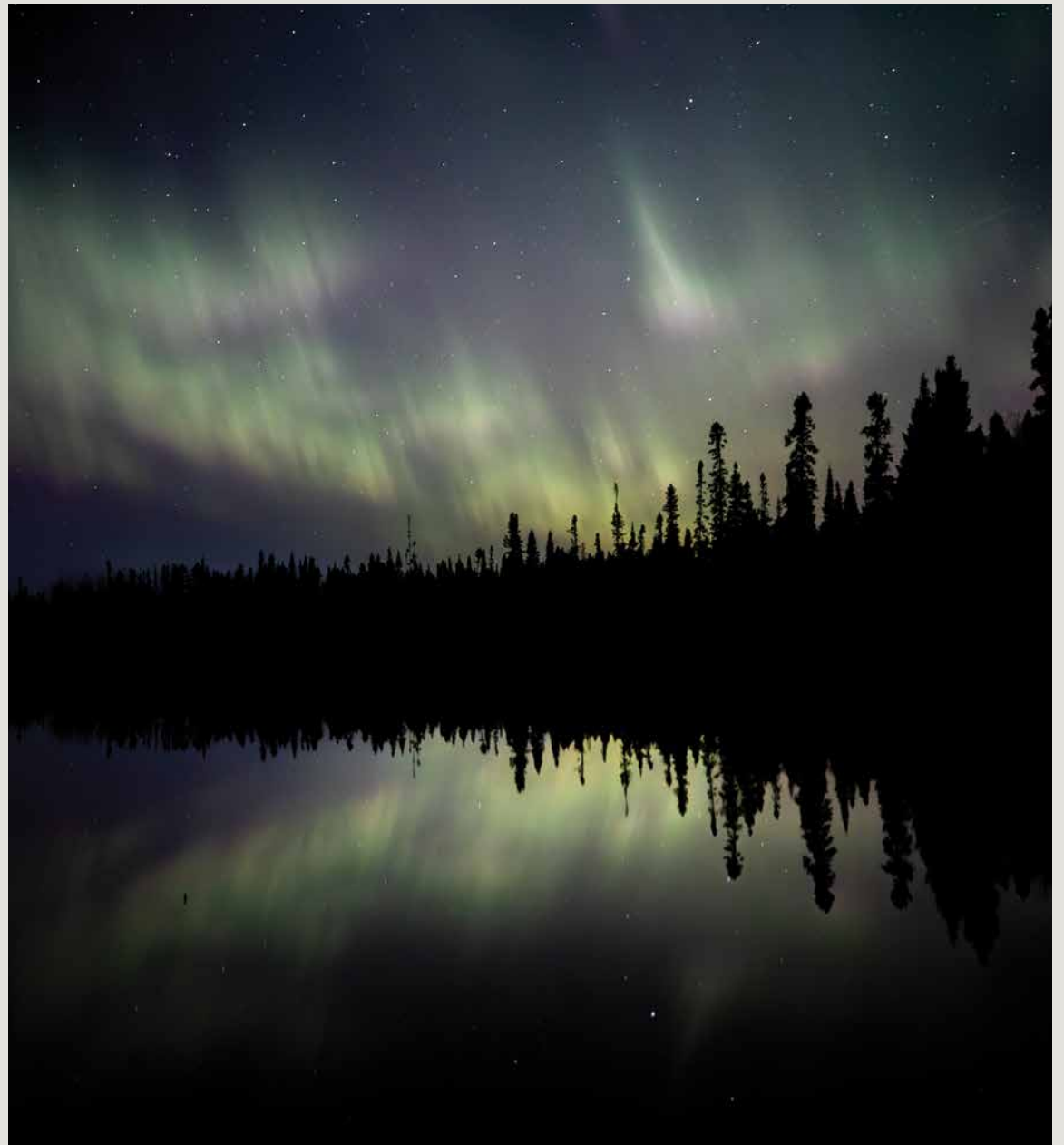


Conducting a First Nations Traditional Knowledge (TK) Study for the Purpose of Environmental Assessment

SUPPLEMENTARY
TOOLS & RESOURCES

02



INTRODUCTION

This module of the Toolkit is intended to guide you through potential approaches to lead your own Traditional Knowledge (TK) study for the purposes of an environmental or impact assessment process. “Indigenous Knowledge” or IK is another term that is broadly used, including by the Impact Assessment Act. It is important that you use the terminology that your community or organization is most comfortable with.

As noted in the Environmental Assessments Module, environmental assessments (EAs) are public processes legislated through federal, provincial or territorial governments in Canada. EAs are intended to support government planning and decision making. It is important to keep in mind, as you work your way through the EA process, that whatever information you share, even if confidential, can still be made public in particular circumstances. There are also growing trends and developments in the broader context that can inform your TK approach in EAs, especially in protecting your knowledge from misuse.

The TK study will generate documents, maps and databases of knowledge that was primarily held and expressed orally and through lived experience. Once documented, they

can become “knowledge” or “data.” You may decide it is important to share your knowledge, but it is equally important to know how to protect or govern how that knowledge will be utilized by others for the benefit of your

Indigenous Data Sovereignty

Indigenous Data Sovereignty is the ability for Indigenous peoples, communities and Nations to participate, steward and control data that is created with or about themselves. The term sovereignty refers to the fact that Indigenous Nations are sovereign in their governance and that extends to their data and Knowledges as well. It recognizes that Indigenous people are the ultimate authority in their data and Knowledges and aims to redefine Indigenous peoples’ relationship to research from being participants or subjects to being meaningful partners and co-researchers.

Source: Indigenous Studies. Updated February 28, 2003. Indigenous Data Sovereignty. University of Toronto Libraries. <https://guides.library.utoronto.ca/indigenous-studies/datasovereignty>

Indigenous Data

Indigenous data is any information that is from or about any Indigenous person or their community, territory or nation, including but not limited to their languages, Knowledges, customs or traditions, intellectual property and ideas (pp. 9-10). (Indigenous innovation initiative, 2021).

Source: Indigenous Studies. Updated February 28, 2003. Indigenous Data Sovereignty. University of Toronto Libraries. <https://guides.library.utoronto.ca/indigenous-studies/datasovereignty>

community. Many First Nation share this concern and have developed protocols to protect knowledge from misuse. Indigenous data sovereignty is an important idea and practice that has emerged in recent years to guide the protection of your knowledge.

First Nations people flourished on their territories for thousands of years based on their own knowledge systems. This means that TK has been informing environmental decision making in First Nations for longer than any other knowledge system (e.g., science). TK has a proven track record of thousands of years

for environmental protection. It important to trust our own knowledge. Embracing and trusting TK does not mean rejecting other knowledge (e.g., science); it simply means putting a high value on TK and protecting it for future generations. As such, it becomes important to ensure the involvement of youth in your TK study and governance.

As noted in the Environmental Assessments Module, conducting TK studies assists with a First Nation's ability to protect inherent rights. Systematically gathering and documenting TK provides you with the knowledge/evidence to demonstrate how a proposed activity (e.g., mining, forestry) will impact your rights and territories. For example, knowledge of fish and wildlife (spawning, migration and habitat) can influence what kinds of activities can or cannot take place on your territories. If fish or wildlife are impacted in negative ways, the decimation of their population will impact a First Nation's treaty right to fish, trap and hunt.

What is a TK Study?

The TK study gathers and documents the knowledge that underlies a way of life. Many people confuse land use and occupancy studies (LUOs) with TK studies. These studies certainly overlap, and both types of studies can inform each other in productive ways. The LUO originated as part of land claim processes, especially in areas of Canada where there were no historic treaties. These types of studies usually map the areas that a certain group of people (e.g., Nisga) “used,” such as hunting, trapping, gathering, fishing, travel routes, etc. The focus of the study is often where geographically these activities took place. “Occupancy” refers to which geographic area a certain group of people managed or governed. LUOs are needed as evidence that different Nations lived in particular areas and engaged in traditional activities, to prove they have Aboriginal

rights and title or treaty rights. An LUO often seeks much of the same information as TK studies and often results in maps and reports. An LUO also uses similar data-gathering methods (e.g., interviews).

TK studies often include the same elements of a LUO study. However, TK studies include the foundational knowledge that underlies why certain areas were best for harvesting and why such geographic locations were selected, as well as knowledge of the wildlife species, geography and ecology of the region. TK studies also include spirituality, philosophy and governance: topics that are often hard, if not impossible, to map. TK includes the relationships that the people have with the natural world (tangible and intangible). For example, the Assembly of Nova Scotia Mi’kmaq

Chiefs, in their 2007 Mi’kmaq Ecological Knowledge Study Protocol, describes their knowledge of MEK as follows:

“MEK” means Mi’kmaq Ecological Knowledge and includes the collection and adaptation of knowledge that Mi’kmaq people have with all components of the natural environment and the interrelationships that exist between all life forms from a unique historical, cultural and spiritual perspective (p. 7).

The document describes a MEK study as follows:

“Mi’kmaq Ecological Knowledge Study” means all components related to the planning, collection, analysis, reporting and distribution of Mi’kmaq Ecological Knowledge in Nova Scotia (p. 7).

TK studies, similar to LUO studies, can be employed as evidence for rights. In the case of EA, both kinds of studies can show how the First Nation’s “rights” may be impacted by proposed development. TK studies are much broader than LUO studies, include deep and vast knowledge about an area, or species, or an activity, including cultural, social, spiritual and relational aspects.

Look at it this way: TK forms the basis of land use and occupancy studies, even if one cannot always document or map a “relationship” to the natural world. It would be impossible to conduct a land use and occupancy study without TK.

TK on Par with Western Knowledge and Science

As there is increasing interest in the knowledge held by Indigenous people

relating to environment/sustainability, it is important to emphasize that TK is equal to and on par with western science.

What is an Indigenous/Traditional Knowledge?

The Assembly of Nova Scotia Mi’kmaq Chiefs, in their 2007 Mi’kmaq Ecological Knowledge Study Protocol, describes their knowledge through the concept of *Netukulimk*.

TK is based on the relationship to the natural world and knowledge generated from those relationships. For example, in the Mi’kmaq cultural tradition, the concept of *Netukulimk* – a concept which includes the use of the natural bounty provided by the Creator for the self-support and well-being of the individual and the community at large. *Netukulimk* also encompasses ecological beliefs through the interplay of collective and individual responsibilities of the Mi’kmaq to the natural world. Such relationships with the land are holistic in nature and consider many aspects of the natural and spiritual world.

MEK is not static. It is constantly reanalyzed and tested through the experiences of new generations of Mi’kmaq. This experience considers and incorporates new and emerging resource issues, thus enabling reliable MEK data to emerge through a shared experience (p. 6).

Land Use and Occupancy Studies or Mapping

The land use and occupancy mapping or studies “refers to the collection of interview data about traditional use of resources and occupancy of lands by First Nation persons, and the presentation of those data in map form. Think of it as the geography of oral tradition, or as the mapping of cultural and resource geography” (p. xi).

Source: Tobias, T. 2000. *Chief Kerry’s Moose. A Guidebook to Land Use and Occupancy Mapping, Research Design and Data Collection*. Union of BC Chiefs & Ecotrust Canada. https://fngovernance.org/wp-content/uploads/2020/06/Land_Use__Occupancy_Mapping_Guidebook.pdf

Use refers to how people “used” the territories (hunting, trapping, fishing), and the geography where people engaged in these activities. **Occupancy** refers to the area that people regard as their own to govern/manage.

Some EA processes recognize the value of TK as a principle, but it continues to be a challenge in practice. Ensure that you are comfortable that your knowledge will be respected and regarded as credible and on par with western science when utilized in decision making. Build into your TK study a transparency and accountability framework that ensures your knowledge is not marginalized and is respected.

First Nation Led

It is a growing trend that First Nations peoples will lead their own EA processes as described in the Indigenous Laws Module of this Toolkit. This principle also holds true for TK studies, whether you are leading the EA process or not. That is, even if the government, proponents or their consultants are leading the EA process, you should still lead the TK aspect of the EA. “First Nations led and driven” may mean employing a number of strategies that ensure you maintain governance over your own knowledge. If a situation arises where you are unable to conduct the TK study yourself and find yourself in a position of hiring consultants to do the work, you still must lead and direct the study even if others are doing the work. You must retain all decision making over your own knowledge.

Please see examples of First Nations-led EAs in the Indigenous Laws Module.

Conducting a TK Study

There are various ways in which a TK study can proceed in a community. Ideally, the process should be a community-led process with the community leadership in the driver's seat. The following guidelines may be useful to you as you begin this process.

Once a community has become involved in an EA, there should be some degree of familiarity with the project (e.g., mining, forestry, hydroelectric development). The community can then decide if it wishes to share TK in an EA context. It is best that the community have basic and sufficient information on the project to make an informed decision of the potential benefit of TK in the project. If the community does not have this information, then it is important to acquire it. It is important to make informed decisions rather than react to unreasonable

demands and timelines by governments and proponents.

First Nations have different ways of conducting business in their communities and relating to external agencies/interests. Community-based political and cultural protocols must be observed and respected. It is also important to note that First Nations and government agencies have different points of view of the value and effectiveness of EAs and their considerations of TK. As noted earlier, government agencies administering EAs are fulfilling their legislative, regulatory and policy objectives. First Nations believe environmental assessment is part of the fulfilling responsibilities for protecting the environment for future generations. TK is very important to First Nations in environmental decision making and forms an essential part of any

Stewarding and Caretaking of TK

Governing your own knowledge means you have the right and responsibility to determine the way this knowledge/data is collected/gathered, accessed, analyzed, interpreted, disseminated, utilized and managed. TK is intended to improve the well-being of your community and people, and thus it is important to ensure you derive benefit should you choose to share your knowledge. TK should be applied in ways that benefit your community as well as benefit the EA process.

process. While government agencies often regard TK as “additional” information or “nice to get if we can,” First Nations regard TK as absolutely essential for decision making. It is important to understand that not all parties share the same value system, and much learning and negotiation will occur over time to conduct an EA and incorporate TK respectfully.

TK studies can assist you in describing how your First Nation’s citizens and environment will be impacted by any proposed activity. These studies can help you defend your inherent and human rights.

Strategies for Conducting a TK Study

Although a TK study for the purposes of an EA is intended to meet policy, legislative and project review processes, you must also consider how the TK can benefit your community beyond the EA project. TK studies may have co-benefits to your community.

Before you begin your engagement with any proponents, work with your First Nation to come to some consensus around what you wish to define or how you wish to conceptualize your TK. Do not permit external people – including consultants who may work for you – to do this; it is a

Some questions to consider:

- 1. How will participation in this study benefit your community and peoples?**
 - 2. Will participation in this study protect your rights?**
 - 3. Will participation in this study protect or enhance TK?**
 - 4. How can TK gathered in this study benefit your community and peoples?**
 - 5. Will participation in this study protect the environment for future generations?**
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community decision. Ideally, the concept/definition should be in your language. As noted earlier in this section, the Mi’kmaw employ the concept of *Netukulimk* as the most appropriate term to use to describe the knowledge that informs their relationships with the natural world.

Step-by-Step Process for Conducting a TK Study

Step 1: Make the Decision to Include TK in the EA Process

The decision to conduct a TK study and share this knowledge more broadly (and often on the public record) must have community support. The community leadership should discuss and decide how the inclusion of TK in the EA process will benefit their community. As early as possible in the process, the community

leadership should consult with community members, Elders, TK holders, and practitioners and staff who hold environmental responsibilities as part of their employment. If the community leadership decides that a TK study should be included as part of the EA process, various options should be explored for how this goal can be approached.

If TK is regarded as an important part of the EA process, then the community leadership may inform the proponent or governments that a TK study is required and request funding.

The community leadership may also request assistance/guidance from other First Nations who have faced similar challenges, or from their tribal council (if they have one) or provincial/territorial organization.

Communities need to make decisions on two very important questions:

- a. Whether TK will be included in the EA in the form of a specific stand-alone TK study; and
- b. Whether TK will be part of the formal EA through continuous engagement throughout the EA process in various ways.

First Nation Decision-making Authority

First Nations have a diversity of decision making or governance structures in their communities, from local to regional (tribal council) or treaty level (e.g., Grant Council Treaty # 3). Some First Nations may wish to keep the EA process and TK study separate from the political realm. However, most First Nations may not have the capacity to do so, or separating the EA and TK process from political processes may not be practical or appropriate. Such a decision is up to the First Nation.

A community may well decide both approaches are important. If this is the case, the community can request a study be conducted and engage throughout the project, sharing TK as relevant and appropriate.

As described in the Environmental Assessments Module, proponents (including governments) are seeking TK due to requirements in legislation (e.g., *Impact Assessment Act*, *Fisheries Act*). In fact, the federal government has developed an Indigenous knowledge policy framework, as have some provinces (e.g., British Columbia). External proponents will be requesting your TK; however, you are not under any obligation to share it. You are in the driver's seat: you decide if it is in your Nation's best interest to do so (e.g., protect rights, better environmental decision making). If you decide that sharing (and protecting) your TK is in the best interest of your Nation, future generations and environment, set the terms and conditions for the inclusion of TK in the EA.

Step 2: Determine Study Scoping and Description

It is important that the proponent or government agency provide you with project information and other relevant documents that will assist you in determining the scope of the study and what TK is appropriate for the study. Your First Nation will determine the scale and scope of the TK required to assess the impacts of the project.

Provide your TK protocol and preferred process to the proponent or government agency. Here are some considerations for the scope:

- TK is continuously transforming and thus it is important to ensure that the most recent knowledge is gathered (previous studies are important, but are not up to date).
- The nature of TK required for the study may go beyond the project footprint as determined by the proponent.
- Clearly state the type of TK required for the EA project. The community may feel that some elements of TK that may not be typically considered (e.g., spiritual knowledge) should be included.

Step 3: Establish a TK Committee

The primary responsibility of the TK Committee is to **oversee the TK process** in the community. Once a community has made the decision to include TK in an EA, responsibility must be assigned to make it happen. Responsibility for TK is a collective responsibility and must be shared at the community level. One strategy to achieve broad-based community input into TK work is to assign the primary responsibility to a key group within the First Nation.

The leadership should appoint a TK Committee, comprised of at least one political representative (leadership). Some communities may also wish to assign the TK portfolio to a counsellor so that reporting back to the leadership can occur on a regular basis. Other participants to consider for the TK Committee are well-respected Elders representing expertise, various genders and ages, interested community members and knowledgeable staff. Such a committee should ensure that varying ideas, knowledge and expertise is considered throughout the course of the EA. Such a process recognizes Elders, TK holders and practitioners as decision makers and not simply study subjects.

It is increasingly common to include robust youth representation in such committees. A political representative ensures accountability back to the community. A committee ensures that more than one person stays current and involved in the project. Some TK Committees also appoint resource people with specific expertise relating to the project (biologist, etc.). Ultimately it is up to leadership to determine the composition of the TK Committee.

The TK Committee may then appoint a TK coordinator or project manager to assume responsibility for supporting the Committee.

Roles and responsibilities of the TK Committee may include the following:

- Oversee and manage the TK study and ensure the protection of TK as well as TK holders;
- Determine and request the required resources to engage in your TK process properly;
- Review all relevant project information on an ongoing basis;
- Ensure access to the community and TK holders is approved;
- Provide advice, guidance and support to the TK coordinator;
- Work with the TK coordinator to identify goals and objectives of how to include TK in the EA;
- Facilitate community participation;

- Report back to the community leadership;
- Assist with the management and coordination of the TK study, and retain necessary professional TK researchers if needed;
- Ground truth the knowledge/information/data with the TK holders;
- Determine how best to manage the knowledge/data collected;
- Engage with TK holders in the analysis and interpretation of the TK;
- Determine the best strategy(ies) for including TK in the EA;
- Coordinate training of the government agencies and proponents for cultural sensitivity training; and
- Ensure transparency of the process and accountability of the proponent/government agency/consultant for what happens to TK in the EA process.

The role of the TK coordinator/project manager may include:

- Work with the TK Committee to ensure decision makers have information to make informed decisions;
- Develop terms of reference for the TK Committee (roles, responsibilities, reporting, accountability);
- Ensure EA process timelines are met, or request extensions;
- Report back on activities to the political leadership and broader community;

- Develop a TK study proposal in co-operation with the TK Committee for review and approval by the community and leadership;
- Advise on the progress of the TK study;
- Be the main point of contact for all parties involved in the research;
- Monitor the budget and timeline;
- Ensure the TK study is completed;
- Ensure transparency and accountability in the project;
- Review the TK report and maps with the community to ensure accuracy and that intellectual property is adequately protected; and
- Arrange community meetings with the proponent.

In many instances, a community will decide to pursue a formal TK study. The advantages of conducting a formal TK study are that the process can be transparent and to ensure a degree of accountability back to the community. A formal TK study can also be utilized by the community for other initiatives or community-based projects. The major challenge in conducting a formal TK study is acquiring the necessary funds to conduct a study.

The following sections assume that a community has decided to conduct a formal TK study as the best way to include

It is not appropriate to allow proponents or external consultants unfettered access to community members, youth and TK holders. It is important to ensure that you control access to community members, youth and TK holders. You also have a responsibility to protect TK holders and to ensure they are respectfully compensated for their time.

TK in the EA. These same steps apply even if you decide you require external assistance for the TK study (whether in full or in part). You must develop your own relationships with the proponent or government agency, and not leave that engagement to others.

Step 4: Meet the Proponent and/or Government Agency

It is very important that the community leadership and the community are provided with opportunities to meet with the proponent and/or government agency, and, if requested, any other relevant party. Face-to-face meetings provide opportunities for the community and the proponent

and/or government agency to exchange information and ask questions. At these meetings, the proponent and/or government agency should:

- Provide full disclosure of the purpose and objectives of the study;
- Outline the EA process (length of time, government agencies involved);
- Indicate if other First Nations are involved or engaged;
- Clarify how information provided by the community will be used in the EA;
- Provide details for their process of protecting knowledge or keeping it confidential;
- Clarify if information will be public and who will have access to it (who owns the information); and
- Support and participate in cultural sensitivity training to ensure that external agents appreciate the unique historical, political, legal, social and cultural aspects of your community.

Relationship building is an important part of EA processes and is particularly critical for the conduct of TK studies. It is reasonable to expect that proponents, consultants, government agencies obtain the necessary cultural sensitivity training and knowledge of the colonial history of Indigenous Peoples.

Step 5: Ensure Community Engagement and Knowledge Sharing

A good TK study involves the community at all stages. TK input in an EA will be strongest if the community is informed of and supports the study. Input should be sought on:

- the EA process (and scope of the study), and who wants the TK and for what purpose;
- TK that is relevant to the project;
- who should be involved in the study to ensure adequate representation from women, youth and others;
- what TK to include or not include in the TK study;
- interest to participate on the TK Committee;
- draft reports/maps and other forms of information;
- what TK is appropriate to share externally;
- any conditions on sharing TK externally; and
- expectations for how TK should be respected (on par with western science).

It is important to document any concerns that the community may have about the project and TK work.

Step 6: Engage with TK Holders

It is important to identify TK holders likely to participate in the TK study. Familiarity with the Indigenous languages involved is critical in this work. Ensure that TK holders are able to share knowledge in the language of their choice. It is important to discuss the following with community members and TK holders:

- Describe what knowledge will be sought and collected;
- Gather input on how TK holders wish to engaged;
- Give a timeline for the knowledge collection;
- Determine any preferences of the TK holders;
- Explain what will be asked of the TK holders (e.g., analysis, interpretation, verification of knowledge/data);

- Outline what their involvement will look like over the course of the project (what will be asked of them); and
- Share knowledge back in a form that is accessible and makes sense.

Throughout the project, it is important to keep TK holders informed and engaged, and also to obtain input from the community and TK holders at the beginning of the TK work.

It is also important here to develop a process for how you will resolve disagreements within the TK study itself. Approach this task with humility and respect.

It is important to protect and respect TK holders as well as their knowledge. To ensure TK holders are meaningfully engaged, ensure that you:

- **Obtain consent (on an ongoing basis);**
 - **Share knowledge back in a timely way;**
 - **Ask for verification that you have correctly understood the TK that was shared;**
 - **Involve TK holders in analysis and interpretation;**
 - **Honour requests for changes; and**
 - **Respect their wishes in terms of confidentiality.**
 - **Report back to TK holders for how their knowledge was used in the study.**
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Step 7: Develop and Design a TK Research Plan

The TK coordinator, in collaboration with the TK Committee and with input from the community leadership and community members, should develop a TK research program. Research that is designed to benefit First Nation communities follows very specific principles and methodologies. First Nation communities and organizations have developed research protocols, guidelines and templates for developing community-based research programs that involve TK, and these can serve as useful guides for designing a TK study. For the purposes of including TK in EA, the TK project coordinator would develop a study proposal for review and approval by the community, including relevant project information, study design, budget, timeline, TK research personnel and capacity building.

a. Relevant Project Information

It is helpful to have large-scale maps that show where the project is located in relation to your community, your traditional use and treaty areas. As well, it is useful to have details on the potential effects of the project (e.g., types of air and water emissions, locations of land disturbance and stream crossings).

Often the proponent will provide project information in its initial contact with community leaders or will have scheduled an open house where members of your community can learn about the project. Sometimes the regulatory agency will provide this information.

If possible, it is helpful to acquire information on similar projects and their environmental impacts, particularly on First Nations. Gathering information on First Nations experiences with similar processes in terms of scale and scope and the nature of the project will be useful in determining the requirements for a TK study.

Furthermore, learning from the experience of other First Nations may be useful in terms of lessons learned or the possibility of utilizing similar approaches and methods for conducting a TK study. It is important to seek information on the project in advance of a meeting with the proponent so you are prepared with relevant questions.

b. Study Design

An initial study design clearly sets out such things as:

- the overall approach to ensure community input and guidance (e.g., communication strategy);

- the objectives of the research in relation to the EA process and the project being reviewed;
- the identification of other benefits the research may contribute to the community;
- the methodology to be used to collect and evaluate the data;
- how analysis, interpretation and verification of the knowledge/data will take place;
- the tasks or steps required to complete the research;
- how the results of the research are to benefit the First Nation in its assessment of the project;
- how it will assist in impact prediction or environmental management of the project; and
- how TK will be shared and protected (how intellectual property will be protected).

Generally, a TK study consists of conducting research to document TK knowledge of particular areas and gather information on the concerns of community members. TK research involves working with people and, therefore, ethics is a primary consideration. TK studies normally include: interviews, focus groups and field visits with Elders, TK holders, TK practitioners and other key individuals; mapping activities with community members; community meetings; site visits; and TK verification activities.

Do Your Homework

Research and find any existing information that already exists relating to your study. Collect existing information on land use and occupancy in the geographic region of importance to your First Nation. Information can be gathered from the following sources:

- archaeological studies, sites and artifacts;
- audio and video recordings;
- land use and occupancy studies;
- place names, burial sites, etc.;
- petroglyphs, photographs, pictographs;
- relevant maps; and
- other studies (previous TK studies, EA studies).

Securing existing knowledge, data and information can provide you with context of land and current/traditional activities in the area your community has determined is important for the TK work.

c. Budget

The budget for a TK study usually in-

cludes the costs of hiring researchers (including community-based researchers) to conduct the study, and possibly hiring an overall project manager. Costs for a TK study may include:

- honoraria for TK holders;
- fees for translators for their participation in the research;
- gifts/Tobacco depending on the cultural protocols of the community;
- travel (for workshops, interviews, focus groups, etc.);
- costs for community meetings (refreshments and meals);
- administrative support and office supplies, including equipment such as cameras, tape recorders, video cameras, etc.;
- potential costs associated with site visits and groundtruthing (e.g., helicopter, boat rental);
- mapping, visual aids and printing;
- possible consulting fees for specialized professional services;
- costs associated with archival research; and
- salary for community-based researchers (e.g., hiring youth to conduct interviews).

d. Timeline

- The timeline for a TK study usually depends on the nature of the project.
- Timelines are driven by the EA process.

- Respect community timelines (decision making).
- Respect the preference and comfort level of TK holders.
- An important consideration is also to understand that the community may have competing priorities and community members may already be heavily committed to other projects.

e. TK Research Personnel

TK research can be an enormous undertaking, and the TK Committee and coordinator must consider whether hiring TK personnel is critical to completion of the study. If a community decides to hire TK personnel to assist with their TK study, there are important criteria to consider.

- Ideally the TK researchers should be from the community. If you have capacity within your community to conduct your own research, this would be the best route to take.
- If at possible, the overall project manager should be from the community, even if he/she is not conducting the research per se.
- If it is not possible to retain TK researchers from the community, then consider hiring researchers from outside the community. Some qualities to consider include:
 - » technical skills (mapping, GPS, GIS, etc.);

- » fluency in both the language of the community and English;
- » working knowledge of cultural protocols and respect for the Elders and TK holders;
- » experience working with people of varying generations and experiences;
- » ideally some experience on the land; and
- » people skills: enjoys working with people, keen, understanding and patient.

TK personnel should understand how to use a geographic information system (GIS), which is a helpful tool for mapping, storing and retrieving TK information. Consider its usefulness when considering the design of the study and when deciding how to store the TK your First Nation is gathering. It is important to check any researchers' qualifications. Request copies of their previous work to assure yourself of their abilities, and check with other First Nations to see what their experience has been with

consultants you are considering using. The terms of reference for the TK researchers may include:

- the scope of work and budget;
- the research process and methodology;
- confidentiality and communication protocol;
- prior and informed consent process from the community and Elders, TK holders, etc.;
- how the information will be used;
- limits to the use of your information;
- the reporting structure for the researchers (project manager and TK Committee, community leadership);
- a clear statement that your First Nation retains proprietary rights to all materials, maps, documents and the final report;
- clearly set-out information on how your community will participate in the analysis, interpretation and review of the TK study;
- how community input will be considered and how revisions will be made.

Special Note

In some cases, a proponent or government agency will hire consultants to conduct their EAs. The proponent or government agency may propose that this consultant also conduct the TK study on your behalf. If possible, negotiate to conduct the TK research yourself to retain control over the process and deliverables (knowledge).

If you are unable to negotiate and acquire funding to conduct the study yourself, you may choose to insist on hiring an independent consultant of your choice. There can be advantages to hiring an independent consultant because they are not also working for the proponent, and may be able to help you strategically. If you must hire expertise from outside your community, ask them for (and check) references (in particular from other First Nations). All external contractors must also take community-based cultural sensitivity training.

In all cases, it is advisable to **appoint a TK Committee to guide the process, direct interactions within the community and ensure the study benefits the community**. Remember, it is not possible to do a rigorous or proper TK study without co-operation from the community and from Elders and TK holders.

If a community decides to hire TK personnel for a TK study, there are many important criteria to consider, such as fluency in ancestral languages and knowledge of community cultural protocols. Ideally, you wish to retain TK personnel from your own community; if this is not possible, ensure that the assistants (consultants, contractors) you require and acquire are *culturally* and *professionally* qualified.

f. Capacity Building

Conducting a TK study offers the opportunity to build capacity within your community. If you decide to hire a consultant from outside the community or if you are working with the proponent's consultant, ensure there is a training component in the work to be completed. For instance, if someone in your community or on staff would like to learn about TK research, this presents an opportunity for them to work with the researcher and become familiar with TK.

Step 8: Present the TK Study Proposal to the Community

When the TK study proposal is completed and personnel are selected, the project coordinator presents the proposal to the community, TK holders and leadership. Community members and leaders review the proposal and make suggestions. If approval to proceed with the study is given, the TK personnel are hired and the study begins. It is important that community members and TK holders are comfortable with the methods proposed for gathering knowledge/data and for how such information will be reported to them. Clearly indicate how you will obtain consent, ensure confidentiality, and analyze, interpret and

verify data with them. Indicate how you will report back to them the results of the input into the EA process – in other words, how their input influenced EA decisions.

Obtain any input or feedback from the community and incorporate such input in your approach. You should consider meeting with TK holders, ideally as a group, to obtain their input into the TK study proposal. Ensure youth and community engagement. These considerations are especially important if you find yourself hiring an external contractor/consultant to conduct the TK study.

Step 9: Conduct the TK Study

A TK study may consist of the following steps:

- a. Develop a communication and engagement strategy for the community to provide transparency of the TK study process, and arrange for venues where community members can express concerns.
- b. Conduct secondary research: archival research, similar impacts on other First Nations, previous TK studies if any, etc.

- c. Work with the TK Committee, leadership and TK personnel to identify key Elders, youth, community members, TK holders and others who have relevant information. You decide who your TK holders and Elders are.

Generally, individuals in the community who have or are likely to have knowledge relevant to the people or area affected by the project will already be known within the community. If not, identify them through a process of consultation with community leaders, Elders and other knowledgeable people. Make sure that each participant is fully informed about the objectives of the study and is willing to participate. Each person who participates must give prior and informed consent to share their knowledge. The consent should be recorded (in writing or orally).

- d. Conduct information-gathering sessions with the community, including TK holders, Elders, leaders, youth, etc.

An information-gathering session is an effective way to start documenting TK for an EA. This usually consists of a presentation and a question-and-answer session about the project, followed by a discussion with the TK holders about their tradi-

tional knowledge and any concerns about the project. You could ask the proponent, its consultants, or the regulatory agency to give your community a presentation about the project. Or, if there is someone in the community familiar with the project and its potential effects, he or she could give the presentation.

- e. Conduct information-sharing sessions with the community, including TK holders, Elders, leaders, youth, etc.

An information-sharing session with TK holders, Elders, etc., is also important. This may consist of focus groups or field visits. Be respectful. If Elders want family members or youth to be present, then please accommodate. Many Elders and TK holders also wish to share their knowledge with family and community members as well.

Comments made by TK holders will often fall into the following categories:

- » concerns about how the project will affect the environment or community at the chosen location;
- » information about the environment at this site, particularly in the past;
- » suggestions for how the project design could be improved to better protect the environment;

- » questions about the project and intentions of the proponent; and
- » past grievances and history of the community.

It is useful to document – with their full and informed consent – any knowledge shared by Elders, TK holders, leaders, youth and community members. If information is shared that is appropriate to map, then do so following appropriate methodology (see the Developing Your Own TK Protocol Module for further information on TK research methods and mapping techniques).

- f. Conduct site visits with TK holders.

Site visits with TK holders, Elders, leaders, youth and interested community members can be a valuable aspect of a TK study, as they allow for the documentation of general knowledge about the area and specific issues related to the proposed locations of project facilities such as plant sites and roads. Helicopter flights are often helpful, especially for large projects.

- g. Ensure TK holders are comfortable sharing knowledge. Offer to have a family member or trusted friend sit with them while engaging with them.

- h. Compile information in a format that is transparent, and ensure accountability (and perhaps ensure confidentiality, depending on the wishes of the TK holder).

When research is complete, it needs to be compiled along with any previously documented information. The information may be assembled into a map, visual aids and a report.

- i. Review the report, visual aids, maps, videos and any other outputs from the TK study.

Once the study is complete, it is important to review it to make sure that you are comfortable with the information and how it is presented. The TK Committee should review the report for accuracy, confidentiality and intellectual property. Community members should also be provided with opportunities to review the report if they wish.

The TK Committee and key reviewers may include the project coordinator, community leaders, TK holders, youth and community members. Once the report is complete and has had an initial review, the results are reported to the community for their review, verification and approval.

j. Maintain TK information.

It is important to have a system to keep track of TK information so it can be used in the future. This may be as simple as keeping copies of the report and maps on file in your First Nation's office.

It is important to ground truth TK information. Individual TK holders may have different experiences or sources for their information. In addition, there may be changes in the environment over time due to natural variation or other factors (such as climate change) that may affect the accuracy of the TK collected.

k. Analyze, ground truth, interpret and verify TK.

Engage in initial analysis and interpretation of the knowledge/data gathered. Prepare a preliminary report to share with the community and TK holders, and present it back to the community. It is important to confirm your interpretation, make corrections if required and verify your findings. This may require more than one meeting.

Ensure the option exists for groundtruthing or making a site visit to the land for TK holders. Groundtruth-

ing may require travel to and from the locations and areas (lands, waters, etc.) that people may speak about. Spending time on the land/waters may elicit more information/memories and in-depth knowledge.

Confirm with TK holders what information/data they would prefer to withhold from the proponent/government agency. Confirm information/data that must be kept confidential if shared. **It is important to reiterate the public nature of EA processes.**

There are already several excellent documents that describe methods for conducting TK research. See the Developing Your Own TK Protocol Module for TK protocols developed by Indigenous Peoples that include data-gathering methods.

Step 10: Present Interim TK Study Findings to the Community, Youth and TK Holders

It is important to continually engage the community, youth and TK holders throughout the processes. Once the initial reports and outputs (maps, etc.) have been prepared, present that information back to the community for further input, to clarify interpretation and to verify the findings.

Present the preliminary findings to the leadership as well. The interim report is confidential and is not to be shared externally until community and leadership approval is granted.

Special Note

Depending on the outcome of the TK preliminary report and input received from leadership, community, youth and TK holders, more research may be required. Every effort should be made to obtain the information that the interim review may have identified as missing.

Step 11: Follow Up with Proponent/Government Agency and Evaluate the Process

Once approval has been granted by the community and leadership to share the report with the proponent and/or government agency, arrange a face-to-face meeting to present the main findings. Ensure time for the proponent/government agency to review the TK study, and for opportunities for further engagement to answer questions or make clarifications.

It is critical here to request transparency and accountability. Request that the proponent and/or government agency report back to the leadership and community, ideally in a community meeting, about how the TK study/work influenced any decision making in the EA process. Request that the proponent and/or government agency explicitly indicate where TK was utilized. If the TK shared was not utilized, the proponent and/or government agency must clearly explain why.

A very important aspect of TK work is to report back to the community on the results of the study and how TK was used in the EA. This process holds the proponent and government agency responsible and accountable to the community. The proponent should be invited back to the community to report on how it utilized TK in the EA and made changes based on TK. This provides the community with further opportunities to provide input into the process and gain more knowledge of the EA process.

Every TK study and EA process is different. There is something to learn from every process, and it is important to gain experience and capacity for future reference, and to share this with other First Nations should the opportunity arise.

Summary: 11 Key Steps to Conducting a TK Study

Step 1: Make the Decision to Include TK in the EA Process

The decision to conduct a TK study and share this knowledge more broadly (and often on the public record) must have leadership and community support and take place as early in the EA process as possible.

Step 2: Determine Study Scoping and Description

It is important that the proponent or government agency provide you with project information and other relevant documents that will assist you in determining the scope of the study and what TK is appropriate for the study. The First Nation will determine the scale and scope of the TK required to assess the impacts of the project.

Step 3: Establish a TK Committee

The primary responsibility of the TK Committee is to oversee the TK process in the community. Once a community has made the decision to include TK in EA, responsibility must be assigned to make it happen. It is important to ensure that a variety of perspectives are represented on the TK Committee (e.g., youth, women). Support staff and resources should be allocated to support the TK Committee.

Step 4: Meet the Proponent and/or Government Agency

It is very important that the community leadership and the community are provided with opportunities to meet with the proponent and government agency, and, if requested by the First Nation, with any other relevant party. This should ideally be done face to face and in the preferred location of the First Nation.

Step 5: Ensure Community Engagement and Knowledge Sharing

A good TK study involves the community at all stages of the project to ensure all relevant perspectives are included in the study.

Step 6: Engage with TK Holders

It is important to identify TK holders likely to participate in the TK study. Familiarity with the Indigenous languages involved is critical in this work. Ensure that TK holders are able to share knowledge in the language of their choice. It is important that TK holders are informed and engaged throughout the project. It is important to obtain input from the community and TK holders at the beginning of the TK work.

Step 7: Develop and Design a TK Research Plan

The TK coordinator, in collaboration with the TK Committee and with input from the community leadership and members, should co-develop the TK research program. Research that is designed to benefit First Nation communities follows very specific principles and methodologies. Pay particular attention to the knowledge-gathering methods that make sense and are respectful of community protocols and practices. Ensure an appropriate budget is secured.

Step 8: Present the TK Study Proposal to the Community

When the TK study proposal and terms of reference are completed, and personnel

are selected, the TK Committee and project coordinator present the proposal to the community, TK holders and leadership for input and further guidance.

Obtain any input or feedback from the community and incorporate that input in your approach. You should consider meeting with TK holders, ideally as a group, to obtain their input into the TK study proposal. Ensure youth and community engagement. These considerations are especially important if you find yourself hiring an external contractor/consultant to conduct the TK study.

Step 9: Conduct the TK Study

A TK study involves a number of activities depending on what the leadership and community want. Key considerations include generating awareness and ensuring transparency of the study through information-gathering sessions with the community, including TK holders, youth, Elders, leaders, youth etc. If Elders want family members or youth to be present in any data-gathering activity, then please accommodate. Many Elders and TK holders also wish to share their knowledge with family and community members as well.

Once the study is complete, it is important to review it to make sure that you are

comfortable with the information and how it is presented. The TK Committee should review the report for accuracy, confidentiality and intellectual property. Community members should also be provided with opportunities to review the report if they wish.

It is critically important to establish a data management and governance system to house TK. Where data will be held and in what form (videos, transcripts etc.), and who will have access, are essential considerations.

Step 10: Present Interim TK Study Findings to the Community, Youth and TK Holders

It is important to continually engage the community, youth and TK holders throughout the process. Once the initial findings and outputs (reports, maps, etc.) have been prepared, present that information back to the community for further input, to clarify interpretation and verify the findings. Present the preliminary findings to the leadership as well. The interim findings are confidential and not to be shared externally until community and leadership approval is granted.

Step 11: Follow Up with Proponent/ Government Agency and Evaluate the Process

Once approval has been granted by the community and leadership to share the report with the proponent and/or government agency, arrange a face-to-face meeting to present the main findings. Ensure time for the proponent/government agency to review the TK study and provide opportunities for further engagement to answer questions or make clarifications.

A very important aspect of TK work is to report back to the community on the results of the study and how TK was used in the EA. This process holds the proponent and government agency responsible and accountable to the community. The proponent should be invited back to the community to report on how it utilized TK in the EA and made changes based on TK. This provides the community with further opportunities to provide input into the process and gain more knowledge of the EA process.

Ways to Include TK in EAs

After preparing a TK study, there are several ways you can incorporate it into the EA process, including:

- submitting TK directly to the EA process;
- contributing to the development of mitigation plans;
- participating in the proponent's baseline studies;
- presenting TK orally to a panel or at a hearing;
- contributing to the design of monitoring and follow-up programs;
- contributing to the development of impact benefit and other agreements; and
- as input into strategic or cumulative assessments.

Your community may decide to use TK in some or all of these activities. How you decide to include TK could depend on a number of factors, including the types of issues and concerns that your commu-

nity has about the project, the size and complexity of the proposed project, your relationship with the proponent, and the funding and time available.

Submitting TK Directly to the EA Process

TK information can be provided in your written submissions or as a stand-alone report to the Environmental Assessment Office or the Responsible Authority (in federal assessments) and/or to the proponent.

Submitting TK as a stand-alone report has the following benefits:

- It allows your First Nation to have complete control of the information that is submitted and that may ultimately become public.
- It presents TK in a comprehensive and systematic way, and can bring a lot of information together in a single document.

- It is easily distributed beyond the EA process itself, and so can become a useful public education tool.
- It provides a permanent record of how TK was used in a given EA process.
- It can be used in the community for other purposes.
- It can be submitted at any stage of an EA.
- Submitting TK as a stand-alone report has the following pitfalls:
 - It may difficult to incorporate into the EA process.
 - It simply may not get used: sometimes supporting a TK study is thought to be sufficient.
 - If the TK study is conducted later in the EA process rather than earlier, input is not considered in a timely manner.
 - It is more challenging to ensure transparency and accountability.

Using TK in the Development of Mitigation Plans

Your documented TK can help identify important mitigation measures that your First Nation needs to ensure are in place, either in your direct negotiation with the proponent or in written submissions to the regulatory agency.

It is important to ensure that you engage a wide cross-section of community members to manage bias or preferences of one group over another. All values and ideas should be considered equally in order to mitigate environmental effects appropriately.

Participating in the Proponent's Baseline Studies

Out of respect for the TK holders and the knowledge they shared, there should be a section for the recommendations which arise as a result of the provision of TK in the baseline studies.

Typically, proponents hire environmental consultants to collect baseline information and write the EA. The consultants usually conduct field programs including activities such as collecting water samples, mapping vegetation communities, surveying wildlife and fish, and conducting archaeological studies.

Presenting TK to a Review Panel

Some federal EAs are subject to a full public review by a review panel. If there is a review panel or public hearing in an EA process, this is an opportunity for TK holders to directly influence how TK is considered.

Panels are set up so that information presented by the proponent can be directly examined through a public process. Panel members hear submissions from a wide range of presenters, including the general public, First Nations, western scientists and regulatory agencies. The panel then makes a set of recommendations, in the form of a panel report, to the Minister of the Environment with respect to the project.

Direct involvement of TK holders in a panel hearing can increase the effectiveness with which the panel receives and understands the information. It will likely also increase the TK holders' sense of engagement in influencing events and decisions on behalf of their community. To be most effective in a panel review, select a project coordinator to coordinate your community's input into the review process.

As with evidence prepared for a court case, in this situation TK is the evidence to support the point or position your First Nation is making in the assessment. In planning the presentation, inform yourself about the scope and content of the available community knowledge that will be relevant to the assessment.

Using TK in the Design of Follow-up Programs

TK will be helpful in the design of monitoring programs, as well as for testing impact predictions. In your TK research, it will be useful to identify what things in the environment would need to be monitored from your community's perspective if the project were developed. TK can identify the indicators (e.g., change in land use intensity and harvest success rates) that can be used in effective monitoring if the project proceeds.

Recall that EA is a public process; be sure that the information you are about to present is appropriate and approved by your community for public disclosure.

REFERENCES

See the References & Resources Module for a full list of references to this section.