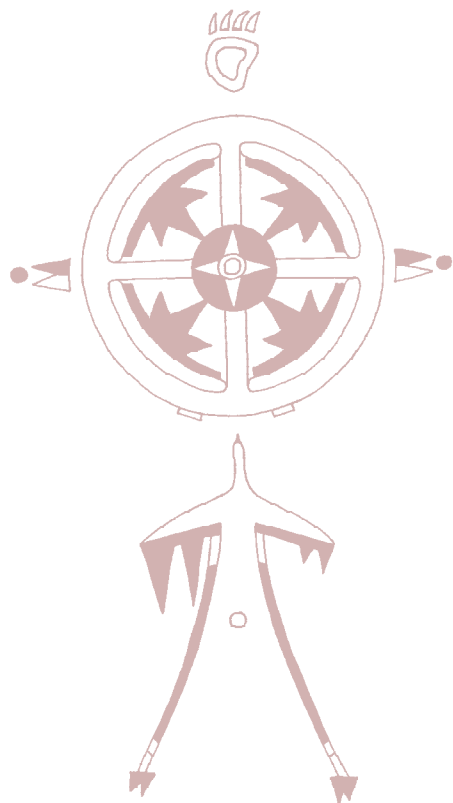


EARTH MEDICINE

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HINU Natural Resources Program provides environmental education practicum

by Barbara Cornelius, Haskell Indian Nations University

Water quality—the identification of water degradation, water testing and evaluation of possible contaminants—was the focus of this summer's 1997 Environmental Education Practicum held at the Rock Springs 4-H Center in Junction City, Kansas. The one-week summer camp was sponsored by the U.S. Environmental Protection Agency-Region VII, the Kickapoo Nation and Haskell Indian Nations University, a partnership for the good health of young Indian people.

Water quality is the most compelling environmental issue facing American Indian communities nationwide. Eleven American Indian students from Kansas, grades 7 through 12, participated in environmental education curricula to define, investigate and report on water—the most sacred element in traditional American Indian teachings. Through a team-work approach, the students tested the water quality of the Delaware River and within the Kickapoo Reservation in Horton, Kansas. The hands-on environmental education activities provided and encouraged problem-solving and decision-making in accomplishing a common pollution prevention goal. The summer practicum focused on water quality impairment from agricultural chemicals, well-head contamination from commercial and agricultural activities, and the bioremediation value of riparian and wetland areas.

Pollution prevention begins with an adjustment of the mind with personal values. A major component of the practicum involved exploring Native American traditional perspectives with the participants. Traditional elders, Ella Mulford of Redhorse, L.L.C. and Allen Mose and Deborah LaFontaine of Native Spirit provided students the guidance needed to integrate Native American traditional knowledge and Western knowledge in meaningful terms. They pointed out advantages and disadvantages to the integration of knowledge from

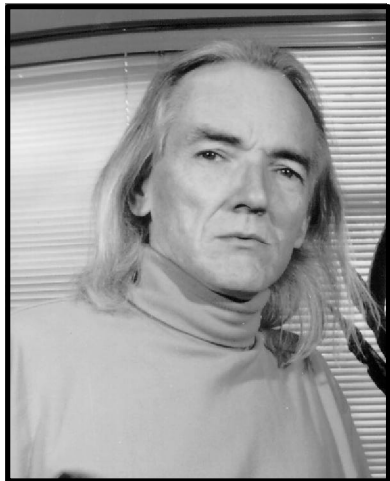
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HINU biology instructor, Jamison Bear, explains phosphate level results on a Kickapoo ranch.

Director's Corner: New Dimensions for HERS

by George Godfrey, Haskell Indian Nations University



Dr. George Godfrey

The HERS Center slowly is evolving, and new dimensions are beginning to appear, either as roots of the Center's initial role as an environmental outreach program to tribal nations and the faculties of tribal colleges, or as new, electronic curricula development program. Part of what is occurring represents what is happening at Haskell Indian Nations University in a broader sense, namely, the growing connection between Haskell and the Cooperative States Research, Education and Extension Services (CSREES), USDA. This has resulted from Haskell's designation as a Land Grant school in 1994. (Last winter while attending a workshop in which the history of Land Grant schools was being discussed and in which the "1994 Land Grant schools" were being introduced as the new institutions, I could not help but welcome the "old schools" to our Land Grant system.) Subsequently, there are additional resources for promoting education, extension and research in environmental stewardship, natural resources, etc., which fall into agriculture in the broad sense. The same status was bestowed on the other tribal colleges that were members of the American Indian Higher Education Consortium (AIHEC) in that year.

Thus, the new "Land Grant" status is affording Haskell an opportunity to establish a campus-wide Extension Program to promote continuing education, extension short courses and technical training for tribal nations and individuals; and to strengthen the infrastructure for a developing undergraduate program in Environmental Studies.

Based on federal legislation, Haskell's Extension Program will be mentored by Kansas State University (KSU). When you stop to consider what the HERS Center has been doing, when it began, and that it was started as a collaborative effort, albeit non-mandated, between KSU and Haskell, it safely can be said that the HERS Center is an extension (outreach) program that pre-dates the USDA-related work . . . by about one month! This was a point I had the opportunity to express on several occasions during the time that I spent as a CSREES Fellow in

Washington this past June and July while being mentored by Dr. Dennis Kopp and Dr. Alvin Young, CSREES, to become a resource for the other 1994 institutions as well as Haskell regarding the Land Grant system.

An important point to consider is how the HERS Center may fit into Haskell's Extension Program. Presently, Haskell is re-thinking its administrative structuring, and it has been proposed that a formal Extension Program be established. This proposition will be taken under advisement by the Haskell Board of Regents during its Fall 1997 meeting. If the Extension Program becomes a formal unit, then the HERS Center, by the nature of its programs, will retain its identity but become part of the larger Extension Program. However, the HERS Center will remain dependent on grant support, which has the potential of becoming diversified beyond its present support, which principally has come from the U.S. Environmental Protection Agency.

The success and leadership that the HERS Center has demonstrated in extension- or outreach-type activities places it in a pivotal position for furthering the development of an umbrella program at Haskell. What may be developed on the foundation that the HERS Center has established in dealing with environmental issues has the potential of becoming a model program for meeting other extension needs in Indian Country at a national level. This, in turn, may help answer questions that are now being raised in the USDA about the proliferation of extension programs that are coming into existence.

To wit, the "1862" and "1890" Land Grant institutions have active extension programs; and there presently are "tribal extension" programs (vastly under-funded) that are being administrated by some of the "1862" schools. Before the end of the calendar year, we may expect that the "1994" schools (all AIHEC institutions within the United States with the exception of one) will be starting small extension programs. The question that I heard from several quarters in the USDA this past summer is "How can all of these programs be funded on a long-term basis?" From our perspective, a question that we need to address among ourselves is "How can we establish an effective and networked 'All Nations Tribal Extension Program' that will be coordinated with the existent extension programs that serve the non-Indian society?" As was expressed to me by a USDA official in September,

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Clean environment supplements balance between spiritual and physical worlds

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different worldviews. The students learned that a balanced approach to all things, including water, is essential to the empowerment of the spiritual, intellectual, emotional, and physical being. Without an assurance of clean water, both cultural and spiritual values are compromised.

The efforts of these young Native American students will contribute to an awareness of water quality: Brandi Cadue (Kickapoo), Twyla Crowghost (Sioux), Charles Flyingman (Kiowa/Cheyenne), Ramon Goodtracks (Rosebud/Standing Rock Sioux), Emily Mattwaoshshe (Kickapoo), Dana Mattwaoshshe (Kickapoo), Chrystal Newland (Kickapoo), Amber Robinson (Omaha/Seneca-Cayuga), Azure Sitting Up (Oglala Lakota), William Wilson (Prairie Band Potawatomi), and Tosha Wilson (Prairie Band Potawatomi).

Although resolution of water quality issues is desirable, perhaps the most important advantage is the knowledge gained in how to apply the process to the investigation of environmental issues—knowledge that will be transferred home to the Indian nations. ■

Environmental outreach program includes tribal cultural perspectives

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“The ball is in your court!” In other words, we have an chance to help set the extension agenda for tribal needs.

Paralleling the HERS Center’s success (credit needs to be shared with the Great Plains/Rocky Mountain Hazardous Substance Research Center, Kansas State University) in environmental outreach is the promising venture of incorporating Native American cultural perspectives into the development of ‘virtual’ curricula. Presently, “Integrated Pest Management for Native Americans” is well underway with U.S. EPA support (see February 1997 issue of *Earth Medicine* for details); and a collaboration to develop an Earth Science curriculum for potential use by AIHEC colleges recently was started with ‘seed money’ from the U.S. Geological Survey.

Within the next year, it is expected that curricular offerings in continuing education and extension short courses will be developed and made available through Haskell’s present telecommunication system and other forms of electronic dissemination. The growth in environmental programs at Haskell since the inception of the HERS Center has been very



Environmental Education Practicum Participants: Front R-L: Brandi, Emily, Twyla. Back R-L: Tosha, Chrystal, Dana, Amber, Charles, Azure, Ramon, and William.

encouraging as the program staff works hard to address environmental issues in Indian Country.

Currently, planning is underway for this academic year’s video seminar series. The first topic of the seminar series is pollution prevention opportunity assessments and production work began in October 1997. The video will demonstrate the processes of performing pollution prevention assessments. HERS and the KSU Pollution Prevention Institute will collaborate in the production of this program. The second seminar will be a roundtable discussion of environmental enforcement and justice in tribal law that will be released in January 1998. The panel members will consist of tribal environmental and judicial system personnel. The third seminar will be a roundtable discussion of environmental management and planning systems for tribal economic growth that will be released in March 1998. The panel members will discuss sustainable development and industrial ecology. The fourth seminar video will be a demonstration of microscale chemistry that will be released in April 1998. ■

HERS tribal liaison conducts follow-up visit to Oglala Lakota Nation

by Michael Tosee, Haskell Indian Nations University

The purpose of Haskell Environmental Research Studies' (HERS) 1997 excursion to Pine Ridge, South Dakota, was to conduct follow-up documentation on the status of environmental issues as determined by the Oglala Lakota Nation in 1995. The trip was to establish and identify, with tribal assistance, the levels of environmental improvement since the HERS 1995 visit and to determine what remediation challenges still await the tribe.

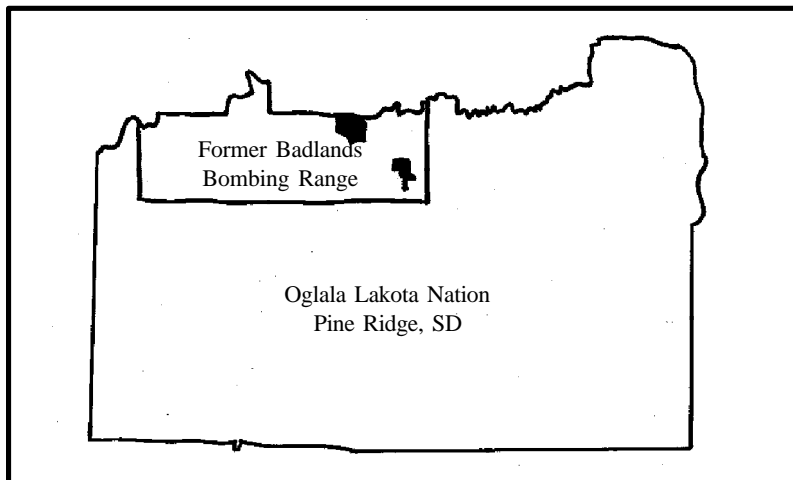
the range have yet to be properly cleared. This is the core of the Oglala Lakota Nation's desire to reestablish access to their tribal land, along with the stipulation that the land be made suitable and safe for tribal occupancy.

The Department of War ordered families to abandon their farms, ranches, and tribal allotments to accommodate the war effort. The government's compensation fee did little, at three cents an acre, to aid people in reestablishing themselves in other areas or to create new opportunities. After the war ended the War Department, now known as the Department of Defense, retained much of the land. Among other activities, they allowed the South Dakota National Guard to use the area for practice bombing exercises. Other areas were leased, and 136,882 acres were allotted to the National Park Service, increasing the boundaries of the Badlands National Monument.

In 1963, 1964, and 1975 the Department of Defense conducted efforts to clear and decontaminate range areas. The clean up efforts in 1963 and 1964 primarily cleared surface debris, which later led to these debris being buried at four locations on reservation land now claimed by the tribe. Only in 1975 did the DoD attempt to clear ordnance below the surface from target areas.

The Oglala Lakota Nation, through its environmental offices, has been seeking a return to the tribe of significant portions of what was the former bombing range. Furthermore, they are hoping to expedite further claims for remediation and clean-up through a political framework that would establish a government-to-government relationship that would quickly recognize the environmental needs of the tribe. The present system, as it currently exists, does little to recognize tribal needs, not only at Pine Ridge, but across the nation.

Both Kim Clausen and Emma Featherman-Sam, along with their dedicated staff, should be highly commended for their tenacious and energetic spirits in seeking redress to the environmental impact the Badlands Bombing Range has had upon members of the Oglala Lakota Nation. In consolidating their concerns related to the former bombing range, the tribe is seeking stable funding to continue the administration of the project to complete the clean-up. In addition, they are also working toward gaining access to technology associated with range



The acquisition of land for the Badlands Bombing Range displaced 250 Lakota families.

The trip to Pine Ridge, South Dakota, occurred from June 28 to July 1, 1997. When I arrived at the reservation environmental offices, I found Kim Clausen, environmental specialist, and Emma Featherman-Sam, Badlands Bombing Range Project director, and their staff preparing for the June 30, 1997 visit by Sherri Goodman, Deputy Undersecretary of Defense, Department of Defense (DoD). Ms. Goodman was coming to the Pine Ridge reservation to review the environmental impact created by the existence of a practice military bombing range on the Oglala Lakota Nation land base.

In 1942 the United States Department of War gained access to 341,725.6 acres of land on the Pine Ridge Reservation for use as a military bombing range. Tribal officials stated that this was the largest land loss for the Oglala Lakota Nation since the establishment of the reservation in 1889. In the fifty-two years since the conclusion of World War II, the U.S. Air Force has retained a portion of the former bombing range. The remaining portions of

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Environmental consulting company guided by Native American principles

by Patterson T. Yazzie, Haskell Indian Nations University

Ella Mulford (Navajo) is currently the president of Redhorse, L.L.C., an environmental consulting company. Mulford is also a member of the Haskell Environmental Research Studies Center Advisory Board. After spending more than 20 years working for a private environmental consulting company and federal agencies, Mulford felt that she knew what was needed in the environmental field. Namely, an expert in environmental management that would provide tribes with technical assistance. Mulford and her friend, Denise Bierley, came up with the plan for starting Redhorse, L.L.C. as many as ten years ago. They thought that they would do things differently, not only within the company but in terms of what the company would stand for. Mulford felt that large corporations and consulting firms often look at how much money they can generate. "It seemed like that was the wrong approach," said Mulford.

"We would have Redhorse, L.L.C. stand for what needed to be done rather than what we could put in our pockets," commented Mulford, referring to the need to give something from the heart rather than making large profits. Mulford and Bierley envisioned Redhorse, L.L.C. as a company that would have as its underlying principles the goal to provide professional, ethical, and high quality service at a reasonable price. Mulford and Bierley thought that establishing Redhorse, L.L.C. would give them their own voice and their own concepts in today's highly technical environmental field.

Through Redhorse, L.L.C., Mulford and Bierley have more control over environmental studies management. Mulford said, "We could have more input. Many times people who work in large corporations and large consulting firms get lost in the system. You lose track of your real mission and often don't always know what the company stands for."

Mulford's philosophy of operating Redhorse, L.L.C. in a professional and ethical manner makes it responsive to environmental needs, not only people's needs. She said the main concept is to remember that we are part of Mother Earth and not separate from her. Redhorse, L.L.C. provides environmental management and field services, such as biological analysis, environmental analysis, environmental restoration, pollution prevention, project management, program management, Superfund cleanup, Resource Conservation and

Recovery Act issues, tribal environmental affairs, tribal government relations, water resources, and regulatory compliance. Mulford understands that tribal governments have a unique need and wants to find the best way to help them. They are not as large as federal or state governments and often lack funding. She believes there is a need to train tribal people to help develop tribal environmental and technical infrastructures. "There are times



Ella Mulford and Keith Trychta of Redhorse, L.L.C. guide students collecting well water samples during an environmental education practicum.

when tribes hire consultant companies to do environmental work. These firms spend the money and leave nothing behind. If we do work with tribes, we want to leave something behind," said Mulford.

Mulford feels very strongly that when they take a job, it has to be for the company's skills and knowledge and not just to meet someone's quota for hiring minorities. "It can't be because we are an Indian company and that we are going to be used to meet some type of quota," said Mulford. They want to make sure they understand the job requirements before they take it. She wants people to understand that when Redhorse, L.L.C. takes a job, the customer can expect high quality, real work from the heart and not only from the mind. She believes that you can make mistakes if you are only thinking from your mind rather than your heart. Mulford said that they try hard to put

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Undersecretary of Defense visits Pine Ridge

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surveying; the integration of state, federal and tribal regulations governing range clean-up; contractor's compliance with tribal regulations once clean-up begins; DoD commitment of funding for the investigation, remediation, and speedy return of the Air Force Retained Area; the location and disposition of remaining unexploded ordnance; the location of other hazardous materials or sites on Pine Ridge not currently addressed by the Corps of Engineers; and public information and interim safety measures while working toward restoration.

On June 30, 1997 Sherri Goodman, Undersecretary of Defense, visited Kyle, South Dakota, a small community on the Pine Ridge

Reservation to meet with all interested parties—local, state, and federal—about establishing a concerted effort remediate the former Badlands Bombing Range and addressing tribal concerns. At the meeting Goodman voiced her commitment and desire on behalf of the DoD to see that the land is properly cleared of ordnance and other possible contamination and made habitable for tribal members. All members of the Oglala Lakota Nation in attendance, some of whom made very passionate speeches, fully endorsed the notion that the DoD was supporting the clean-up and the return to tribal control portions of the land originally lost in 1942. ■

Listening to spirits of the earth is a key element in environmental protection

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their hearts into the work that they do.

Redhorse, L.L.C. makes it known they are in it for the long term and that they are going to do their very best to do the right thing. Mulford stated that from her perspective the right thing might be different from her client's perspective. She believes that one of her guiding principles is to go back to the basics of understanding what we have been put on this earth to do. Mulford said that the key to doing what is considered the right thing is to listen to the spirits of the earth.

Mulford talked about federal trust responsibility as a phrase that does not have a concrete dictionary definition. She describes federal trust responsibility as an ever-moving target, referring to the different definitions used by tribal and federal governments depending on the topic. Mulford stressed that the federal government definitely has some type of trust responsibility to the federally recognized tribes, such as helping tribes to protect their environment so that tribal members will have better living conditions. Mulford said the federal government needs to help protect tribal environments in the same manner as they protect the rest of the country.

Federal trust responsibility basically says that the federal government should act in the best interests of the tribal governments. Mulford asked who knows what is best for a tribal government—the federal government or the tribal government themselves. She said that tribes need to tell the federal govern-

ment what their best interests are. "If they don't, the federal government will make that determination on their own, and it may not be good for the tribes," added Mulford.

Mulford thinks that achieving tribal sovereignty in this country is also a challenge because it is attacked everyday by someone, some organization, political entity, or senator. She said that tribes have to understand that they have to protect their sovereignty on all fronts and they cannot only look at the gambling issue to protect their sovereignty. "They have to understand that their sovereignty rights may be diminished in dealing with environmental issues. When tribes prioritize their issues, the environment needs to be at the top," commented Mulford, indicating that environmental protection is also another way of achieving tribal sovereignty.

Mulford said that if tribes were truly sovereign nations, they would take care of their own problems. "It's something that we can do, because we have done it before. We were self-sustaining governments before the Europeans came to this country. We had our own laws, written and unwritten, that governed our people and we were stewards of the earth. If we get back to the basics of who we are, we can definitely do it," she said.

For more information about Redhorse, L.L.C., contact them at P.O. Box 671, Downers Grove, IL 60515, or call them at 630-963-7341. You can also contact the New Mexico office at 505-286-1523. ■

Available Videotapes

These tapes are available through interlibrary loan from Kansas State University's Hale Library formerly Farrell Library. You may also request copies by contacting HERS by phone at 785-749-8498; by e-mail at hers@hsrv.nass.haskell.edu; or by mail at HINU, 155 Indian Avenue, Box 5001, Lawrence, Kansas, 66046.

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Team America: A Strategic Plan for the 1990's



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Bold print indicates that a seminar was sponsored by the NAOMI Seminar Program.

ATEEC and tribal colleges form partnership to offer Tribal College ListServe

A ListServe devoted to the issues and concerns of tribal colleges in regard to environmental technology education has been developed and is being maintained by the Advanced Technology Environmental Education Center (ATEEC). The idea was generated during the May 22-24, 1997 Annual Instructor's Resource Conference of Partnership for Environmental Technology Education (PETE) members from the Northwest and Northcentral regions in Jackson Hole, Wyoming. Eighteen tribal college representatives met to discuss the needs of Native American educators with regard to environmental technology education. The development of a ListServe devoted to tribal colleges was one of six priorities identified by the Native American educators participating in the focus session.

The ListServe has since been developed and is open for access to interested administrators and educators at tribal colleges. The ListServe provides a forum for discussing environmental education and technology issues of concern to Native American educators. This forum can be accessed by sending a request for inclusion on the ListServe to

dgere@eiccd.cc.ia.us. Please include your name and the tribal college where you are employed. The ListServe can also be accessed through the ATEEC website at (<http://ateec.eiccd.cc.ia.us/listserve.html>).

The following tribal colleges are participating in the ListServe: Bay Mill Community College, MI; Blackfeet Community College, MT; Dull Knife Community College, MT; Fort Belknap College, MT; Fort Berthold Community College, ND; Fort Peck Community College, MT; Haskell Indian Nations University, KS; Lac Courte Oreilles Ojibwa Community College, WI; Leech Lake Tribal College, MN; Little Bighorn College, MT; Nebraska Indian Community College, NE; Northwest Indian College, WA; Oglala Lakota College, SD; Salish Kootenai College, MT; Sinte Gleska University, SD; Stone Child College, MT; Turtle Mountain Community College, ND.

If your program has an announcement or is sponsoring events or activities that would be applicable to the audience of *Earth Medicine*, please send the information to HERS at the address listed on page 7 of this issue. The deadline for the January issue of *Earth Medicine* is December 12. ■

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