

1. ADMINISTRATIVE INFORMATION:

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Project Title: Gathering Our Thoughts: Tribal Recommendations on a Knowledge Management Framework for the NPLCC

Agreement Number: F12AP00825

Submitted March 24, 2015

Time Period for this Report: September 25, 2012-June 30, 2014

2. PUBLIC SUMMARY:

This project was designed to develop Guidelines on funding and using traditional knowledges in relation to climate change adaptation. Traditional knowledges are often different from other forms of knowledge in that it may be collective, spiritual, associated with natural resource of high cultural value and significance, and may be regulated by customary law and tribal sovereigns. Because of this, there are cultural sensitivities involved in non-tribal members gaining access to some kinds of traditional knowledges.

Traditional knowledge has been shown to provide important information for understanding historical baselines, and provide useful observations, practices and traditional technologies for ecological restoration and mitigating the impacts of climate-related impacts such as fires, floods, landslides and drought. Traditional knowledges also provide information for avoiding potential impacts of adaptation actions on tribal resources or values. This creates a situation in which highly sensitive traditional knowledges may be called to be shared and be put into wider circulation to solve landscape-scale conservation and adaptation issues. The Federal Government is beginning to fund more traditional knowledges research to support the use of traditional knowledges, but this has been occurring in a vacuum of very little guidance on how to manage the sensitive issues and respect tribal expectations.

The project initially worked with the Northwest Indian Fisheries Commission (NWIFC) to try develop consensus guidance. Although generally supported, the project could not be complete because of some Commissioners' concerns over the cultural sensitivity of traditional knowledges. Another opportunity arose to work with two tribal representatives of the Advisory Committee on Climate Change and Natural Resource Science (ACCCNRS) to develop the Guidelines. Through an extension, the grant was used to support, with 17 authors with expertise in traditional knowledge systems, the development of "Guidelines for Considering Traditional Knowledges in Climate Change Initiatives," can be found here: <https://climatetkw.wordpress.com/>.

3. EXECUTIVE SUMMARY:

The NPLCC-funded project "Gathering Our Thoughts: Tribal Recommendations on a Knowledge Management Framework for the NPLCC," is an attempt to develop Guidelines for access to and the use of traditional knowledges (TKs)¹ in the work of the North Pacific Landscape Conservation Cooperative (NPLCC). The project arose out of a felt need for guidance when funding projects involving TKs. They are a priority action item in the NPLCC, and funding has been increasing for TKs in the NPLCC and elsewhere with little available guidance on special considerations that might apply to gathering and sharing them outside of tribal communities.

There are a number of reasons to expect this sensitivity. TKs change and adapt over time, but by their nature are closely linked to ancient traditions of a highly spiritual nature. Tribes generally view their TKs very differently than mere information items, but instead as complex relational ways of approaching the world in a spiritual and respectful way. Even the way of acquiring TKs may be perceived differently from the "trial and error-theoretical insight" model of most Western theories. Knowledge, for many tribes, is fundamentally acquired through conversations with the spirit world. Through culture and this relationship with the spirit world, knowledge has come to be regulated by numerous customary laws and cultural institutions and norms that may differ significantly from non-tribal ones.

Tribes also may differ from non-tribal members in such things as status, power and security. Because they are place-based, with their rights and cultural resources geographically circumscribed. Combined with their common marginalized and minority status, tribes are especially vulnerable to misuse both of their TKs and to the resources to which the TKs are associated.

These difference may lead to barriers to the effective utilization of TKs is finding solutions to landscape-scale conservation and adaptation problems. These barriers can reduce the effectiveness of the search for solutions for three main reasons: 1. Direct impacts of climate change: a. Tribes are known to have made of number of observations of adaptation-relevant observations as the "First Downscalers." The possess fine-grained information about such things as coastal and marine circulation pattern changes; fire regimes; ice (e.g. thickness, extent, ice-in and ice-out dates), seasonal phenology of emergence, breeding, migration and movement; weather patterns and extremes; and flood patterns, intensities and return cycles. b. Tribes possess knowledge and practices useful for adaptation to climate change. Tribes have for millennia responded adaptively to natural events, cycles and changes in the environment. They have developed practices and technologies for coping with such things as water scarcity, resource variation, pests, diseases, fires, floods, droughts. 2. Indirect impacts of climate change (consequences of adaptation measures): unless tribes participate actively in the development of climate change adaptation strategies, plans, research and projects, their issues, values, and resources may not be included in solutions. In some cases, failure to account for traditional knowledges, cultural resources and tribal values in the development of adaptation interventions can cause harm to them; 3. Tribes collectively occupy or hold off-reservation rights to lands that contain a high richness of species, habitats and ecosystems. These ecosystems provide ecosystem services and functions that are critical to larger

¹ The phrase "traditional knowledges" is used throughout to emphasize the diversity of types of knowledge that tribal members and tribes hold.

landscape-level and national adaptation to climate change that benefit a wider public beyond the reservations. Their knowledges of historical conditions can make important contributions to climate change resilience and adaptation.

However, tribes have shown some reluctance to openly share their knowledges with scientists, agencies and the public. Their close ties and dependence on place, the inextricability of their identities with their homelands, cultural heritage and cultural resources, and the fundamental spiritual nature of the relationship of their knowledges to the land make them particularly vulnerable to cultural transgression and exploitation. Many of their cultural resources are already in steep decline in difficult for their elders to obtain. Traditional knowledge holders have shown some reluctance to share what they know with outsiders because of a historical record of misappropriation of the knowledge and use of that knowledge to gain access to culturally important resources. In some cases they are concerned about appropriate uses of those resources compatible with cultural and spiritual beliefs, and in other cases they are concerned with overharvesting and loss of access to the resources themselves.

The Guidelines have been developed to promote ethical, sensitive, and respectful approaches to funding in utilizing diverse traditional knowledges in climate change adaptation. It draws from a review of over 20 existing indigenous research protocols and an extensive review of the literature on research related to the traditional knowledges-science-policy interface. It contains eight principles for engaging tribes in climate change adaptation initiatives involving traditional knowledge systems, an appendix of tribal values and issues drawn from the research protocols, and an annotated bibliography of approximately 100 publications that were used as the basis for recommendations.

These Guidelines are contributing both to the North Pacific Landscape Conservation Cooperative, to other national Landscape Conservation Cooperatives, and to a number of federal agencies in increasing their understanding of issues involved with working with tribes and traditional knowledges. It has been circulated by the NPLCC, is posted on several federal websites, and the authors of the report have been invited to make presentations both regionally and nationally on the Guidelines. In addition the project is developed a website to distribute the Guidelines and provide links to further initiatives and information.

4. PURPOSE AND OBJECTIVES:

The Tulalip's interest in this project arose from a long history of working with natural resources management and traditional knowledges issues. These issues range from political issues related to tribal sovereignty and the Treaty of Point Elliott that the Tulalip Tribes signed with the United States in 1855. The Tulalip Tribes, since 1997, have worked at the United Nations Convention on Biological Diversity (CBD) and the World Intellectual Property Organization (WIPO) which have worked to develop international policy and law related to traditional knowledges. Terry Williams, as the first director of the American Indian Environmental Office in the Office of Water of the Environmental Protection Agency had extensive travel in contact with tribes around the United States and had talked with leaders about their natural resource and cultural concerns. The Tulalip Tribes were also early leaders in the region, nationally, and internationally to promote tribal climate change adaptation, beginning in the 1980s. These experiences led the Tulalip Tribes Office of Treaty Rights to understand the need for large

landscape-scale approaches to conservation, the need for habitat restoration (also called ecosystem-based adaptation) for maintaining tribal resources under climate change, the vital importance of using traditional knowledge for guidance on the restoration of ecosystem functions and coping with climate change.

The Tulalip Tribes were engaged in helping to set national agendas and budgets for tribal climate change adaptation, and were deeply involved in the establishment and promotion of the NPLCC. But as funding was starting to be made available to tribes for adaptation projects that involved acquiring traditional knowledges, we realized that both the funding and the development of terms of reference for projects was occurring in a policy vacuum related to traditional knowledges.

Principles developed for scientists based on open knowledge sharing are not adequate for addressing a large range of issues concerning tribes.

The first major issue is that tribes are sovereign governments that are recognized to have the authority to develop their own laws, policies and rules governing access to their natural resources and associated traditional knowledges.

The second major issue is that traditional knowledges are inextricably embedded in tribal culture and tied to collective cultural identity and cultural integrity, and are fundamentally spiritual in nature. Although traditional knowledge systems encode significant practical knowledge about the world, they cannot be conceived solely as forms of information that can be easily exchanged with nontribal members. There is considerable customary law surrounding access to and the use of traditional knowledges, and currently there are few legal or policy safeguards to ensure that tribal customs are recognized, understood and respected by non-tribal members. Because tribal concepts and beliefs regarding their cultural resources and associated traditional knowledges may differ considerably from non-tribal members, there is a significant risk of misunderstanding and misuse.

A third major issue, outlined in the previous section, is that Tulalip tribal members who are closely dependent on the land for the acquisition, practice, and transmission of their knowledges are disproportionately affected by climate change impacts and disproportionately sensitive to the potential misuse of both their resources and associated knowledges. These risks may vary with the kinds of knowledges or resources. Appropriately accessed and used, the sharing of some traditional knowledges with scientists, agencies and the public may entail little or no risk and provide many benefits to tribes by improving natural resource management in adaptation measures that increase their resilience, abundance, and health of their resources and associated traditional knowledges. Inappropriately accessed and used, research processes can lead to cultural harms by facilitating the loss of tribal control over the appropriate use of their cultural resources and associated traditional knowledges.

The objectives of this project was to develop a narrative of concerns expressed by tribal leaders and staff and from these concerns to develop a set of policy guidelines. The primary target of the guidelines was federal agencies and their staff, scientists and researchers seeking to work with tribes and traditional knowledges. Tribes were secondary target of the guidelines, as it pulled together a wide

variety of concerns from different tribes and was intended to help them formulate their own tribe specific policies and guidelines.

Initially the proposal was to develop the Guidelines through process involving the Commissioners of the 21 tribes of the Northwest Indian Fisheries Commission. The proposal mentioned that because of the sensitivities surrounding traditional knowledges, that it might not be possible complete the Guidelines as envisioned. Project members presented three initial workshops and made three presentations to the Commissioners on the project between October 2013 and February 2014. While there was considerable support for moving ahead, it was not possible to reach consensus, and so we were not able to complete the Guidelines through consultative process with the tribes. This caused a delay in the project.

Upon consultation with NPLCC staff, we obtained approval to complete the project through other means and an extension. The Department of Interior Advisory Committee on Climate Change and Natural Resource Science (ACCCNRS) had requested two tribal representatives on the committee to develop a briefing on traditional knowledges and climate change. The Tulalip Tribes offered to work with this process to help develop the Guidelines. The final product is the result of 17 authors with extensive experience of working with traditional knowledges, a large number of whom had contributed to the tribal chapter of the Third National Climate Assessment, 13 of whom are tribal members.

As a consequence of Tulalip participation, your original briefing paper for the ACCCNRS was considerably expanded to a 100 page document that includes two appendices fully funded by the NPLCC grant, as well as a significant contribution to the main body of the grant. The appendices contain two deliverables of the project, an assessment of common elements and existing traditional knowledge research protocols, and an extensive annotated bibliography of relevant sources.

5. METHODS, ORGANIZATION AND APPROACH:

The creation of the Guidelines involved no quantitative data analysis. The process was designed to initiate discussions among representatives of tribes elected to the Northwest Indian Fisheries Commission and produce a set of consensus guidelines for the funding and utilization of traditional knowledge in the work of the NPLCC and similar Federal and nonfederal initiatives.

The initial plan was to hold three regional tribal meetings to develop the Guidelines in a participatory process. The white paper and a straw draft of the guidelines was produced to help the commissioners think about the issues to take back to their tribes for internal discussions, and to help participants in the workshops to get an understanding of the project and present a range of alternatives as a starting point for consideration. A fourth meeting was then planned to present, finalize and get tribal endorsement of the protocols. The project work plan also agreed to deliver a White Paper and an analysis of the literature.

The preplanning workshops had low attendance rates by the Commissioners of the NWIFC. The White Paper as well as the straw guidelines were drafted on schedule and made available to the participants and to the Commissioners. It was envisioned in the proposal that failure to be able to complete the guidelines was a distinct possibility. Nontribal access to primary traditional knowledges is a sensitive

issue for all tribes in the United States, although the sensitivity varies from tribe to tribe and can depend on the type of knowledge under consideration. Traditional knowledges are often tightly woven into the spiritual and cultural fabric of tribes. The numerous sensitivities that tribes have in regards to their knowledge systems are described above, in the white paper and the final Guidelines. The sensitivities involve not only traditional knowledges per se, but also the cultural resources to which those knowledges are associated.

Within tribes, not all members are traditional knowledge holders and practitioners, who are the primary authorities who make decisions regarding access to and use of traditional knowledges. They are the ones who understand the customary laws and principles and to make decisions based on their traditions in the context of current conditions. Having outsiders work with traditional knowledge holders is often extremely sensitive issue with tribes. Traditional knowledge holders may vary in their openness to sharing.

On several occasions we have heard from different elders that "they have taken everything else from us, and now they are coming to take even our identity." This kind of comment illustrates the deep significance that traditional knowledges hold for tribes, and the existence of a significant amount of distrust due to a long history of misappropriation and failure to adequately protect treaty reserved resources. The Northwest Indian Fisheries Commission, for example, has created the white paper "Treaty Rights at Risk" along with a quantitative review of the status of salmon in the watersheds of its members, which have been submitted in a complaint to the White House. The research demonstrates a steep decline in most salmon runs and factors that contribute to the decline in salmon habitat in salmon. This has occurred despite significant investments in habitat restoration over the last quarter of a century. Proposals to access to traditional knowledges are therefore occurring in an atmosphere of mistrust and a failure of the federal government to maintain significant cultural resources reserved by treaty.

It was explained to the Commissioners that guidelines only provide best practices at a policy level for access to and utilization of traditional knowledges. It was made clear to the Commissioners that tribes have sovereign jurisdiction over any access to and use of their traditional knowledges. Nothing in the proposed guidelines would be binding on tribes, who would have complete sovereign authority and control over any principles, processes and rules that would apply to their tribes. The guidelines would only contain a set of general recommendations and expectations that tribes based on the participatory process and consensus by the tribes. They would not be not intended to provide a cookbook for all issues related to traditional knowledges.

The process of participation in the regional workshops was left up to the tribes themselves. We did not propose a large meeting of traditional knowledge holders, because we were aware of the political difficulties in arranging such a meeting. We were not seeking access to traditional knowledge itself for this project, but seeking input from those who could contribute to policy recommendations. Commissioners were invited to go back to their tribes for consultation on the process in decisions regarding who should attend the meetings, which could involve leadership, staff, or traditional knowledge holders as desired by each tribe.

Although attendance was low, we had strong support by many commissioners to move forward with the process. However, NWIFC uses the common tribal process of decision by consensus. A small number of Commissioners were concerned that this project was touching on cultural issues that could only be decided by traditional knowledge holders themselves. We explained that it was the purpose of the guidelines to help ensure exactly that. At the end of discussions we are not able at the end of discussions we were not able to move the commissioners to consensus, and can thus not run the project through the NWIFC as planned.

We were able to link the project with one supported by the Department of Interior Advisory Committee on Climate Change and Natural Resource Science (ACCCNRS). Other members of the group were funded by the DOI National Climate Change and Wildlife Science Center (NCCWSC), Climate Science Centers (CSC). We shifted the scope from producing a tribally sanctioned consensus document to creating a document with wide participation of recognized traditional knowledge policy experts and supported by NPLCC funded work on an assessment of existing protocols and a review of relevant literature. Collectively this group formed the Climate and Traditional Knowledges Workgroup (CTKW), under which the final Guidelines were produced. This group contained 15 members plus two federal partners who contributed to the drafting.

6. PROJECT RESULTS:

After over four months drafts, comments and revisions, the group finalized the "Guidelines for Considering Traditional Knowledges in Climate Change Initiatives" in September, 2014. The majority of work on the guidelines was completed prior to the completion date of the project in June, 2014, and all expenditures for the NPLCC portion were only made to the end of June.

The document has been made publicly available through a website at <https://climatetkw.wordpress.com/>.

The website has been designed to support the Guidelines as a living document. There is a comment form that forwards comments to the authors. Partners have secured funding to support the continued addition and annotation

7. FINDINGS AND CONCLUSIONS:

The guidelines themselves contain two major principles and eight recommendations for actions. The two principals are:

Cause No Harm (AKA principle of primum non nocere, principle of non-maleficence): Projects involving traditional knowledges should be mutually beneficial and cause no harms to tribes or holders of traditional knowledge.

Free, Prior and Informed Consent (FPIC): Any exchange of traditional knowledges should go through a process of FPIC as defined by each tribe. FPIC is a process that provides procedural safeguards to ensure that any sharing of traditional knowledges has been authorized by tribes and their traditional knowledge holders through a tribally defined process. It is closely tied to the first principle of doing no harm. Under free prior and informed consent, decisions must be given freely and prior to access to traditional knowledges. Informed consent suggests that both opportunities and risks be carefully evaluated. This is particularly important given the sensitivity tribes as discussed in a previous section. Some of the potential risks identified in the document may not be generally recognized by either Indians or non-Indians. For example, many projects involving traditional knowledges are framed as partnerships or collaboratives that solely concentrate on the benefits of the relationships. It is much less common to look at potential negative impacts of the sharing of traditional knowledge, and even less common to assess legal issues associated with knowledge exchange. For example, while exchanging traditional knowledges associated with phenological observations related to climate change may lead to benefits for understanding and responding to changes in the timing of ecological phenomena, there may be legal consequences to the exchange of such knowledges. Once shared outside of the tribe, the United States intellectual property system may consider shared traditional knowledges as unprotected or unprotectable and being in the public domain. This could leave both the traditional knowledges and the associated resources at risk of exploitation without sufficient safeguards. In many cases, there is not likely to be any or little risk to sharing some kinds of observations or knowledges, and tribes may have no problems with such exchanges. Phenological observations related to flowering, hydrological patterns, insect emergence another climate influenced phenomena will likely carry few risks. Other kinds of information, such as climate change impacts on culturally important medicinal plants could carry more risks of exploitation by nontribal members. The major problem is not between the scientists and the tribes, but with third parties who acquire traditional knowledges and who are not bound by law or by agreements made with tribes. Without explicit consideration of both risks and opportunities, the criterion of informed consent cannot be met.

There are eight recommendations in the guidelines Guidelines. For each recommendation, The recommendations are as follows:

Guideline 1. Understand key concepts and definitions related to TKs: because of cultural differences in ways of understanding the world, there may be considerable differences in the concepts related to knowledge, the land, and resources held by tribal members versus members of the dominant society. Similarly, tribal members need an understanding of scientific, legal, policy and other concepts that may be far outside their common experience. The obligations for nontribal members do not extend only to defining terms, but to understanding tribal protocols for communication and respect for tribal processes. It is extremely important in order to avoid misunderstandings, conflict and potential harms that that all the key concepts are defined and mutually understood by all parties.

Guideline 2. Recognize that indigenous peoples and holders of TKs have a right NOT to participate in federal interactions around TKs. Given the sensitivity surrounding traditional knowledges, there should be no pressure or obligation on tribes to share their traditional knowledges with others. If a tribe does that and there best interest, without penalty. For tribes, it is recommended that they be explicit about protocols related to sharing traditional knowledges outside their tribes, and to monitor and ensure compliance with those agencies or individuals with whom they have shared.

Guideline 3. Understand and communicate risks for indigenous peoples and holders of TKs. Federal agencies, scientists and the general public should understand potential risks and harms to tribal members so that awareness by people of goodwill can help to ensure that any shared traditional knowledges are used in a respectful way. Agencies and others should review relevant laws and policies and be clear about the presence or absence legal or nonlegal mechanisms for protecting shared knowledges. Tribes should clearly understand the potential risks both to any shared knowledge and to cultural resources that are associated with that knowledge as well as the benefits and opportunities in order to make an informed decision.

Guideline 4. Establish an institutional interface between indigenous peoples, TK holders, and government for clear, transparent and culturally appropriate terms-of-reference, particularly through the development of formal research agreements. Terms of reference and safeguards should be clarified, harmonized, and institutionalized throughout the federal system, focusing on the federal trust responsibility to ensure respect for tribal sovereignty and for free, prior and informed consent. These principles should be built into the funding process to ensure that tribal sovereign rights and cultural values have the utmost priority over rules that are applied to nontribal and scientific information. Competent authorities, roles and responsibilities for agencies and agency staff and points of contact should be clearly designated. The institutional interface should be clear about processes, protocols, compliance and enforcement issues.

Guideline 5. Provide training for federal agency staff working with indigenous peoples on initiatives involving TKs. This guideline supports the implementation of the other guidelines by ensuring that agencies funding, administering and partnering on projects involving traditional knowledges are aware of concepts, rights to FPIC, federal trust obligations, cultural sensitivities, institutional interfaces, relevant laws and policies, and other issues associated with them. This includes the need for resources to continuously train both agency staff and tribal staff making decisions on projects related to traditional knowledges.

Guideline 6. Provide specific directions to all agency staff, researchers and non-indigenous entities to ensure that protections for TKs requested by tribes and knowledge holders are upheld. This guideline extends guideline 5 such that in addition to general awareness building, specific actions need to be undertaken to fully respect and protect the rights and interests of tribes. For example, where in the normal course of most federally funded research, any data generated from the research is deposited into a publicly accessible archive, and contracts related to traditional knowledges should not have such requirements unless desired by tribes. Terms of reference should be flexible enough to allow for the accomplishment of objectives without requiring the disclosure of traditional knowledges except by the

FPIC of tribes. Tribes are cautioned to become informed about the consequences of sharing across an interface and ensure that safeguards for their customary laws, values and rights are protected. The purpose of such safeguards is not to create barriers to partnerships and collaboration, but to build the trust and mutual respect necessary to work with the sensitive cultural issues associated with traditional knowledges. Federal guidance should emphasize the necessity not to treat projects in isolation and as a mechanism to gain access to traditional knowledges, but as a long-term commitment to building trustworthy relationships with tribes.

Guideline 7. Recognize the role of multiple knowledge systems. Traditional knowledges should be engaged on an equal footing with scientific knowledge and is having an equal voice in supporting evidence-based landscape level adaptation planning and conservation within the LCCs, CSCs and other Federal processes. Factors of success should be framed not only by quantitative science, but also incorporate alternative forms of evaluation that are accommodated in decision-making processes. The contributions of tribes and traditional knowledges should be explicitly acknowledged and promoted in products, publications, and publicizing efforts. This is necessary to build agency, scientific and public awareness and support for the value of traditional knowledges in climate change adaptation, conservation and natural resources management, and to overcome the historical stigmatization of traditional knowledge systems.

Guideline 8. Develop guidelines for review of grant proposals that recognize the value of TKs, while ensuring protections for TKs, indigenous peoples, and holders of TKs. This final guideline addresses specific issues that should be consistently integrated in to proposal selection and funding guidance. A previous example explained that some existing guidance in terms of reference are not appropriate when addressing issues related to tribal sovereigns and to culturally sensitive knowledge systems, such as requirements to deposit all research results into publicly available archives. A Supreme Court decision in 2001 (*Department of Interior v. Klamath Water Users Protective Assn.*, 532 U.S. 1) held that tribal information deposited with Federal agencies was at the time not exempt from the Freedom of Information Act, that citizens of the United States had the right to petition for access to any unprotected information submitted to the government. The Supreme Court also held that such information can be protected by an act of Congress. While Congress has protected narrow type of information on sacred sites and exempted it from FOIA sensed that decision, it has yet provided protection for tribal information or traditional knowledges as a whole. To promote wider tribal dissipation in the NPLCCs, the CSCs and other relevant processes, Federal guidance should provide for clear exemptions for the submission of traditional knowledges. The default should be that such protections exist unless clearly waived by tribes through a process of FPIC.

8. LESSONS LEARNED AND RECOMMENDATIONS: The primary lesson learned from this process is that it is unlikely that a large scale set of guidelines that are directly developed by tribal sovereigns is unlikely to happen quickly. As is emphasized throughout the final Guidelines, each tribe has sovereignty over its own protocols or guidelines (rules, customary laws, traditions and ordinances) to develop rules of engagement with nontribal members. The development of detailed guidelines within tribes face significant challenges of education, mutual understanding of what protocols or guidelines are trying to accomplish, how they interact to promote or interfere with tribal customs and institutions, and how to

resolve disagreements among tribal members and come to consensus on protocols or guidelines. These challenges are amplified when engaging multiple tribes at once. In order to get to guidance at a political level beyond the recommendation of experts will require investment, trust building, and a long-term conversation between tribes, Federal agencies and others in order to build a base of mutual understanding with which to proceed. Larger levels of political consensus from tribes more likely be achieved through more on the ground experience from individual tribes desiring to adopt protocols, ordinances and guidelines. Tribal engagement will also more likely expand if a clear signal is received from the Federal government that it is committed to recognizing and respecting tribal sovereign rights and cultural values by adopting policies, rules, terms of reference and other mechanisms to implement the guidance provided for in the Guidelines. A clear Federal signal is likely to be important in overcoming the high level of mistrust that exists in some tribes related to traditional knowledges, which constitute many of the core values of their identity, dignity and ways of being.

Though challenging, such engagement with traditional knowledges is vital not only to the Tribes, but to the accomplishment of the goals of the LCCs in any climate change adaptation process of any large scale. Tribes hold territorial rights or usufruct rights to a disproportionate amount of the biodiversity and natural resources of the United States impacted by climate change. They have significant knowledge of historical conditions, of practices and technologies for restoration and coping with the impacts of climate change and other environmental changes, and have sovereign rights to participate in decisions regarding this biodiversity and natural resources. Their participation will provide significant value not only to themselves, but to all citizens of the United States because of the significant beneficial ripple effects that applying their traditional knowledges can bring.

9. MANAGEMENT APPLICATIONS AND PRODUCTS: The primary Tulalip personnel involved in this project was Terry Williams, Commissioner of Fisheries and Natural Resources and director of Tulalip Natural Resources Treaty Rights Office (TNR-TRO), Preston Hardison, Policy Analyst TNR-TRO, and Libby Nelson, Policy Analyst TNR-TRO. The authors involved in the development of the expert report were Karletta Chief, University of Arizona; Ann Marie Chischilly, Institute for Tribal Environmental Professionals; Patricia Cochran, Alaska Native Science Commission; Mike Durglo, Confederated Salish and Kootenai Tribes; Preston Hardison, Tulalip Tribes; Joe Hostler, Yurok Tribe; Kathy Lynn, University of Oregon; Gary Morishima, Quinalt Management Center; Don Motanic, Intertribal Timber Council; Jim St. Arnold, Great Lakes Indian Fish and Wildlife Commission; Carson Viles, University of Oregon and Tulalip Tribes; Garrit Voggesser, National Wildlife Federation; Kyle Powys Whyte, Michigan State University; Daniel Wildcat, Haskell Indian Nations University; and Sue Wotkyns, Institute for Tribal Environmental Professionals. To Federal agency staff that were also involved in reviewing and providing comments on the guidelines were Monique Fordham, US Geological Survey and Frank Kanawha Lake, USDA Forest Service Pacific Southwest Research Station.

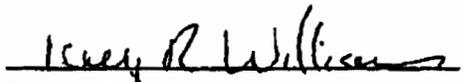
These authors collectively represent over 100 years of experience working with policy issues related to traditional knowledges. Although the guidelines cannot be taken as formal policy recommendations by tribal leadership or as adopted Federal agency guidance that has undergone interagency review, it can

be taken as a high level statement made by tribal representatives, staff and nongovernmental organizations that have a long and deep record of active involvement in these issues.

We believe that these can be taken into consideration into developing formal interim agency policy and guidance, and as a first step in engaging tribal sovereigns directly in the development of procedures for addressing the use of traditional knowledges in climate change adaptation and beyond. We believe they contain significant implications for Federal land managers and administrators. One of the more significant climate change impacts on tribes is that it is changing the distribution and composition of culturally important species that occur on their lands and on their off-reservation trust lands through impacts such as disease, invasive species, bioclimatic changes, hydrological changes, fire regime changes, and species range shifts. Elders already face severe challenges in accessing culturally important species and this will be significantly exacerbated by climate change. Because of this tribes will come to be ever more dependent on their reserved lands in the federal land system and on measures to ensure the maximum feasible protection of their cultural resources under climate change.

10. PUBLICATIONS AND OUTREACH: the authors of the "Guidelines for Considering Traditional Knowledges in Climate Change Initiatives" have been extremely active in promoting these guidelines. The release of the guidelines in September 2014 was accompanied by a press release that was sent to the major federal agencies, to Indian media outlets.

11. Signature: The Agreement Project Manager should sign and date the final report to certify their submittal of the report.

A handwritten signature in black ink, appearing to read "Terry Williams", written over a horizontal line.

Terry Williams
Commissioner of Fisheries and Natural resources
Tulalip Tribes