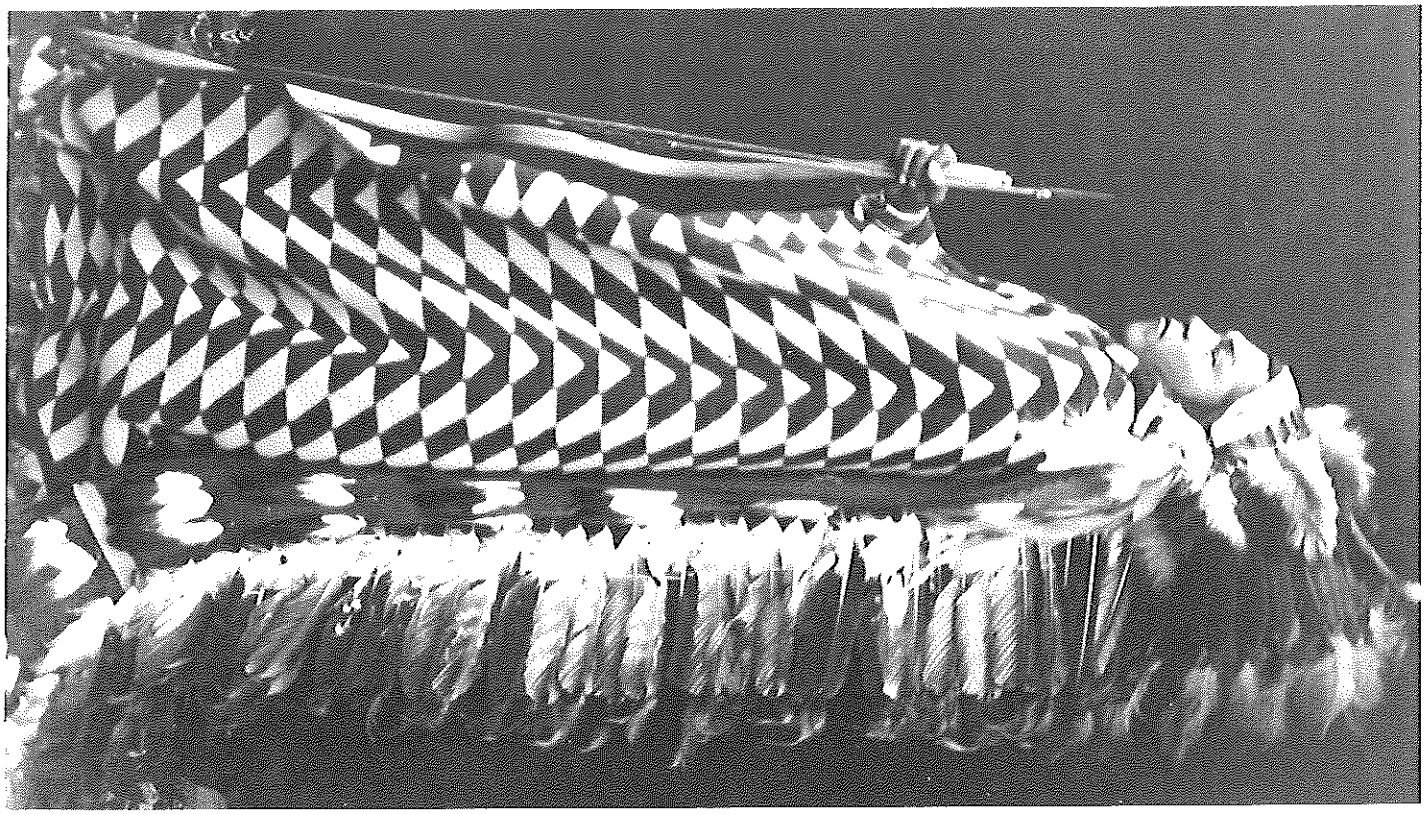
Punitive actions

Traditional Indian Views	*Euro-American Views*
The concept of controlling students does not exist. There is no punishment for "underachieving."	Control is exerted by teachers and administrators. Issues of control, rewards, and punishment play a key role. Underachievers and overachievers are often clearly identified.

Educational progress

Traditional Indian Views	*Euro-American Views*
Progress is multidirectional. Students participate in the community at all levels. They may move upward, downward, or laterally at any time.	Progress through the system is linear. One grade follows the next and students move collectively to the next highest grade, often based on test scores.

Sources: Deloria 1991; Mander 1991; and Campbell 1991.



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Suggested Videotape and Internet Resources

The following resources are highly suggested for use by educators (note: quoted information on videotapes come from the tape jacket).

Videotape Resources

More Than Bows and Arrows, 1994

(Run time: 1 hour)

"It has become the most popular film about Native Americans ever produced! *Bows* documents the contributions of the American Indians to the development of the United States and Canada. From net fishing off cliffs over a Northwest river...to an irrigation canal system in Arizona, *More Than Bows and Arrows* tells an uncommon and unequaled story...*Bows* has received numerous national and international awards for film excellence."

Order information:
Call 206-523-3456
1999 price: $29.95

The Chinook Trilogy, 1994

Columbia River Inter-Tribal Fish Commission (CRITFC)
Run time per tape: 30 minutes

Order information:
Call 503-238-0667
1999 price: $45.00 for videotape set

This is an outstanding set of three videotapes about Columbia River tribes' legal, cultural and related issues surrounding "the salmon issue" in the Pacific Northwest.

Videotape #1. My Strength Is From the Fish

"*'Brother Salmon,*
The Indians of the Columbia River believe the Creator made them The People of the Great River. The Creator also made Brother Salmon, by the millions in fact, to feed the tribes in body and spirit.

'The Creator's Gift—
"And there began, amidst towering rimrock cliffs; vast, arid sage lands; timbered vistas and a massive, fish-laden river, the binding of native cultures with Nature to make a rich tapestry now tens of thousands of years old yet still being woven.

'A Way of Life
"Today the threads of that fabric are tenuously frayed. Columbia River salmon returns have plummeted from historic estimates of more than 16 million fish annually to the reality of mere thousands. Some salmon runs are gone

forever. More may soon follow their trail to extinction. The scope of such dramatic declines reaches far beyond the Pacific Northwest.

'For People of the Great River.'
"My Strength Is From the Fish, Part One of *The Chinook Trilogy*, explores these issues from the perspective of those people most at risk from the loss. Using detailed, evocative interviews with Tribal Elders, council leaders, fishers and others, *My Strength Is From the Fish* reveals salmon are both the core of a profound culture and the key to its survival."

Videotape #2.
Empty Promises, Empty Nets

"'The Treaties of 1855,
With the Treaties of 1855, the Indian Nations of the Columbia River took a bold step. Hoping to save a rich heritage, they ceded title for most of their 40 million acre Pacific Northwest homelands to the U.S. Government.

'A Sovereign Promise
"Believing salmon to be as important to life as air, the tribes made certain their Creator-given fishing rights were assured. The treaties contain the promise that tribal salmon fishing will continue at 'all usual and accustomed' places always and forever.

'To Uphold
"Today that promise rings hollow. The more usual and accustomed result of modern salmon management has been relatively few, if any, fish being caught on Indian fishing grounds.

'Creator-Given Rights.'
"Part Two of *The Chinook Trilogy, Empty Promises, Empty Nets*, concisely details landmark legal decisions confirming the treaty-bound fishing rights of Columbia River Indians. These provocative issues have global implications. As salmon recovery efforts focus on national and international issues, treaty rights may well be the foundation upon which the survival of Columbia River salmon is built."

Videotape #3.
Matter of Trust

"'I Am Afraid
In 1855 leaders of the Columbia River Indian tribes were concerned about the future. At issue was how long their Creator-given rights to fish freely for salmon would be assured by treaties being considered with the United States Government.

'White Men are not Speaking Straight...
"In the century and a half since, the Pacific Northwest has changed dramatically. Ancient forests have been logged. Vast grasslands have been plowed. Numerous dams tame once-mighty rivers. And salmon populations have crashed.

'That Their Children Will Not...
"Today more than ever, Chief Kamiaken's prophetic words are a critical concern of the Columbia River Indians. With the extinction of numerous salmon stocks, all tribal fisheries have been severely reduced or entirely eliminated.

'Do What is Right by Our Children.'
Chief Kamiaken, Yakama Tribe, 1855

"Part Three of *The Chinook Trilogy, Matter of Trust*, is both a compelling look at the pressures today shaping salmon populations and an impassioned plea for change. Blending ancient wisdom, tribal insight, and modern science, *Matter of Trust* provides 21st Century solutions to problems that actually began soon after the treaties of 1855 were signed."

The American Indian Higher Education Consortium (AIHEC)

www.aihec.org

The American Indian Higher Education Consortium (AIHEC) was founded in 1972 by six of the first tribally-controlled community colleges. Today, AIHEC is a cooperatively sponsored effort on the part of 30 member institutions in the United States and Canada. Located on or near Indian reservations across the nation, AIHEC member institutions serve nearly 25,000 students with vocational, technical, two-year, four-year, and graduate programs. AIHEC institutions are regulated by and comply with mainstream accreditation associations.

The tribal colleges represent the most significant and successful development in American Indian educational history. Their unique blend of quality education with American Indian and Alaska Native culture and values promotes achievement among students who may otherwise never know educational success.

AIHEC strives to serve the common needs of its member institutions by achieving the following objectives:

– Assist in the development and maintenance of the highest standards of quality education for American Indians and Alaska Natives, and improve the accessibility of equal educational opportunities.

– Develop and implement programs that are consistent with the inherent rights of tribal sovereignty and self-determination.

– Facilitate and encourage the seeking of funds from government and private sources for implementing AIHEC programs.

– Assist AIHEC member institutions in their efforts to comprehensively address the technical and economic development needs of their constituent tribes.

– Serve as a liaison between the tribal colleges and the federal government.

– Promote higher education through a cooperative effort with other organizations, and represent the tribal colleges within the academic community at large.

Native American Home Pages

www.pitt.edu/~lmitten/

Authored by Lisa mitten, a mixed-blood Mohawk and a librarian at the University of Pittsburgh, this page lists Native American sites (it can also be found on NCSR's website: www.chemeketa.edu/ncsr/).

On her home page, Mitten writes:

"WELCOME to my page of Native American Sites on the WWW! I am a a mixed-blood Mohawk urban Indian, and a librarian at the University of Pittsburgh. My goal is to provide access to home pages of individual Native Americans and Nations, and to other sites that provide solid information about American Indians.

My page is organized by the following categories:

- Information on Individual Native Nations
- Native Organizations and Urban Indian Centers
- Tribal Colleges, Native Studies Programs, and Indian Education
- Native Media Organizations, Journals and Newspapers, Radio and Television
- Powwows and Festivals
- Sources for Indian Music
- Native Arts Organizations and Individuals Artists, Performers, Celebrities, Actors,
- Actresses, Storytellers, Authors, Activists
- Native Businesses
- General Indian-Oriented Home Pages

I hope you find them helpful!"

Perspectives in Natural Resource Management

"In the final analysis, the most precious thing that tribes bring to the table is an attitude of stewardship and respect for the land and its resources. To tribes, the forest is not something to leave behind as a legacy for their children, but rather something to borrow from generations yet unborn."

Gary S. Morishima

Western Forester Articles

We end this report with a section devoted to insights, important cultural uses, and management strategies of natural resources by northwestern Indian tribes. These perspectives are presented in a series of articles which appeared in the November 1998 publication of "Western Forester—Oregon, Washington, Inland Empire, Alaska Societies of the Society of American Foresters."

"Some have said that the American Indian was the first natural resource manager in America, but from my perspective, I am not sure that is entirely true...Nature was our caretaker... Nature...managed us—we lived by nature's laws."

Jaime Pinkham

Nature is our Caretaker

By Jaime A. Pinkham
(Nez Perce) President,
Intertribal Timber Council

"The Earth is part of my body...
I belong to the land out of which I came.
The Earth is my Mother."

These words were spoken by a Nez Perce leader in 1877 during the debates preceding our war with the U.S. Government. He wasn't simply stating an opinion, but rather, pointing to a way of life.

Long before written history, our ancestors maintained a sacred relationship with the land and our physical and spiritual livelihood depended on nature's bounties. In the language of land management, our ancestors practiced "multiple use" on these lands, relying on them to provide sustenance, spiritual connectivity and recreation.

In our treaty we reserved certain rights that were necessary to the survival of our people and our culture. We expressly reserved rights such as fishing at all usual and accustomed places, hunting, and gathering traditional foods and medicines. In the language of land management, our forefathers ensured that the treaty provided "sustainability" for future generations of Indian people.

Our reservations are our permanent homelands, and the federal lands within our treaty area, our ancestral homelands, remain a vital part of our life to this day and into the future. We have lived here well beyond human memory and have no intentions of abandoning these lands to relocate elsewhere. Our culture and our ancestors are committed to the lands upon which we live.

Some have said that the American Indian was the first natural resource manager in America, but from my perspective, I am not sure that is entirely true. We responded to nature and the change in seasons. Our activities reflected our relationship with the natural cycles turning upon the land and waters. Nature was our caretaker. We put our livelihood and our survival into the hands of our Creator and the Earth, our Mother. Nature, on the other hand, managed us—we lived by nature's laws.

Today, nature remains our caretaker and provider. However, we have become managers. It has become our turn to give back, to care for and heal the land that has in the past cared for us to the best of its ability. To be the best caretakers we must concede to nature's own wisdom. And, to the best of our ability, we also need to combine traditional knowledge with the latest scientific and technical knowledge.

Indian forestry is not just about managing the landscape. There remains a spiritual connection between us and the land that supports us. Preserving the spiritual strength we derive from nature gives us reason to celebrate. We celebrate our past with its ageless traditions; we celebrate the seasons, each with their own bounties; and we celebrate the gifts and wisdom we derive from the Earth. We will continue to celebrate our very survival, the victories and sacrifices of our people throughout time.

We must continue to reaffirm our commitment to nature and seek the solutions to the challenges we face today so that our grandchildren will have reason to celebrate during their lifetime. We must pay tribute to our past, we must continue to honor nature, and, with an eye on the future, teach our children the importance of both.

Tribal Management of Non-Tribal Lands

An Indian tribe once officially ignored by the federal government could become the first in the nation to manage a public forest near a reservation. Under an agreement signed last week between the Confederated Tribes of the Grand Ronde and the U.S. Forest Service, the tribe will write a 10-year plan to manage 6,600 acres of the Siuslaw National Forest, tallying endangered species such as the northern spotted owl, evaluating water quality and assessing forest health. Organized in1856 from at least 22 tribes, the U.S. government disbanded the confederation in 1954 as part of an attempt to assimilate its members.

But the Grand Ronde built enough support in Congress to re-establish the tribe in 1983 and since has turned its Spirit Mountain Casino near the Oregon Coast into one of the most profitable gambling centers in the West.

U.S. Bureau of Land Management officials say they expect to sign a similar agreement. "This is a pioneering effort," said Charles Wilkinson, an expert in federal and tribal natural resources law at the University of Colorado in Boulder. "Still, tribes nationwide are gaining more influence over how public lands and resources are managed," he said. Examples range from agreements with the National Park Service over sacred sites in Northern California to the Columbia River tribes' involvement in salmon management and the Nez Perce Tribe's management of wolf reintroduction in Idaho. In Oregon, the Warm Springs tribe works with the neighboring Mount Hood National Forest to help restore and preserve wild huckleberries, a sacred tribal food.

June 16, 1999
Excerpts from: *Tribes may be first in nation to manage public forest lands near reservation*
The Associated Press
Corvallis *Gazette-Times* newspaper

Warm Springs Sustainability Project Focuses on Huckleberry

By Judith Vergun and Bodie K. Shaw

Much of the cultural integrity of the Warm Springs Confederated Tribes is maintained through the gathering and use of natural materials. Cultural plants existent on the reservation include those used for food, fiber and medicine. Current use and foreseeable demand for cultural plants is expected to increase due to population growth, shrinking habitat areas and increased tribal interest in cultural heritage.

As an example, huckleberries are revered as one of the most important spiritual and cultural resources on the reservation. The plant itself represents much more than just another forest resource, it reflects the life processes by which we live: sunlight, water, soil and harvest—foundations of our lives. Proper management will assure that tribal people can continue to rely on this resource for the future.

Huckleberries are key to maintaining the biological and cultural diversity of the ecosystems in which they occur. In the Pacific Northwest, the productivity of the big huckleberry *(Vaccinium membranaceum)* appears to serve as an indicator to ecosystem health.

Our long-term goal is to provide information in which to base improved huckleberry management strategies on the Warm Springs Indian Reservation and ceded and usual and accustomed lands. There are other cultural and biological resources associated with these plants which will be included in this study.

We are interested in cultural survival, ecosystem health and diversity, and treaty rights on usual and accustomed lands. The three levels of treaty rights are: 1) ceremonial; 2) subsistence; and 3) commercial. Four areas of consideration in the treaty resource are access; habitat; production; and harvest. Our approach seeks to discover, then link, information about ecological, cultural and socioeconomic factors that influence productivity and sustainability of huckleberries. Information gathered within these areas will be recorded on Geographic Information System (GIS) layers and combined into an educational program that assists all interested parties.

Four key areas were identified: 1) ecological factors influencing productivity; 2) cultural issues; 3) socioeconomic factors; and 4) educational programs and processes.

Products expected from this project include:

– A transportable model which describes the evolution of a partnership between Indians and non-Indians for the purpose of gaining knowledge and understanding to develop a framework for sustainable resource management on reservation and ceded and usual and accustomed lands.

– Documentation of Native American rights on ceded and usual and accustomed use lands in the Mount Hood National Forest.

– Information about special forest products, values and markets.

– A GIS set which reconstructs past land use and impacts and reflects current conditions on the Warm Springs Indian Reservation.

– Educational programs and materials for on-reservation use, students, teachers, land managers and general audience.

Project partners include Warm Springs Tribal members, Oregon State University researchers, and foresters from the Mount Hood National

Forest and Warm Springs Department of Forestry. Indians and non-Indians will work in partnership throughout the project.

Some information is culturally sensitive and will not be available for public use. The Confederated Tribes of the Warm Springs Indians have exclusive rights to this information and requests should be directed accordingly.

Judith Vergun is professor, College of Oceanic and Atmospheric Sciences, Oregon State University, Corvallis; and Bodie K. Shaw is forest manager, Bureau of Indian Affairs, Warm Springs Indian Reservation, Warm Springs, Ore.

You are the Land and the Land is You

By Gary S. Morishima

Forests were more than a collection of trees to the Indian people of the Pacific Northwest. They were providers, protectors and cathedrals. Places of economy and spirituality. Places where the stuff of life was gathered—the foods, medicines and materials for transportation, shelter and artistic expression. Places to fish and hunt, to find solace or solitude, to celebrate and worship, to be joined with the Creator and the spirits of the plants and animals that shared the earth. So it was for countless generations.

About a 150 years ago, things began to change drastically as settlers that held far different views of land and resources arrived. Forests were logged, homes and cities built, fields plowed, and rivers dammed and muddied. The bounty of the land disappeared at an alarming rate. Fish and wildlife became ever scarcer. Some species vanished, others tottered on the brink of extinction. One species, the northern spotted owl, became a rallying symbol for concerns over the fate of "ancient" forests when it was listed for protection under the Endangered Species Act. Cries to save the owl clashed head-on with demands for timber to provide jobs and sustenance for families. Decision-making was stymied as actions of the Forest Service and Bureau of Land Management became mired in social protests and prolonged, heated court battles that pitted forest plans and livelihoods against endangered species.

In April 1994, the Northwest Forest Plan (NFP) and Economic Adjustment Initiatives were announced as means to break the gridlock. The strategy consisted of three parts: (1) standards and guidelines for management; (2) programs to help rural economies cope with the decreased flow of timber from federal forests; and (3) increased agency coordination to implement ecosystem management.

Indian tribes are actively involved in the institutional structures established to implement all these efforts. Why? Because Indian tribes enjoy a unique legal and historical relationship with the United States. The Record of Decision (ROD) accompanying the NFP provides that: "Future analysis and planning efforts to implement this decision on lands administered by the BLM and Forest Service will identify Indian trust resources that would be affected, and identify potential conflicts between proposed federal actions and treaty rights or tribal trust resources...consultation with affected tribes will occur on a government-to-government basis. Conflicts will be resolved collaboratively with affected tribes involved in the planning process, consistent with the federal government's trust responsibilities." (ROD, p 54-55)

The keys to understanding this statement lie in the concepts of trust responsibility and government-to-government relationships. When the land they occupied was ceded to the U.S., Indian tribes reserved property rights to fish, hunt and gather resources from open and unclaimed lands. These are more than mere rights of access; more than the ability to dip a net in a river and have it come up empty. When it accepted the land from tribes, the U.S. assumed a trust responsibility, a fiduciary obligation to fulfill three fundamental duties: (1) ensure that trust resources are managed for Indian beneficiaries ; (2) preserve the productive capacity of the trust corpus; and (3) fully disclose and account for its management actions. Differences that arise when the U.S. is acting in its dual capacities as trustee and manager of federal forest lands are to be resolved collaboratively with Indian tribes in a manner consistent with trust responsibilities. A host of federal laws also protect tribal cultural and spiritual sites and the exercise of traditional religious practices.

The government-to-government relationship between the U.S. and Indian tribes has long been

recognized through numerous court decisions and statements of policy, including legislation and Presidential Executive Orders. As sovereigns, Indian tribes exercise regulatory authority and have co-management responsibilities over shared resources along with other local, state and federal governmental entities. Ecosystem management requires a framework for coordinating the exercise of political power of sovereigns at all levels of government.

Tribal governments need to be involved in federal forest land management. A small number of representatives from the tribal community (over 40 tribes are directly affected by the NFP) serve on the Intergovernmental and Provincial Advisory Committees and on the Regional and State Community Economic Revitalization Teams. Having a few seats at regional planning and coordination forums is a start, but it does not relieve federal agencies of the obligation to work with individual tribes on a government-to-government basis.

Tribal involvement in the management of federal forests brings more to the table than a bundle of rights and legal requirements. Many tribes have developed their own resource management programs and can contribute substantially to the scientific and informational base. Because of their long-term and day-to-day presence, tribes can provide valuable insight into changes occurring across the landscape. Tribes also have an intimate knowledge of the environment gained through millennia of observation and passed on from one generation to the next through oral history, custom and tradition. The "pristine" lands that settlers found when they arrived just over a hundred years ago had been profoundly influenced by tribal management for thousands of years. Few resource managers and scientists are aware of the wealth of traditional knowledge that still resides in tribal communities or of the information recorded in the notes and writings of ethnographers who

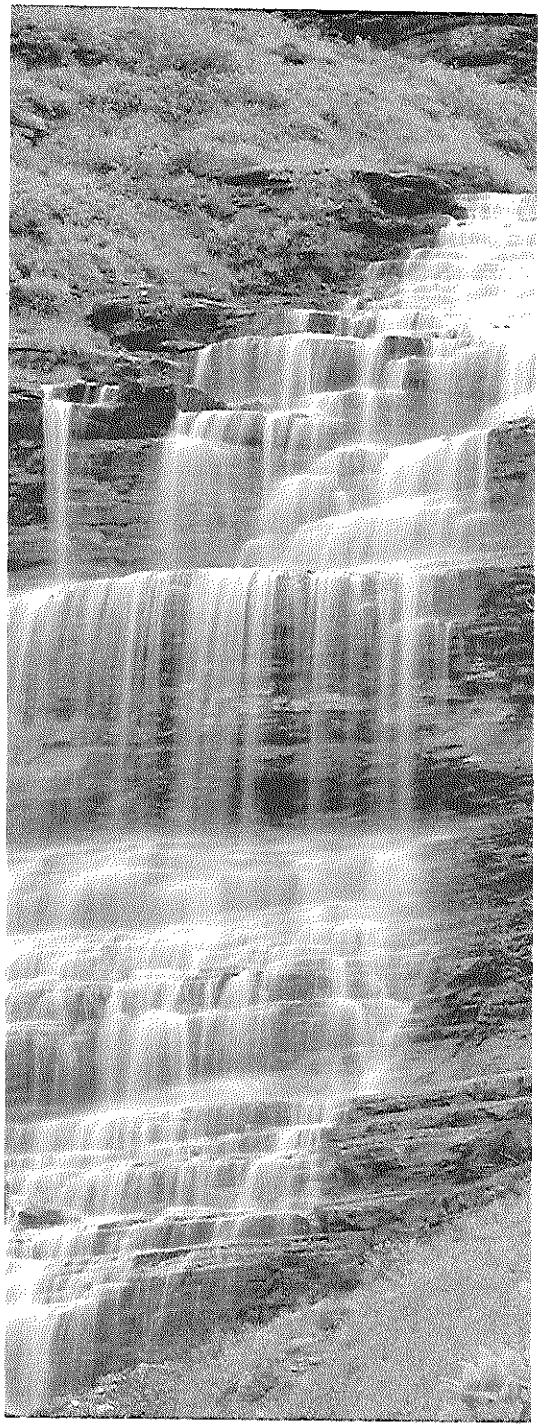
"Forests were more than a collection of trees to the Indian people of the Pacific Northwest. They were providers, protectors and cathedrals. Places of economy and spirituality. Places where the stuff of life was gathered—the foods, medicines and materials for transportation, shelter and artistic expression. Places to fish and hunt, to find solace or solitude, to celebrate and worship, to be joined with the Creator and the spirits of the plants and animals that shared the earth."

Gary S. Morishima

documented tribal conservation practices. An ecosystem is very complex and science has only just begun to scratch the surface of understanding. Society can ill afford to remain ignorant of the valuable lessons that tribes have learned over thousands of years about sustaining the land and its forests, soil, water, plants and animals.

In the final analysis, the most precious thing that tribes bring to the table is an attitude of stewardship and respect for the land and its resources. To tribes, the forest is not something to leave behind as a legacy for their children, but rather something to borrow from generations yet unborn.

Gary S. Morishima is technical advisor to the Quinault Indian Nation, Mercer Island, Wash. The title of this article is from a poem, "This is my land," authored by Clarence Pickernell, Quinault.



Spokane Indian Reservation Prescribed Fire Program Plays a Different Game

By Mark Wynne and Don Motanic

In 1998, the Department of Interior and Department of Agriculture, in response to the 1995 Federal Fire Policy, initiated and funded a Hazard Fuels Reduction Program. Many forestry programs are playing a game of "catch up" to implement the initiative. Tribes and many people in the forestry community have always known that fire is a part of the ecosystem, and the Spokane Indian Reservation's prescribed fire program already had their plans in place to take advantage of additional funding. The additional funding will double the number of acres treated from 2,000 to 4,200 acres annually. Now the Spokane program is playing a different game of catch up by treating hazardous fuel acreages with prescribed fire.

The 155,997-acre Spokane Indian Reservation is located in the northeastern part of Washington state, and the forestry program manages 102,826 acres. The annual allowable cut for the forest is 14.4 million board feet. Timber harvesting has occurred on the reservation since 1918 and many of the tribal members have been part of the forestry program and forest products industry for generations. One of the forestry activities continuously used for generations is prescribed fire.

The prescribed fire program is being expanded to take advantage of "targets of opportunity," and the Tribe has approved the prescribed fire program through 2002. This puts the program in line with the forest management plan. All that's left is getting an Interdisciplinary (ID) team to provide input on a project by project basis. A written burn plan has been approved for each of the Fire Management Zones (FMZs) on the Reservation. This allows for streamlining the underburning process since the site preparation units are covered under the harvest prescriptions and already have ID team input. The Spokane Tribal cultural representatives have supported the program and want to burn more.

The Spokane Tribe also addresses prescribed fire in their Integrated Resource Management Plan (IRMP). The IRMP, forest management plan, and fire plan are all in place so all the funding agencies have to do is "show us the money," and we'll burn. The Bureau of Indian Affairs provides most of the funding, but the Spokane Tribe also contributes funds from their wildlife program and timber revenues.

The wildlife program also wants to play catch up by regenerating old bitter brush, diversifying forest stands, creating snags, and providing a mix of old/young brush and grasses in the openings. The price to play the game varies within the program.

During the three years from 1995 to 1997, the Spokane program burned 6,292 acres with $90,200 for an average unit cost of $14.33 per acre. The project costs vary from $7 to $22 per acre. The higher costs are due to prescribed fire projects near the Spokane Tribe's housing development which is considered the program's urban interface. The additional costs for the prescribed fire around the urban interface include labor-intensive containment lines and cautious ignition patterns. In 1998, the program plans to burn 4,200 acres at a cost of $26,984 for an average of $6.42 per acre. The per acre cost will be down, smoke emissions will be reduced and the amount of acreage treated will increase because the program has started to play a different game with technology.

The technology involves using a helicoper along with an aerial ignition machine. The ignition machine contains and shoots ping pong balls consisting of a flammable mixture that ignites

on contact with the ground. The smoke emissions are reduced by narrowing the burning window to a matter of hours instead of days. The winds and relative humidity can be taken advantage of when hundreds of small points from the aerial ignition burn together and reduce smoldering. The program, through aerial ignition, can burn 800 acres in 40 minutes. This previously would have taken a crew about two weeks to accomplish. The program still uses hand crews, and the new program has helped hire and train new firefighters.

The program allows for hiring of emergency firefighters which helps in a number of ways. First, by using temporary help, the timber sales and presales staff can continue to work on other forestry projects instead of getting dispatched to prescribed fire projects. Second, it gives firefighters more fire experience. Local high school graduates are recruited for seasonal staff, and they get exposure to fire management, forestry and natural resources. It's better for an 18-year-old to get their first fire exposure on a local prescribed fire project rather than a 21-day fire detail off the reservation.

The prescribed fire program on the Spokane Indian Reservation has a history of many generations of burning, but new technology has created new tools, reduced smoke emissions, and created new boundaries, additional funding and new wages for playing a different game—the catch up game with prescribed fire.

Mark Wynne (Spokane) is the fire management officer for the Spokane Indian Agency. Don Motanic (Umatilla) is a technical specialist with the Intertribal Timber Council and was forest manager for the Spokane Indian Agency from 1986 to 1993.

Closing Comments to Natural Resource Educators

As educators, none of us can take credit for knowing every aspect of everything we teach. Yet as educators, our knowledge should not only be commanding in subjects we teach, but include aspects of cultures different from our own.

In the U.S., indigenous peoples included what are now American Indians and various tribes, and their perspectives on education and about the land and how natural resources are managed are unique. What this report will hopefully provide is useful information about these perspectives.

I hope they are helpful in your teaching endeavors.

Susie Kelly

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Mark Wynne	—
Associated Press	Two articles
Ted Strong	"States, tribes and agency agree to create salmon panel," Corvallis Gazette-Times, January 30, 1999.

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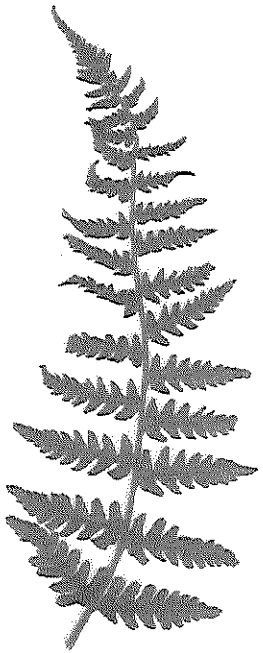

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