CULTURE AND RIGHTS IMPACT ASSESSMENT

A Survey of the Field

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MIKISEW CREE
FIRST NATION

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Culture and Rights Impact Assessment: A Survey of the Field

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Executive Summary

THERE IS TREMENDOUS OPPORTUNITY for improvement in the approaches taken to the study of culture and rights in Canadian regulatory and land use planning contexts. While cultural heritage studies and traditional use and occupancy studies may play a strong role in the practice of cultural review for some years to come, there is innovation apparent in the methods and approaches.

Environmental Assessment (EA) practitioners have always embraced change, and welcomed new methods and approaches. The constant reinterpretation of guidance on these issues highlights the flexible approach taken by practitioners in this arena. Innovation in the treatments, methods, and processes for review of culture and rights is perhaps the most challenging and rewarding stretch that practitioners need to embrace.

Innovation is arriving from communities themselves, notably through the Squamish Nation in B.C. and the Kimberly Land Council in Western Australia. The approach to the treatment of rights is fundamentally different, given that the Indigenous party assumed full control of definition of the terms of reference, of the approach taken with respect to culture and rights, and of the mitigation that was assigned. Other approaches that hold promise are broader processes, such as strategic assessments or regional land use plans, particularly when such broader processes employ appropriate methodologies and impact determination approaches. It is vital to understand that these community-engaged processes lead to fundamentally different research and study outcomes.

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MCFN, PHOTO JENNIFER SCHINE/FIRELIGHT

Research approaches are successful when they foreground Indigenous views of the land and the meaning of what occurs out on the land, with both qualitative and quantitative approaches.

Studies that line up with Indigenous ways of thinking and organizing will require federal and provincial support to allow the practice of culture and rights review to take new shape. Specific lessons from this research are that research approaches are successful when they:

- Foreground Indigenous views of the land and the meaning of what occurs out on the land, with both qualitative and quantitative approaches;

- Ensure there is community control over the terms, scopes, and methods applied;

- Enliven cultural studies by ensuring Indigenous laws and norms are central to the organizing of the approach;

- Consider the development of thresholds that are tested, reviewed, and understood by communities;

- Bring to the light the views of both men and women in communities; and

- Consistent with the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), employ processes that line up with the principles of free, prior, and informed consent.

Introduction

ENVIRONMENTAL ASSESSMENT (EA) is a field that is constantly changing and adapting in response to societal pressures to reduce the adverse impacts of projects that are permitted for development, as well as to maximize net benefits. Where the 1970s through to the 1990s was an era in which environmental law and standards emerged and progressed, the early decades of the 2000s is the time in which the standards and law are forming to ensure that Indigenous rights and culture are recognized and protected. Perhaps the most significant change in this regard is the adoption by many countries (including Canada) of the United Nations Declaration on the Rights of Indigenous Peoples, which calls attention to Indigenous populations' rights held with respect to project development. While expectations of Indigenous peoples and international law have increased rapidly for consideration of Indigenous rights and associated cultural impacts, process standards and guidance among environmental assessment bodies remain limited.

This research is meant to expose the reader to the art of the possible in cultural and rights assessment, establishing that there are many possible avenues to explore that remain at this time largely excluded or unexplored in formal EA and land use planning processes in the oil sands region of Canada and elsewhere. It is an effort to shine a light on the methods of theorists and practitioners, exploding the myth that cultural heritage and traditional land use studies are the only methodological approaches available to practitioners. The intent is to clearly describe the limits and strengths of existing treatment of culture and rights, the standard method of practice, and explore the applicability of new approaches. The review uncovers different ways impacts have been assessed in the oil sands region and elsewhere in Canada, reviews the ways in which project impacts are assessed in a worldwide context (from academic literature), and highlights the lessons learned from a range of cases.

This work followed a dedicated research path, first examining the literature, thereafter reviewing in detail four case studies of cultural and rights treatments in different EA environments (see Appendix C), and finally closing with detailed expert interviews with EA practitioners who have been at the forefront of culture and rights impact assessment. A range of approaches have come into view, from standard to community based cultural heritage studies, and from studies of the services that culture provides to community designed health studies. This research is not meant to establish primacy of one sort of approach over another. Rather it is meant to establish that there are a range of approaches to the study of culture and rights, and that each of them brings with it a set of benefits and limitations that must be taken into consideration in the context of each specific cultural, project, and assessment forum.

After reviewing the definitions of culture and rights (Part 2), the variety of methods and approaches to the field are reviewed in Part 3. These range from traditional use and occupancy studies to health oriented approaches. In any impact review, the meaning of the change that is anticipated is considered, and in Part 4 the methods and process for these determinations are reviewed. Part 5 reviews the approaches taken in communities that work, and the final section considers the lessons learned.

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Definitions of Culture and Rights

Culture

The study of Indigenous cultures as they relate to project development activities most often – and often exclusively – focuses on the protection of historic artifacts that may be physically damaged through project-specific physical works and activities. The material manifestation of past occupation, associated with features or objects, is generally protected through legislation, and subject to well-defined professional archaeological overview and impact assessment methodologies. This makes this type of study both necessary and comfortable for proponents and assessment bodies.

Culture is comprised, obviously, of much more than the material objects left behind by past generations. It includes the way of life, the system of knowledge, values, beliefs, and behaviour, all of which is passed down between generations. Culture is reflected and embedded in practices, the built and natural environment, and the relationships between people and their natural environment. In one elegant review of culture, meant to expose Australian non-aboriginals to an understanding of how Aboriginal culture is alive and being transmitted to the next generation, Aboriginal culture is described as being comprised of four interconnected aspects: land, family, language, and the story cycle.

> *Each aspect provides an important component to the make up of Aboriginal men, women and children. Land is central to the Aboriginal introduction protocol and knowledge of your homelands allows Aboriginal people to communicate effectively and freely with others from clan groups around Australia. Family and knowledge about how the extended family works provides parents with greater capacity to support each other and to collectively nurture children through the critical stages of life. Language is much more than a tool to communicate. It strengthens attachment to the land and is central to Aboriginal people knowing who they are. Story cycles keep the Aboriginal culture alive and transports it into the future* (Saunders 2017).

Importantly, this description includes the land itself; referring to how the social relations of clans through Australia are connected to each other through the land. Equally importantly, physical archaeology is not the primary focus of this or any Indigenous worldview I have

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MIKIDEW CREE,
MELODY LEPINE PHOTO

examined, raising the question of archaeology's appropriateness as a proxy for Indigenous culture. In referring to culture, some of the following elements can be described:

- Communally-held knowledge and ways of knowing;

- Spiritual practices and beliefs;

- Language and its transmission;

- Traditions and out-on-the-land activities (e.g., hunting, harvesting, trapping, fishing, berry picking), including both the activity and teaching that occurs;

- Social relationships and governance;

- People's sense of place and community; and

- Visual and physical aspects of landscapes that encompass stories, values, or relationships.

For many people, their culture is the foundation of their personal identity, and the values, beliefs, knowledge, skills, symbols, and activities that are built into their culture provides the "glue" for their well-being and connection to other members of their community and culture group.

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AUSTRALIA "TWO SISTERS" PHOTO COURTESY YARUMAN 5/FLICKR COMMONS

Rights

When talking about Indigenous rights in this paper, there are two interrelated and sometimes overlapping categories of rights. First, there are the Aboriginal and treaty rights that are enshrined in Section 35 of *The Constitution Act, 1982.* Rights under Treaty 8 are one example of Section 35 rights:

> *And Her Majesty the Queen hereby agrees with the said Indians that they shall have right to pursue their usual vocations of hunting, trapping and fishing throughout the tract surrendered as heretofore described, subject to such regulations as may from time to time be made by the Government of the country, acting under the authority of Her Majesty, and saving and excepting such tracts as may be required or taken up from time to time for settlement, mining, lumbering, trading or other purposes.* [emphasis added]

For Indigenous peoples, treaties codify sacred promises with the Crown. While the most commonly discussed aspects of treaty rights include the right to hunt, trap, and fish, Indigenous peoples and many academics and levels of court eschew this narrow interpretation for an interpretation of rights that includes the ancillary activities that support harvesting *and* broader notions such as Indigenous modes of livelihood and ways of life.[1] Understood in this light, treaty rights include a range of components that inform when, how, where, and why harvesting activities take place, many of which are informed by cultural considerations.

One example of an Indigenous understanding of treaty rights is a recent study on rights and culture involving the Mikisew Cree. In that study, the authors interpreted rights as the right to be out on the land, to hunt, trap and fish, and practice the way of life fully, regardless of where or when they were born, where they currently live, or how they were raised (Candler et al. 2015a) and identified three valued components for treaty rights: way of life, harvesting, and governance and stewardship. These rights were recognized in the signing of the treaty, and do not erode or lessen, are held collectively, and depend on many relationships (including the relationship with land, animals, and water) (Candler et al. 2015a).

The treaties are interpreted broadly by Indigenous people, which is well explained by this Elder:

> *You cannot begin to understand the treaties unless you understand our cultural and spiritual traditions and our Indian laws.* (Elder Jimmy Myo in Cardinal and Hildebrandt 2000, 1)

It is useful to note that the federal government's policy guidance in *Technical Guidance for Assessing the Current Use of Lands and Resources for Traditional Purposes under CEAA, 2012* (Canadian Environmental Assessment Agency 2015) utilizes Section 35 jurisprudence to articulate the meaning of "current use of lands and resources." Since this guidance was issued by CEAA, one review panel has concluded that a proposed New Prosperity project in B.C. would result in significant adverse effects on the Tsilhqot'in to current use of lands and resources for traditional purposes, as well as on cultural heritage. Further, the panel found there would be significant adverse impact to the practice of rights, and for these and other determinations, the panel suggested the rejection of the proposed project.

The second category of rights, which again overlaps with and is connected to Section 35 rights, includes rights described in the United Declaration on the Rights of Indigenous Peoples. The most commonly referred to right under UNDRIP is the right to participate in decisions that are made about development in Indigenous lands (Article 18, United Nations 2008), and the right to maintain and enact norms, laws, and responsibilities. Other notable rights in the UN Declaration include: Article 19 (States shall consult and cooperate in good faith with the Indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them); Article 23 (Indigenous peoples have the right to determine and develop priorities and strategies for exercising their right to development); and Article 32 (Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources). In Australia, the rights context is distinct from Canada, and less focused on establishment of the basket of harvesting and occupancy rights than is found in Canada.

In the Mikisew Cree study, the authors interpreted rights as the right to be out on the land, to hunt, trap and fish, and practice the way of life fully, regardless of where or when they were born, where they currently live, or how they were raised.

STEWARDS OF THE DELTA, CRAIG CANDLER/FIRELIGHT

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1 See R. v. Badger (1996), 133 D.L.R. (4th) 324 Cory J; R. v. Horseman [1990] 1 S.C.R. 901; West Moberly First Nations v. British Columbia (Chief Inspector of Mines) 2011 BCCA 247.

Selecting Methods and Indicators, and Designing Valued Components for Assessing Impacts to Culture and Rights

WE SEE A BROAD SCOPE OF APPROACHES – in the literature and employed in practice – available for the review and description of culture, heritage, and rights reviews. Each approach depends on particular valued components and indicators, displays data differently, and has some limits with respect to how culture and rights are described and analyzed. When selecting a method or approach, the guidance generally is that there be clear and precise definitions for a range of valued components (Hernandez-Morcillo et al. 2013), that there be an opportunity for culture holders to identify their view of the appropriate valued components (MVRB 2012; Satterfield et al. 2013), and that there be a deeply engaged community based process that allows for community deliberation (Satterfield et al. 2013). This may take time, and an extensive focus on both the scope and the appropriate scale for analysis (Satterfield et al. 2013). A mix of methods (both qualitative and quantitative), and coverage of an array of culture and rights concepts, tends to increase the depth of understanding of concepts. Appendix A includes a summary of the types of valued components, and the indicators that are used to define them.

Cultural Heritage Approaches: Going Beyond Archaeology

Typical EA approaches, primarily physical cultural heritage reviews, study the physical manifestations of culture and objects, items, and ceremonies associated with sites and objects (Bannister and Nicholas 2015), and the meaning associated with those sites and objects (Dyanna Jolly Consulting 2007a). These studies are the bread and butter to the cultural impact field, and tend to identify and protect material culture of past or present occupation, including historic sites, gravesites, middens (rock caches), rock and cave paintings, and scatterings of stone tools (King 2000; O'Faircheallaigh 2008). The search in these studies is for physical signs of past occupation and cultural activity on the ground, relying on site visits planned and coordinated by trained archaeologists. The initiative for physical cultural heritage work lies with guidance and legislation that protects these physical manifestations of past activity on the land, and CEAA has clearly identified an approach for review, study, and protection of physical cultural heritage (CEAA 1996).

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VERS L'EMBOUCHURE DE LA RIVIERE ATHABASKA, A PARTIR DU CAMP, UNDATED

Indigenous people often feel marginalized from their own history by the technocratic approach to assessment, the lack of prior consultation and engagement in work teams, and inappropriate mitigation measures that includes removing physical artifacts and even human remains from areas.

The focus for archaeological indicators tends to be the number and range of physical sites in an area, their cultural and social context, and the practices associated with the site. In one New Zealand study, the following meanings were associated with identified sites: archaeological finds, battle sites, resting sites, customary gathering of food and natural materials, campsites, canoe-landing sites, stories that are part of the history of the land, and place names (Dyanna Jolly Consulting 2007a).

Increasingly, Indigenous communities have attempted to assert control over the terms, practice, and interpretation of physical cultural heritage studies. It is common to have greater community engagement and Elder guidance to set the terms of a review, ongoing engagement of knowledge holders in site reviews, and community participation in the interpretation of the meaning and context for sites. The struggle for control over the terms and practice of physical cultural heritage studies was apparent in the New Prosperity mine review in northern B.C., with the proponent completing an archaeological study, which the Indigenous communities refused to participate in. Instead, the Tsilhqot'in Nation commissioned its own study, prepared by expert archaeologists under the direction of Xeni Gwet'in Elders. The study sites that were selected for field walks were identified through oral history and Elders' knowledge of specific historic burial and cremation sites, and these were then confirmed and understanding deepened through archaeological field visits (Review Panel 2013, 184). This nation-controlled study approach led to cultural heritage finds not identified through the company's own work (Review Panel 2013). Many nations have developed their own culture and heritage impact assessment guidelines, with requirements on stop work orders, funding, and other key matters.

This trend of Indigenous control and engagement is also playing out in Australia, notably in the case of the voluntary siting of a liquid natural gas (LNG) facility. In that case, the archaeological review involved consultation with the title claimants and the regional Indigenous authority about survey requirements and priority areas. The cultural heritage team then walked site transects, and conducted intensive drilling programs. Members of the Native Title group were involved in all aspects of the survey and site recording, and as they did this work they shared stories and anecdotes on the bush and marine foods found in association with the archaeological materials (KLC 2010d).

These community driven approaches disrupt the conventional practice of expert archaeologist control over site review and interpretation, leading to greater precision and rigour in ground surveys, greater control over findings and recommended protection measures, deeper understanding of the context and meaning of the sites, and greater empowerment and knowledge collection and transmission for affected Indigenous peoples.

In some places or communities, there is a very thin ethnographic and archaeological record, both in the depth of ethnography previously completed and in the presence of material culture. This can be due to physical or colonial interruptions. Certainly previous disturbances by natural phenomena, such as flooding, glacial activity, or human disturbances can erase

past cultural heritage records. The "violent interruption to culture of colonization" (Satterfield, personal communication, February 24, 2017) is another force of material culture erasure, in which Indigenous peoples have been forced off of the land, leaving scant record behind. In addition, many Indigenous cultures leave limited footprints on the land. For migratory peoples, for example, there may be little in the way of an archaeological record of harvesting sites spread across a vast landscape; this should not be read (but often is) as lack of use of these cultural landscapes. For this reason, absence of physical data should not be taken to mean absence of meaning or use. This is clear from the decisions the Mackenzie Valley Environmental Impact Review Board made through a series of uranium exploration plays in the NWT (see text box).

Project Size is Not a Proxy for Cultural Impact

The size of a project is not a direct proxy for its cultural impact potential. As the Mackenzie Valley Review Board made clear in two cases, the Screech Lake Uranium Exploration Project and New Shoshoni Diamond Exploration, "although the proposed development is physically small, the potential cultural impacts are not" (MVRB 2007a, 1). The New Shoshoni EA decision distinguished clearly between physical heritage impacts and other cultural impacts and also recognized that while it may not always be possible to quantify cultural "footprint impacts" in the same way as it is for physical resources, this does not lessen their importance (MVRB 2004). The Report of Environmental Assessment identified impact pathways and potential ultimate outcomes of impacts on culture as:

- Reduction of the value of a place in the hearts and minds of the culture group;

- Reduced inability to know and teach about a place between generations;

- Reduced connection to the cultural landscape reducing cultural continuity overall;

- Loss of a place of refuge from the "modern" world; an area where what is today (but was not generally in 2005) called "quiet enjoyment of the land", is still possible;

- Disrespect of ancestors, as a valid impact pathway, and an abrogation of responsibility by the culture holders as well as the Crown; and

- Increased access to a critical cultural area contributing to culture holder alienation. (MVRB 2004, 40–62)

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THELON RIVER PHOTO
COURTSY SEBASTIAN KASTEN/
WIKIMEDIA COMMONS

Traditional Land Use Studies

A more recent twist to cultural heritage studies is the now well-established field of traditional land use studies. Traditional use, occupancy, and traditional knowledge studies took strong root in the late 1990s in Canada. One of the principal authors in this field asserts that:

> *Land use and occupancy mapping is about documenting those aspects of the individual's experience that can be shown on a map. It is about telling the story of a person's life on the land. Over time individual experience becomes part of the collective oral tradition, a story of much grander proportions. In this respect, use and occupancy mapping is a means to help record a nation's oral history.* (Tobias 2000, 1)

The impulse for traditional use and occupancy studies has been reinforced with recent Canadian federal policy guidance and legislation (CEAA 2015). Traditional knowledge and use studies (TUS) are the prevalent Indigenous counter-mapping method used by Indigenous communities and organizations in Canada (Usher 2003; Tobias 2000; Tobias 2009).

Mapping studies provide the modern physical mapped evidence around which project impacts are assessed. The effort in these studies is to quantify and qualitatively describe cultural and spiritual, environmental, habitation, subsistence, and transportation values of an Indigenous group. The knowledge accessed in traditional knowledge work for TUS studies is often marked through place names, in stories and songs, and through artwork. It is often the number of values (e.g., the number of trapping lines or the number of animals harvested in that area) that is then taken to establish the meaning of an area. The associated qualitative descriptions also provide context, and the range of values that are described can cover many aspects of culture. Maps have become useful tools to identify and visualize Indigenous socio-spatial relationships, and along with narrative descriptions, they depict the relationships required to allow for a particular activity to occur, or the context, meaning, and intent behind an activity. It is often the case in these studies that readers assign a weighting to the number of occurrences of a particular activity, so that areas with a great number of activities seem more important.

What can be missed, though, in the visual displays is the potential for one site, used or described by as few as one person, to have great meaning for the full nation. A single teaching site by a gifted and knowledgeable teacher may be one of the most important places to take care of. This meaning might not come through with a map that shows only one cultural value. This limit was made clear in a regional assessment of the Great Sand Hills in Saskatchewan, in which it was noted that landscapes are significant for many reasons and meaning should not be set through use and occupancy alone.

> *The advisory group of First Nations made it clear to the assessment team and to government that current use and occupancy is not a sufficient indication of the significance of a landscape to Aboriginal communities. In the Great Sands Hills the land had not been used for traditional purposes for generations, yet it remains of significant cultural and spiritual value.* (Noble 2016, 24).

Traditional land use studies appear in Indigenous controlled EA, with clear limitations. The Squamish Nation Process, in their own EA parallel review of the proposed Woodfibre LNG plant, asserted that traditional use itself should not be a fixed concept, but could be dynamic based on availability and need of resources and people.

> The most important message of the TUOS is often that Squamish members rely, and have always relied upon, the territory in its entirety. For example, use and occupancy of a project area and the surrounding lands and waters requires freedom of movement and intact natural resources. Specific use of the land will shift based on what is available and what is needed; the natural environment is dynamic and so too is the human reliance on it. Therefore, avoiding a specific site does not necessarily mean that the use is not impacted on. (Bruce and Hume 2015, 11)

The traditional land use study model has gained traction with the federal government, serving as a basis for the rejection or modification (especially siting and routing) of project proposals, most recently with the proposed New Prosperity mine. In that case, the most critical evidence of current use of lands and resources were areas for ceremonial and spiritual practices, cultural heritage as archaeological sites, and burial and cremation sites — all of which would be covered by tailings during mine operation. Even though the proponent promised to maintain access for these purposes, this alternative was rejected by the affected nations due to fear of contamination and loss of connection to a culturally significant place. The Review Panel accepted that the proposed mine would reduce the area for practice of rights, disturb burial and cremation sites, and endanger their ability to sustain their way of life, and recommended rejection of the proposed project.

Conversely, in one recent case in the oil sands, decision makers made the recommendation for a project to proceed even where a Joint Review Panel found cumulative effects on current use of lands and resources and multiple First Nation led traditional use studies also found significant adverse effects on the current use values assessed in those studies (see the Shell Jackpine Mine Expansion Review Panel decision in 2013).

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GREAT SAND HILLS, SASKATCHEWAN PHOTO COURTESY WAYNE STADLER/ FLICKR COMMONS

Government and industry tend to weigh current use highly to exclusively, when Indigenous peoples want to see decisions based on more complex understanding of culture, relying on past, present, and desired future use and non-use values of an area.

Limitations have been clearly identified with cultural heritage and traditional use studies. Both approaches rely on physical evidence in a specific location, evidence on the land or from memory of a harvester or knowledge holder, as embodied in a map. Areas that have no such evidence, or areas that are not spoken of at all to outsiders due to cultural taboos, may never register through these two methodological approaches. They are perceived by some as driving an industry focused on site-specific data and inventories at the expense of establishing a true cultural context (McIlwraith and Cormier 2015). Used as the single source of evidence, they can eliminate or minimize the voice of the Elders; "words and stories themselves provide essential context for the uses of specific sites" (McIlwraith and Cormier 2015).

Furthermore, they allow a particular set of activities to occur. Where there are no cultural heritage finds, or no polygons on the map, the state and proponent assumption is often that there is no cultural meaning to these places. They may instead be sites of avoidance, or they may be areas that are vital for the support of particular activities (e.g., critical watersheds). By depicting them as empty or by not eliciting a story, the mapper unconsciously frees the space up for development or alternative uses, often determined through state defined processes.

The focus on maps can engage the broader ethnographic contexts of history and culture, and there are emerging Indigenous defined approaches to mapping that foreground the deeper meanings of spaces and places (Olson et al. 2016). Studies that experiment with direct to digital mapping show some promise, in that they allow harvesters to be more immersed in the location through viewing the areas, connecting them more to the experience

of being there that is vital to discussion of the meaning of the place. There is change in the field notable in the attention paid to "sense of place" (see text box). This concept was explored in a Gitxaala review of the effect of tanker traffic of the connection to territory and the experience of being out on land or water (Calliou Group 2014, 43).

YESAB White River Quartz Exploration: Sense of Place Summary

Proposed in 2012, Tarsis Resources Ltd. sought to initiate a seasonal, Class 3 quartz exploration program near Beaver Creek, Yukon. The project would span five years and result in approximately 100 drill holes near the White and Koidern rivers.

Unusual to current assessment practice, "sense of place" was used as a discrete category within the terms of reference (ToR) set by the Yukon Environmental and Socio-economic Assessment Board (YESAB) and used as an impact indicator for effects. Referring to a person's relationship to a landscape that is built on knowledge, history, emotion, and identity, "sense of place" can be experienced individually or collectively. Interconnected to the valued components (VCs) of wildlife and wildlife habitat and traditional use and culture, effects to "sense of place" were characterized by examining both quantitative and qualitative data focusing on changes to land, resources, and use patterns based on cultural importance (HJDO 2012, 57). YESAB suggested that the "sense of place" associated with an area independent from the level or type of use may provide a more accurate determination of the significance of effects (HJDO 2012, 63).

WHITE RIVER, YUKON
PHOTO COURTESY TIM
VO/FLICKR COMMONS

In the end, YESAB recommended rejection of the project on the grounds of significant adverse effects (that cannot be mitigated) to wildlife and wildlife habitat and First Nation traditional land use and culture (HJDO 2012, 2). In particular, helicopter disturbance alongside on-site activities including drilling and all-terrain vehicle use, would impact hunting and gathering activities in the project area which overlaps a culturally sensitive area of the White River First Nation (WRFN). The Director of Mineral Resources rejected the Evaluation Report and concluded that effects could be mitigated, after which the WRFN sought judicial review. The Yukon Supreme Court determined that the Director had breached the duty to consult and accommodate, quashed the Director Decision Statement and required consultation with WRFN. The government chose not to issue the exploratory permit in the subsequent consultation that took place per court order.

The Yukon Environmental and Socio-economic Assessment Board (YESAB) suggested that the "sense of place" associated with an area independent from the level or type of use may provide a more accurate determination of the significance of effects.

Ecosystem and Cultural Services: Quantifying and Displaying Social and Cultural Values

Ecosystem or cultural services research identifies the range of services and benefits an area provides, and the weighting of these services is then used to identify environmental management options. The highest rated services can, for example, be targeted for protection. As long as all cultural services are well articulated by culture holders, this approach allows them to identify areas in their cultural landscape that they value for different and particular uses, treatments, stories, activities, teachings, and meanings. In the case where a culture holder is not able to tell a story or reveal information that should be private and not be transmitted without attention to ceremony and relationship, this numerical rating approach would allow the culture holder to relay the importance of the area without revealing the context of the site.

VALUED COMPONENTS FOR CULTURAL SERVICES

The cultural services that tend to be identified from landscapes include spiritual and religious, recreation and ecotourism, aesthetic, inspirational, sense of place, cultural heritage, and educational.

Cultural services approaches require understanding the different values held for a particular area – a process known as values elicitation – and subsequent mapping of these values and their abundance and type across a landscape. The method responds to a call for "methods for quantifying the spatial distribution of social values as a basis for integration with environmental and economic data to target the management of ecosystem services" (Bryan et al. 2010, 111). The approach has been used in Australia to identify natural capital and ecosystem services provided in a water basin, in order to identify management priorities. It shows the promise of being able to identify abundant, diverse, rare, and at risk values for focal areas, allowing decision makers to prioritize areas based on their priorities (i.e., based on whether they are trying to protect rare values or promote areas of abundant values). In the Australian review, the decision makers used the mapped displays of social values to prioritize particular areas for protection, while the summary of interview data provided the recommendations of how to protect and enhance these social values. While this approach hasn't been tested in EA specifically, it has been piloted to identify the complete range of cultural ecosystem services for people living in a particular region in Germany (Plieninger et al. 2013), explicitly mapping the cultural ecosystem services citizens feel they participate in (through their landscape).

The cultural services that tend to be identified from landscapes include spiritual and religious, recreation and ecotourism, aesthetic, inspirational, sense of place, cultural heritage, and educational (Hernandez-Morcillo et al. 2013). The approach involves citizens in identifying the full suite of values, then classifying their preferences. For example, how the land serves as an inspiration for art, folklore, symbols and architecture (Hernandez-Morcillo et al. 2013) might be mapped or identified. At the same time, the researcher might identify how the land is special or unique, and what qualities cause and contribute to cultural attachment and belonging (Hernandez-Morcillo et al. 2013).

If this type of approach were used in EA, the types of cultural health indicators that are emerging in the Indigenous health indicators (IHI) field (described below) might serve as a useful starting point.

Cultural Landscapes Delineation: Relationships of People and the Land

Where traditional land use studies consider the sites specifically in a region, the cultural landscape approach considers cultural heritage, the travel routes and spaces between them (Ehrlich 2012), the relationships between sites, and the spiritual and cultural associations that people hold with the land, often over a much larger area. This approach considers "landscapes that are lived in" and it brings attention "to the way people within the landscape live, their traditions and everyday life" (NWT Cultural Places Program 2007). Cultural landscape research incorporates individual sites of heritage resources into a broader network of stories and collective memory, which necessarily invokes the social relationships that communities have to each other, the animals, and the land.

Stories are the backbone of this type of work, showing how the landscape is marked with historical activity from the earliest Indigenous foundation stories through to the present. The land is a history book, as described by John B. Zoe, senior advisor to the Tłı̨cho Government:

> In the Tłı̨cho world, we did not have a written language but we had an oral history that was documented on the lands. A past event has a marker in the form of a place name that describes the event of the time. We know from oral history and the places names that the Tłı̨cho Agreement is not the only agreement that we have had. It is an extension of earlier agreements. From the place names and from what we are told and shown by the Elders, one of the first agreements that we had was with the animals that we rely on in order to coexist. To neutralize our passing on those lands we make offerings to the land so that those animals will continue to sustain us in that environment to which we are accustomed. We rely on these principles to make our case for environmental assessments; we have the responsibility to protect the environment and to ensure that the animals are protected to sustain their continuance. It is those principles that we use in a modern world. (Zoe in Gibson et al. 2014)

The cultural landscape concept was recognized in an environmental assessment process in the NWT in which a variety of mineral exploration programs were either turned down, or the proponent withdrew, due primarily to consideration of impacts of exploration on cultural heritage and cultural landscapes. The Mackenzie Valley Environmental Impact Review Board deemed in 2007 there was critical cultural evidence of the value of all of the Upper Thelon region—not one specific site—all of which needed to be considered as a singular cultural landscape and throughout all of which, industrial development was irreconcilable.

In Australia, the Traditional Owners in the Kimberly approved the siting of an LNG precinct, with a series of mitigation measures for protection after carefully characterizing their culture-scapes, and choosing to site the facility in the least culturally damaging location. The "Indigenous cultural landscapes" and "Indigenous cultural seascapes" — termed Indigenous culture-scapes — were identified through ethnography, discussion of how sites came to be culturally significant or their origin (known as the dreaming), review of cultural heritage sites and particular practices associated with women and men (differentiated on age, gender, and status). The study showed how sites are connected to each other over land and sea, and

CULTURAL LANDSCAPE INDICATORS

- Individual sites;
- Stories and where they occur in the landscape;
- Travel routes and the spaces between; and
- Relationships people have to the land, both spiritual and cultural.

formed by particular ancestral sacred beings, and described how sites in the region were made. The study also reviewed and described legal traditions that are inscribed in the land, and continue to be practiced by the Traditional Owners. "The Law is a critical component of the overall culture-scape of the HIA Area" (KLC 2010c, 91).

Indigenous Health Indicators: Giving Form to Indigenous Values

Community based cultural research tends to focus on the criteria, stories, and indicators deemed most relevant to cultural health and maintenance by the culture holders themselves (Gibson et al. 2011). Research approaches with a focus on Indigenous expressions of health have the benefit of linking data collected to goal statements or thresholds of accept-able change that can assist in the determination of whether new and additional impacts from projects will be significant. As an example, the community defined criteria of cultural preservation in the Tłı̨chǫ region set a range of goal statements about active participation in cultural activity (See Figure 1).

Figure 1: Example of Indigenous Health Indictors Model (Gibson et al. 2011)
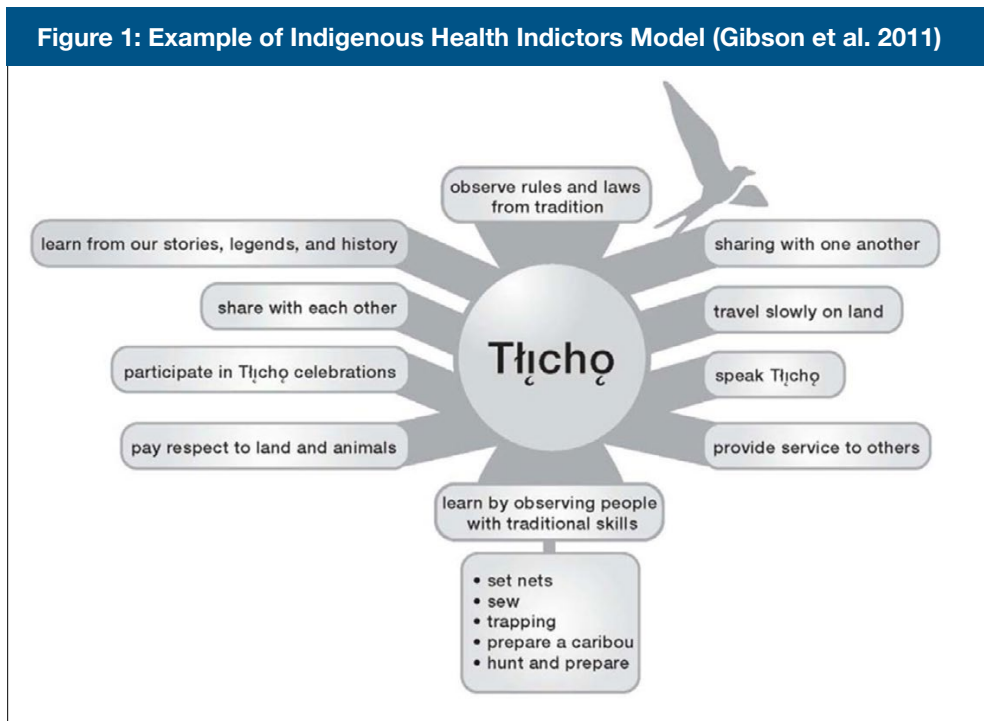
The Indigenous health indicators process is founded on Indigenous knowledge, but combines Indigenous and non-indigenous knowledge methods in data collection and analysis (Donatuto et al. 2016). When communities identify what makes them healthy, they focus less on disease and pathologies, and more on the interrelationship of social, cultural, environmental, and health factors. This approach has the benefit of including developing health indicators that are reflective of non-physical definitions of health, allowing the intangibles to be included in decision making in contexts where they would otherwise be omitted (Donatuto et al. 2016).

Figure 2: Cultural Impact Assessment, Related Studies and Associated Environmental Assessment Components
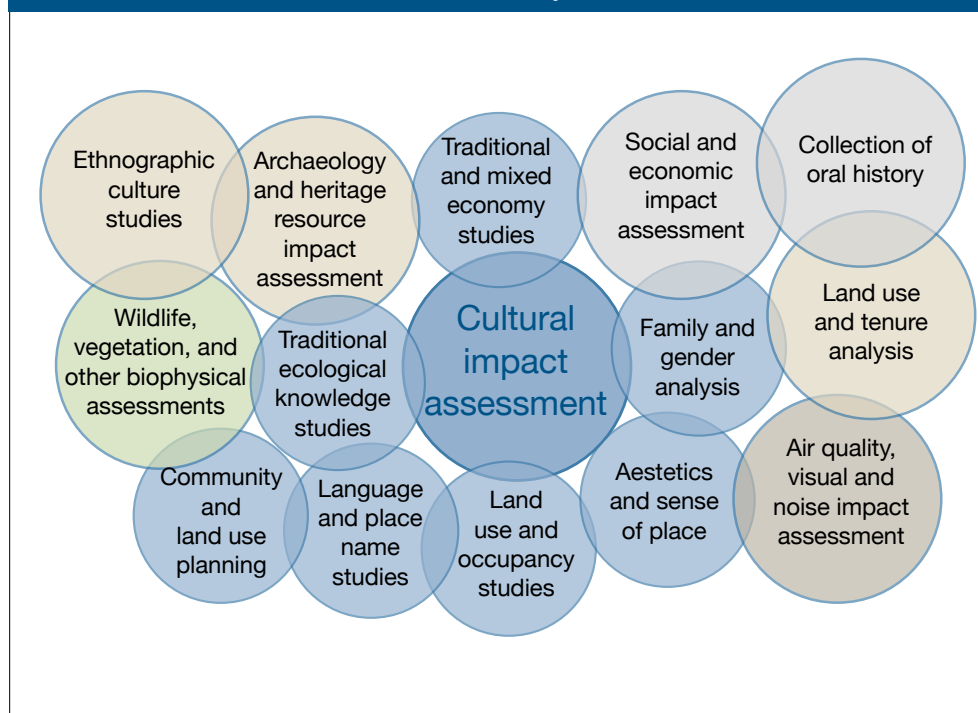
The approach generally involves using open-ended interviews to identify core meanings of health, and cross-referencing coded data with ethnography. In one case, the resulting core values identified were community cohesion, food security, ceremonial use and education and — following community validation — another two indicators of community connection and natural resources security were added (Donatuto et al. 2016). A subsequent step involves developing descriptive scales to rate and rank the health-based concerns. This model of research has been used to:

- Demonstrate damages to cultural sites in Métis communities in Canada (McDaniels and Trousdale 2005); and

- Identify the complex of cultural and health outcomes associated with seafood contamination (Donatuto et al. 2011).

This community health approach emphasizes the connections between indicators, allows for community participation and identification of what matters as well as what matters most. The approach allows for precise and locally defined cultural values to be identified, such as in a New Zealand based study in which the following site specific cultural values were identified with a river: spiritual associations, cultural values associated with freshwater, life-supporting capacity of water, the connectivity of the river to other regions, the customary gathering of food and natural materials, and responsibilities associated with holding customary authority over an area (Dyanna Jolly Consulting 2007b).

Still relatively untested in the environmental assessment process, community health approaches could allow structured consideration of what matters most to a community, and then rating and ranking of project effects on the community identified priorities.

INDIGENOUS HEALTH INDICATORS

In one case, the resulting core values identified were community cohesion, food security, ceremonial use and education and — following community validation — another two indicators of community connection and natural resources security were added.

Keystone Species and Places: Rating Profundity

Cultural keystone species are those with which a nation has a strong relationship: "culturally salient species that shape in a major way the cultural identity of a people, as reflected in the fundamental roles these species have in diet, materials, medicine and/or spiritual practice (Garibaldi and Turner 2004, 1).

While the term "keystone" has only gained precision and salience in the last decade, the strong relationship that Indigenous communities hold to a particular species, or indeed a range of animals, is a central focus in anthropology. Legat et al. (2008) write of the Tłįcho laws governing human behaviour with caribou populations and migration patterns, identifying Tłįcho indicators of change, specifically those resulting from following or dismissing laws that govern human behavior with animals (Legat et al. 2008, 2). Legat's work finds that harvester lack of knowledge "can lead to a decline in caribou population, changes to caribou distribution, and a dysfunctional society" (Ibid., 2). These studies have the potential to show the complex relationship between Indigenous communities and ecology and animals, showing that loss or impacts on the animals may be as drastic to the human communities that depend on them (Garibaldi and Turner 2004).

This approach has been tested in environmental assessment, most recently in a study for the Tsilhqot'in by Turner (2013) in which lakes and the surrounding area were identified as "cultural keystone places." The proposed site for the New Prosperity mine was shown to hold "high cultural salience for one or more groups of people and (it) plays, or has played in the past, an exceptional role in a people's cultural identity, as reflected in their day to day living, food production and other resource-based activities, land and resource management, language, stories, and social and ceremonial practices" (Turner 2013, 3). The meaning of the proposed project site was identified through review of the history of the place (based on archaeology, oral history, and memory), and thereafter the relative importance of a given place was further assessed using a numerical rating scale (e.g., 5 – very high, to 0 – low or not important). Turner's work has elicited a set of variables to be considered in identifying a cultural keystone species (Garibaldi and Turner 2004), which were adapted and utilized in the cultural keystone places approach. They include:

- Agreement within cultural group;

- Occurrence in language and discourse;

- Intensity and frequency of use;

- Diversity of use and antiquity of use;

- Extent of traditional management;

- Uniqueness;

- Role in trade and cultural exchange; and

- Role in cultural protocols (Turner 2013, 4).

KEYSTONE PLACES INDICATORS

- Agreement within cultural group;

- Occurrence in language and discourse;

- Intensity and frequency of use;

- Diversity of use and antiquity of use;

- Extent of traditional management;

- Uniqueness;

- Role in trade and cultural exchange; and

- Role in cultural protocols.

TEZTAN BINY (FISH LAKE) AND SURROUNDING AREA IMAGE VIA GOOGLE EARTH

Following this review, Turner concluded that Teztan Biny (Fish Lake), Y'anah Biny (Little Fish Lake) and Nabas (the meadows surrounding) collectively meet all the criteria, and constitute cultural keystone places. The Review Panel accepted this conclusion, and this study along with others, proved fundamental in the decision to reject the proposed New Prosperity mine.

The Mikisew Cree has similarly focused research efforts on cultural keystone species, identifying the importance of bison to the nation, the seasonal habitat and hunting areas, and the conditions required for the hunt (Candler et al. 2015a). Bison is a keystone cultural species, with the skulls being used in sweat lodges, and as an altar (and in many ceremonies in many households). The Cree language has many words and phrases that refer to the animal as whole, the meaning the animal holds, and the bush way of life that these people continue. The Ronald Lake herd itself is the only herd accessible to the Mikisew, and they have themselves reduced frequency of harvest to preserve the herd.

Bison is a keystone cultural species, with the skulls being used in sweat lodges, and as an altar (and in many ceremonies in many households).

ABOVE PHOTO COURTESY BRYANT OLSEN/ FLICKR COMMONS

PHOTO LEFT COURTESY JACK DYKINGA/ WIKIMEDIA COMMONS

Social Impact Assessment

The social impact assessment field often connects to and touches on cultural aspects, including the social relationships of kin and cultural practices — specifically the interconnectedness of the communities with each other — through Indigenous law. In one analysis of social impact, the cultural requirement of collective ceremonial management and relationships was reviewed, and set out as a basis for why the entire region negotiated collectively (KLC 2010a).

Socio-economic impact assessment guidelines (SEIA) have emerged from many sources (Vanclay et al. 2015; MRVB 2007b), and they include some reference to cultural impacts and their assessment. However, they do not provide enough detail on the types of cultural impacts, the methods used, and the principles applied for conducting effective assessment on Indigenous culture. Discussion of culture in SEIA guidelines has been revisited and expanded in cultural impact assessment guidelines (MVRB 2012).

Principles for Assessing Impacts to Treaty 8 Rights

Canadian courts have articulated a number of principles for determining impacts to Indigenous rights. A non-exhaustive list of such legal principles includes:

- The determination of impacts must be guided by a generous, purposive approach because "actions affecting unproven Aboriginal title or rights or treaty rights can have irreversible effects that are not in keeping with the honour of the Crown": Rio Tinto Alcan Inc. v. Carrier Sekani Tribal Council, 2010 SCC 43 at para 43;

- The assessment of whether a decision or action may impact a treaty right must be approached in a manner that maintains the integrity of the Crown because the honour of the Crown is always at stake in its dealing with Aboriginal peoples: R. v. Badger, [1996]1 S.C.R. 771, at par. 41;

- When considering impacts to treaty rights, the term "environment" must be construed broadly and include the cumulative impacts of a project and other facilities to be developed in the future on those rights: Dene Tha' First Nation v. MOE et al., 2006 FC 1354, at par. 34;

- When considering impacts to treaty rights, the historical context of developments must be taken into account: West Moberly First Nations v. British Columbia (Chief Inspector of Mines), 2011 BCCA 247 at para 83 and 117, leave to appeal denied 2012 CanLII 8361 (SCC);

- When considering impacts to treaty rights, the injurious affection that a project causes on the exercise of treaty rights in the broader landscape must be considered: Mikisew Cree First Nation v. Canada (Minister of Canadian Heritage), 2005 SCC 69, at par. 15, 44, and 47;

- When considering impacts to treaty rights, the potential negative derivative impacts of a project must also be taken into account: Taku River Tlingit First Nation v. British Columbia (Project Assessment Director), 2004 SCC 74, [2004] 3 S.C.R. 550, at par. 32;

- When considering impacts to treaty rights, the assessment should not be limited to only impacts that are physical in nature: Haida Nation v. British Columbia (Minister of Forests), 2004 SCC 73 at par. 72-73; and

- Courts have rejected the argument that the rights of a First Nation are not directly and adversely affected if they can "go elsewhere" to harvest: Mikisew at par 47-48.

Rights: Sufficiency of Resources

The sufficiency of resources is a "rights-based" approach. It involves identifying the enabling factors required in order for rights based practice to occur on the land or waters. In the past, proponents used access restrictions and the presence of wildlife in the area as proxies for the practice of rights.

It is not simply the presence (or absence) of the animals that are harvested that constitute rights. Sufficiency is related to the ability to continue patterns of activities, practice Indigenous laws, spend time in important places (while enjoying peace and quiet of them), and the ability to access these places without difficulty or extreme cost.

Work is emerging on the components of a traditional diet, and on both food security and sovereignty (Candler et al. 2015a; Satterfield et al. 2017). In these approaches, the historical baseline of food volume and historical intake are modeled, subject to limitations. Data for dietary preferences is itemized based on past oral and archaeological record, with a focus on identifying the total list of potential foods, which is then narrowed based on what continues to be available. Canada's Food Guide is then used to estimate caloric need and diet composition. With this baseline established, the research can identify how a particular set of changes, such as climate change or a proposed project, might impact on the baseline (Satterfield et al. 2017). These approaches recognize that focus on diet, without the attendant context, is a reduction that is not acceptable in Indigenous culture. Satterfield writes, "food is knowledge and knowledge is food" (2017, 19), and thereafter describes the vital role food plays in sharing, collecting, gathering, canning, and eating, and in pot-latching and feasting: "foods central to these are the material currency of enduring social relationships" (Satterfield et al. 2017, 20).

The Mikisew Cree have identified harvesting as one of the components in a culture and rights review (Candler et al. 2015a), and identify both quality and quantity of the culturally significant foods, with a long list of dietary resources generated (e.g., moose, caribou, hare, beaver, ducks, swans, grouse, whitefish, walleye, grayling, crowberry, and cranberries, among others). Thereafter, the authors generated diet estimates in focus groups, then verified these by reference to archival materials. Thereafter, the effect a proposed project (Teck Resources) was predicted to have adverse impact on the potential for Mikisew to continue harvesting.

Rights: Way of Life

The Mikisew have developed a way of life research approach and associated threshold. It involves the right for current and future generations to practice and transmit their language, culture, identity and sense of place to future Mikisew generations, consistent with pre-1965 conditions. In one study, the Mikisew reviewed the effect a particular project would have on way of life, expressed in the Cree term *sakaw pimacihiwin*. After review of the meaning of each indicator to the Mikisew, a constructed scale was developed to identify the perception of impact on some of the indicators, while the impact was described for others (Candler et al. 2015), and ultimately a severe impact on the households practicing way of life closest

SUFFICIENCY OF RESOURCES INDICATORS

Sufficiency is related to the ability to continue patterns of activities, practice Indigenous laws, spend time in important places (while enjoying peace and quiet of them), and the ability to access these places without difficulty or extreme cost.

TRADITIONAL FOODS, PHOTO CRAIG CHANDLER

to the project was predicted. This impact would also flow outwards to individuals and households resulting in erosion of way of life.

Way of life has also been reviewed in the Squamish Nation Process (Bruce and Hume 2015). Rights played a central role in the environmental assessment review process, as it was set as the primary valued component. An interconnected model was used to examine rights, with a focus on how the community felt the project was going to affect their way of life (Bruce, personal communication, February 17, 2017).

Rights: Achieving the Benchmarks Associated With Free, Prior and Informed Consent

Increasingly, one of the Indigenous rights being conceptualized is the right to participate in determinations of project developments that will occur in Indigenous lands, or free, prior, and informed consent (FPIC), and in definition of research processes that occur in Indigenous lands.

In the Kimberly Land Council case, the research tested 'whether the Traditional Owners have given informed consent, in a culturally appropriate manner' to the establishment of an LNG precinct in the Kimberley region. The KLC authors reviewed processes over a period of time from 2007 to 2010 in the siting decision and strategic assessment, including the role in site selection, the process leading to the signing of an agreement (including design of key principles, and financial terms), the participation in identifying a specific site, the consultation in the strategic assessment, and other processes that were ongoing (such as the negotiation of Indigenous land use agreements), after developing thresholds for achieving consent (O'Faircheallaigh 2013).

These thresholds were:

- Sufficient time to consider the decision;

- Adequate resources for mobilization and consideration;

- Consent being offered consistent with and through mobilizing Aboriginal law; and

- Consent offered without political pressure or duress.

The KLC report found sufficient resources were applied to the consent process, and therefore that the site selection partially embodied the principle of FPIC. However FPIC was threatened by a compulsory acquisition threat (in the absence of agreement), time constraints, the threat of loss of state funding (in the event of no agreement), and weak baseline information. Further external processes (of Indigenous land use agreements) also threatened the ability to shape the development of the LNG precinct.

Rights as a Primary Valued Component

The Squamish Nation perspective identified rights as the primary valued component, and other guiding topics were determined through community input. The nation emphasized that the impacts on one component "usually means an impact on the whole of the valued component because of the interconnectedness" (Bruce and Hume 2015, 12). Other guiding topics that emerged were:

- Impacts to lands in which Squamish has formal governance and/or defined management objectives;

- Impacts to regional use and occupancy;

- Impacts to transmission of culture and history; and

- Impacts to the growth and revitalization of the Squamish language (Bruce and Hume 2015, 11).

FPIC INDICATORS

- Sufficient time to consider the decision;

- Adequate resources for mobilization and consideration;

- Consent being offered consistent with and through mobilizing Aboriginal law; and

- Consent offered without political pressure or duress.

LOOKING SOUTHWARD DOWN THE SQUAMISH VALLEY TOWARD MOUNT GERIBALDI, PHOTO WIKIMEDIA COMMONS

Rights: Stewardship and Governance

Recently, a number of Canadian Indigenous nations have developed 'laws and norms' approaches, in which projects are tested against whether they detract from the ability to adhere to Indigenous laws. Indicator types continue to vary in this loosely defined area, including:

- Laws and norms and their continued application;

- Rights to trap, hunt and fish, and collect roots and berries;

- Adherence to natural laws (e.g., no artificial control over hydraulic systems); and

- Rights in traditional lands, including the ability to access virtually all of their land base (McCormack 2013), as well as the likelihood that rights can be practiced in perpetuity, as documented in treaty.

Governance is reviewed in research studies, namely the ability to maintain stewardship responsibilities and governance principles (Candler et al. 2015a). For example, key stewardship responsibilities involve distributing resources broadly, regulating access to the core territories, maintaining family hunting territories, and respecting animals.

Approaches to Culture and Rights Impact Determinations

A review of Canadian EAs suggest that significance determinations are typically undertaken without direct involvement of the communities being impacted by a proposed project.

Significance Determinations

Significance determinations is the approach most commonly used in EAs to determine impacts to current use of lands and resources. The federal government has considered significance (CEAA 2015), and there are six variables identified for review, including magnitude, geographic extent, timing, frequency, duration, and reversibility.

CEAA guidance identifies context as a key variable: "the context within which environmental effects occur should be taken into account when considering criteria in relation to the current use of lands and resources for traditional purposes, as it may help better characterize whether adverse effects are significant" (CEAA 2015, 20). However, a review of Canadian EAs suggest that significance determinations are typically undertaken without direct involvement of the communities being impacted by a proposed project. Other limitations include: determining significance without regard to Indigenous perspectives; reliance on external professional judgment that Indigenous communities see as, at worst, biased and, at best, methodologically flawed; and determining significance against an incomplete list of indicators and valued components that do not adequately capture relevant information regarding culture and rights.

Although beyond the scope of this paper, it must also be noted that significance determinations, as used in current EA approaches, can play a determining role in whether and what cumulative effects on culture and rights are ever assessed in an EA process.

The Shell Jackpine Mine Expansion Project is an example of how significance determinations can vary widely. In that case, the proponent determined that impacts to current use of lands by Indigenous communities were not significant while various First Nations, even when utilizing a traditional land use study to identify impacts and the standard list of variables for determining significance, concluded that impacts were significant. The differences appear to be attributable to the proponent following CEAA guidance to focus on quantitative approaches over qualitative terms, culturally inappropriate assumptions, and a failure to consider relevant contextual factors. From this case, it appears that the CEAA guidance does not have

adequate safeguards in place to ensure that "significance determinations" are undertaken in a manner that appropriately determines impacts to Indigenous culture and rights.

Because the assessment of significance is often a requirement in EAs, many First Nations have used the significance approach in their own impact studies, albeit in a way that endeavours to better reflect Indigenous values and that uses a broader set of indicators and information. For example, the Mikisew Cree have incorporated a broader approach that takes into account pre-industrial baselines, Indigenous knowledge relating to environmental effects, the loss of traditional knowledge, and preferred practices and locations, among other factors (MCFN 2016).

Ultimately, current EA regimes leave significance determinations in the hands of decision makers outside of Indigenous communities, making it inconsistent with UNDRIP approaches and often inconsistent with the broader variety of indicators and valued components described in Part 2. Guidance from the literature and findings from the case studies identify the vital role that the most impacted people should have in describing and coming to a clear view of the potential for effects, and their meaning.

Thresholds

After the cultural and/or rights impact assessment approach has been identified, and baseline data or values on culturally appropriate VCs and indicators collected, the task of understanding what a proposed project means begins. Because culture is a complex and always evolving human phenomena, it is essential to focus not only on what impacts culture can absorb (a technically estimated threshold of manageable change), but also on what the culture holders are willing to take/endure (a socially derived threshold of acceptable change) (Gibson et al. 2011).

There continues to be no agreed upon single method for considering what a project will mean for environmental components (e.g., air, water, land) (Noble 2015), so it should be no surprise that there remains similar dispute when it comes to culture. When identifying the impacts to culture, there are a diverse set of factors to consider, reviewed in Table 1 on page 33 (MVRB 2009 and Gibson et al. 2011).

Technical Thresholds of Manageable Change

Technical thresholds of manageable change are numerically established or accepted thresholds to culture. Truly every practitioner and analyst in this field will warn off of this approach, given the complexity and connectivity of each indicator of culture. However, the difficulty should not stymie the effort, for if mainstream EA is to make decisions that could detract from or strengthen cultural variables, the variety of options for exploring change deserve consideration.

Because culture is a complex and always evolving human phenomena, it is essential to focus not only on what impacts culture can absorb (a technically estimated threshold of manageable change), but also on what the culture holders are willing to take/endure (a socially derived threshold of acceptable change).

A quantitative approach can involve building **social perception scales**, allowing culture holders to identify the meaning of changes to their values or to the cultural component under consideration (Groffman et al. 2006; King 2000). This might involve reviewing with a broad cross-section of the population the meaning of what the proposed project is to them, and asking them to rate or rank their view of that change. The Squamish Nation accomplished this type of ranking effort, when it ran a parallel EA to the province and federal government as the nation considered the proposed Woodfibre LNG plant. Through a series of focus group sessions, community meetings, and interviews, the EA team identified the top priority issues to the community, established as community safety, water quality maintenance, and access to the site (Bruce and Hume 2015). While this was not a quantitative ranking exercise, it did involve an iterative process in which community members continuously ranked the issues in a social setting, establishing the priority focus areas.

Constructed scales have been applied in determining priorities, notably in ranking indicators of community health in relation to shellfish habitat and shoreline archaeological sites (Donatuto et al. 2016). In this approach Indigenous participants prioritized indicators, and used pair comparisons to identify the indicators of highest concern. "A lower prioritization would not mean that the indicator is less important, only that it requires less immediate attention, due to greater resilience or adaptive capacity to the specific climate change impacts presented" (Donatuto et al. 2014, 364). Valuation techniques such as willingness to pay might be applied, as identified by Chan et al. (2012). Generally, value differences, preferences, and application of these to project alternatives have not been explored in EA.

With the focus on quantitative measures, the idea of **tipping points of change** or **thresholds** emerges. Thresholds, or maximum allowable effect levels (Noble 2015), are often recognized in assessment. Noble (2015) identifies criteria to determine the priority of threshold, and the probability that an effect will cross the threshold. The concept of threshold has been largely borrowed from ecology and adapted for sociocultural contexts to emphasize, generally, that a small change can have large impact that may be unacceptable—or unsustainable—from a culture and rights perspective (Parlee et al. 2012; MVRB 2012; Nuttall 2012).

Thresholds can be set for each **valued ecological component**, such as for water (using thresholds established in biology or through traditional knowledge) or a particular culturally important species. Parlee et al. (2012) have modeled the use of traditional ecological knowledge (TEK) to develop thresholds of change for water (using level, smell, and colour), moose (using the level of body fat), and medicinal plants (using quality and availability). The parameters that emerge for setting the thresholds are resource abundance, resource quality, access, and capacity to harvest (Parlee et al. 2012). Ecological thresholds may usefully integrate traditional knowledge. For example, ecologists might define a threshold based on ecology, but traditional knowledge holders may be consulted to develop the thresholds, given they have the "adaptive expertise" to give precision to the shifts that occur in a landscape" (Parlee et al. 2012).

This idea of setting valued component based thresholds has played out in the Athabasca River, where MCFN and ACFN set thresholds for water levels and quality for the practice of traditional use (Candler et al. 2010). In this work, culturally-appropriate thresholds for water levels in the Athabasca River, delta, and tributaries were set to support the ongoing practice of Aboriginal treaty rights, and, correspondingly, the level at which water flow interrupts this practice due to loss of access.

Thresholds can be identified for the **sufficiency of resources** for food security, based on a traditional diet. For example, Candler et al. set the basic threshold for resource sufficiency as the food allotment required to feed a family of 10. This threshold, set by Mikisew participants in the research study, was considered easier to estimate and closer to the norm for the pre-1965 baseline (Candler et al. 2015a). For example, one moose would feed a family of 10 for two weeks.

Socially Derived Threshold of Acceptable Change

Socially derived thresholds are reflective of local experience, interests, and values (Christensen and Krogman 2012; Ehrlich and Ross 2015; Walker and Meyers 2004) The primary experts on what a change will mean from a project are the culture holders themselves (Gibson et al. 2011). Meaningful assessment of cultural impacts involves the understanding that the meaning of change is a subjective determination (Ehrlich and Ross 2015; Gibson et al. 2011). It is a social and values-based decision. While it is widely held that these determinations must be based on scientific and technical information (Sadler 1996), it is recognized that culture holders themselves must explain the meaning and significance of the place or values (MVRB 2012). Citizens might identify **desired futures**, in the eyes of the community, and then test the project against the capacity to achieve the preferred future.

While socially derived thresholds can be **legal or normative** (Noble 2015), set out in legislation, through land use plans, or in local planning forums, they can also be set through considering the meaning of the site, through the eyes of the culture holders.

Socially derived thresholds can be set through reference to Indigenous laws and norms. In this case, changes to any valued component, and all VCs in combination, from a project and cumulative effects, may impact on the ability to adhere to the laws and norms of Indigenous peoples. If, for example, a natural law is that water should be allowed to run its course unimpeded, any changes to the hydrological regime through activities such as dams and impoundment of rivers may be deemed significant, because the law is being broken.

Socially derived thresholds can also be set explicitly, such as in the case where a joint review panel under CEAA set out a sustainability test that measured how a project contributed or detracted from five pillars: environmental stewardship, economic benefits and costs, social and cultural benefits and costs, fairness in the distribution of benefits and costs, and present versus future generations (Kemess North Joint Review Panel 2007). The panel determined:

> …the project would continue to make significant contribution to social wellbeing and community stability in communities where workers live and service suppliers operate … However, the panel considers the socio-cultural implications of the project for Aboriginal people, and the obstacles to their participation in the project benefits, to be a significant drawback … Aboriginal communities appear unlikely to embrace either the project or the financial compensation and other potential benefits offered to them by the proponent. To do so would entail accepting the loss of the spiritual values of Duncan (Amazay) Lake, and Aboriginal groups have said that these values are beyond price (Kemess North Joint Review Panel 2007, 16).

Socially derived thresholds can be set through reference to Indigenous laws and norms. If, for example, a natural law is that water should be allowed to run its course unimpeded, any changes to the hydrological regime through activities such as dams and impoundment of rivers may be deemed significant, because the law is being broken.

ATHABASCA RIVER PHOTO
CRAIG CHANDLER/FIRELIGHT

The Kemess North Joint Review Panel delivered its report in 2007, recommending to the federal and provincial governments that the project not be approved. The federal government subsequently rejected the project.

If a rights threshold is established, in relationship to the UNDRIP, it would be tested against the benchmarks established in the literature (O'Faircheallaigh 2013; Joffe 2015). Canada and Indigenous governments have given form to this standard in some land claim agreements, namely agreements in which the Indigenous government can accept, modify, or reject recommendations made to them through EA reviews (Gibson 2017, forthcoming).

Context Must Be Explicitly Considered

As mentioned previously, the context of the site is a critical consideration (See Appendix B: Contextual Factors to Consider), and it has emerged as a key consideration in a number of panels, including the New Prosperity review panel in B.C. and uranium reviews in the NWT. Table 1 and the list below illustrate how these contextual factors were taking into consideration in two instances.

- Density of known and potential for physical heritage resources;

- Recognition of spiritual values of the areas;

- Number and nature of stated concerns of community members;

- Outright opposition to any development in the locations by culture holders, as expressed in the vehemence and emotion of presenters;

- Psycho-social impact of development in the areas;

- Irreversibility of some losses – "Some places, once violated, can never in the collective memory be pristine again" (June 23, 2005 – MVRB);

- Multiplicity of uses (e.g., gathering, spiritual, burial, harvesting);

- Multiple users (more than one Aboriginal group value these locations); and

- Centrality of the locations in the cultural landscape of Aboriginal people.

The EA bodies in these two very different circumstances reviewed depth of concern, the specialness of the place to the culture holders, whether there could continue to be meaning in the site with project activities, the range of values practiced in the area, and the range of people who consider the site to be vital to culture.

There is an implicit threshold to all of the contextual factors that are considered here. The decision makers are actively considering the point at which the balance will shift, from a site being meaningful for the practice and reinforcement of culture, to one where that meaning is reduced or altered to such a degree as to be an unacceptable degree of change.

Contextual factor	New Prosperity case by the review panel under CEAA 2012 (Review Panel 2013)	Mineral exploration reviews by the MVRB under MVRMA
Depth and breath of culture holder concern	More than 130 people speak in community sessions, site visits are also very heavily attended.	The number and nature of stated concerns of community members; outright opposition to any development in the locations by culture holders. The psycho-social impact of development in the areas (in the New Shoshoni Ventures case, the Review Board noted development there would be similar to digging up the ancestors' graves).
Specialness of the place	Information received during the New Prosperity panel review on the historical and cultural importance of the area, and the spiritual connection the Tsilhqot'in have with Fish Lake (Teztan Biny) and Nabas convinced the panel that the area is unique and of special significance to the Tsilhqot'in (Review Panel 2013, 196). Area described as one of the few remaining areas not affected by logging and other activities.	Loss of a place of refuge from the "modern" world; an area where what is today (but was not generally in 2005) called "quiet enjoyment of the land" is still possible. Centrality of the location in the cultural landscape of Aboriginal people.
Reversibility	The panel was of the view that the Tsilhqot'in would most likely stop using Fish Lake (Teztan Biny) for spiritual and ceremonial purposes. Consequently, the panel concluded that the project would affect future opportunities for Tsilhqot'in people in teaching youth and children about traditional activities on the land, as well as cultural values. The panel was of the opinion that the loss of this cultural heritage was substantial and would impair their ability to sustain their cultural identities and ways of life. (Review Panel 2013, 196).	The irreversibility of some losses – "Some places, once violated, can never in the collective memory be pristine again. The dishonouring of a burial ground fits this definition" (MVRB 2004).
Range of values practiced or held through the area	Dr. Nancy Turner defined Fish Lake (Teztan Biny) and adjacent areas, including Nabas, as a "cultural keystone place," a place of unique and special significance for the Tsilhqot'in; the Tsilhqot'in described Fish Lake as a very important area of traditional activities such as fishing, hunting, trapping, berries and medicine plants gathering, as well as for ceremonies and spiritual activities, intergenerational teaching of traditional values and culture (Review Panel 2013).	Multiplicity of uses identified, such as gathering, spiritual, burial, harvesting.
Range of people that that value the place	The panel accepted that every age group used the area uniformly and by different cultures for ceremony, teaching, harvesting, and spiritual reasons, and that there was material time depth (cultural heritage).	Multiple users (more than one Aboriginal group valued these locations).

Assessment Process Matters

Done at their worst, mainstream practitioners tend to study only archaeology in cultural impact assessment. In these cases, ethnography is totally "washed out," the baseline is set at the project development phase without any back casting to a pre-industrial era conditions set, and all violent colonial interruptions (total cumulative effects loading to date) are erased from view.

DONE AT THEIR WORST, MAINSTREAM PRACTITIONERS tend to study only archaeology in cultural impact assessment. In these cases, ethnography is totally "washed out" (Satterfield, personal communication, February 24, 2017), the baseline is set at the project development phase without any back casting to a pre-industrial era conditions set, and all violent colonial interruptions (total cumulative effects loading to date) are erased from view.

Done at their best, studies reinforce and invigorate culture, and provide robust and clear evidence for decision-making. They lead the reader to the complex set of outcomes that can emerge, or allow planning to occur that permits almost complete avoidance of cultural impacts, or in some cases opportunities to strengthen culture.

Community Led Processes Change Outcomes

Increasingly, Indigenous peoples are taking control of EA culture and rights studies, and non-EA studies such as Indigenous land use plans, themselves. The change to the process and the outcome of research are notable. Rather than having research "done to them," Indigenous people control the terms, the approach, and the method. There is a resulting change in approach and trust, leading to stronger research, the results of which are accepted and adopted more readily by community members themselves. As well, these approaches depend on and strengthen culture as the study is pursued. Culture is lived and reinforced as it is studied, rather than depicted as frozen in time in an increasingly distant past.

Lack of control over methods and interpretation simply leads to weak and failed studies. To begin with, people are highly unlikely to mobilize their substantial knowledge and political and social capital when they feel no control over the approach taken. When control is in the hands of the proponent, studies tend to skim the surface, missing vital cultural and social context. Proponents generally depend on consulting firms to conduct studies, and in their hands (with no local trust or buy in) culture holders often remove themselves from view or are simply never identified. Vital local context and indeed even cultural heritage sites are rendered invisible to the mainstream study.

O'Faircheallaigh (2017) makes this point clear, describing how Indigenous control over defining a terms of reference led to entirely different results.

> *If you had given that Terms of Reference to a mainstream firm, they would go away and look for archaeological sites. If you leave it with the mainstream, they will go and look for bones and stones and because of that, they would miss all of the aspects of culture that the Kimberly Land Council (KLC) covered.* (O'Faircheallaigh, personal communication, March 7, 2017)

O'Faircheallaigh refers here to an Indigenous controlled strategic assessment, in which the Indigenous leads (the KLC) sponsored seven volumes of research that covered different aspect of culture and rights, many of which were related and interconnected. Clearly, different issues emerge. For example, the KLC review sets the assessment and engagement scope not by geography or community, but by native title determination, language country areas, and regional cultural relationships (KLC 2010c). Left to mainstream EA, there would have been one set of Traditional Owners engaged in the review process, and traditional governance and wunan (Indigenous law, described below) would have been actively undermined.

The Indigenous controlled research approach averts a common problem that occurs in EA in Canada, namely contradictory results on seemingly the same cultural effect. Proponent-controlled research is often countered with a community-controlled study, leading to conflicting views of culture and interpretations of how the project will weigh on the people and the land. For example, in a review of the potential effects of the Shell Jackpine mine on culture the proponent offered little evidence of cultural heritage based on a desktop approach that completely excluded Indigenous views (Golder Associates 2012). The only response for a community is then to offer, if there are resources, time, and capacity, a completely different view. The dueling studies are played out publicly in EA processes, and the review panels or boards are placed in the position of weighing the approach, method, and bench strength of each study to inform their judgments and determinations.

Is the solution therefore to simply place power and control of study design and study populations in the hands of communities? Evidence suggests that studies designed and controlled by communities tend to:

- Ensure there is engagement of the knowledgeable people in the design of the scale and scope of the study (Gibson et al. 2011);

- Include knowledgeable people who can draw on past knowledge to identify areas of interest (Review Panel 2013); and

- Provide insider understanding of the meaning and context that is not available to external researchers, such as an archaeologist.

The battle of the dueling studies is only one problem averted by community-controlled studies. Studies that frame culture as something held by people in the past, written by a distanced anthropologist, can perpetuate the violent legacy of colonization. Given that mainstream culture depends on the written record, any new record that registers absence, lack of meaning, or low cultural heritage in a place where the opposite is true will hold and then gain further weight. It will build a narrative of absence, and clear the way for development to occur.

An Indigenous controlled strategic assessment, in which the Indigenous leads (the Kimberley Land Council) sponsored seven volumes of research that covered different aspect of culture and rights, many of which were related and interconnected. Clearly, different issues emerge.

KIMBERLEY COAST
PHOTO THINKSTOCK

Perhaps the most notable change in community-controlled studies is that the culture is alive and enlivened in the research process. The cultural studies from the Kimberly illustrate this point. Culture was actively reinforced, specifically governance, in the setting of the terms for the parallel engagement on the siting decision. The Traditional Owners Taskforce (TOTF), established in 2008, drew on and reinforced Indigenous law. Specifically, the TOTF drew on the wunan [Indigenous law and way of being as describe by the TOs] when making decisions, negotiating agreements, and planning for benefits:

> The wunan can be viewed as an overarching foundational practice of local and regional Indigenous governance, like a blueprint for living, which has currency throughout the Kimberley (KLC 2010b, 26). The wunan… was drawn on to identify who to bring into the conversations, how to share benefits, how to structure meetings, and how to make decisions. The TOTF constituted an effort by the KLC and senior Indigenous peoples to draw on their traditional governance and decision-making practices while incorporating contemporary meeting procedures, decision making and information transfer practices, to create a unique, culturally appropriate, consistent and comprehensive consultation and engagement process.

> This process involved interaction among themselves, with other Kimberley Traditional Owners and various other interests such as proponents, governments, NGOs and the wider public. The KLC considers that this decision-making processes developed by Kimberley Traditional Owners constitutes 'best practice' with regard to development-related decision-making. (KLC 2010b, 22)

Power and control over the terms, approaches, and methods are often out of the hands of communities, making Indigenous-led research and EAs a significant political risk for Indigenous nations, as well as other governments and proponents. This is a key point underlying any Indigenous led EA. The broader political context of any Indigenous led process cannot be ignored. In the case where the Squamish Nation ran its own parallel EA, the nation knowingly suspended its own engagement in the provincial and federal EAs, conducting its own review with the proponent. The nation did so with substantial political risk, given that the federal and provincial processes did not acknowledge the Squamish Nation Process. This could have played out against them. They risked having their own findings, mitigation measures, and project changes fall under the radar of the province and the Crown, an outcome that did not come to pass. Indeed, the province revised its license conditions, including reference to the SNP terms. A different risk was assumed in Australia by the KLC. When the state government unilaterally chose one location, the KLC and Traditional Owners were disheartened, but were required to continue their participation in the siting process in order to practice their own Indigenous law of taking care of the land.

The Squamish process (Bruce and Hume 2015) increases the legitimacy of the project by making vital modifications to protect culture and developing a strong relationship between the proponent and the nation. The company, Woodfibre LNG, committed to implement the conditions set by the Squamish Nation, a compelling outcome.

Perhaps the most notable change in community-controlled studies is that the culture is alive and enlivened in the research process.

Indigenous Knowledge Mobilization

The focus on traditional knowledge research has largely grown out of land claims processes, and related and linked co-management and EA processes. While it is a standard approach of EAs to require at least some attempt to integrate traditional knowledge, the result of these attempts is that knowledge is often treated narrowly, or applied outside of its cultural and spiritual context (O'Faircheallaigh 2009). There are two common concerns with approaches to Indigenous knowledge: ecologists who "cherry pick" concepts that line up with their own understanding, and collection that is done out of context by researchers who have no relationship or understanding of the worldview.

Indigenous knowledge is often extracted or distilled (Nadasdy 1999), rather then defined in the broad categories identified by Berkes (2012) as 1) local empirical knowledge of animals, plants, soils and landscape; 2) resource management systems (including practices, tools, and techniques); 3) traditional systems of management and their social institutions, rules, norms, and codes of social relationships, and 4) worldview. The distillation of Indigenous knowledge was identified as a key problem in western designed processes more than two decades ago. Nadasdy (1999) writes:

> This is powerfully illustrated by native Elders who, when asked to share their know-ledge about the "environment," are just as likely to talk about "non-environmental" topics like kinship or respect as they are to talk about animals and landscapes. Every time researchers or bureaucrats dismiss or ignore these parts of an Elder's testimony as irrelevant, they are actually imposing their own culturally derived standards of relevance." (6)

The narrow approach that tends to be taken to Indigenous knowledge often involves bringing a few knowledge holders along for the western science ecology studies as observers, and recording their occasional comments. Many Indigenous groups have rejected this cultural appropriation technique outright and publicly. However, data gathered in this way has often been allowed into formal provincial and federal EA processes regardless of these clearly stated concerns.

The practice is different with many community led studies, which allow stories and knowledge to be shared in the settings they are always shared in, between the generations. When Elders and hunters are able to teach young people about their stories and histories out on the land, in community controlled studies, they are actively living their culture. Traditional knowledge is carefully characterized, but not at all in isolation. For example, ethno-botanical reports for the KLC resulted in a rich overview of the practices, knowledge, and history of the plants in the site area, while the reviews for the Tsilhqot'in in the New Prosperity review in B.C. prepared a rich understanding of the mutual relationship of grizzly bears to the people (Senger 2013). TEK cannot be reduced to data points that can be used to understand a concept. This understanding has been evident in the literature for some time:

> The imperative of incorporating TEK into the state management system has caused researchers to focus on extracting from communities only that kind of information which can be expressed in a few very specific ways—that is, in forms that can be

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utilized within the institutional framework of scientific resource management, such as numbers and lines on maps contained in reports, books, and other written documents—and then to interpret it in a manner consistent with the assumptions of scientific wildlife management. (Nadasdy 1999, 14)

Indigenous knowledge is engaged and reinforced – and it is more likely to emerge and be understood – in contexts where the community is in control of the context, the setting, and the attention to cultural protocol.

Counting What Counts: Mixed-Method Approaches

Both qualitative and quantitative approaches have a place in studies of culture. Quantitative tools are used, where appropriate, to augment qualitative approaches, and vice versa. For example, data on the percentage of language speakers is vital, but reasons for decline or change can best be understood in discussion with local people. The point is that quantitative data can indicate what is happening, but it can rarely indicate why that change is occurring.

Many study approaches are available to the culture and rights researcher, from field-based studies, to ethnography, planning studies, and oral history. The most comprehensive of approaches noted in recent years was the Australian LNG review, managed by the Kimberley Land Council. The complex of studies relied on evidence from archaeology, oral testimony, ethnographic data, quantitative surveys of cultural practices, aerial and land based surveys of flora and fauna, topographical and geographical information, and site visits to record and photograph areas of ethno-biological importance (including traditional foods, weapons, tools, and medicines). The KLC left no stone unturned in promoting and protecting culture and employed multiple methodological approaches. Indeed, their attention turned as well to the gender and community based balance of the research team, to ensure they would be able to access gendered knowledge in the appropriate setting (and with the right person).

Many culture and rights studies employ a mixed-method approach, bringing quantitative data to bear along with qualitative research approaches. For example, Nancy Turner's (2013) work on cultural keystone species for the Tsilhqot'in Nation relied on data from archaeology, oral history and memory, linguistic (for precise vocabulary), social and economic review, spiritual and ceremonial values, cultural transmission, and ecological function and process. Thereafter, she applied a quantitative ranking system to determine the extent to which the area constituted a cultural keystone place.

Broadening the Focus: Building an Array of Culture Studies

Sometimes, due to the resources available or the chosen focus, culture concepts are left to one researcher to pursue in the context of one study. In some of the Indigenous led studies, however, many different volumes and treatments are commissioned to study a breadth of cultural values. For example, Tsilhqot'in Nation commissioned reports during the

Quantitative data can indicate what is happening, but it can rarely indicate why that change is occurring.

EA review of the proposed New Prosperity mine, including traditional use and occupancy studies (Erhart-English 1994; Erhart-English 2012; Larcombe 2013); ethno-ecology and ethno-biology (Turner 2013); species-specific studies (Senger 2013), as well as archaeology and cultural heritage studies with Xeni Gwet'in Elders, among others.

The intent here is to bring many different cultural components into view through a variety of approaches, and then to consider how the project interacts with these components. The approach taken by the Tsilhqot'in ensured that use, relationship to plants and animals, meaning of the place, and cultural heritage were given distinct and focused treatment. Each volume focused on the ceremonial and spiritual meaning and the transmission of knowledge between generations, bringing this theme into the forefront of the studies.

This concept is known as "triangulation" – the more studies that are conducted that find the same or similar findings on a single overarching question – for example, how will this project affect culture or rights – the more detailed the final argument becomes. Multiple independent studies provide confirmation if they have similar findings, and bring an increased weight of evidence to bear that is harder for both proponents and decision-makers to dismiss.

Fundamental Inputs: Counting on Knowledge Holders

The ongoing and inclusive engagement of a wide array of knowledge holders and community members is a hallmark of Indigenous-led processes, wherein practitioners employ a process of iterative exchange of information, scoping of impacts and areas of study, and sharing of information. This process is a recognized method, and it has the effect of confirming information, and gradually adding further opinion and precision to key impacts. This occurred in the Squamish process, in which community hall meetings, focus groups, and many opportunities for dialogue occurred, and Squamish Nation decision makers were able to determine community held values, and how these would be impacted by the project (Bruce and Hume 2015). This iterative review also served to develop community confidence in the project, and in the understanding of the impacts. The same occurred in the KLC process, whereby senior leaders sat down and set out a process, based on their Indigenous law. The Traditional Owners Task Force, comprised of four people from every area, was thereafter in charge of designing the methods and approaches taken in the studies. One of the expert practitioners, O'Faircheallaigh, emphasizes the unique outcomes of this approach:

> *The Terms of Reference were very broad for the strategic assessment, with respect to rights and culture. It was entirely up the KLC to define how they would set out the terms themselves.* (O'Faircheallaigh, personal communication, March 7, 2017)

> *The Terms of Reference required that Indigenous environmental values and Indigenous cultural heritage (environmental) values, including all values held by Traditional Owners in the area likely to be affected and including broader biological communities, habitats and environments in which species with Indigenous environmental/ conservation values might live.* (EPBCA 2008)

In the Squamish process, community hall meetings, focus groups, and many opportunities for dialogue occurred, and Squamish Nation decision makers were able to determine community held values, and how these would be impacted by the project. This iterative review also served to develop community confidence in the project, and in the understanding of the impacts.

Mobilizing Knowledge in Communities and Out on the Land

Oral testimony plays a vital role – both in research done about culture and rights and in public testimony in the EA process. Oral history is vital in establishing context, continuity, history, and the meaning of the place (and the relationship of the people to the animals and the land in the place).

The critical ingredient is the inputs of the culture holders themselves. These early stage exploration projects were turned down, largely based on oral testimony of Elders and letters from the nations, as well as limited archaeological study. (MacDonald, personal communication, February 13, 2017)

The oral testimony of elders, youth, leaders and other land users was all considered evidence of both likely impacts and public concern levels, both of which are critical in the MVRMA decision-making process. (MVRB 2004)

Oral testimony can be video taped, recorded, and is often transcribed. Mostly it is given directly, and it is heard and witnessed in community, public, or site hearings.

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FISH LAKE PHOTO, FROM DASIQOX.ORG

In New Prosperity community hearings, oral histories, and photos were presented, and seem to have provided the context for the CEAA panel to understand particular impacts that were being explained by the Elders (most specifically the spiritual impacts). In one day of community hearings, 127 citizens described their connection and relationship to the land. Notably, the communities requested site visits by the panel, which were at the specific sites where mineral extraction would occur; these are the places of high cultural, ceremonial, and spiritual significance. Panel members were out on the land with nation leaders and knowledge holders, with the intent of understanding community views. In these contexts, the leaders opened with prayer and drumming, allowing Indigenous protocol to be followed. Even in this land-based hearing context, Chief Roger Williams was clear that the cultural protocol of the Elders was being bent in order to convey the seriousness of the issues to the panel (to which the nation members were presenting in the daytime):

I'm hoping to get our Elders involved but they're not comfortable; it's not easy for them. So we just wanted to begin because these stories supposed to be told in the evening, we're going to do this process so that we can protect ourselves, protect everyone because our Elders say that when you tell these stories, these legends they're sacred. A sacred story which land and people and animals, birds and fish will change during those days, and those are sacred moments that are told at night. That's when — in spirituality the safest — one of the safest times, so with this sage and this water we're — we wanted to do that with the legend story. (CEAA, site visit, August 9, 2013)

In these site visits, Elders prayed, sang songs, described cremation sites, and described their activities out on the land. They also conducted a water ceremony. It was a very natural place for the Elders to describe their worldview, in contrast to the community or public hearings.

Methodological Constraints

There are typical constraints and complaints that are raised with respect to the types of studies that have been described, including interviews, focus groups, and oral testimony. They tend to relate to sample size, reliability, and validity. These concerns can be disposed of rather easily.

It is generally the case that anyone with exposure to social science methods will be most familiar with surveys. Surveys rely for their validity on a sample size large and wide enough to fairly predict what the population has to say about a particular issue. These same standards are falsely applied to all other research activity.

Generally panel members or culture study readers lack the experience of social science, and they themselves are not embedded in the community or social structure. They don't have the capacity therefore to assess the methods being used, and they apply this same standard of survey size sample to other studies. In these examinations, evidence is rejected because of insufficient data, the aggregation of data, and insufficient sample size (to be representative).

Many of the studies reviewed herein take a targeted approach of working with Elders or key harvesters who are knowledgeable and have core understandings and use. These methods are well accepted in ethnography, namely that there will be culture leaders — or "culture bosses" as they call them sometimes in Australia — who will have the knowledge earned and gained through long study to speak about a particular area or issue.

The culture holders themselves are the experts in selecting who has the authority to speak about a particular area of land. Community leaders will identify the core knowledge holders who have the right and duty to speak about an area, whether it is a family or held more broadly by a set of harvesters. A caveat is that colonial systems of governance have had a blunt traumatic impact on organizing, and have broadly undermined the ways that people organize their relationship to the land. Nonetheless, the nation will identify who it is that is knowledgeable about an area, and speaking to people who do not have that authority will yield very little. This lack of knowledge is taken by naive researchers to indicate that the nation holds no knowledge of an area, but this is a fundamental misapprehension of the lived reality.

Once the right people have been identified, the research team will work with them (in appropriate contexts, settings, and with the right interviewers and in the right language) to unearth everything there is to know about a concept. There will be consistency identified between speakers, and generally speaking, once there is no new knowledge being spoken about (or no new stories), then the point of "concept saturation" has generally been hit.

Thereafter, good methodological practice will involve taking these concepts back to the key knowledge holders or more broadly. This is called community verification. It is a vital methodological step, described here by an expert practitioner:

> *Oral testimony is fed into it, for example, with KLC you had teams consisting of western scientists and aboriginal knowledge holders doing work together in the field. From the aboriginal side, oral testimony played a large part. It is a matter of making sure it was properly documented (e.g., video tape, scribe who would go*

> The culture holders themselves are the experts in selecting who has the authority to speak about a particular area of land.

through with group and ask if it was correctly written down) so you have record of that oral testimony. It is very rare that people would say, "No, you got that wrong," but would elicit additional information. All of the documents would then go to the consultants (e.g., Vol. 3 included quotations from people and all were illustrated from what people said). Oral testimony is hugely important and absolutely central. (O'Faircheallaigh, personal communication, February 14, 2017)

Researchers might also look at materials or evidence that corroborates the oral history, though this of course may privilege written or documentary evidence. This principle may have been innately understood at the New Prosperity hearings, because so many Tsilhqo'tin presenters used photos, films, and family genealogies to illustrate their oral testimony.

A message may also strongly resonate, and be given weight, because of the range of people it is conveyed by (Miller 2011). The NWT decisions on uranium certainly employed this test, as revealed in this statement: "The Review Board heard from a broad cross-section of the community spanning three generations, from Elders to community leaders to youth" (MVRB 2012, 36); they heard the same message of cultural and spiritual significance from "the tallest to the smallest" (Macdonald, personal communication, February 13, 2017).

Cumulative Effects: Insult and Injury

Indigenous people in Canada are emerging from a time during which the Canadian government perpetrated policies of "cultural genocide" upon them (Truth and Reconciliation Commission – TRC 2015). The key point, for any EA or planning approach for Indigenous lands, is that the existing baseline is significantly diminished from a previous state, even in the pre-project case. The Canadian government targeted culture specifically and systematically through the administration of colonial policies, including outlawing spiritual practices, separating children from their parents and sending them to residential schools, denying them the right to participate fully in Canadian political, economic, and social life, replacing the system of governance, and asserting control over lands (TRC 2015).

This is a fundamental point – every EA or every planning process occurs in a context in which colonial policy continues to shape and restrict the ability of Indigenous peoples to express themselves freely in their own languages, teaching their children in ways that transmit knowledge, and through the continued priority given to extractive industries as a priority over the rights of Indigenous peoples. The UNDRIP calls for a different approach.

Setting a different baseline (pre-contact) is only part of the solution. There have been studies that recognize this pre-contact baseline, such as the Mikisew culture and rights study that set a pre-oil and gas baseline as 1965 (Candler et al. 2015a).

Cumulative effects studies that approach analysis from a pre-contact baseline and consider it to already be fundamentally impacted are likely to emerge. For example, two cumulative effects studies for the Carrier Sekani Tribal Council in relation to the Coastal GasLink Project found: that the land base in Carrier Sekani territory and the resources in that territory had already been largely impacted and alienated by prior industrial, residential, transportation,

and resource development activities (MacDonald 2014); and that a large number of species of fish and game relied upon for practice of CSTC member Aboriginal rights had simultaneously declined in the pre-project case (Toth and Tung 2014). These mapping and quantitative stock data studies provided compelling and mutually supportive findings of pre-existing significant adverse cumulative effects, which changed the context within which new LNG-related projects needed to be considered by the province.

Different Venues: Planning Processes for the Bigger Decisions

There has certainly been a need clearly stated for larger land use decisions not to be made through environmental assessment processes. Indeed, that was a primary complaint with a decision made by the Mackenzie Valley Review Board, within the Screech Lake REA, in which the Review Board noted:

> To the people of Łutsël K'e, the potential for increased industrial development in this area is not compatible with the values of the Upper Thelon basin as a cultural landscape. They view this as a desecration of a spiritual landscape. They want the Review Board to help protect it from the impacts of industrial activity by the proposed development in combination with all other industrial activities (such as claim staking, aerial surveys, diamond drilling, other exploration activities and air traffic associated with most of these activities) that potentially affect it. (MVRB 2004)

This broad approach – a "do not enter" sign on a whole region – is one that has been criticized as a de facto land use planning role that is not meant for environmental assessment. It has been a strong recommendation leading out of decisions, such as the Shell Jackpine Mine Expansion Project Joint Review Panel, that broader processes occur:

> The Panel also recommends that if the governments of Canada and Alberta identify offsets as necessary, the selection and implementation of conservation offsets should consider the effects of the offsets on existing Aboriginal TLU and consider the need to maintain areas for traditional use by Aboriginal peoples, including areas containing traditional plants and other culturally important resources.

This emphasizes the idea that broader approaches and studies can settle issues that are better not left in the realm of EA.

The Review Board noted "To the people of Łutsël K'e, the potential for increased industrial development in this area is not compatible with the values of the Upper Thelon basin as a cultural landscape. They view this as a desecration of a spiritual landscape."

Lessons Learned

It is abundantly clear that research on culture and rights that does not start with the community misses the mark. There is simply no context brought forward, no meaning from the local culture holders, and worst of all, the research has no local validity. It fails the methodological tests that are applied, as well as the tests of local validity.

APPROACHES TO THE STUDY OF CULTURE AND RIGHTS will continue to change. Through this literature review, the case study consideration, and in expert interviews, it has become clear that this is a field that has to continue to reward experimentation and change. Change seems to be arriving primarily from Indigenous communities themselves, led (with some risk to themselves) by Indigenous theorists and allies (Bruce and Hume 2015; O'Faircheallaigh 2013).

What Doesn't Work

It is abundantly clear that research on culture and rights that does not start with the community misses the mark. There is simply no context brought forward, no meaning from the local culture holders, and worst of all, the research has no local validity. It fails the methodological tests that are applied, as well as the tests of local validity.

Nonetheless, we continue to see mainstream firms leading expert archaeologist driven studies that result in stories of cultures frozen in time and characterized by their cultural heritage of, for example, flint scrapings. This is not to say that archaeology is not vital to site and cultural heritage interpretation. It is, but the model has changed, and best practice now shows Elder or culture leads working in collaboration with archaeologists.

Similarly, the time seems to have passed for a focus only on one aspect of culture. Culture simply cannot be reduced to the points on a map indicated by kill sites. These studies tend to take knowledge out of context, and identify use or values as the only important qualities of culture. They clear the way for market-based development.

EA, because of the focus on one particular set of project interactions with culture, has a sharp focus on the scale of the project. This simply doesn't line up well with cultural analysis. The tendency here is to frame project effects as small, and therefore not as significant, because of the physical size. What we have seen here is that the physical size of a project should not be used to infer its meaning.

Studies that fail to involve culture holders open themselves up to three sources of uncertainty. First, they rarely have enough information about the place itself, or where to look in the particular place, for cultural heritage finds. They simply miss important past markers. The second source of uncertainty is the absence of context. Without the right people to assist in interpretation, or point the right way, the values, the stories, and the cultural heritage have no cultural context. Finally, external researchers that conduct studies without direction rarely find the right people to speak to. They are rarely able to achieve "concept" or "interviewee" saturation. As a result, the studies they release frequently find little evidence of cultural heritage or cultural meaning.

What Looks Promising

This review has highlighted the potential for methodological and conceptual innovation. Culture and rights studies across the country have shown this innovation, with some of the innovation occurring in the oil sands of Alberta. Notably, the Mikisew Cree is at the forefront of change, trialing new approaches to understanding project effects on culture and rights (Candler et al. 2015a), and profiling the close relationship held to bison (Candler et al. 2015b), akin to keystone species research (Garibaldi and Turner 2004).

There continues to be scope for further innovation in how EA processes are conducted and led. The Squamish Nation and the Kimberly Land Council led processes that hold promise, in which people organized in ways that made sense to them to gradually learn about proposed development, adding information over time, and identifying their priorities. In both cases, the Indigenous party took full control of definition of the terms of reference, of the approach taken with respect to culture and rights, and of the mitigations that were assigned.

Other approaches that hold promise are broader processes, such as strategic assessments or regional land use plans. All of the lessons on control, ownership, and processes that are defined in alignment with the Indigenous worldview and way of organizing continue to apply.

Studies that line up with Indigenous ways of thinking and organizing need to be supported – for example through the application of Indigenous health indicators or cultural services studies. There should be experimentation and innovation with the following principles met:

- Foreground Indigenous views of the land and the meaning of what occurs out on the land, with both qualitative and quantitative treatments. It will be vital to enliven community values and perspectives in studies that connect people deeply to their land and stewardship values, bringing forward the cultural meaning of places, and ensuring these meanings are central in the determinations of land use.

- Ensure there is community control over the terms, scopes, and methods applied. This review has shown that community control produces fundamentally different study outcomes, with a much richer understanding of culture and rights coming into view.

- Enliven cultural studies by ensuring the Indigenous laws and norms are central to the organizing of the approach. When Indigenous law, norms, and values provide the

framework for organizing, the methods and scope that emerge are unique, trusted, and accepted.

- Consider the development of thresholds that are tested, reviewed, and understood by communities. The literature and every case points to the vital role that communities hold in setting the threshold for culture and rights. The culture holders are the experts.

- Bring to light the views of both men and women in communities, and with them the issues and concerns that shine a light in these contexts – generally testing projects against their desired futures for community and environmental health and well-being.

- Consistent with the UNDRIP, employ processes consistent with the principles of FPIC, testing these approaches against the benchmarks established in the literature.

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Valued Components, Definitions, and Indicators

Value cultural component(s)	Definitions	Indicator type
Cultural heritage resources	The physical manifestations of culture and objects, items and ceremonies associated with sites and objects (Bannister and Nicholas 2015). The meaning associated with those sites and objects (Dyanna Jolly Consulting 2007a).	The number and range of physical sites in an area, their cultural and social context; the practices associated with the site. Areas of cultural spiritual significance (Candler et al. 2015a) NZ study identified meanings associated with sites, the Te Rūnanga o Kaikōura, 1) important places; 2) archaeological sites; 3) battle sites; 4) resting sites; 5) customary gathering of food and natural materials, and places where those resources are gathered; 6) campsites; 7) canoe-landing sites; 8) stories that are part of the history of the land; 9) place names.
Cultural landscapes and other special spiritual spaces/ places, often defined by World Heritage Convention Operational Guidelines (2012)	In ecosystem literature, cultural services are capabilities and experiences that arise in particular areas (Hernandez-Morcillo et al. 2013; Plieninger et al. 2013); in anthropological literature, pertains to the cultural properties in the natural environment, key expressions of which are oral traditions, traditional practices, and intense interactions with living and non-living components of the environment (Andrews and Buggey 2008), or interconnected heritage sites, including the travel routes and spaces between them (Ehrlich 2012).	Landscape units that have culturally defined meaning (Bryan et al. 2010) (represented using spatial indices associating social values with an area). Perception of loss of value and meaning of the cultural landscape when a project occurs (Gill and Ritchie 2011).

Value cultural component(s)	Definitions	Indicator type
Culturally significant species (not frequently cited, but occurs more in ecosystem literature)	Cultural keystone species are those with which a nation has a strong relationship, "culturally salient species that shape in a major way the cultural identity of a people, as reflected in the fundamental roles these species have in diet, materials, medicine, and/or spiritual practice (Garibaldi and Turner 2004, 1). Legat et al. (2008) write of the Tłı̨cho laws governing human behaviour with caribou populations and migration patterns, identifying Tłı̨cho indicators of change (Legat et al. 2008, 2). The report finds that lack of knowledge "can lead to a decline in caribou population, changes to caribou distribution, and a dysfunctional society" (Ibid., 2). Other reports focus more specifically on traditional knowledge held by culture holders (Leech et al. 2016). These species (both plants and animals) are significant and their loss or impacts on them may be as drastic to the human communities that depend on them (Garibaldi and Turner 2004).	The laws, for example of being knowledgeable as a sign of respect of caribou (Legat et al. 2008). Emergency of species or resource vital to cultural transmission or cultural practices or harvest areas (MCFN 2016). Elements that may be considered in identifying a cultural keystone species include: 1) intensity, type, multiplicity of use; 2) naming and terminology in a language, including the use as seasonal or phonological indicators; 3) role in narratives, ceremonies, or symbolism; 4) persistence and memory of use in relationship to cultural exchange; 5) unique position within culture; 6) extent to which it provides opportunities for resource acquisition from beyond the territory (Garibaldi and Turner 2004).
Culture and land tenure	Systems of natural resources use, including land tenure systems (Sagnia 2004).	Social organization may be tied closely to the system of land tenure, which may also reflect transmission of rights, property, and gender relationships. Changes to land tenure through mining or changes in property ownership may interfere with these relationships.

Value cultural component(s)	Definitions	Indicator type
Relationship to land and traditional activities on the land (including practice of traditional economy)	Harvesting areas, those where traditional lifestyles are practiced through activities such as hunting, trapping, fishing, and harvesting (Ehrlich 2012; Nutall 2012). Land users' perceptions of changes over time (Parlee et al. 2012), and in Candler at al. (2015b) harvesting is treated as "harvesting rights." Subsistence and cultural use in the area (Candler et al. 2015a).	Perception of connection to traditional lands. Places available for transfer of knowledge (MCFN 2016). Time spent on the land conducting traditional practices (associated with connected indicators of health and well-being). Traditional use and practices for teaching language, culture, and history (MCFN 2016). Consumption of country foods and availability. Often linked to perceived and real physical degradation of habitat and lower harvesting success for key wildlife species. Time spent in kin relationships. Transmission of place based knowledge. Perceptions of change over time by land users. Consideration of important species and resources. Harvest locations. Means of harvest focused on species (Candler et al. 2015b).

Value cultural component(s)	Definitions	Indicator type
Values and belief systems	Oral history and storytelling (Ridington 1996) Musical or expressive culture associated with place. Tangible use or expression associated with place (Sangia 2004). Religious and ritual ceremonies. Cultural practices, beliefs, and values.	Continuity of storytelling in place (Ridington 1996). Incidence of use of items or expressive culture in the area. Cultural norms and values. Social organization, customs, traditions, or ceremonies (MCFN 2016). Cultural values can be very site specific, e.g., Ngāti Kuri associations with the Awatere River: cultural values associated with freshwater; spiritual dimensions; life-supporting capacity; water in worldview/"mountains to the sea"; customary gathering of food and natural materials; rights and responsibilities associated with holding customary authority over an area; sustainable use and management (Dyanna Jolly Consulting 2007b). Spiritual/religious tradition, loss of faith in traditions.
Way of life (Candler et al. 2015a) combined several qualities into one valued component	Includes the indicators of language, sense of place, identity, and the ability of nation members to maintain transmission of knowledge, and continuity of practice and experience, in particular culturally important places and between generations.	Language. Transmission of culture. Confidence and trust in traditional resources (MCFN 2016).

Value cultural component(s)	Definitions	Indicator type
Practices of cultural transmission (including language, oral history, intergeneration relations, social networks)	Maintenance of Aboriginal language and transmission of cultural knowledge regarding a particular area (MVRB 2012). Trails, activities on the land, resource use, and harvesting and associated cultural practices (Hammatt 2008).	Aboriginal place names. Frequency of Aboriginal language use. Families spending time out on the land. Contributions to changes in social structures leading to cultural loss (e.g., decline of intergenerational culture transmission). Contribution to cumulative loss of Indigenous language. Linked to changing political structures and power relations (e.g., Elders vs. politicians or business-people as leaders).
Sense of self; sense of place; overall wellbeing	The characteristics that make a place special or unique and the qualities of the ecosystem that create a sense of collective belonging (Hernandez-Morcillo et al. 2013); the meaning a landscape holds, and the emotional significance that is a produce of interaction with the land over time (Robertson 2006), or the less observable facets of landscape including the atmosphere and sentimental value (Robertson 2006). Sense of place will be of particular importance for a First Nation regardless of whether traditional use activities are at play (YESAB 2012). With respect to health outcomes, connection to country, or behaviours related to forming a connection to country, are important influences on the social determinants of Indigenous health (Ganesharajah 2009).	Loss of sense of control over one's own fate. Health impact outcomes caused by cultural impacts (e.g., increased suicide, alcohol and drug addiction, poor diet).
Governance	The ability to make governance decisions collectively.	Stewardship and autonomy in decision making (Candler et al. 2015a; O'Faircheallaigh 2003, 2009, 2010).

Value cultural component(s)	Definitions	Indicator type
Rights	The ability to hunt, trap, and fish on undeveloped Crown land (Ray 2013). The act does not direct review panels to consider impacts on Aboriginal and treaty rights, despite the fact that such rights may be directly implicated (McCormack 2016, 148). The maintenance of laws governing leaders', Elders', and parents' behaviour in relation to harvesting and using resources (Legat et al. 2008); enactment and continued ability to enact Indigenous law, such as living together on the land (witaskewin) (Cardinal and Hildebrandt 2000). Respect is central to traditional knowledge (Deline First Nation 2005). Being free in country is vital to being healthy (Ganesharajah 2009).	Laws and norms and their continued application. Rights tends to be identified by the Crown as right to trap, hunt, and fish. Access and right of access, Affect on adjacent lands (MCFN 2016), Rights in Indigenous writing tends to be articulated as norms, laws, and responsibilities (Legat et al. 2008). Nature of Treaty 8 and Traditional Land Use Right; 1) Reserve Lands/Lands in Severalty: resources of their traditional lands – for hunting, fishing, trapping, and gathering – would still be required, the same means of earning a livelihood would continue after the treaty as it had existed before; 2) Broader Traditional Lands: needed and expected access to virtually all of their land base (traditional territory) which contained most of the required resources, graves of relatives, variety of sacred places related to oral traditions and their visions (McCormack 2013).

Contextual Factors in Making Impact Determinations

Adapted from Gibson et al. 2011.

Significance factor	Questions the assessors may want to consider
Nature of impact	Which valued cultural components does the impact threaten? How does it threaten them? What pathway would it occur by? Knowledge of pathways of impact that can be blocked or managed by mitigation is essential to minimizing or eliminating impacts.
	Describe clearly the characteristics of the effects, whether they are loss of access, noise, effects on current use of lands and resources, effects on sites, change in aesthetics, or change in knowledge transmission or spiritual values.
Situational context	What is the evidence for values being impacted within the potentially affected area?
	How sensitive are the valued cultural components to change – will a little bit of change fundamentally alter the values associated with the place? How vulnerable or resilient are the valued cultural components that may be affected? What is the current status and trends for indicators related to them? Less-resilient elements of culture, if they are deemed important by culture holders, should be prioritized for mitigation. What is the social scale at which impacts are experienced (i.e., individual, family, or group)?
	Is the place or landscape one of many similar important places or is it the "one and only"?
	Is there the potential for cascading impacts from this cultural change?
	Are there cumulative effects that need to be considered from other developments?
	Does the area that will be impacted have multiple uses by many different groups?

Significance factor	Questions the assessors may want to consider
Trade-offs	Will there be beneficial effects to offset adverse effects? Will the beneficial effects be on the same valued components or different? For example, economic growth at the expense of cultural decline may require mitigation that takes financial capital and converts it to cultural assets. Are there any activities or values associated with the location to be impacted that will be inevitably constrained, altered, or eliminated if the development proceeds (e.g., practices or rituals)?
Capacity to manage and social acceptability	Will any identified thresholds of acceptable change be approached or breached if the development proceeds? Are there thresholds already breached that increase the significance of any additional changes? Does the predicted change exceed the existing capacity of the community and government services to absorb the change? Are there management plans in place and do they anticipate likely increased change?
Geographic area and distribution	How many communities, culture groups, areas of cultural importance, and valued cultural components will be impacted by this development?
Likelihood	Is there a greater than 50 per cent chance the impact will occur? Does the estimated magnitude of the change make a 50 per cent likelihood too high to consider? What is the estimate based on and what assumptions were used? Who made the estimation? Are there people who disagree with it?
Impact equity	Are certain cultural groups or subgroups within a culture more likely to be impacted? For example, Elders, people who rely on the traditional economy and live on the land, women, and youth, in that order, are often more likely to be impacted by adverse cultural change.
Public concern	Is there a high level and wide cross section of the culture group (and others) expressing concern about the proposed activity?

Kimberley Land Council – Browse LNG Precinct

As a part of the siting process for a new liquefied natural gas (LNG) facility proposed by the Minister for State Development in Australia, the Kimberley Land Council (KLC) reviewed many sites and selected the site with the least cultural and social impacts, after studies were completed for six Indigenous Impacts Reports. Each volume was prepared to address Indigenous aspects of the terms of reference (ToR) for the Commonwealth Strategic Assessment. This strategic assessment involved an extensive process of voluntary siting of the precinct, with a variety of agreements, management plans, and mitigation measures in play.

This Australian example constitutes a strikingly different approach to consent than Canadian processes. Overall, the strategic assessment approach to selecting a site for industrial development is promising due to the ability to set site selection criteria that include culture, heritage, and rights. One of the site selection criteria is Indigenous informed consent (as ratified by the Native title tribunal). Each volume of the KLC Strategic Assessment has specific impacts identified, as well as safeguards and measures that must be in place for Indigenous peoples to benefit from the development of the facility and be protected. Within each volume, a different aspect of culture was reviewed using a mixed-method approach for examining the baseline, context, and site meaning. Culture aspects examined include rights, socio-economic impacts, cultural heritage, and enthobotany. In the end, the development was agreed to by the KLC and the Traditional Owners (TOs), under the condition that the recommendations of each report, and all studies, mitigations, and management measures are undertaken in partnership with the TOs.

The terms of reference (ToR) for the assessment were quite broad, thus the corresponding studies were as well. The Traditional Owners interpreted these broad terms themselves, and included a requirement to show consent was offered in a culturally appropriate manner to the establishment of an LNG precinct, and the consultation efforts (ToR 7), which led to a Consent Report, Volume 2 (KLC 2010b).

In addition to being reviewed within each of the KLC research reports and volumes, culture was also actively reinforced, specifically governance, in the setting of the terms for the parallel engagement on the siting decision. The Traditional Owners Taskforce (TOTF), established in 2008, drew on and reinforced the "wunan when making decisions, negotiating agreements and planning for benefits… The wunan can be viewed as an overarching foundational practice of local and regional Indigenous governance, like a blueprint for living, which has currency throughout the Kimberley" (KLC 2010b, 26). The wunan, or the Indigenous law and way of being as described by the TOs, was drawn on to identify who to bring into the conversations, how to share benefits, how to structure meetings, and how to make decisions. The TOTF constituted an attempt by the KLC and senior Indigenous peoples to draw on their traditional governance and decision-making practices while incorporating contemporary meeting procedures, decision making, and information transfer practices, to create a unique, culturally appropriate, consistent, and comprehensive consultation and engagement process. This process involved interaction among themselves, with other Kimberley Traditional Owners and various other interests such as proponents, governments, NGOs, and the wider public. The KLC considers that this decision making processes developed by Kimberley Traditional Owners constitutes 'best practice' with regard

to development-related decision making (KLC 2010b, 22). The participation and decision making approach that the TOs developed were drawn from customary practice.

Further, this set of studies took a very broad view of culture, with recognition that in an Indigenous context there are no clear boundaries between cultural, social, heritage, and environmental aspects of a large industrial project such as an LNG precinct. A single 'source of impact,' such as damage to the marine environment or an influx of non-indigenous people, can simultaneously create impacts along all of these dimensions (KLC 2010a, 9).

Rights were also considered within the reports where rights are viewed broadly as the right to participate in determinations of project developments that will occur in Indigenous lands. In this case, the TOs were assured of a collaborative process throughout the siting process, but this collaboration was undermined by a state decision to unilaterally select James Price Point. The Report on Traditional Owner Consent and Indigenous Community Consultation (Volume 2) addressed the question of 'whether the Traditional Owners have given informed consent, in a culturally appropriate manner' to the establishment of an LNG Precinct in the Kimberley region (ToR clause 7(h)).

The standard of free, prior, and informed consent (FPIC) was used in the siting process, including the benchmarks for assessment of granting consent. The report finds sufficient resources were applied to the consent process, and therefore that the site selection partially embodied the principle of FPIC. However, FPIC was threatened by a compulsory acquisition threat (in the absence of agreement), time constraints, the threat of loss of state funding (in the event of no agreement), and weak baseline information.

The culture studies used in the report involved a mixed-method approach and included archaeological review, oral testimony, document reviews, ethnographic data from previous studies, quantitative surveys, mapping, flora and fauna surveys, and site visits. Rights methodology involves an analysis of the process in which Indigenous people participate in the decision-making process, and then a characterization of how these processes conform to international benchmarks.

Notably, the study process that was undertaken for some of the studies is quite different. The social impact team included three KLC staff, as well as outside planners, and represented a gender balance. The process in this social impact study involved iterative review of the project, concerns, and the impacts in many settings. The social impact practitioners captured people's concerns on white board and paper, and then came back in a subsequent session to review these same concerns again. This has the effect of verifying concerns, as well as triggering new information. Study practitioners reported this to be one of the most effective and vital ways for TOs to feel informed, engaged, and to provide their data.

In this prospective siting process, the Ministry of State Development permitted the development of the LNG precinct, and mandated a set of Environmental Values and Environmental Quality Objectives for the Marine Waters off James Price Point and the Port Area (MSD 2012, 49). The MSD required that conditions set out in the report would all apply, if the siting of a facility should occur within five years, including such cultural provisions as to assess the condition and potential threats to Aboriginal and natural heritage locations during construction, operation, and closure (MSD 2012, 20). In addition, there are also more than 90 cultural heritage, values, and governance provisions set out in the KLC reports that are expected to be implemented.

Overall, this case represents the most comprehensive treatment of project effects on culture, social and cultural life, and cultural heritage. It is done prospectively, and involved a massive mobilization of people, resources, and time. In part, this case was made possible due to the large amount of available monetary resources, as well as the high level of organization and powerful position of the KLC.

Squamish Nation Process – Woodfibre LNG

Proposed in 2013, the Woodfibre LNG project incorporated an independent assessment designed and implemented by the Squamish Nation, titled the Squamish Nation Process (SNP), which outlined all the conditions that were required by the proponent in order to have approval and consent from the nation. Triggering an EA under both BC's Environment Assessment Act and the Canadian Environmental Assessment Act (CEAA 2012), the project was approved for substituting the CEAA assessment for the provincial process with a few substitution requirements and the assessment report was completed by the BC Environmental Assessment Office (BC EAO). In the end, with all conditions addressed and agreements made, both the Squamish Nation and the Minister of Environment, Catherine McKenna, approved the project and construction is set to begin in 2017 (McKenna 2016).

As the first British Columbian First Nation to develop an assessment process, the Squamish Nation Process was designed to allow the nation to make informed decisions from the community perspective. Contrary to legislative approaches, the SNP places heavy emphasis on community engagement, which is the keystone of the entire process. Squamish Nation chose to focus on which impacts had the highest priority to the community as opposed to conveying the level of significance for each impact, as they recognize the subjectivity of significance and its limitations. Overall, the Woodfibre LNG project gives a concrete example of the success of the implementation of an Aboriginal independent assessment in achieving informed consent and shared decision-making power, including influencing project design.

In addition, parallel to the Crown's EA process, Squamish Nation chose to use the valued component (VC) concept that is used by the Crown for consistency, but defined it in its own way to be reflective of Squamish Nation's unique land management perspective and goals (Bruce and Hume 2015, 10). Completely different from the existing EA process, the SNP approach of using Aboriginal rights and title as an all-encompassing, solitary VC demonstrates the interplay between rights and culture and changes how issues are framed within an environmental assessment.

Underneath this umbrella VC were interconnected guiding topics that were determined by community input and used to assess project impacts.

As a process that was developed and implemented by the culture holders themselves, the Squamish Nation Process creates an opportunity to address gaps of Indigenous culture and rights within the current legislative EA process through a wholly Aboriginal perspective. Built on community engagement, SNP not only ensures that all voices are heard, but also promotes the capacity building of community members for meaningful contribution. In addition, the SNP also emphasizes the role of cumulative impacts through a holistic and multi-generational approach.

As the basis of the Squamish Nation's solitary VC, rights played a large role with the way impacts are addressed with an emphasis on how they will affect Aboriginal rights and title. An interconnected model was used to examine rights, with a focus more on how the community felt the project was going to affect their way of life rather than a strictly legal sense (Bruce, personal communication, February 17, 2017).

Due to the confidential nature of the Squamish Nation Process, the independent assessment report is not publicly available and thus many specific details on the methodology cannot be known at this time. In addition, when involved in the SNP, proponents agree not to provide any information regarding Squamish Nation Aboriginal rights and title, or any other interests, in their EA submissions to provincial or federal governments unless the nation consents (Bruce and Hume 2015, 8).

In recognizing the issue of subjectivity in significance determination, the SNP avoids use of definitive terminology; in doing so, Squamish Nation hopes to achieve a more holistic view of determining impacts compared to current EA models, in which if an impacts exists, but is not deemed significant, then it does not receive further consideration. In this way, Squamish Nation is able to highlight which impacts are of the highest concern based on community discussion and including a technical review from the independent consultant.

For example, Woodfibre gives a context in which an Aboriginal independent assessment process is conducted, and it highlights the processes that contributed to that success. Predominately, the willingness of the proponent to accept the SNP as a legitimate process is crucial, as it is a voluntary procedure that is proponent funded. Second, timeline rigidity needs to be addressed and allow for more flexibility to ensure there is time for the independent assessment to occur. Within the Woodfibre EA, there are examples of approved procedural restructuring to allow for the Squamish Nation Process, such as delaying reporting requirements (BC EAO 2015). In addition, the Woodfibre report clearly documents the conditions determined by the Squamish Nation Process for project approval and responses from both the proponent and the BC EAO on how those conditions will be fulfilled (BC EAO 2015, Table 18-1), including issues of access into controlled zones for traditional use and switching to alternative cooling technologies to limit potential impacts that would infringe on Aboriginal rights.

Finally, it is important to mention that there were also unique circumstances and limitations to the SNP including:

- Proponent involvement within the Squamish Nation is voluntary, although agreements between the proponent and Squamish Nation are legally binding. There are also benefits for cooperation from the proponent, including decreased risk of legal battles and better relationships between the First Nation community, the Crown, and the proponent (Bruce and Hume 2015, 8).

- Access to funds to support the Squamish Nation Process (to be funded by the proponent).

- As the Squamish Nation Process is confidential, there is limited public access to relevant files, including description of culture.

Drybones Bay and the Upper Thelon

In the NWT between 2004 and 2009, a variety of mineral exploration programs were either turned down, or the proponent withdrew, due primarily to consideration of cultural impacts on locations in which exploration was proposed to occur. New Shoshoni Ventures' (NSV) Drybones Bay proposal was rejected by the Minister of Indigenous and Northern Affairs Canada (INAC) in 2006, as was the Ur-Energy Screech Lake Project in the Upper Thelon in 2007, based on recommendations by the Mackenzie Valley Review Board.

In the Drybones Bay case, the proponent's one page submission on cultural impacts suggested there would be no indirect or direct impacts on culture, largely on the basis of the small, primarily subsurface, physical footprint of the exploration program. Aboriginal groups countered that Drybones Bay is of critical cultural importance for use and spiritual reasons, and any industrial development was incompatible with Indigenous values for the area. Contributing factors to the ultimate rejection included that the NSV Drybones Bay project would likely:

- Result in direct and indirect impacts to the abundant known and suspected archaeological sites in Drybones Bay;

- Adversely affect the well-being of the families that want to continue honouring ancestors buried in Drybones Bay; and

- Alter the traditional use of Drybones Bay and diminish the cultural identity and well-being of Aboriginal parties.

In the Ur-Energy Screech Lake EA of 2007, the Review Board and Minister found that the project would cause cultural impacts of a spiritual nature in the Upper Thelon Basin so significant that the development could not be justified. Contributing factors to this rejection included:

- Disruption of the spiritual importance of a place where many Dene believe "God began";

- Reduction of Dene ability to pass this area on to future generations as they found it; and

- Widespread "distress" and "public concern" as encountered in written and verbal submissions by many Dene from across a wide range of community demographics.

Unlike the NSV Drybones Bay EA, the Upper Thelon EAs were not focused on one specific site; they were focused on a large area, all of which needed to be considered as a singular cultural landscape and throughout all of which, industrial development was deemed irreconcilable. Thus, the Review Board recognized through these very different EAs, that culture can be the primary or sole reason for rejection of a project, in a specific location or in a larger region.

Key findings in the two cases included that the size of a project is not a direct proxy for its cultural impact potential. These cases represent assessment of projects at the very earliest stage of the mining life cycle. The Review Board made clear that although the proposed projects were physically small, their potential cultural impacts were not. Another key finding of the Review Board was the critical role of oral testimony of culture holders in making cultural significance determinations. The NSV case was groundbreaking in that the Review Board articulated for the first time a critical principle of assessment of significance of cultural impacts that "cultural impacts are best identified and addressed when relayed by the holders of the cultural knowledge: the community members themselves" (MVRB 2004).

The Review Board set the terms for both EAs to include subsistence and traditional use, and cultural and heritage resources, including distinguishing "culturally significant sites," an expansion of culture beyond physical heritage resources critical to the ultimate significance determination that the areas are ones in which people seek refuge and healing, and where new generations are taught about culture and history.

While culture was scoped broadly, the focus on rights in these EAs was minimal. The concepts of FPIC and the UN Declaration on the Rights of Indigenous Peoples, for example, were *not* considered by the Review Board. There was, unlike in the Australian example, no explicit require-

ment for, nor consideration of, the consent of affected Indigenous groups.

Cultural data inputs include:

- Traditional land use maps illustrating the use values in the area;

- Heritage studies focused on historic use;

- Testimony from a non-partisan territorial archaeologist held high weight, including on physical known heritage resources, likelihood of unfound heritage resources, and cultural landscape delineation;

- Oral testimony offered in public hearings, which was ultimately given the greatest weight by decision makers; and

- The oral testimony of Elders, youth, leaders, and other land users was all considered evidence of both likely impacts and public concern levels, both critical in the MVRMA decision-making process.

The Review Board considered multiple factors in recommending rejection of both NSV and Screech Lake on cultural grounds, including:

- Density of known and potential for physical heritage resources;

- Recognition of spiritual values of the areas;

- Number and nature of stated concerns of community members;

- Outright opposition to any development in the locations by culture holders, as expressed in the vehemence and emotion of presenters;

- Psycho-social impact of development in the areas;

- Irreversibility of some losses – "Some places, once violated, can never in the collective memory be pristine again" (June 23, 2005 – MVRB);

- Multiplicity of uses (e.g., gathering, spiritual, burial, harvesting);

- Multiple users (more than one Aboriginal group valued these locations); and

- Centrality of the locations in the cultural landscape of Aboriginal people.

Furthermore, the Drybones Bay decision for the first time distinguished clearly between physical heritage impacts and "cultural impacts" and also recognized that while it may not always be possible to quantify cultural "footprint impacts" in the same way as it is for physical resources, "this does not lessen their importance." The decision delved deeply into the many impact pathways and potential ultimate outcomes of impacts on culture, and included such previously non-considered effects as:

- Reduction of the value of a place in the hearts and minds of the culture group;

- Reduced inability to know and teach about a place between generations;

- Reduced connection to the landscape reducing cultural continuity overall;

- Loss of a place of refuge from the "modern" world;

- Disrespect of ancestors, as a valid impact pathway, and an abrogation of responsibility by the culture holders as well as the Crown; and

- Increased outsider access to a critical cultural area contributing to culture holder alienation.

These cases also led to the Review Board drafting (but to date not issuing) significance considerations for cultural impact assessment; some of the considerations they identified are included in Appendix B.

Overall through this case, the Review Board articulated that when assessing significance of cultural impacts, the words and opinions of the culture holders themselves must be heavily weighted. The decisions showed that location can trump all other elements, including project size and magnitude of physical effects, when it comes to estimation of significance of cultural impacts. The psycho-social impacts of both loss of access to the cultural landscape and inability to honour ancestors, were explicitly recognized as valid EA issues. The Review Board also recognized that some impacts on culture are fundamentally unmitigable, as industrial development may be incompatible with certain portions of the cultural landscape, and found in the relationship that people have to the land rather than through physical artefacts. Decision-makers can also recognize a much larger area as culturally important, expanding the geographic scope of protection available for

cultural landscapes. However, the Review Board's blanket approach – a "do not enter" sign on a whole region in the Upper Thelon – is one that has been criticized as de facto land use planning that is not meant for environmental assessment, and the Review Board's approach has not been generally replicated "south of 60." In addition, the federal Crown adoption of the recommendations creates a precedent that the Crown must consider rejection on cultural grounds a viable option.

Limitations on the applicability of this case to MCFN include that the MVRMA is more strongly worded legislation than the current CEAA, especially regarding Aboriginal well-being and culture, and that the MVRB is a co-management board with representatives of the culture groups of the Mackenzie Valley on it. Nothing similar is in place in either the Alberta or federal "south of 60" process at this time.

New Prosperity Taseko Mine

After two distinct environmental assessments, the Taseko Mines Limited proposed New Prosperity Gold-Copper Mine project has yet to be accepted by the Minister due to the Review Panel findings. In particular, the final 2013 CEAA report found that there would be significant adverse environmental effect on water quality, fish and fish habitat in Fish Lake, current use of lands and resources for traditional purposes, and cultural heritage. Currently, Taseko is seeking judicial reviews of the decisions and trying to have the decision over-turned in its favour.

This case study highlights the importance of site visits in which the panel went with Tsilhqot'in representatives to Xeni Gwet'in to understand the view of the project sites and effects. In addition, many community presentations, oral histories, and photos were presented at hearings, which seemed to have provided the context for the CEAA panel to understand impacts, in particular spiritual impacts, from the Elders' point of view. Many expert reports were also brought to the forefront that refer to many different aspects of culture, including a traditional use study, cultural keystone places, knowledge transmission, and sense of place, among others. Alongside panel findings of significant adverse effects on current land use and resources, culture heritage, and archaeology, there was also a finding that the project would interfere with rights and title, which were defined separately.

The current use of lands and resources is understood in the report to be ceremonial and spiritual practices, and cultural heritage is archaeological sites, burial and cremation sites in the area that would be subsumed by tailings during mine operation. Even though the mine promised to maintain access, this alternative was rejected by the affected nations due to fear of contamination and loss of connection to a culturally significant place. The mine would reduce the area for practice of rights, disturb burial and cremation sites, and endanger the ability to sustain their way of life.

Rights were treated separately from culture and were defined and constrained by the terms of reference (ToR). A procedural review led the panel to state that: "The Panel must therefore assess how the potential environmental effects of the Project may affect relevant Aboriginal interests, rather than attempting to determine the validity of the Crown's duty to consult and accommodate in relation to those claims" (Review Panel 2013, 17).

Overall, the panel's terms of reference, which were reviewed after the change from CEAA to CEAA 2012, required the panel to consider the environmental effects of the project, including with respect to the Tsilhqot'in and Secwepemc peoples, any effect of any change that may be caused to the environment on:

- Health and socio-economic conditions;

- Physical and cultural heritage;

- Current use of lands and resources for traditional purposes; or

- Structure, site, or thing that is of historical, archaeological, paleontological, or architectural significance.

Culture played a primary role in the assessment, and is broken into a range of categories for different nations, which focuses on current use of land and resources for traditional purposes, archaeological and historical resources, and cultural heritage. Examples of culture-based expert reports include: traditional use and occupancy studies (Erhart-English 1994; Erhart-English 2010; Larcombe 2012); ethnoecology and ethnobiology (Turner 2012); species specific studies (Senger 2012), as well as archaeology and cultural heritage studies with Xeni Gwet'in Elders, among others. Much of the research surrounding culture impacts was developed through hearings and site visits; however, there were many reports such as those mentioned previously that were developed to support the hearing presentations. In particular, when making their final determinations the panel looked at current use by the Aboriginal group, fishing, hunting and trapping, plant and medicine gathering, archaeology, cultural heritage, cultural keystone places, and significance of animals in the cultural area (greater detail on all these aspects of culture can be found in the table in Appendix A).

Taskeko's interpretation of Aboriginal right was that it is a practice, custom, or tradition integral to the distinctive culture of an Aboriginal community that was exercised prior to contact with the European settlers, being 1793 (Review Panel 2013, 202). This view was held in contrast to the nation. It was heard by the panel that within the project area the Tsilhqot'in Nation has:

- Proven Aboriginal rights to: (a) hunt and trap birds and animals for the purposes of securing animals for work and transportation, food, clothing, shelter, mats, blankets and crafts, as well as for spiritual, ceremonial, and cultural uses; (b) capture and use wild horses for transportation and work; and (b) trade in skins and pelts as a means of securing a moderate livelihood;

- Asserted Aboriginal rights to fish and gather plants and medicines (tantamount to proven);

- Asserted Aboriginal rights to conduct cultural and spiritual ceremonies at and around Fish Lake (Teztan Biny); and

- Asserted Aboriginal title to specific sites. (Review Panel 2013, 204)

For cultural heritage effects, the panel followed the agency's guide, Reference Guide on Physical and Cultural Heritage Resources, which indicates that the following aspects should be considered: magnitude; geographic extent; duration and frequency; reversibility; and context. The difference is that the final factor is "context," not "ecological context." In considering "context," the panel also listened carefully to information provided by those who would be affected by the project (Review Panel 2013, 23).

The panel's relevant factors included the cultural keystone place (of Fish Lake and Nabas), the importance of use in that specific area, the importance of the cultural and spiritual value, due to historic occupation, and the profound importance of the spiritual connection, as identified by experts (Ehrhart-English 1994). Further, the area is one of the last remaining areas, and is a site where culture is passed on, orally and along with animals, and that there are significant archaeological and cultural heritage sites.

The panel concluded that the project would result in significant adverse effects on the Tsilhqot'in to current use of lands and resources for traditional purposes, as well as on cultural heritage. It was determined that these effects cannot be adequately mitigated.

The panel understood the area to represent one of the few regions in Canada subject to a judicial declaration of proven Aboriginal hunting and trapping rights, and the Tsilhqot'in stated that there would be a severe infringement on proven Aboriginal rights, and significant and immitigable adverse effect on teaching, and displacement from a sacred site would amount to severe infringement, and loss of Fish Lake would be loss of a cultural school (Review Panel 2013, 214).

Overall, alongside the impacts to culture, the panel concludes that the project would interfere with Tsilhqot'in proven and asserted Aboriginal rights (Review Panel 2013, 212). In addition, the panel determined that the project would interfere with lands over which the Tsilhqot'in, the Esk'etemc, and the Stswecem'c Xgat'tem assert Aboriginal title (Review Panel 2013, 215). Throughout this case, culture and rights were clearly articulated in person, through photos, and in many reports through each of the expert reports and in hearings which led to the panel making these determinations.

MIKISEW CREE
FIRST NATION

Mikisew Cree First Nation is a Cree nation whose lands and rights depend on the Peace–Athabasca Delta and surrounding waters. The Mikisew Cree signed Treaty 8 in 1899 at Fort Chipewyan on Lake Athabasca. Today, MCFN members reside in Fort Chipewyan as well as Fort McMurray, Edmonton, Fort Smith, NWT, and elsewhere.