

Integration of Traditional Ecological Knowledge (TEK) in Environmental Science, Policy and Decision-Making

Issue Statement

The traditional values and cultures of American Indian and Native Alaskan Villages (AI/NAV) nations are what make them distinct. The accumulated knowledge and understanding of AI/NAV’s homelands, also called Traditional Ecological Knowledge (TEK), is their connection to the environment. The success of AI/NAV environmental programs evolves from their communities, traditional knowledge, and their economic and social dynamics. TEK could and should be an important force in shaping scientific research. TEK is currently not recognized as an important component of mainstream environmental decision making, subsequently inadequate resources are being allocated to inventory, protect and utilize this knowledge.

AI/NAV scientists need access to TEK and scientific resources and a process to ensure that procedures performed by their staff are culturally-appropriate, defensible and accurate. Additionally, developing core science competency and TEK programs in AI/NAV communities promotes self-sufficiency/determination (e.g., understanding data needs and developing data quality objectives).

Explanation of the Issue

Native people have been accumulating and valuing TEK for thousands of years. TEK can help confirm, support, or further define scientific research for the benefit of the environment and human health. Developing capacity and training for TEK is critical for tribal environmental decision and policy-making. Non-tribal members may need training in TEK for environmental decision making, but an important consideration in such training is the confidentiality and sensitivity of such information.

Through use of TEK, Tribes will have a better understanding of current and upcoming environmental impacts, such as global climate change. For example, native languages often capture the timing of flora/fauna cycles, which can be used as an ecological reference. In the Tuscarora language, the word for “dandelions” is the same for “sturgeon”, indicating that dandelion blooms and sturgeon runs coincide with one another. Tribal cultural practices, (e.g., the use of medicinal herbs, sustenance gathering, and basket making), and threats to the resources upon which they depend, are intrinsically linked to TEK. The combination of TEK with mainstream scientific research will enable a comprehensive response to environmental impacts on traditional life-ways.

What do Tribes and Alaska Villages Specifically Need from EPA to Address the Issue?

- EPA should provide resources for the development of unique tribal policies to inventory protect and utilize TEK (e.g., AK Native Science Commission)
- EPA staff should be appropriately trained on TEK policies prior to initiating activities/projects with affected AI/NAV

- EPA should support opportunities for training collaboration between tribes and EPA (e.g., through IPAs/details)
- EPA should support the building of tribal capacity (both technically and financially) to implement TEK policies
- Recognize and support tribal language fluency and its association with TEK
- EPA should recognize that land claims/land rights within aboriginal territories are necessary to the protection of TEK
- Develop specific programs to protect traditional foods (through mapping and assessment)
- EPA should support the development and use of culturally-based environmental standards/regulations integrating TEK
- EPA should support tribes in publishing peer-reviewed TEK journal articles and reports

Proposed Implementation Strategy and Potential Measures of Success

Proposed implementation strategies are:

- Increase funding for tribal TEK (activities as stated above)
- Expand tribal eligibility to build and implement TEK activities under existing EPA programs (such as language fluency)
- Increase tribal ability to use EPA resources for both TEK and western science
- Coordinate with tribes to develop TEK sensitivity training for EPA personnel
- Develop accountability for tribal interests in aboriginal territories
- Have Tribes host student internships in which Tribal youth can bring their science/TEK training and education to bear on critical Tribal issues
- Develop an EPA web presence for TEK
- Develop science training and educational opportunities that incorporate TEK in cooperation with Tribes and provide online instruction to all levels of education
- Actively promote the importance of TEK in peer-reviewed literature through EPA representation on technical membership consortia

Potential measures of success are increased numbers of:

- TEK policies developed by AI/NAV
- Appropriate EPA representatives trained in TEK
- TEK-related presentations, research studies, and success stories shared at community, professional, academic, government, and inter-government meetings and conferences
- Funding available for AI/NAV TEK activities
- Tribes for which traditional foods are mapped, assessed and protected.
- TEK-related articles published in peer-reviewed literature
- Tribes, students, and agencies participating in TEK programs and internships
- EPA consultations that consider TEK with affected AI/NAV communities (as assessed through surveys, outreach, and feedback)