Visioning Traditional Ecological Knowledge Research with The Community and For the Community

Traditional ecological knowledge (TEK) is a form of knowledge, related to practices and belief systems of local users and tribal peoples. It is a way of viewing land and resources and drawing values from them in culturally appropriate ways. The use of this culturally based, orally transmitted, historical knowledge with science has been triggered by the loss of natural resources. There are many examples around the globe where local people including tribal communities have complemented science-based investigations such as monitoring wildlife (e.g., measuring barren ground caribou population or estimating beluga whales). Although the benefits of integrating TEK with western science are generally understood, tribal communities are not always part of the outcomes of the research and this creates a barrier of knowledge engagement. Additionally, expectations of researchers and tribal communities about investigations may not match. Therefore, as tribal communities have concerns about sharing their knowledge, a new approach to research is necessary while visioning integration of TEK with western science. This approach will look not only to integrating traditional knowledge with western science but also engage the community effectively in the research process in a culturally sensitive manner. Drawing on my present research on woodland caribou traditional ecological knowledge in the boreal range of Saskatchewan, Canada and my long-term interactions with tribal nations across Northern Canada (Cree, Dene, and Ojibwe) and internationally, this presentation will highlight my vision and approach to navigate future TEK research with the community and for the community that meets cross-cultural needs of ecosystem research.

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Integrating Traditional Ecological Knowledge and Western Science: Significance and Approaches

Managing natural resources can be problematic when user rights are shared by multiple groups of people with competing interests. This is also due to our inability to fully understand the ecosystem process, where multiple biotic and abiotic factors interact. This lecture addresses the issues related to tribal natural resource management by integrating traditional ecological knowledge (TEK) with western science. Our intent here is to engage two ways of knowing in order to enhance our understanding of ecosystems and natural resource management challenges (such as finding the causes of loss of wildlife or fisheries). This lecture starts with an introduction to science and traditional ecological knowledge. It then discusses the root causes of resource degradation along with the contribution of related theories and concepts (e.g., common property system, adaptive management etc.) and the values of integrating multiple knowledge sources in approaching natural resource problems. To facilitate students understanding integrating TEK with western science, recent examples from my own research in Canada aimed at Woodland Caribou conservation in collaboration with tribal communities, industry, government, and academia will be presented. It will be an interactive class lecture as students will be able to contribute own knowledge and options and ask questions about addressing critical issues that we face about wildlife or fisheries management (e.g., disagreements between science research and TEK holders on the habitat selection process of woodland caribou). Course materials will be suggested for a wider understanding of the topic and helping students deal with ecosystem challenges that often affect tribal communities.

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