

Glen Canyon Dam Adaptive Management Work Group
Agenda Item Information
February 24-25, 2016

Agenda Item

Hopi Tribe's Monitoring Program

Action Requested

Information item only; we will answer questions but no action is requested.

Presenter

Leigh Kuwanwisiwma, Director, Hopi Cultural Preservation Office
Mike Yeatts, Archaeologist, Hopi Cultural Preservation Office

Previous Action Taken

N/A

Relevant Science

N/A

Summary of Presentation and Background Information

The Hopi Tribe has been involved with the Adaptive Management Program since its inception, and prior to that was a cooperating agency on the EIS for the Operation of Glen Canyon Dam. In 2003, the Hopi Tribe began developing a Long-term Monitoring Program to assess the health of culturally important resources along the Colorado River corridor from a traditional Hopi perspective; this program was approved by the AMP in 2007.

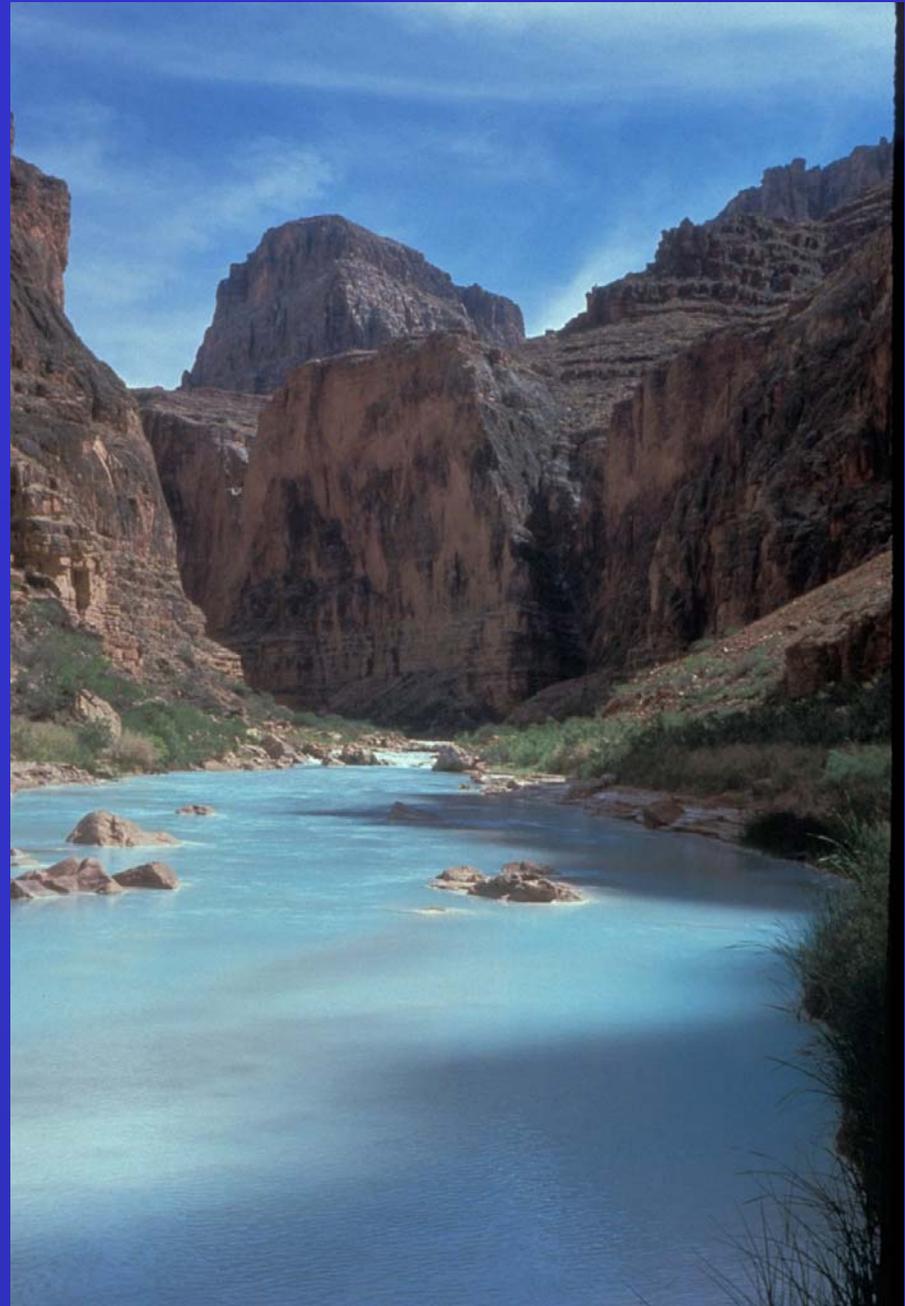
Our presentation will look at the cultural philosophy underlying the Hopi Long-term Monitoring Program, the culturally significant resources that are part of the program, and what has been learned to date.



Hopi Long-term Monitoring Program for Öngtupqa

Origin Location and Final Home

In Hopi tradition, the Grand Canyon holds the origin location of people and is the final destination for Hopis in the afterlife.



Ceremony and Tradition



Wuwutsim

The initiation ceremony for male Hopis into adulthood. Associated with Salt Pilgrimage.

Tiyo -The first person to travel the length of the river. Brought the Snake Ceremony to Hopi.



Migrations



- Currently 34 clans at Hopi

-At least 19 Hopi clans have ties to the Grand Canyon through their migrations

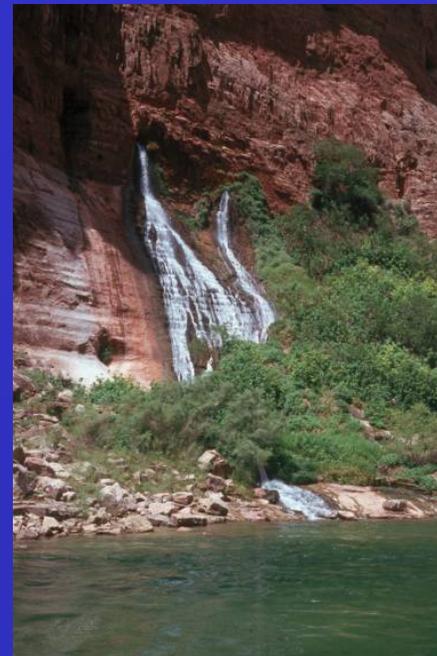
-Archaeological sites, petroglyphs and other remains are viewed as “footprints” left by *Hisat'sinom*. They are considered to be still occupied.

Hopi Resources

“Cultural” resources---traditional cultural properties (TCPs), archaeological sites, human remains, petroglyphs & pictographs

Biological resources--- plants, birds, mammals, insects, reptiles, fish, springs, side streams

Physical resources---minerals, sand, beaches, water, springs



Monitoring Methodology

- Goal:
 - Integrate traditional Hopi cultural values into a science-based long-term monitoring program
- Challenges:
 - Restrictions on entry into Öngtupqa
 - Sampling issues
- Survey based approach
 - Premise - it is during the Interpretation of data and not necessarily during its collection where cultural values and traditional knowledge are best integrated
 - Developed out of the TEM integration project (2001-2004)



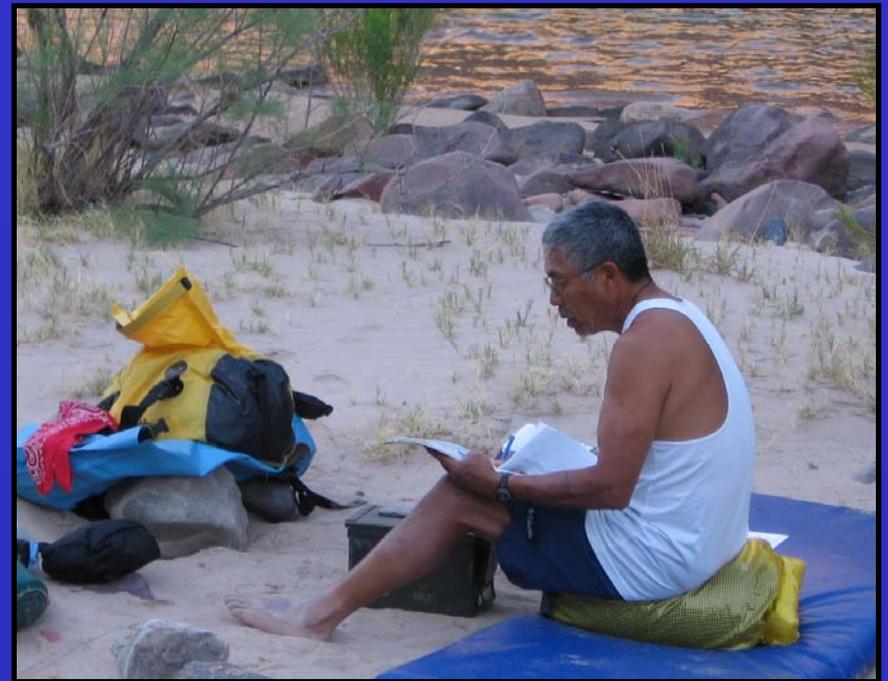
Data Acquisition

- Relies primarily on data collected by other scientists
- Information converted to Standardized Presentations
 - Data needs to be made relevant; convert into familiar terms or concepts
- Independent observation by limited number of Hopis on river trips
 - Repeat visits to specific sites
 - Locations with culturally important resources
 - Repeat photography
 - Voucher specimens



Surveys

- “General” survey (13 questions)
- River Trip participant survey (20 questions)
- River Trip participants address resource health for a wider suite of resources
- Both cover
 - General cultural questions
 - Resource health questions
 - Management questions



Survey Categories

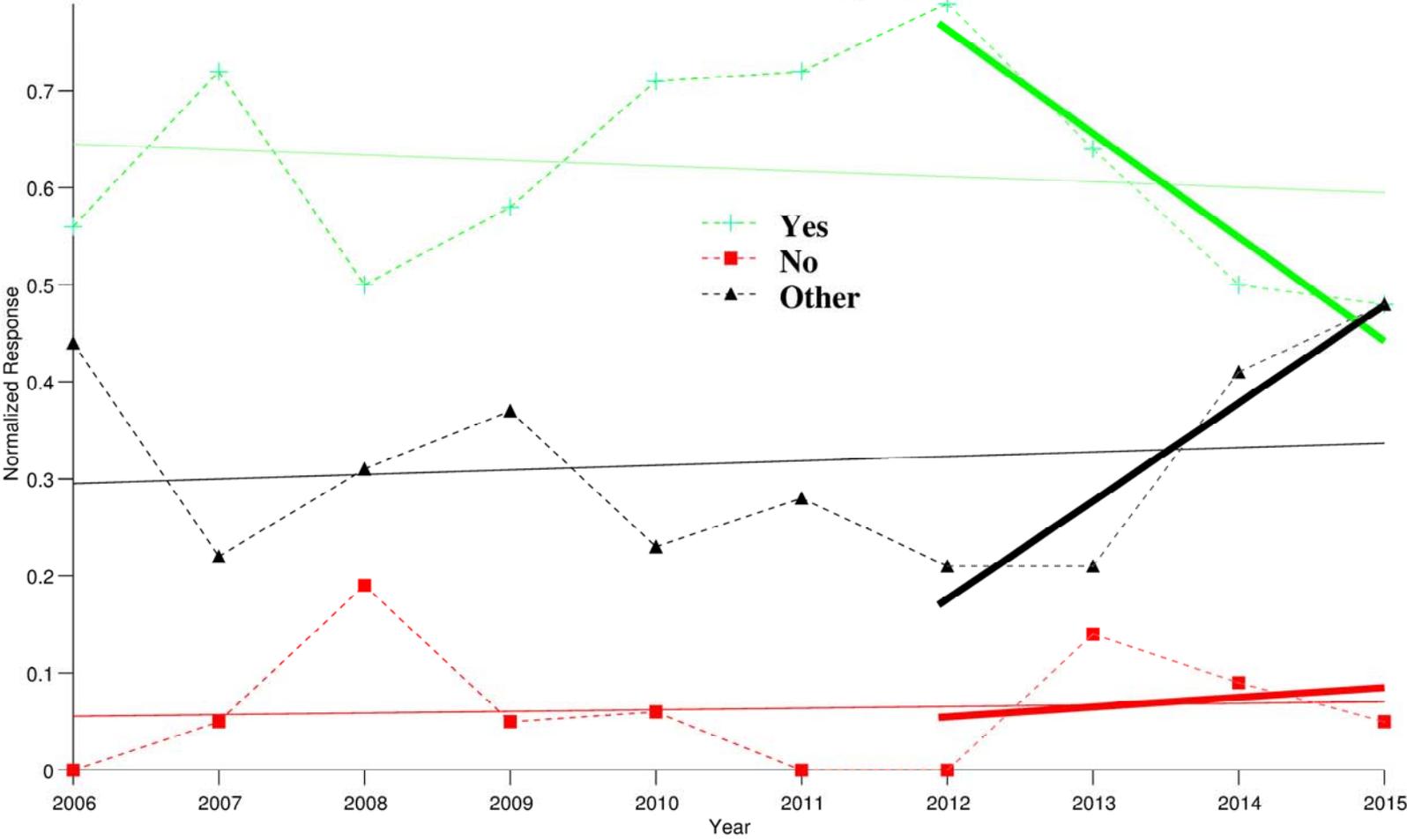
- Cultural
 - Should Hopi be involved in management and monitoring?
 - Is monitoring information important?
 - Relevance of information?
 - Resources
 - Marshes
 - Hopi Salt Mine
 - Native Fish
 - Springs and seeps
 - Birds
 - Willows
 - Snakes
 - Archaeological Sites
 - Animals
 - Insects
 - Management
 - Is recreation appropriate?
 - Should trout be removed?
 - Do non-native species have a role?
 - Treatment of Archaeological Sites?
- Yes/No and Narrative response options



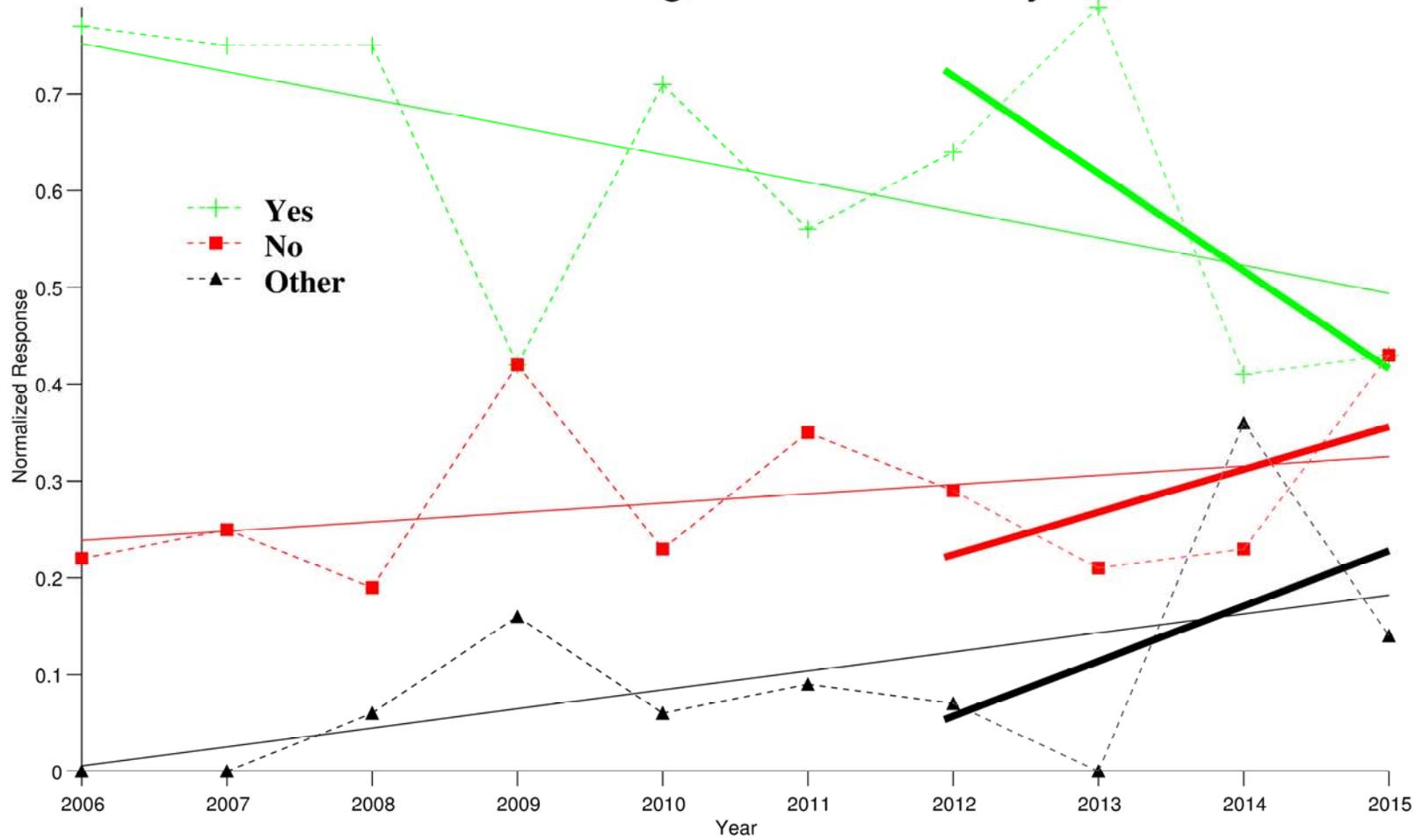
Results To Date

- Monitoring program “officially” began in 2008; Surveys conducted annually since 2003, with those since 2006 used in current analysis
- 262 surveys have been completed by Hopis
 - represents 148 individual Hopis
- Over all surveys and across all resource categories, 68% of the responses indicate a positive assessment of resource health
- 94% of Hopi respondents feel that Hopi should be involved in the management of the Grand Canyon
- 97% of Hopi respondents feel that the information being collected in the AMP is culturally important.

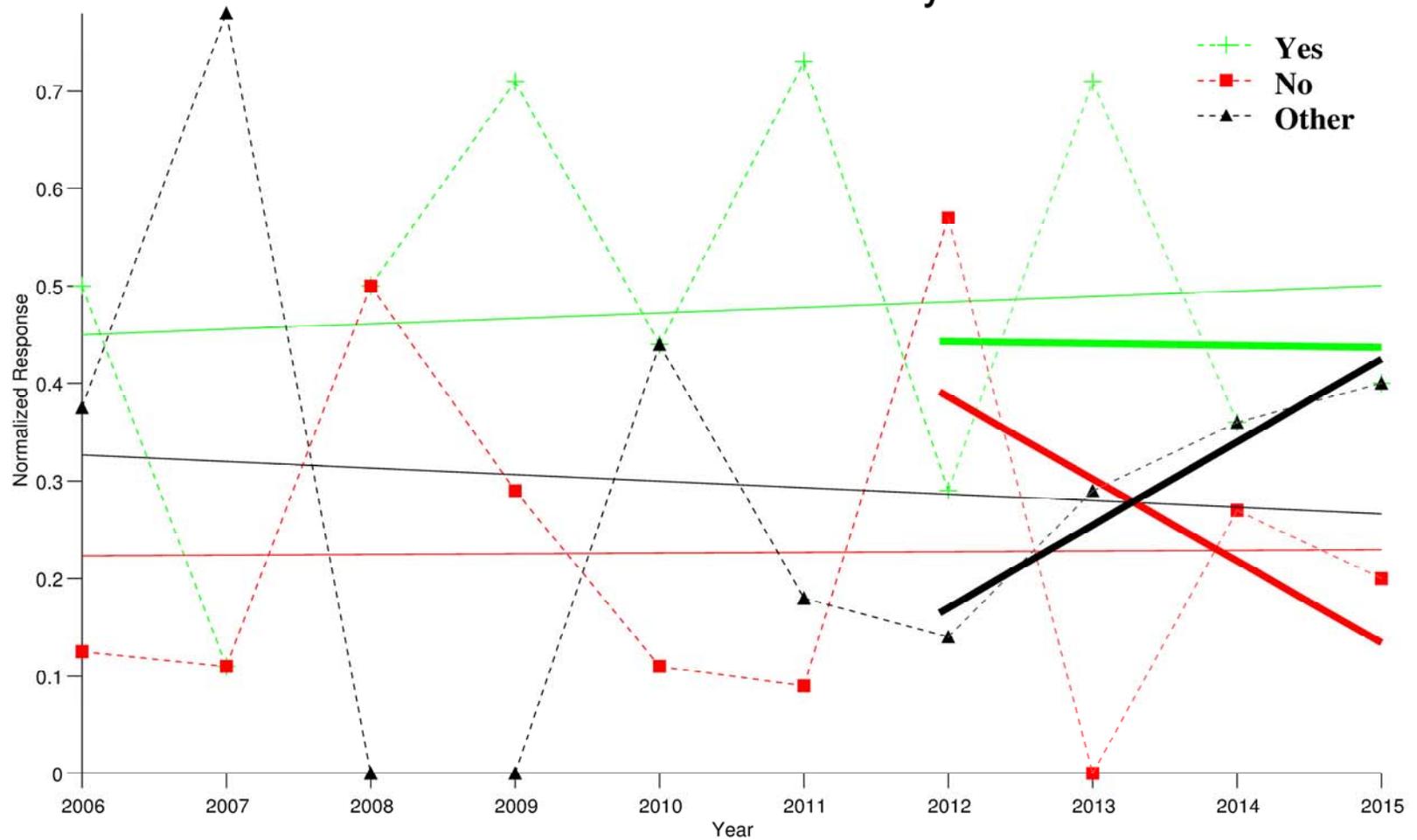
Overall Health of Öngtupqa



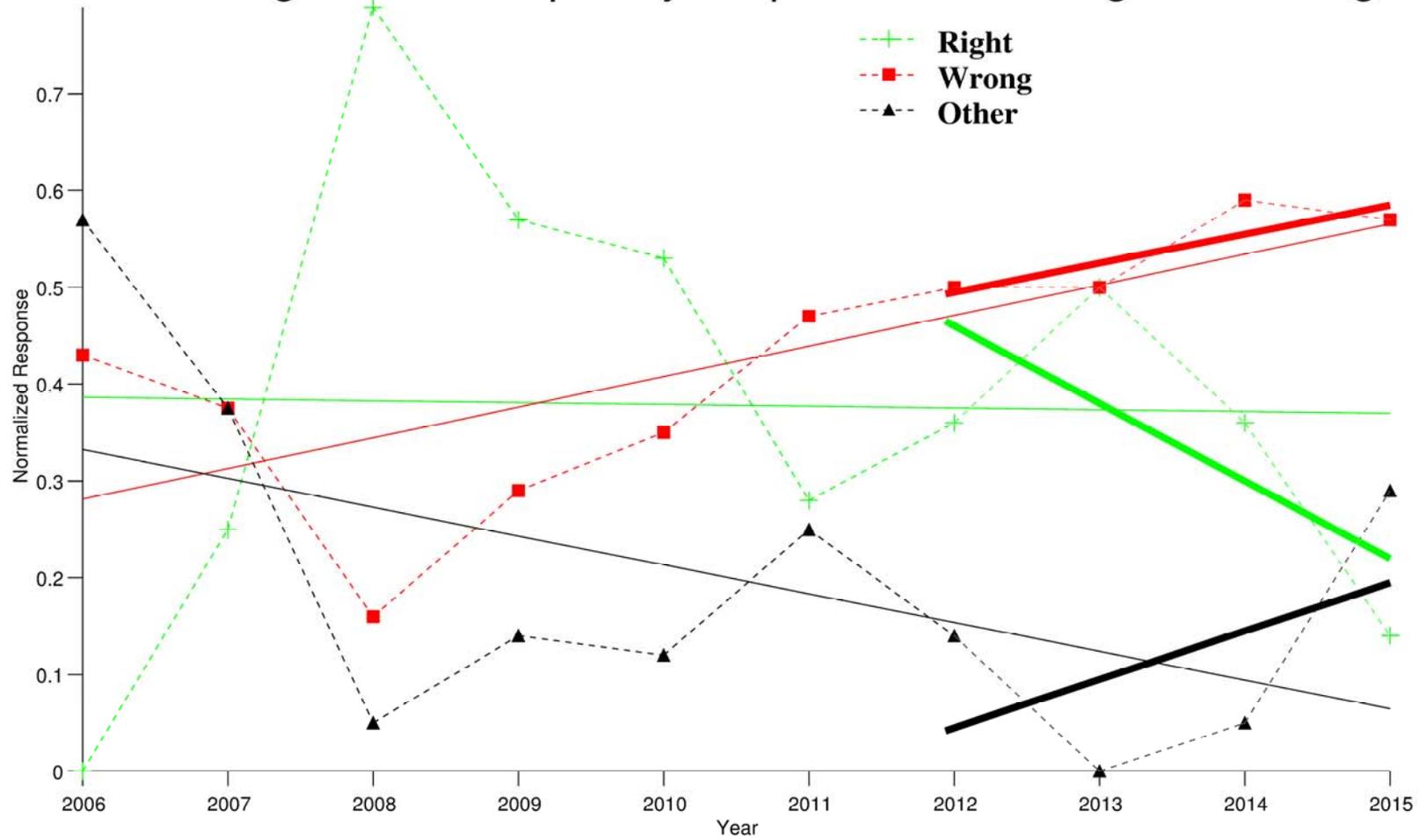
Are Archaeological Sites Healthy



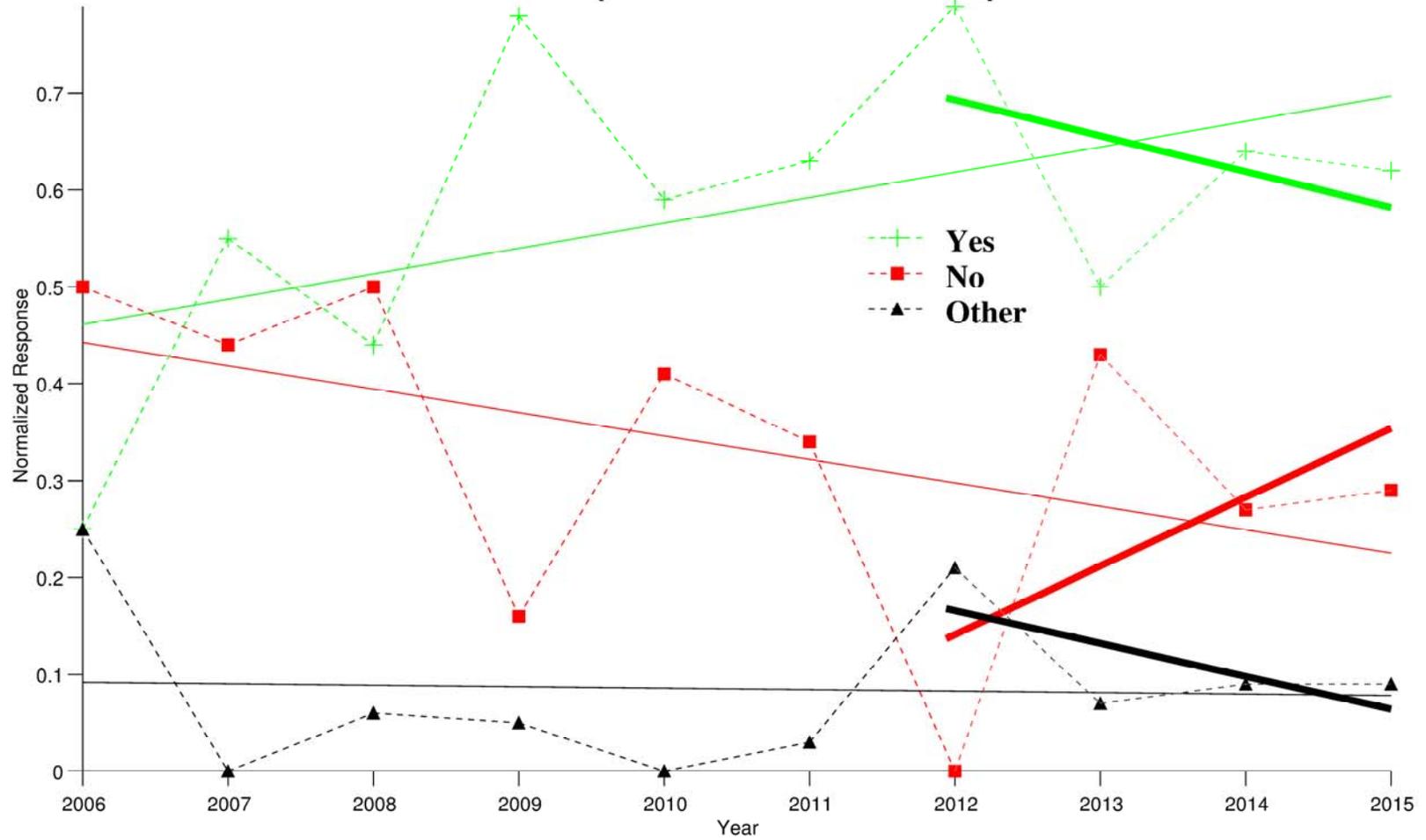
Are Native Fish Healthy



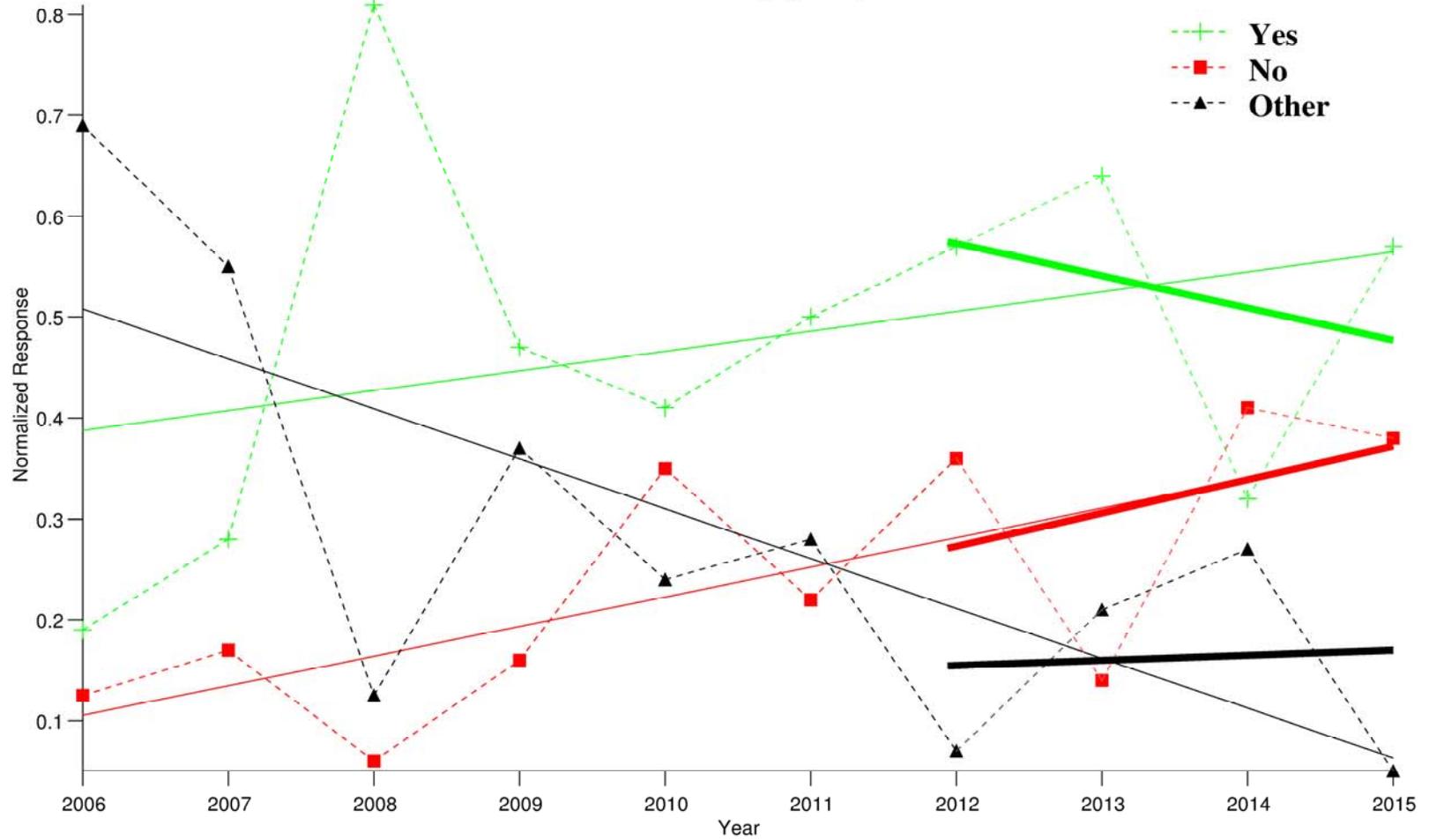
Is Removing Trout to Hopefully Help Native Fish Right or Wrong



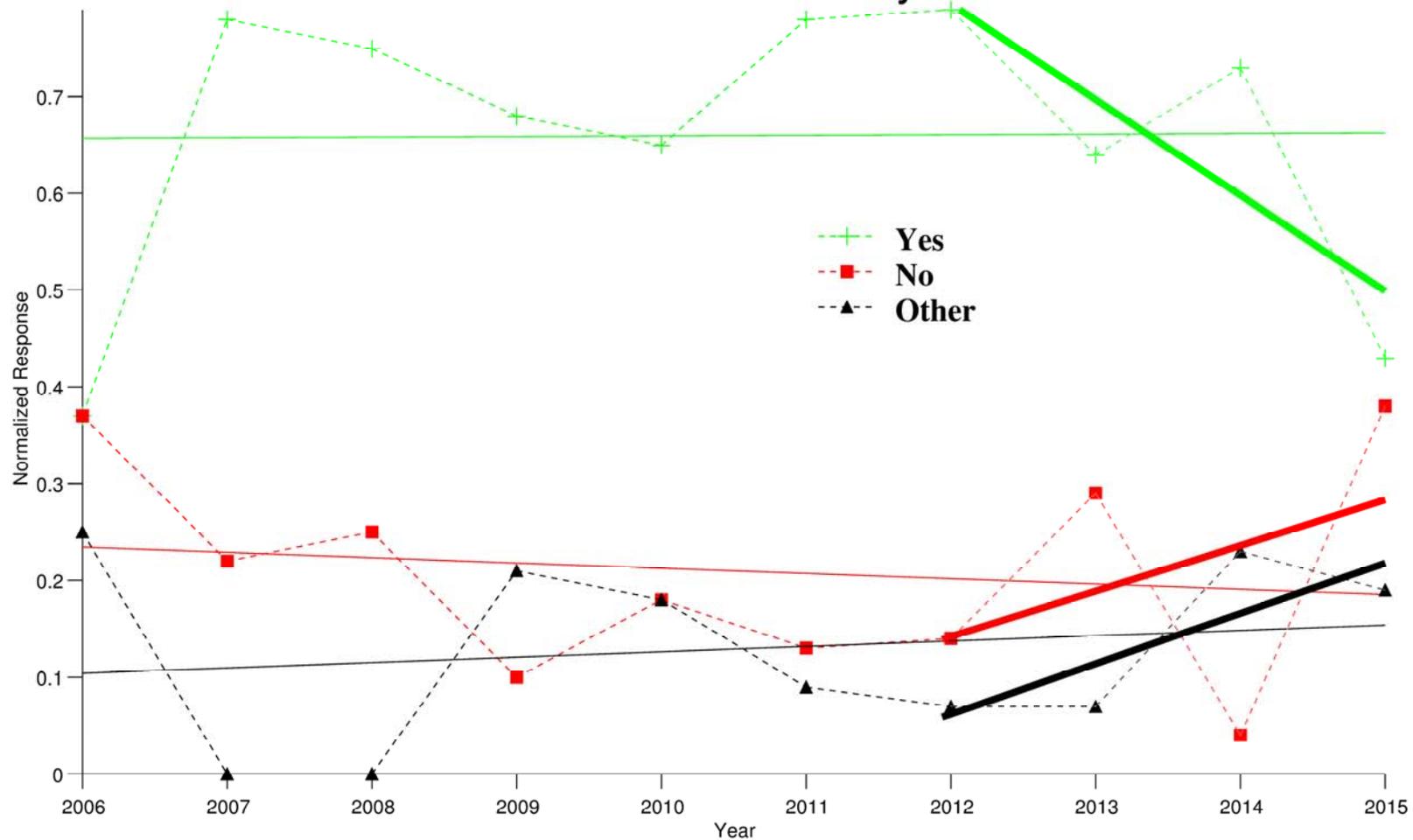
Do Non-native Species Have an Equal Role



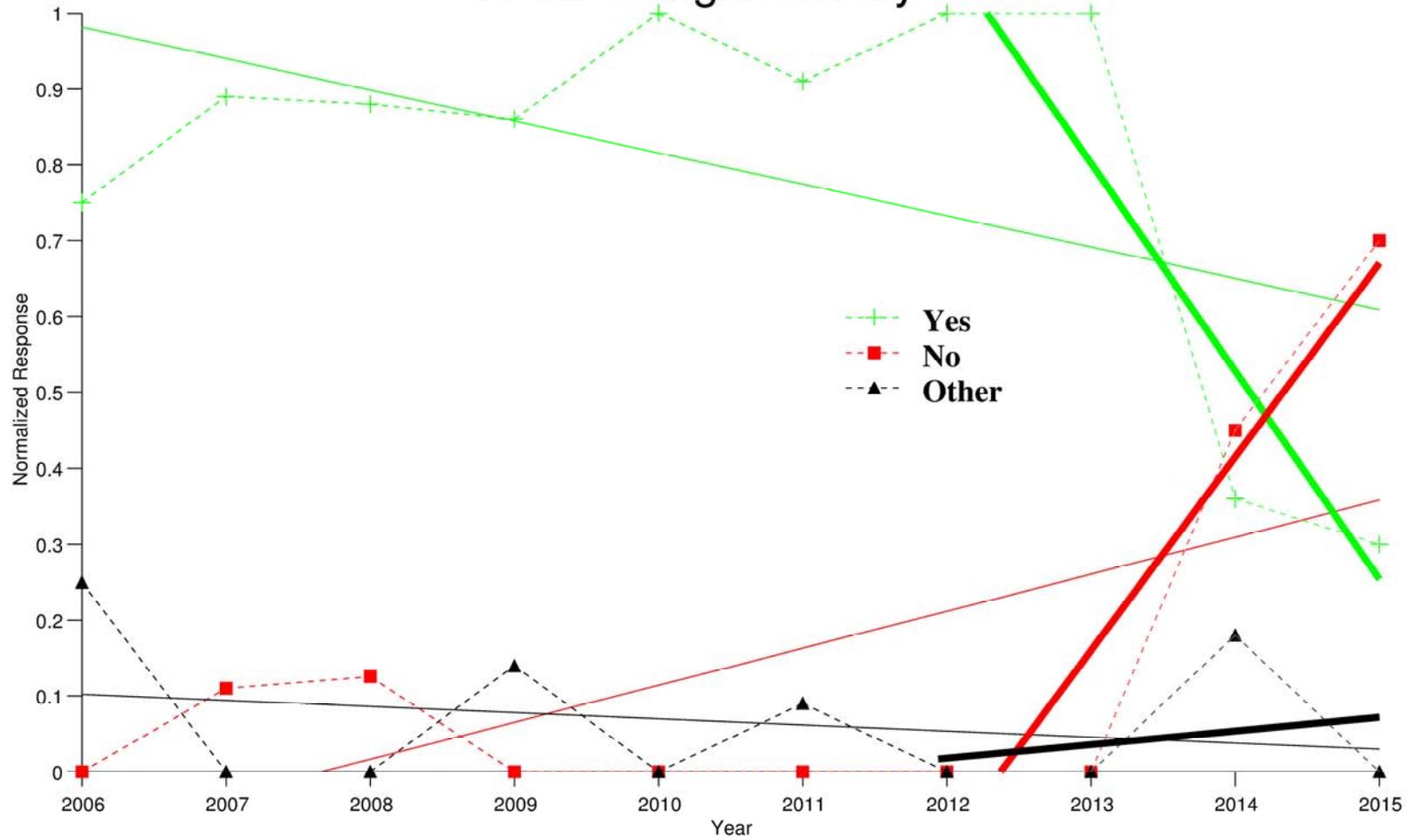
Is Recreation Appropriate



Are Marshes Healthy



Is the Öönga Healthy



Conclusions and Recommendations

- There is a strong desire by the Hopi Tribe to remain involved in the management of the Grand Canyon.
- Process can be as important as the outcome with regard to desired resource conditions.

- Development of Education resource handbook for use at Hopi

- Need additional input on terrestrial resources:

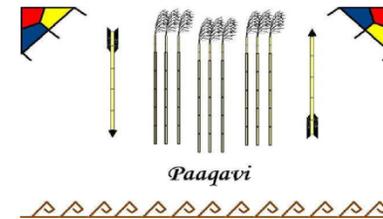
–AMP has not consistently collected information on the status of a number of resource categories that are culturally important to the Hopi Tribe. This includes archaeological sites, vegetation, avifauna, reptiles, insects, and mammals.

village is named for this plant. *Paaqavi* is used in Hopi ceremonies and the hollow stems are used for *tsoongomomyipi* (mouthpiece) in clay pipes, tubular pipes, arrow shafts, weaving rods, *paqalena* (flute), and *paksiyu* (cottonwood container game). Because *paaqavi* grows in water, there is added symbolism when prayers involve *paaqavi* pipes. The Hopi creation story tells of the ancestors climbing up to the Fourth World through a reed stem. Hopi people use it for medicinal purposes.



Paaqavi grows abundantly along the shoreline of the Colorado River and in many tributaries. Hopi people use it for a variety of cultural purposes. Photograph by Kristin Huisinga

In *Öngtupqa*, *paaqavi* is an abundant plant in *pasiqöliö*, or water zones, both along rivers and in side creeks. Large patches of it, called *paaqap'qöliö*, offer a place for birds and animals to seek cover and food. With excessive groundwater pumping and drought, many *paaqavi* populations are dwindling throughout Hopi lands where there were once healthy springs. Hopi cultural advisors who consult on management in Grand Canyon feel that the maintenance of patches of *paaqavi* is essential for a healthy river system. Its presence in archaeological sites shows that it has been a longtime member of the flora here.



Drawing of *paaqavi* showing its connection to water and its use in making arrows. Drawing by Micah Loma'omvaya.



Paaqapngyan, or Reed Clan, signatures recorded by Jesse Waller Fewkes in 1897.