Place, Time and Consciousness in the Glen Canyon Dam Adaptive Management Program

21 January 2021 (Thursday) 9:05-11:45 AM
Glen Canyon Dam Adaptive Management Program's Annual Reporting Meeting

Session abstract

The Glen Canyon Dam Adaptive Management Program employs science, a system of knowledge production obtained through the empirical method of observation, measurement, and experimentation, to inform management decisions regarding the Colorado River ecosystem through Glen and Grand Canyons. In utilizing a scientific approach, commonly held assumptions about the natural world are accepted; such as, time is linear; the natural world is composed of matter and energy; place is known by the physical characteristics of a geographical location, and consciousness is largely understood through Cartesian dualism. Over the past twenty-three years of this program's operation, these broadly held assumptions have not been critically examined, because they form the ontological foundation of the Western epistemological tradition. Five Native American tribes have representation in the GCDAMP and their respective ontological perspectives of the Grand Canyon and Colorado River are rarely, if ever, meaningfully or commensurately considered. For these Tribes, place is much more than a geographical location, especially when it denotes a human attachment through the creation of a sense of identity, purpose, connection and grounding. Accordingly, place is as much a part of what makes one human as humans are a part of that place. This psychological and emotional attachment is no more strikingly evident than in the Grand Canyon. Uniquely, the Grand Canyon provides a dramatic sense of place because of its magnificence, vastness and complexity from which emerge stories embedded in place. Time unfolds as an essential part of the narrative about this place as evidenced, in part, by the progression of geologic processes revealed by the Colorado River's cutting through multiple layers of rock. Ultimately, time is a human construct that is employed, through various measurements, to understand the linear succession and duration of past, present, and future events in material reality or in the conscious experience. Consciousness, at its simplest, is sentience or awareness of internal or external existence. It is often presumed to include some kind of experience, cognition, feeling or perception. For many Native Americans, consciousness is more broadly defined; plants, animals, rivers, mountains can be accorded a sentient essence, including the realization of when they are being treated well or poorly. This session will bring together a panel of knowledgeable individuals to explore and discuss how these unchallenged Western assumptions regarding place, time and consciousness can unintentionally disenfranchise Native Americans from a very sacred place and marginalize or dismiss their stewardship obligations to the life forms that compose the Colorado River ecosystem through Grand Canyon.

Presenters:

Kurt Dongoske, Zuni THPO, Introduction to session (9:05-9:20 AM)

Giorgio Hadi Curti, San Diego State University and Cultural Geographics Consulting. (9:20-9:40 AM)

Title: **What does science do? A disparate dance of states of affairs and cartographic events**

Abstract: Science is one way of knowing and understanding the world. Many of its apologists and practitioners proclaim it is the best. Such proclamations, however, cannot be demonstrated by the very processes and methods that give science its direction, force, function, and purpose. That is to say, these proclamations are not--and cannot be--matters of scientific endeavor. Rather, they are judgements of value--a conceptual realm from which science, and scientists, often purport to be free. It is helpful then, at this disparate collection point where there always occurs a dance of doings between the functions of science and those of philosophy, to consider what both science and philosophy do, for whom, and how they may create a whom. What will be shown is that, while both science and philosophy approach chaos to provide semblances of order, scientific interests in states of affairs cannot be operationalized as policy without philosophical cartographic creations of events--that is, potential connections across multiplicities. The implications of the convergences and divergences that emerge from a disparate dance between science and philosophy for understanding adaptation--what it is, what it does, and to and for whom--in the context of Glen and Grand Canyons is discussed.

Edward Wemytewa, Pueblo of Zuni, (9:40-10:00 AM)

Title: **Reform Parks--Earth Matters, Indigenous Lives Matter"**

Abstract: *"Difficulty in evaluating, or even discerning, a particular landscape is related to the distance a culture has traveled from its own ancestral landscape."* –Barry Lopez, Artic Dreams: Imagination and Desire in a Northern Landscape (Scribner, NY 1986)

This resonates with the idea of discussing the Grand Canyon homelands. A caveat to the quote might be: "The difficulty may be exacerbated by erosion—physically and metaphorically—to the landscape".
As a Tradition Bearer, my hope is that in converging on an "obscure landscape" in the new millennium through a conversation between Science and Philosophy provides for inclusion of Indigenous thought and cultural practice. I don't want to be invisible anymore.

Indigenous Ceremony is not far removed from science. One example is in the pilgrimages to sacred sites and associated with it is the practice of collecting plant and animal "specimens," which are then taken to the village to show as a "testament" of the state of the sacred site. In the past one hundred years this has been critical in determining the health of, or lack of, an ecological balance at Kołuwal'a, Zuni Heaven, the confluence of the Zuni River and the Little Colorado River, in Arizona. Another example is in the imagery created by the telling of a timeless Prayer, which describes poetically the blossoming of the Water Cycle.

Though the A:shiwi (Zuni) have such knowledge to its natural environment, in one court case, I witnessed an arrogant attorney on the opposing side, frustrated with Zuni's position on water rights, touted that the Zunis knew nothing about aquifers. Our attorney, an Indigenous woman herself, eloquently and firmly stated to him saying, "Zunis know everything about aquifers. They hold aquifers sacred". We are a part of the NATURAL WORLD and its NATURAL LAWS.

"Kuhlin Akkwenne" (Grand Canyon) is homeland for the Zuni, and through time the religious pilgrimage trails have eroded, leaving only a vague notion of it in the minds of my People; In all the while, the canyon(s) have been commodified and managed under an aspect of scientific scrutiny.

From an Indigenous perspective, the lingering questions are: “Who benefits from the science?” “What is the means to the end?” It hasn’t been about preserving undisturbed land but cultivating it to bring mega-economic “value” by way of a dam. In the state water laws, Indigenous sacred sites and the river channel doesn’t have its own rights to water, unless it meets the criterion “beneficial irrigable acreage”. In short, sacred wetlands—blood veins of Mother Earth-- is secondary, even tertiary to receiving water; Or, looking at it from an international perspective, like Brazil’s Amazon rain forest—lungs of the world—that it is wasted land if it is not farmed by agri-business. Indigenous Peoples’ worldviews and survival has been brought to an endangered level where there isn’t any sovereignty, per se. The population of Indigenous Peoples, 2% in the United States is another story.

How do we create a discourse beyond nation/state policies that governs the Glen and Grand Canyons? The parks interpret the landscape but the narrative is still under the purview of the government. So, who owns the narrative?

Indigenous Peoples have been reticent, mainly because the laws/courts were never “Indian Friendly”.

Drs. Lucas Bair, Emily Palmquist, and Charles Yackulic, USGS GCMRC, (10:00-10:20 AM)

Title: Place, time, and consciousness in the implementation of science and adaptive management

Abstract: There are many ways of knowing and existing within an ecosystem. People experience ecosystems in different ways, including scientists with different backgrounds, interests, and personalities. Scientists are not a random sample of the population – certain interests, experiences, and aptitudes predispose individuals to enter our profession. Our ways of thinking, and the questions we ask, are heavily influenced by our predecessors, peers, experiences, and technical training. As individuals, we know and exist within an ecosystem in multiple ways reflecting different aspects of our identity. Many scientists believe their role in the Glen Canyon Dam Adaptive Management Program (GCDAMP) is to focus on their technical understanding of the Grand Canyon ecosystem (GCe), and specifically on how different management actions might alter measurable aspects of the GCe – thus we do not emphasize our other forms of knowing and existing within ecosystems. When explicitly considering metaphysical concepts like place, time and consciousness, it is more difficult to compartmentalize the different aspects of our personalities (or maintain the illusion of compartmentalization). Therefore, in considering these topics we focused less on our personal thoughts on these topics and more on how scientific simplifications can constrain concepts of place, time, and consciousness, while acknowledging that we three do not fully represent the broader community of scientists working within the GCe.

While place, time, and consciousness are inextricably linked, it is useful in science to simplify these linkages, including treating them separately. Discussing place, we refer to river miles, study areas, political boundaries, and the status or rate of change of various physical, biological and social metrics in different places. Personal attachments to places are not often discussed and are not always considered a requirement for conducting research. Discussing time, we often focus on how physical, biological or social conditions change over seasonal cycles as well as how they have, are or will change over past, current, or future timeframes. Time must be considered linear for mathematical models to be used and predictions made. Scientists vary in their beliefs about consciousness and whether or not consciousness determines relative value of living beings. Rules and regulations for scientific conduct toward studied

organisms, especially animals and humans, provide a baseline recognition of consciousness and are shaped by evolving Western beliefs about the relative consciousness of living beings. These simplifications cannot represent the complexity of ecosystems but are useful for understanding and communicating observations. In our presentation, we provide concise examples. However, these simplifications don't preclude us from imagining and acknowledging that reality is a much richer truth in which place, time and consciousness are woven together more thoroughly.

In our opinion, striving for that richer truth by integrating multiple stakeholder perspectives into environmental management requires the committed implementation of adaptive management. This does not require, nor do we recommend, equivalent and measurable conceptions of time, place or consciousness. What we do recommend is transparency and an awareness of assumptions in scientific monitoring and research concerning time, place and consciousness. We also recommend the efficient implementation of adaptive management, considering a full set of alternative management actions to achieve a shared goal, increasing the opportunity to align actions with stakeholder values. Practically, this comes about through scientists' engagement with stakeholders and an acknowledgment of multiple forms of knowledge. Limited concepts of time, place and consciousness (often institutionally constructed) and poor application of adaptive management (e.g., inefficient allocation of monitoring and research funding) restrains a program's ability to consider monitoring and research related to management actions that align with stakeholder values. These recommendations do not guarantee that environmental management outcomes will be favorable to all stakeholders. However, transparent and committed application of adaptive management provides a framework to effectively consider environmental management that better aligns with multiple ways of knowing and existing within an ecosystem.

Dr. Simone Athayde, Environmental anthropologist and interdisciplinary ecologist, Amazon Dams Network, (10:20-10:40 AM)

Title:

Abstract:

Dr. Claire Smith, Professor of Anthropology, Kellie Pollard and Jasmine Willika, Flinders University, Australia (10:40-11:00 AM)

Title: Indigenous Australian Notions of Place, Time and Consciousness

Abstract: This presentation contrasts Western and Indigenous Australian conceptions of time, place, and consciousness. While Western concepts of time are linear, Indigenous notions of time are circular or spiral. While Western concepts of place focus on clear boundaries and bounded sites, Indigenous concepts of place focus on relationships between places, dangerous zones and often blurred boundaries. While a Western approach focusses on bounded sites, Indigenous Australian focus on sites that are inter-connected, aesthetically and spiritually. They inhabit cultural landscapes, redolent with the power of ancestral beings that still exist in the present.

Dr. Rebecca Tsosie, Regents Professor, Faculty Co-chair, Indigenous Peoples Law and Policy Program, James E. Rogers College of Law, University of Arizona, Discussant (11:00-11:20 AM)

Stakeholder Questions and Discussion (11:20-11:45 AM)