

**Glen Canyon Dam Adaptive Management Work Group**  
**Agenda Item Information**  
**August 24-25, 2011**

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Agenda Item

Tribal Liaison Report

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Action Requested

✓ This is an information item.

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Presenter

John Halliday, Tribal Liaison, Glen Canyon Dam Adaptive Management Program, Office of the Assistant Secretary–Water and Science

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Previous Action Taken

N/A

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Relevant Science

N/A

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Background Information

**Introduction of Intern**

The Flagstaff Office of USGS has a new Tribal Intern, Juliare Scott, who is a Northern Arizona University student and member of the Navajo Nation.

The internship program, Student Interns in Support of Native American Relations (SISNAR), is funded through a grant from the USGS Office of Tribal Relations (OTR). Student interns work on USGS projects directly related to, and preferably on, Native American or Alaska Native lands. Through an internal competitive process, the USGS OTR team solicits proposals and selects USGS projects that benefit Tribes.

Ms. Scott is working under the supervision of Dr. Margaret Hiza Redsteer, the project leader for the USGS Navajo Land Use Planning Project. Ms. Scott's work involves conducting surveys on water resources and how they have changed during the drought. This includes documenting water sources that are no longer viable, how far people must travel to find drinking water, and how much more people are spending for water supplies. This will indicate the impact of the drought on their ability to raise livestock, to farm, and to just have basic drinking water. Her father, who was a translator for the Navajo County court system, is helping her with the interviews.

The USGS Navajo Land Use Planning Project is a good example of work done within DOI that complements the work of the AMP, and the tribal internship program is a good example of how we are working with tribes to encourage Native American students to be interested in science.

Below is an excerpt from the project website (<http://geomaps.wr.usgs.gov/navajo/>), where it states that one of the goals is to study the effects of flooding from the Little Colorado River.

“Our objectives will be to accomplish the following goals:

- Provide the geologic framework for the Navajo Nation that is needed to determine the extent and characteristics of local aquifers and to establish a baseline of landscape conditions for land use planning and natural resource management.
- Document landscape change to provide a foundation for evaluating geologic hazards such as flash floods and dust storms, surface processes related to climate variability, and ecosystem function, including plant ecology and landscape mobility. Specific sites for detailed study are selected during the mapping process, **such as outlining flood hazards from the Little Colorado River**, to be evaluated through mapping from temporal series air photos. . . .”  
(emphasis added)

### **Tribal Ecological Knowledge**

This is a quote from a Hualapai Traditional Ecological Knowledge (TEK) Report:

“TEK is a cumulative body of knowledge and beliefs, handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment...” - Fikret Berkes

A current example of incorporating TEK with Western science can be found with BIA Fuels Management (<http://www.bia.gov/nifc/fuels/ecoknw/index.htm>):

“While more modern technology and tools have their place, indigenous ecological knowledge is aggressively being reintroduced by tribal elders and community members to help teach and better understand the historic relationship between fire, the environment, and people. Through traditional stories told and performed by tribal elders, fire is being returned to a respected place in land management.

“Traditional landscape fosters diversity and sustainability; supports edible and medicinal plants; and creates an environment that encourages spiritual involvement. By blending traditional ecological knowledge with a scientific approach, BIA fuels management is working alongside tribes to restore natural resources and culturally familiar landscapes.”

# NATIVE AMERICAN TRIBAL LIAISON AMWG REPORT

**AUGUST 2011**

*John Halliday*

*U.S. Department of Interior*

*Office of the Assistant Secretary for Water and Science*



# Tribal Liaison Report

- Cultural understanding
- HFE and NNF EA Tribal Consultations
- DOI AMWG Tribal Core Team
- One-stop shop AMP Project Consultation Table

# USGS Tribal Intern Program

- USGS Tribal Intern, Juliare Scott, NAU student and Navajo Nation member
- Funded through USGS Office of Tribal Relations
- Interns work on projects related to, and preferably on, Native American lands
- Complements the work of the AMP while encouraging Native American students to be interested in science

# Integrating Tribal Ecological Knowledge

“TEK is a cumulative body of knowledge and beliefs, handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment...” - Fikret Berkes

# Integrating Tribal Ecological Knowledge

## TEK Example:

By blending traditional ecological knowledge with a scientific approach, BIA fuels management is working alongside tribes to restore natural resources and culturally familiar landscapes.

# Integrating Tribal Ecological Knowledge

By contrast: DOI's Cultural Resources  
Monitoring Program goal is:

To document historic properties site  
impacts and evaluate the need for site  
protection measures.

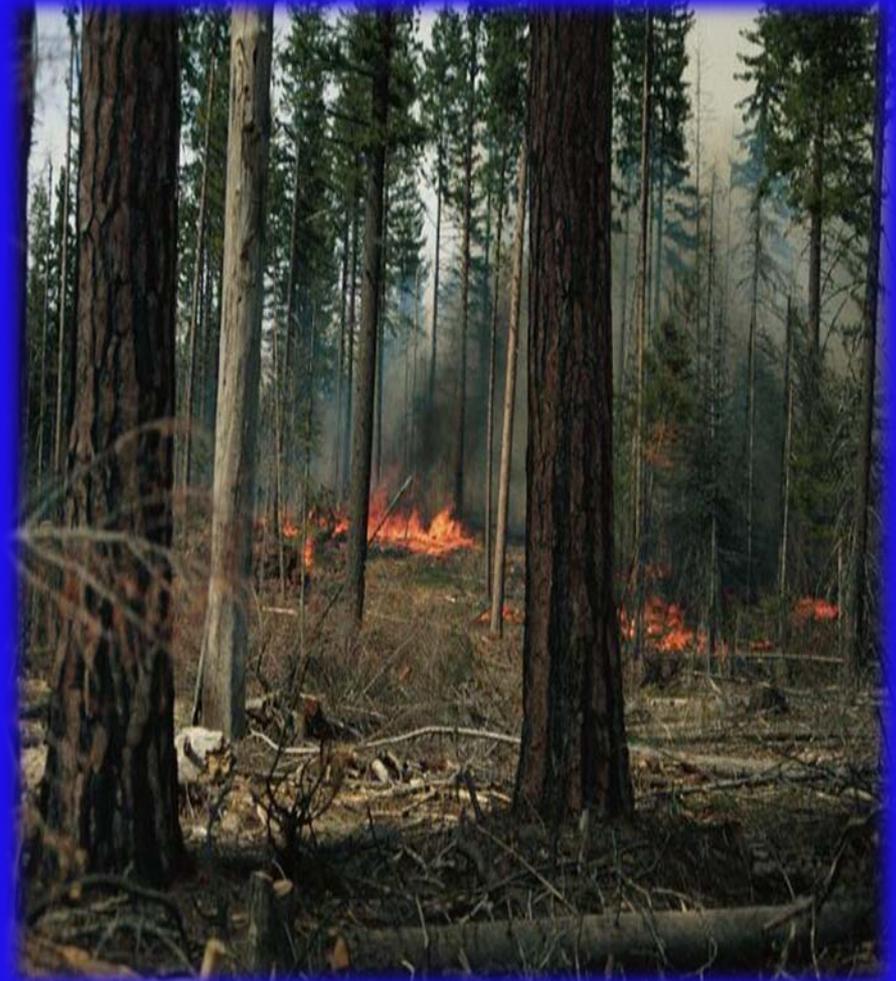
# Integrating Tribal Ecological Knowledge

TEK can enhance resource protection by educating DOI with tribal ideas:

- On how protection might best be accomplished, and
- Why this protection is necessary.

# Integrating Tribal Ecological Knowledge

Forest  
Management  
Burning Practices  
example



# Check Dams to Protect GC Archaeological Sites



- Members of the Zuni Soil Conservation Project constructing a check dam by using the basket-weave technique (photograph courtesy of Grand Canyon National Park).

# Integrating Tribal Ecological Knowledge

- Secretarial Order 3289 on Climate Change
- Challenges to integrating TEK
  - Importance vs. randomization



# Integrating TEK: Recommendations

- Examine program data sets on a site-by-site basis to see how the data sets add to collective knowledge.
- All CRM Reports located on GCAMP website.
- Clarify roles and responsibilities.
- Annual river trip for DOI leadership and tribal spiritual leaders.