

NAVAJO GOLD KING MINE EXPOSURE PROJECT

FALL 2016, ISSUE 1



Funded by:

The National Institutes of Health

\$434,028

March 2016 – February 2018

Agnese Nelms Haury Foundation

\$600,000

July 2016 – June 2019

U. of Arizona, Northern Arizona U.,
Navajo Nation, Diné College, Tó Bee
NihiDziil, & Fort Lewis College

TÓŁÍTSO, THE WATER IS YELLOW:

*Investigating short term exposure and risk perception of Navajo Communities to the Gold King Mine Spill
– Upper Fruitland, NM, Shiprock, NM and Aneth, UT –*

Aim 1: Determine exposure of Diné residents in these three communities to the spill

August 2016: Navajo Community Health Representatives sample drinking water, yard soil, and house dust in about 60 Diné homes to analyze for lead and arsenic. They also measured lead in blood using a 3 minute test machine and collected a urine sample to measure for arsenic. They asked the people what they eat, how they use the river, and how the spill impacted them. In October, we will gather sheep and corn samples to find arsenic and lead concentrations.

To Date: All water and urine samples are being analyzed and 30% of the soil samples are almost ready for analysis.

Aim 2: Measure lead and arsenic in river water, river sediment, agricultural soil, irrigation water, and irrigation sediment.

November 2015: With the help of student volunteers and university travel funds, the first round of environmental samples were taken during the first winter season after the spill.

June 2016: Tó' Bee Nihi Dziil, Diné College, New Mexico State University Extension, NAU and UA took more environmental samples.

To Date: We have almost 1,000 environmental samples that university students are processing. It will take us until Spring 2017 to find the concentrations of lead and arsenic.

Aim 3: Determine what people think are the risks in using the river after the spill and measuring the risk based on the environmental and household samples.

May 13-22 & June 15-17: We conducted 12 focus groups: 4 in Upper Fruitland; 6 in Shiprock; and 2 in Aneth. There were 123 total participants. We asked participants how they used the river before the spill, how the spill impacted them, and what they think about the river's future.

To Date: About 75% of audio was written down word for word, and 50 hours of audio needs to be translated from Diné'ke'jí to English. We will carefully summarize what was said.

THREE DINÉ COMMUNITIES:

This project focuses on three Navajo chapters along the San Juan River who divert water for agricultural purposes: Upper Fruitland, NM, the most upstream chapter who voted to open the irrigation water after the spill; Shiprock, NM, 20 miles downstream who voted to keep irrigation canals closed and allow their fields to go fallow, and Aneth, UT.



DINÉ EXPOSURE PATHWAYS

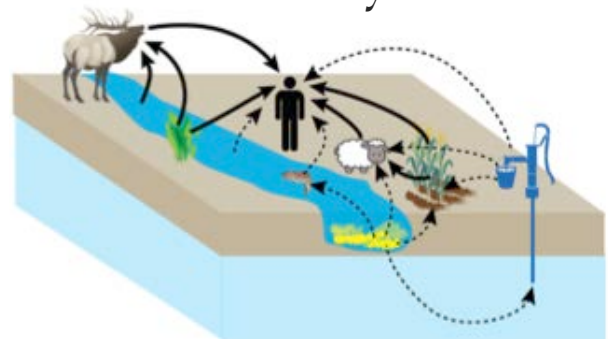
The Diné people use the San Juan River in many ways, including for agricultural, cultural, and livelihood purposes. To estimate how risky it was to use the river, the Environmental Protection Agency created a risk assessment based on a hiker drinking filtered river water. From our focus groups, the participants shared over 40 ways they use the river. Our goal is to develop a more comprehensive approach to assessing risk, which is specific to Dine' ways of using the San Juan River.

EPA Perception



VS.

Diné Reality



TRAINING DINÉ UNIVERSITY & TRIBAL COLLEGE STUDENTS

We have been training Diné university and tribal college students in environmental and household sampling. During the summer, Diné College students who were part of a 10 week environmental monitoring program assisted in environmental sampling. Eight summer interns worked in the lab, including 4 Diné College students, 1 Navajo Technical University student and 1 Dine' UA student. Five Diné grad students work on the project at UA and NAU.



THE AGNESE NELMS HAURY GRANT

The additional funding from the Haury challenge grant will help build tribal capacity through training of Diné tribal college students, environmental interns, and community health representatives. This will help create a successful model of capacity building related to mine spill response that can benefit other Diné communities as well as others vulnerable to environmental problems throughout the world.

WHAT'S NEXT?

- This fall, collecting sheep and corn samples.
- Continue to process and analyze environmental and household samples and focus group data.
- Late spring to summer 2017, start to obtain preliminary results.
- Fall 2017-Spring 2018, disseminate NIH results.

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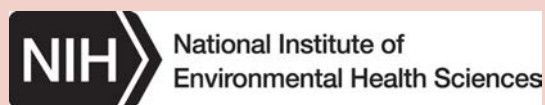
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Agnese Nelms Haury Program
in Environment and Social Justice



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THE UNIVERSITY OF ARIZONA



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