Listening and Learning from Traditional Knowledge and Western Science: A Dialogue on Contemporary Challenges of Forest Health and Wildfire

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ABSTRACT

Native Americans relied on fire to maintain a cultural landscape that sustained their lifeways for thousands of years. Within the past 100 years, however, policies of fire exclusion have disrupted ecological processes, elevating risk of wildfire, insects, and disease, affecting the health and availability of resources on which the tribes depend. On Indian Reservations, tribal forest plans include prescribed fire to restore and maintain the lands. Public land managers are now considering ways to restore the fire-based ecosystem, but tribal knowledge about the use and effects of fire has largely been left out of the discussion. For 2 days in June 2010, 7 tribal elders joined with 20 native and nonnative scientists, resource managers, and academics to explore ways to integrate Native American stewardship practices, traditional knowledge, and philosophies with western science to address contemporary forest health and wildfire challenges. The workshop, convened on the Flathead Indian Reservation of the Confederated Salish Kootenai Tribes located in western Montana, provided a forum for candid dialogue and knowledge sharing. This article, coauthored by all 27 participants, offers a summary background followed by candid highlights of dialogue along with recommendations for progress based on lessons learned. The central conclusion is that integration and application of traditional knowledge with western science for improved stewardship of natural resources will require enduring commitments to knowledge sharing that extend beyond the usual boundaries of professional training and cultural orientation such that learning can proceed, legacy myths might be corrected, and the forests and the people will benefit.

Keywords: fire history, traditional knowledge, indigenous knowledge, Native American forestry, forest fuels

When European explorers reached the Americas, they encountered a cultural landscape shaped by indigenous communities for thousands of years. The survival of these communities depended on lifeways rich in tradition, place-based experience, and stewardship practices. This body of knowledge is commonly referred to as traditional knowledge (TK). There is growing international recognition that "Tribal and indigenous peoples'…lifestyles can offer modern societies many lessons in the management of resources in complex forest, mountain, and dryland ecosystems" (World Commission on Environment and Development 1987, p.12).

Two Ways of Thinking and Knowing

Berkes (2008) defined TK as a body of culturally transmitted knowledge and beliefs

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about the relationships of living beings (including humans) with one another and with their environment. McGregor (2004), drawing from multiple authors, further described TK as including a system of classification, a set of empirical observations about the local environment, and a system of self-management that governs resource use. Cajete (1994) describes TK as known within all four aspects of being: mind, body, emotion, and spirit. TK is built on factual observations and practical experiences within a historical context, guided by spiritual beliefs, and implemented through traditions and cultural stories, interpersonal teaching, and practice (Houde 2007).

In contrast to TK, western or scientific ecological knowledge (SEK) is based on a conceptual separation of humans from the environmental world (Kimmerer 2000), thus focusing on the control of nature (Pierotti and Wildcat 2000) and primarily concerned with theories of general interest and applicability (Berkes 1993). SEK disaggregates systems into constituent parts for detailed study (Freeman 1992) and relies on logical, linear, and replicable methodologies to verify results. SEK is a system of knowledge and practice rooted in European origins whereas TK has evolved from the place of its use (Turner et al. 2000, Ede and Cormack 2004). SEK, with a secular worldview of people apart and above the environment, has had extraordinary success in manipulating systems to optimize simple production and economic gain but has not been particularly successful when confronted by complex ecosystems (Gadgil et al. 1993). Table 1 presents a simplified contrast of the characteristics of TK and SEK.

Table 1. Contrasted characteristics of traditional knowledge and scientific ecological knowledge.

Traditional knowledge (TK)	Scientific ecological knowledge (SEK)
Abstract	Concrete
Qualitative	Quantitative
Inclusive	Exclusive
Intuitive	Intellectual
Holistic	Reductionist
Spiritual (social values)	Clinical ("value free")
Coexistence	Control
Diachronic (long time series and place oriented)	Synchronic (short time series and broad generalities)
People are part of nature (reciprocity)	People apart from nature (competition)
Communal knowledge based on insights collected by practitioners (transferred generation to generation)	Individual knowledge data collected by specialists/researchers (shared by publication)

Adapted from Berkes 1993.

Historically, these two world views have functioned differently. SEK relies on peer review and publication to disseminate results, leaving others with the responsibility to apply results to specific circumstances. TK is shared primarily through stories, traditions, customs, language, interpersonal teaching, and learning by doing. Throughout history, marginalization of TK as "unscientific" has been pervasive (Nader 1996, Bala and Joseph 2007). SEK has been known as "science" whereas TK has been regarded as "folklore" (Deloria 1995).

Oral and written perceptions of the world coalesce over time into conceptual mythologies that provide solidarity of purpose and guide societal development (Wheelock 2006). However, cultural mythologies that foster misconception and discount alternative world views question the legitimacy of different knowledge bases (Pewewardy 2001). Parochial discounting of TK by the Euro-American society disconnected patterns of living from practical realities (Deloria 1995) and set in motion amplifying sequences of unintended consequences (Botkin 1990). Other authors agree

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that early suppositions that Indians were few in number and had little impact on the environment set the stage for a series of myths about indigenous people and natural resources that persist in popular thought and policy today (Kay and Simmons 2002, Mann 2005).

The Fire Story

Consider, e.g., interactions between people, fire, and the North American landscape. With fire and other means, indigenous people maintained a cultural landscape creating the prairies and forest conditions, free of undergrowth, which greeted the first European explorers (Pyne 1982, Boyd 1999, Bonnicksen 2000, Stewart 2002, Wear and Greis 2002, Cronon 2003). Major reasons for Native American ecosystem burning included hunting, crop management, growth and yield improvement, fireproofing, insect collection, pest management, warfare, signaling, control of resource access, clearing for travel, felling trees, and riparian habitat management (Lewis 1973, Williams 2003). Historic use of fire on the landscape by Native Americans is a compelling example of TK in adaptive practice (Kimmerer and Lake 2001). The persistence of cultural practices in the face of centuries of subjugation provides testament to the enduring adaptive capacity of indigenous people (Berkes 2008).

However, the significance and sophistication of Native American burning in "presettlement" environments have commonly been misunderstood or discounted (Stewart 2002, Vale 2002). With the imposition of European concepts of property and management, the ability of Indian tribes to continue cultural practices diminished (Anderson 2005). Ecosystem conditions across North American landscapes changed dramatically (Conzen 1990). Fire exclusion and cessation of indigenous practices along with grazing, harvest activities, introduction of invasive species, development, pollution, recreation, and other factors have resulted in altered fire regimes, unprecedented forest fuel buildups, and increased incidence and severity of wildfires (Arno and Allison-Bunnell 2002). Reduction of fuel loads through periodic burning, as had been native tradition, was labeled Paiute forestry and denigrated by early foresters as incompatible with Euro-American tenets of resource management (Boerker 1912, Leopold 1920). Instead, a highly simplified belief in forest protection through wholesale fire suppression, supported by totemic images such as Smokey Bear, gained popular adoption and regulatory support (Pyne 1982, Carle 2002). An iconic collision between societal expectations and ecosystem realities became unavoidable.

By the 1990s, elevated risk of wildland fire to communities, declines in ecosystem health across landscapes, and escalating costs of wildfires combined to become a source of national alarm. A medley of laws, plans, policies, and institutions were put in place to deal with this crisis, but forest fires continue to consume agency budgets and threaten ecological functions (Busenberg 2004).

It's Time to Listen and Learn

The need for a holistic paradigm to deal with environmental issues of increasing magnitude and complexity is becoming ever more apparent (Chapin et al. 2010). An emerging view that elements of TK and SEK might be complementary is gaining acceptance (Michel and Gayton 2002, Kimmerer 2002, Tsuli and Ho 2002). TK can contribute place-based understanding of ecosystem relationships and SEK can provide detailed information about ecosystem components (Power and Chapin 2010).

Respectful partnerships are needed to move beyond legacies of prejudice and misunderstanding to discover new opportunities for cross-cultural knowledge sharing. First, we must learn to listen to one another (Bengston 2004, White and McDowell 2009).

Over 10 years ago, students from the Yakama Indian Reservation in Washington extended an open invitation for academic institutions to view proactive, adaptive approaches that blend TK and SEK into stewardship practices used on their reservation. These visits, coupled with increased enrollment of Native American students into graduate programs, heightened awareness of opportunities for modern tribal management approaches to complement academic studies based in SEK.

Colleagues at the national Intertribal Timber Council (ITC) and the University of Washington (UW) have undertaken an investigation of processes for integration of TK and SEK. With support from the US multiagency Joint Fire Science Program, the US Forest Service, and the Bureau of Indian Affairs, an opportunity arose to build on the "Fire on the Land" educational program of the Confederated Salish and Kootenai Tribes (CSKT 2005), which was developed to increase awareness of the importance of fire to the tribes of the Flathead Reservation. For 2 days in June 2010, seven tribal elders joined with 20 native and nonnative scientists, resource managers, and academics in a workshop on the Flathead Indian Reservation located in western Montana to discuss integration of Native American stewardship practices, TK, and SEK to address contemporary forest health and wildfire challenges. To assure candor, roundtable discussions were facilitated by a member of the CSKT, and the number and composition of workshop attendees were limited and balanced, respectively. Shared concern about forest health and wildfire hazard brought these people together but broader issues of cultural respect, humility, and knowledge sharing quickly emerged.

We offer this article, coauthored by all participants, as a way to share with others a collaborative chronicle of revealing dialogue, new friendships, and a mutual commitment to an exchange of information that extends beyond the usual boundaries of professional training and cultural orientation such that learning can proceed, legacy myths might be corrected, and the forests and the people will benefit. Summarized comments from tribal elders, students, and resource managers as well as agency professionals and academics are presented as prologue to conclusions and recommendations.

The Elders

Seven tribal elders from the Kootenai and Salish-Pend d' Oreille Culture Committees were present, shared stories of inherited traditions and knowledge, and candidly offered their perspectives. Elders recall a time when there were tribal fire specialists, known as "burners," who understood fuel conditions and knew exactly when to start a fire so that it would produce the desired results. Fire, central to Indian life and religion, is considered a gift from the creator. The people look to fire as the way to keep the land clean, encourage healthy growth of culturally important plants, and control insects. Encroachment of trees into prairies once maintained with fire represents a loss for the tribe and brings sadness to the people. Elders recalled their grandfather's complaints that it was ridiculous for white people to stop Indian burning and to suppress natural fires. Now, the consequences of fire suppression are becoming recognized and white people come to ask what can be done. The elders are eager to offer help and share knowledge, if others are willing to recognize that sharing

must be respectful and reciprocal. Elders are wary of overtures from scientists from academia and agencies because they have often taken without giving in return and have had a known history of discounting or subordinating the TK held by native people. The elders expressed willingness to share information if asked, but made it very clear that they need be convinced that inquiries are sincere.

Sharing knowledge is not simple. Conceptual differences in tribal lifeways and languages challenge translation and understanding. For instance, "management" is not a traditional concept of Indian people because it reflects an anthropocentric attitude that man is separate and apart from the environment, able to control all to meet his needs. A tribal elder spoke of relationships between man and the environment in much different terms, "The earth does not belong to us; we belong to the earth." It must also be appreciated that, although practical understandings may be shared, some elements of TK are sacred and can not be discussed. When a gift of tribal information garnered from many generations of Indian experience is offered, it needs to be respected. Elders must be assured that their advice is appreciated and carries real influence. Relationships that evolve in trust and respect are essential. Rather than relying on papers to communicate understandings, elders indicated that knowledge sharing is best done in person and on the land. Elders extended an invitation to tour tribal forests. They also suggested that reciprocal invitations to national forestlands would encourage beneficial dialogue.

The elders expressed great pride in the accomplishments of native students pursuing higher education. Ultimately, if integration of knowledge is to be successful, it will be Indian students that will form the communication bridge between the two worlds. It is important to bring Indians and non-Indians together. We all share the same responsibility to do better for future generations. We need to look ahead together.

The Students

Four Native American students enrolled in undergraduate and graduate forestry programs at Salish Kootenai College (SKC) and the UW were in attendance. All recalled from relatives that for generations Indian people have regarded fire use as an essential part of their way of life. Proper use fulfills a responsibility to take care of the land. Past generations of Native Americans would burn campsites and berry patches. One student remembered a story from an elder who was once able to ride a horse through the forests of the Yakama Nation. Frequent burning created parklike forest conditions that facilitated seasonal passages from high elevation during summer to the lowlands during winter. Now, the forests have grown dense with undergrowth. It is important to hear the stories to guide what we do today but Indian learning is also unspoken knowledge, often gained by doing. Native students reported difficulty in finding ways to convey lessons learned from elders to nonnative students and faculty.

One graduate student, studying fire ecology, is also a fire manager for his reservation and has worked, over the years, to develop a fuels program to reintroduce fire on the landscape. Invitations have been extended to other tribes, federal agencies, and conservation groups to assist tribal fire crews conducting prescribed fire treatments. These invitations have been gratefully accepted by nonnative professionals because no comparable opportunities for practical fire experience are available outside the reservation.

Native students experience cultural challenges pursuing higher education as they adapt to an unfamiliar environment. Tribal colleges fill an important niche, providing education that is uniquely developed to include cultural considerations. Recognition of the value of TK by the science and education communities brings welcome inclusion for native students attending large universities. In addition to cultural challenges, many native students must also fulfill family obligations and work responsibilities while attending school. However, social challenges extend beyond education. Native students expressed some uncertainty about how they may be received by tribal communities after extended exposure to western education and non-Indian values.

The Tribal Foresters

Five Indian foresters from three tribes shared their perspectives. All agreed that forestry on tribal lands must successfully accommodate protection of cultural values while proceeding with harvest activities. Cultural values include places of spiritual significance; traditional foods such as huckleberries, camas, and wild potatoes; access to fuelwood; protected wildlife habitats; spiritual solace; medicines; and others. Generation of economic returns and employment of tribal members are very important objectives for forest managers but can not be accomplished without community support.

Tribal foresters expressed gratitude for the guidance provided regularly by elders. Elders are invited into the forest to view proposed treatment units and provide their recommendations and insights. Mutual understanding of objectives and activities is sought. Communication with the tribal council and the community is essential and ongoing as projects are planned and implemented.

Funding constraints, however, present real-world challenges to reservation stewardship. For instance, funding is inadequate to perform some forestry activities that are needed to properly care for the land. Federal regulations, such as the National Environmental Policy Act, must be followed because of the federal nexus created by the involvement of federal agencies and funding, but add to costs and complexity. The role of fire is generally understood within tribal communities, but environmental concerns such as air quality, damage to resources and property, and jurisdictional complexities limit burn opportunities. A dynamic balancing of multiple and sometimes competing objectives and sources of funding is imperative for successful management of tribal forests.

In spite of many challenges, Indian fire and forestry programs have been acknowledged as successful examples of adaptive management, in part because of inclusion of TK along with SEK in planning and implementation. Some tribes have begun working with the US Forest Service to coauthor management plans and craft stewardship contracts that extend across ownership boundaries. This is a way to build good working relationships and share knowledge. One obstacle that constrains relationship building, however, has been the frequency of turnover within the US Forest Service workforce as individuals transfer in pursuit of career advancement. This interruption in continuity makes it difficult to establish and maintain respectful relations and partnerships.

The ITC

Five of the workshop attendees serve in leadership positions within the ITC. Established in 1976, the ITC is a nonprofit nationwide consortium of over 60 Indian tribes and Alaska Native Corporations dedicated to improving the management of natural resources of importance to Native American communities. The ITC works co-

operatively with federal agencies, forestry associations, private industry, and academia to explore issues and identify practical strategies and initiatives to promote social, economic, and ecological values while protecting and utilizing forests, soil, water, and wildlife. Timber was prominently incorporated in ITC's name because the founders felt no need to apologize for harvest activities that help maintain the health of forests and wildlife resources and provide economic benefits for tribal communities. Use of natural resources has always been vital to the survival of Indian people.

Increased awareness of cultural values and native burning by federal agencies and the research community can be helpful to fire planning on federal lands adjacent to reservations. Policies of fire suppression followed by the more recent policies of "fire for resource benefit" have resulted in damage during several conflagrations to cultural resources of concern to tribal communities. In some cases, cultural and economic losses to tribes have been significant, but policy remedies remain elusive. However, federal programs such as The Tribal Forest Protection Act, Treasured Landscapes, and Landscape Conservation Cooperatives are seen as potentially promising opportunities for greater consideration of TK in landscape planning. ITC representatives are also hopeful that new understanding of TK will help guide risk analyses within planning exercises such as the National Cohesive Wildfire Management Strategy currently in development by the Wildland Fire Leadership Council, an intergovernmental body charged with providing strategic oversight of federal wildland fire management policy. Questions remain, however, about how to avoid the biases inherent in "best science" approaches to wildland policies that reflect a legacy of subordination of Indian values. Improved communication and alliances between agencies, scientists, and tribes can overcome prejudices and bridge knowledge gaps.

Federal Agencies

Five senior program managers and scientists from the Bureau of Indian Affairs and the US Forest Service participated in the workshop. Three are enrolled tribal members. Cultural disconnects of the past have created regulatory quandaries. For example, the Bob Marshall Wilderness, located east of the Flathead Indian Reservation, has two prairies that were created by repeated native burning over hundreds of years. Now, because of fire exclusion policies in designated wilderness areas, the prairies are being lost to tree encroachment. Wilderness status, which prohibits human management, has resulted in ecosystem conditions that differ significantly from those that historically sustained tribal communities, raising the question, "What is natural and what is not natural?"

Many within the US Forest Service are eager to learn from Indian management practices, but are uncertain as to how to proceed. On the other hand, the agency personnel also report that "organizational arrogance" is still pervasive within the agency and manifests as "we know best and we are going to show you how to do things." This perspective is viewed by agency participants as neither helpful nor correct. For example, traditional burners may have little formal education but are nonetheless proficient at manipulating vegetation with fire. A repeated recommendation from tribes has been, "Send them out here [agency personnel] to learn burning from us."

Not all places benefit from burning. For example, sacred burial areas should be protected from fire by removal of surrounding fuels. When located on federal lands, such cultural resources may be unrecognized by agency managers and damaged during firestorms if advance strategies for protection are not developed with local input. However, federal scientists and managers report that they generally lack opportunity and direction for gaining familiarity with place-based TK.

Greater agency recognition of the value of TK will help facilitate successful information exchange. Collaborative, multiownership resource planning, student internships, and opportunities for professional exchange are a good place to start. Shared experiences and success stories can be powerful educational tools. Most managers are more likely to learn more from hands-on experiences because they lack both time and inclination to learn from published literature.

Terminologies and methodologies used in planning by federal agencies also create challenges. Terms such as "natural" and "wilderness" are culturally burdened and "science-based" risk/benefit analyses are limited by ethnocentric concepts of comparative value.

The Academics

Academicians and scientists from SKC and UW agreed that, although there is a growing recognition of the importance of TK within the academic community, institutions are slow to change and challenges must be overcome to integrate TK into resource science curricula. Nonnative faculty and research scientists lack opportunities to get to know Indian country and learn from elders. Individuals, trained as science specialists, find it difficult to think outside of their particular realms of expertise and cultural orientations.

TK, although intensively studied by anthropologists, has been comparatively ignored by fire and other natural resource scientists. Western science reflects a cultural context of which students and faculty may be unaware but Native American students may find perplexing and uncomfortable. Incorporation of TK into natural resource science curricula broadens the educational experience of students from all cultures while creating a sense of inclusion for Indian students. Guest lectures by native scholars and elders are a readily accessible start toward implementing cross-cultural education. Field trips to Indian reservations offer further opportunities. Scientists and faculty need to learn as well as teach—listen as well as talk.

Educators agree with the elders that native students create a bridge between worlds of knowing. Students that accept such responsibility need support from both reservations and universities. Education partnerships, such as exist between SKC and the UW, offer comfortable paths from the Indian to non-Indian worlds of learning. Greater investment in development of cross-cultural curricula and Indian student recruitment and retention is needed to address the current underrepresentation of Native Americans in the scientific and academic communities. Funding support through scholarships, research assistantships, and summer internships can contribute needed assistance for worthy students.

Scientific research is dependent on identification of questions and development of hypotheses. An approach to get beyond barriers of perspective may be to develop research questions, hypotheses, project proposals, investigation methodologies, and implementation strategies in consultation with elders and tribal practitioners. Field trips can provide opportunities for SEK-trained individuals to share perspectives and information with keepers of TK. Discovery of agreement between SEK and TK can highlight the deductive power of each while

assuring congruence between abstraction and place.

Closing Comments

Eighty-one-year-old Salish-Pend d' Oreille Elder, Pat Pierre, eloquently spoke to the group of a simple prescription for cross-cultural progress: open communication, education, respect, and friendliness. All in attendance agreed.

Agencies, research organizations, and educational institutions can benefit from greater engagement with tribal knowledge keepers. The small workshop format was highly effective in facilitating candid dialogue among the participants. This workshop served as a powerful beginning, but additional gatherings at reservation locations around the nation are needed to bring elders, tribal managers, land-management agencies, students, and scientists together on a broader scale. Personal relationships built from shared experiences are essential to bridge cultural differences.

SEK has dominated resource approaches adopted by modern society. However, simplification and utilitarian management have proven that a more holistic view is needed to address complex environmental challenges such as climate change, forest health declines, and the increasing incidence, severity, and costs of wildfires.

Although TK and SEK offer notable contrasts, Trosper (2007) correctly cautions that broad generalizations tend to overlook similarities such as systematic observation and objectives of reliable predictability. These different realms of knowledge share a common understanding that the natural world is amenable to explanation and human influence. Both develop sophisticated knowledge used to inform cause-and-effect relationships from which strategies for action emerge. Both can contribute to broader understanding of opportunities to adapt to a changing environment. TK and SEK are both dynamic. Each has its own mechanisms for establishing the validity of ideas and beliefs while adapting to new circumstances and information (Michel and Gayton 2002).

Cultural and language barriers present obstacles to collaboration. Workshop participants acknowledged that TK must be given respect and recognition as legitimate and equal to that of SEK. With the passing of each generation, TK is being lost as important questions become more urgent to answer. How can we preserve the existing body of TK and support its continued evolution and application into the future? How can we begin to build bridges of understanding and work together in common purpose? How can we turn diverse knowledge (TK and SEK) into healthy, adaptive treatments on the land?

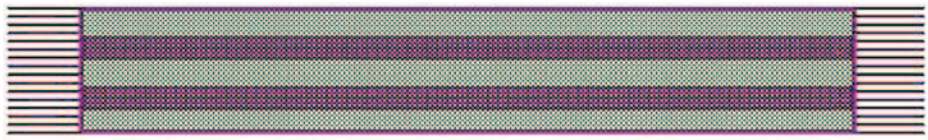

Figure 1. The two-row wampum symbolizes two distinct cultural strands traveling in parallel.

Ransom and Ettenger (2001) point to a time-tested model for bringing together the knowledge, skills, and resources of Indian Nations and nonnative institutions. The Kaswentha (pronounced Gus-wen-ta), also known as the Two-Row Wampum, is a treaty belt created in the 17th century by the Haudenosaunee people to record treaty agreements with Dutch settlers (Figure 1). It consists of alternating rows of white and purple. The two purple rows symbolize two vessels traveling the river of life. One vessel, a ship, symbolizes the Dutch and the other, a canoe, is for the Haudenosaunee. The three white rows symbolize the Haudenosaunee principles of peace, good mind, and strength. The treaty established a nation-to-nation relationship of two societies traveling the river of life together, distinct and autonomous, in mutual acknowledgment and cooperation for common benefit.

Recommendations

At the end of the workshop, participants expressed the hope that their shared dialogue might represent a beginning from which the following recommendations could lead to further opportunities for cross-cultural problem solving founded on openness and trust:

1. An enduring national program for TK/SEK integration should be developed for cultural exchange and to share successes; however, regional differences involving agencies, communities, and tribes indicate that local planning, not a "cook book," will be needed.
2. Workshops should be organized and conducted at reservation locations to bring keepers of TK together with representatives of management entities, practitioners, and academic and research institutions.
3. Protocols for the conduct of relationships between tribal communities and land-management agencies should be collaboratively developed at the local level.
4. Interpersonal relationships and shared experiences are essential to integration of TK and SEK. Federal agencies should encourage career residency of resource professionals and recognize that Indian people have a unique connection to place.
5. Education should play a major role in efforts to integrate TK and SEK. Partnerships between tribal colleges and other academic institutions should be supported. Greater investment in development of cross-cultural curricula and Indian student recruitment and retention is needed to address the current underrepresentation of Native Americans in academic and scientific communities.
6. Joint environmental research projects based on place-based collaboration between keepers of TK and western scientists should be pursued. The research community should expand delivery mechanisms for emerging science and technology beyond journals and websites to include outreach programs for trainings and workshops that better serve tribal communities.
7. Local cross-jurisdictional projects should be jointly planned and implemented using local TK and SEK, recognizing experiential learning as a means to compliment and strengthen modern academic training (take the classroom to the field) and test scientific theory.

Workshop participants concluded that, melded together, TK and SEK could produce a resource management approach that is stronger than either can provide alone. This workshop provided an environment where participants could collaboratively develop recommendations for action steps to create new opportunities of cross-cultural problem solving. The workshop opens the door to build trust, respect, and future work-

ing relationships for the benefit of the resources, the land, and the people.

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