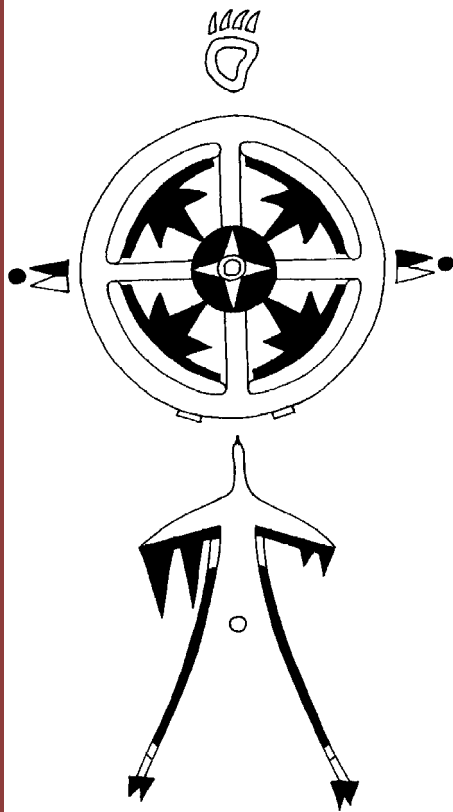


EARTH MEDICINE



**February
1997**

Haskell Environmental
Research Studies Center
and
Great Plains-Rocky Mountain
Hazardous Substance
Research Center

Video series begins with uplink

by Patterson T. Yazzie, Haskell Indian Nations University

During a recent satellite program broadcast from Haskell Indian Nations University (HINU) in Lawrence, Kansas, three Native American panelists agreed that retaining tribal cultures and languages is the key to protecting Mother Earth and her creations. The program, "All Things Are Connected—The Biology Of The Earth," was the first of a four-part seminar series, "All Things Are Connected: The Sacred Circle Of Life." A fifteen-minute introductory segment, narrated by Dr. Henrietta Mann (Cheyenne), focused on how different species are coping with the environmental changes caused by human activities and natural processes.

A live discussion with the Native American panel provided viewers with the opportunity to call in questions and comments. The program was moderated by



George Tiger, Donna House, Ray Pierotti and Crosslin Smith in the HINU Television Production Studio.

George Tiger (Muscogee/Creek), who is the host and producer of *Inside Native America*, broadcast on CBS affiliate KTOK TV in Tulsa, Oklahoma. Joining Tiger in the studio were Donna House (Navajo), an ethnobotanist from northern New Mexico near San Juan Pueblo; Dr. Ray Pierotti (Comanche), professor of Systems and Ecology

at the University of Kansas; and Crosslin Smith (Cherokee), an elder and a spiritual leader from Vian, Oklahoma.

Smith talked about the different lessons Mother Earth teaches and addressed factors that people should consider while addressing changes in the environment. Smith believes that Native people should rely on the Native American concepts that state that every living being has a spirit. Smith stressed the importance of honoring the spirits of all living beings. To honor is to acknowledge the life of other beings and how each living being plays a role in the survival of all living things.

"There is a lot of information that one can relate to in the origin stories that describes the ecology of the environment," stated House, stressing the importance of staying connected to tribal cultures and ways and still working in the science fields. She said that it is very important to keep connected to the tribal cultures through languages. House also talked about the importance of colors in tribal stories. Yellow among the Pueblo indicates fertility. "A yellow bird is very important in indicating whether there will be any rains or if they will have a good crop season. When they talk

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Unique curriculum developing at Haskell

The Haskell Environmental Research Studies Center and Haskell Indian Nations University (HINU) have begun work on a pesticide technology curriculum for Native Americans. The first components of the curriculum will be made available to American Indian Higher Education Consortium institutions as early as Spring 1998.

The curriculum is focused on Indian Country and the prudent use of pesticides, in hopes of providing an awareness of the environmental problems they cause. The curriculum will be presented through a series of interactive video-taped and textual materials. Kansas State University (KSU) is supporting



Dennis Franz, Dan Wildcat and George Godfrey at work on the curriculum.

HINU in this project and hopes the material will provide an understanding of the principles of Integrated Pest Management (IPM). The curriculum is being designed to provide a means of

reducing the impact of pests that negatively affect human health and agricultural, silvicultural and livestock husbandry and production on tribal lands or through tribally-operated, pest management programs. The curriculum offers an opportunity to incorporate Native American knowledge into pest management practices. It will also provide a vehicle for aiding in the training of qualified Native Americans to develop and implement tribal pesticide programs.

Faculty and staff from HINU and KSU are currently working on the first stage of the curriculum project. The first stage includes the development of two videos. The first video will define IPM, its underlying philosophy and knowledge base of those people who practice and support IPM. Video one will also draw comparisons between two contrasting world views, the traditional Western thinking towards the environment and the Native American viewpoint. The second video will explain six basic elements of implementing IPM as well as show examples of actual Native American applications of IPM.

There are several components that make the pesticide technology curriculum project unique. The first is its focus on Native Americans and IPM. To

date, the researchers involved in this project have found no other literature or resources that relate IPM to Native Americans. Most likely there are people using IPM on tribal lands, but there is no current method of teaching these techniques on a scale as large as the project directors hope to achieve.

The second unique aspect is the structure of the video component. The video programs will be a departure from the standard lecture format that many instructional videos utilize. Dennis Franz, curriculum development specialist for KSU's College of Technology in Salina, Kansas, describes the video programs as instructionally interactive, meaning that the viewer will be challenged at several points within the program to recall the material previously presented and relate it to material being discussed. The video will incorporate graphic elements to help achieve this goal.

The third unique aspect of this program is the use of LiveDOC™ documents, which are designed to supplement the curriculum. LiveDOC™ is a graphically rich print document that has been embedded with multimedia applications, such as audio, video or animation. Portable Document Files (PDF), a technology that transfers completed documents via computers, including videos and audio information, is the backbone of LiveDOC™. The developers of PDF did not create it with the intention of it being used in the way that KSU's LiveDOC™ publishing team is utilizing it. LiveDOC™ is pushing the limits of that particular technology in directions that it previously hasn't been taken.

LiveDOC™ was not created to replace textbooks, but to extend them. Franz expects that LiveDOC™ will aid in long-term retention and application by making cognitive learning more interactive. LiveDOC™ can be used to narrow the gap between hands-on and text-based learning for the pesticide technology curriculum, the video programs will be accompanied by printed support materials. Key concepts from the videos, presented in these text materials, will be delivered as well in a LiveDOC™ format. With LiveDOC™, users can link to e-mail, PowerPoint™, and the World Wide Web, in addition to the selected short clips of key video, audio and animation components actually embedded in the document. Instructors who receive the curriculum package will get the video programs, printed supplemental materials and a LiveDOC™ CD-ROM. ■

Tribal environmental professionals benefit from training at Sinte Gleska University

MISSION, SD - A recent three-day environmental analysis workshop for Native American tribes was so successful that organizers are looking at other training opportunities, according to Benjamin Whiting, environmental science instructor at Sinte Gleska University. "We had to turn people away," he said. "The participants were very happy with this type of training. We had nothing but positive feedback on the evaluations."

The workshop, a collaborative effort between Sinte Gleska University (SGU) and the University of Nebraska-Lincoln (UNL), focused on water quality parameters, basic environmental analysis techniques, data and the use of field sampling and environmental analysis equipment. The training was designed specifically for technicians and environmental educators from the northern great plains Native American nations. "This group represents those who have some impact on tribal and local policy decisions and who are responsible for imparting knowledge to the next generation for the respective tribes," said Whiting.

The project was initiated by the Haskell Environmental Research Studies Center and the Great Plains/Rocky Mountain Hazardous Substance Research Center in Manhattan, Kansas, which contacted Bruce Dvorak in UNL's civil engineering department about teaching the workshop with Benjamin Whiting. Dvorak is active in environmental research and teaches graduate and undergraduate classes in water resources and biological waste treatment. The training was originally scheduled to take place in Lincoln, but workshop organizers later decided to offer the training on the Rosebud Reservation.

Whiting and Dvorak agree the location was one of the keys to the success of the workshop. "Having it on-site at Rosebud allowed for wider participation," Whiting said. "We geared the workshop to focus on issues that were more pertinent to this group in an informal setting," Dvorak added.

Representatives from the Santee, Rosebud, Sisseton, Oglala, and Standing Rock tribes in Nebraska, South Dakota, and North Dakota, came to the workshop, held November 20-22. Sixteen participants completed the training while five others attended portions of the workshop. Two semester

credits and a limited number of travel scholarships were offered through Sinte Gleska University.

Participants received a general introduction to environmental problems associated with contaminated surface and ground water. The first day also involved training on the use of field detection methods for environmental contaminants including chemical and biological parameters that have a direct bearing on public health. "Nitrate contamination of drinking water from agricultural runoff is posing health problems on the Rosebud reservations," Whiting said, "and in other rural areas of the Midwest."

Hands-on field work comprised most of the workshop. Participants went out in the field in small groups to take water samples from three locations on the reservations. Each sampling group analyzed data collected during field and laboratory sampling and prepared a report on the sampling program. A detailed discussion of analysis methods and equipment was performed in a classroom setting. Participants also learned about advanced equipment and instrumentation such as atomic absorption spectrophotometry and organic and gas chromatography. Equipment training focused on methods, how the equipment works, what type of contaminants each item can analyze, interferences, and the limitations of each instrument.

Dvorak said the training can benefit the tribes in many ways. With proper training in water quality monitoring, data interpretation, and analysis methods and equipment, tribal water resources offices can become more self-sufficient. "They are paying to do simple things they could do themselves," he said, "They can use portable equipment on site that is less costly and more efficient."

Whiting said he is looking for funding to repeat the workshop and provide more advanced training with high tech equipment. "We'd also like to take the equipment and do on-site testing in a one- to two-day workshop with different tribes," he added.

Funding for the workshop was provided by the Native American and Other Minority Institutions Program, the UNL Center for Infrastructure Research, and UNL's Water Center/Environmental Programs. ■

Future programs to focus on tribal issues

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about this bird, a lot of times there is pollen that they see on the bird. You know that there is a lot of rain.”

Ray Pierotti talked about how the Native people have strong traditions in certain scientific disciplines such as ecology and evolution. He explained that the basic tenants of life in which all things are connected is very similar to the basic principles of ecology. Another basic principle is that all things are related, which also is connected to evolution. Pierotti said that Native Americans know North America better than anyone else because they evolved with the land, water, animals and plants. “For example in the last couple of years, the western scientists have just published papers indicating that badger and coyote are in fact friends, that they hunt together. This has been traditional knowledge for thousands of years.” Pierotti talked about how humans survived the changes in the environment because they can adapt to changes. He believes that Native scientists have explained to others how to allow other beings, such as animals and plants, to survive and why it’s important that they survive.

The second program of this series, “The Land—Planning For Future Generations,” will address soil contamination. The program will revolve around steps that tribes can take to protect the land and the importance of developing land use plans. This program will be recorded at HINU in February and distributed on videotape to seminar participants. The third program, “Water—Going Beneath The Surface Of An Issue,” will focus on efforts to use the latest technologies to clean up contaminated water on Indian lands. The program will discuss the importance of tribal access to environmental technologies in planning and management strategies. This program will be recorded on videotape at HINU in March and also distributed to seminar participants. The fourth program, “Air—Ensuring Quality For The Future,” will feature the activities of the Navajo Nation’s Air Quality Control Office. It will focus on the exercise of self-determination to monitor air quality. This program will be available via satellite on April 22, 1997. This program will be broadcast on both C-Band at Galaxy 6, transponder 2, and KU-Band at SBS 6, transponder 14. ■



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