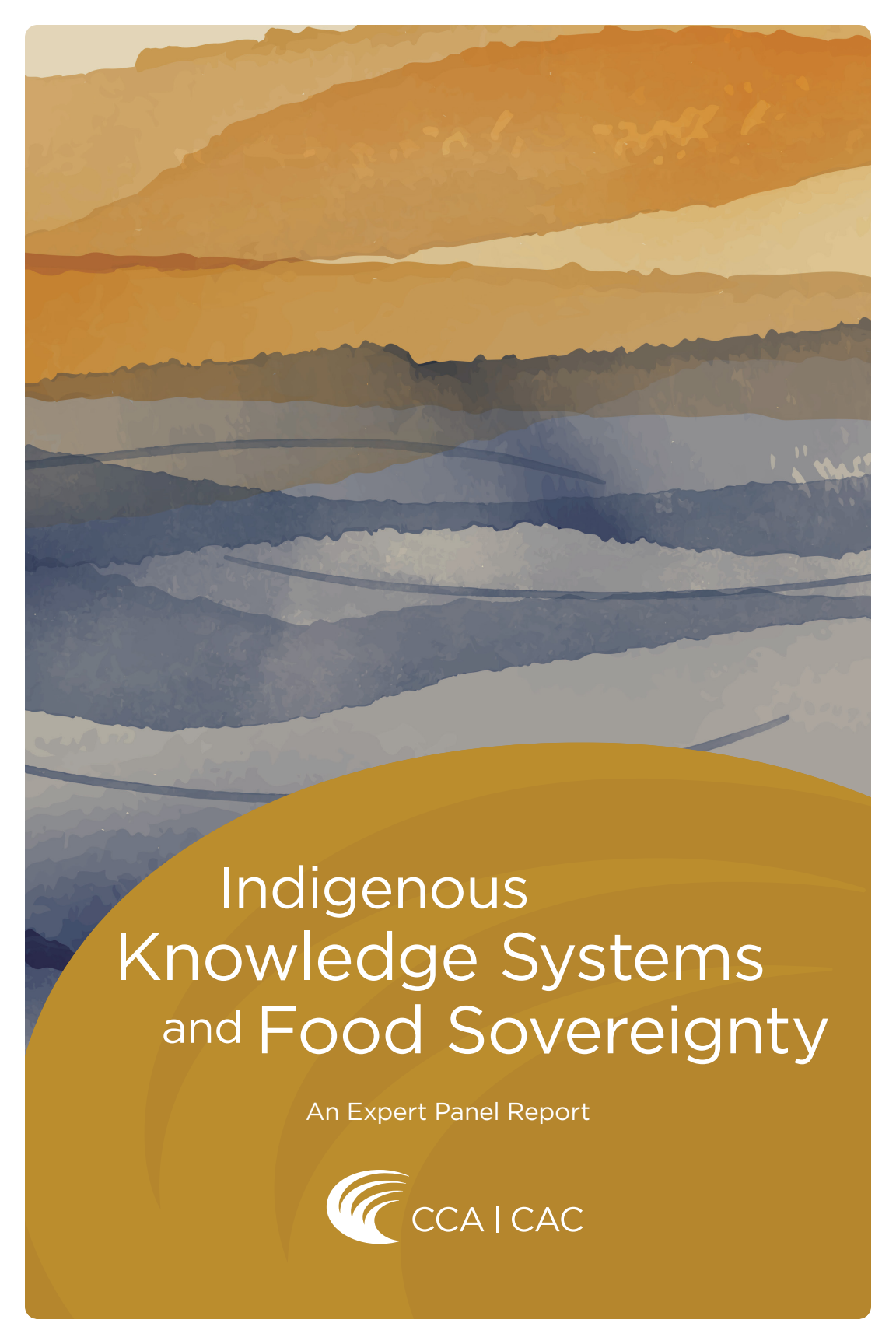




Indigenous Knowledge Systems and Food Sovereignty

An Expert Panel Report



CCA | CAC

Indigenous Knowledge Systems and Food Sovereignty

An Expert Panel Report



COUNCIL OF CANADIAN ACADEMIES
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This project responds to a request from the sponsor, the I-STEM (Indigenous Science, Technology, Engineering and Mathematics) Cluster, hosted by Agriculture and Agri-Food Canada. The sponsor was not involved in either panel selection or report development; any opinions, findings, or conclusions expressed in this publication are those of the authors and do not necessarily represent the views of their organizations of affiliation or employment.

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The Council of Canadian Academies (CCA) offices in Ottawa are located on the unceded traditional territory of the Anishinaabe Algonquin People, who have cared for these lands for millennia.

The CCA is committed to reconciliation and honouring Indigenous sovereignty. Through our work in providing evidence for decision-making, we at the CCA recognize that a wide range of knowledges and experiences contribute to building a more equitable and just society. We encourage all who engage with our work to further learn about and acknowledge the past and present context of the land now known as Canada and of the Indigenous Nations and Peoples who steward it.

Expert Panel

Expert panel members serve as individuals and do not represent their affiliated organizations or employers. Each panel member was selected for their expertise, experience, and demonstrated leadership in fields relevant to this project.

Treena Wasonti:io Delormier (Chair), Associate Professor and Canada Research Chair (Tier 2) in Indigenous Food Sovereignty and Nutrition, School of Human Nutrition, McGill University; Director of the Centre for Indigenous Peoples' Nutrition and Environment; and Scientific Director, Kahnawake Schools Diabetes Prevention Program (Kahnawà:ke, QC)

Jason Akearok, Executive Director, Nunavut Wildlife Management Board (Iqaluit, NU)

Megan Bailey, Professor, Marine Affairs Program, Dalhousie University (Halifax, NS)

Malek Batal, Professor and Canada Research Chair (Tier 1) in Nutrition and Health Inequalities, Nutrition Department, Faculty of Medicine, Université de Montréal (Montréal, QC)

Simon Brascoupé, Adjunct Research Professor, Carleton University; Senior Fellow, University of Ottawa; Adjunct Graduate Faculty, Trent University; and President and CEO, First Nations Education Administrators Association (Ottawa, ON)

Lawrence Ignace, PhD Candidate, School of Environmental Studies, University of Victoria (Whitehorse, YT)

Tabitha Robin, Assistant Professor, Faculty of Land and Food Systems, University of British Columbia (Vancouver, BC)

Zoe Todd, Associate Professor and Canada Research Chair (Tier 2) in Indigenous Governance and Freshwater Fish Futures, Indigenous Studies, Simon Fraser University (Burnaby, BC)

Message from the Chair

It has been an honour to serve as the chair of the expert panel. I accepted this role because of my positive experience on the CCA Expert Panel on Aboriginal Food Security in Northern Canada in 2014. I knew this report would provide an invaluable opportunity to learn alongside respected Indigenous and allied scholars who share a deep commitment to Indigenous Peoples' rights, responsibilities, and food systems. I was also drawn to the important challenge of the question of how Indigenous knowledge systems can be recognized and valued within policy and governance structures that have historically marginalized Indigenous Peoples in Canada.

As a *Kanienkehà:ka* woman, scholar, and community member, I have the responsibility to conduct my work with the *Haudenosaunee* values of peace, power, and a good mind. In my role as chair, I encouraged discussion and decision-making that equally valued the contributions, ideas, and perspectives of each panel participant. Together with panel members, workshop participants, and CCA staff, we grounded our work in respectful relationships and a commitment to honouring the knowledge and spirit of past, present, and future generations.

As you engage with this report, please keep in mind that Indigenous ways of knowing reflect as many distinct knowledge systems as are being lived and constituted across diverse geographies, food systems, and in practices carried on by Indigenous Peoples today. Remember that Indigenous knowledge systems have continued since time immemorial and despite centuries of colonialism in Canada. This report is a hopeful attempt to inform policy and governance through relationship building that supports positive futures for Indigenous Peoples and Canadians.

My hope is that the intentions that were carefully woven into this work will be carried forward by policy-makers, decision-makers, knowledge users, scholars, and community members as evidence and guidance for bridging Indigenous knowledge systems through processes that value respectful relationships. This report is a contribution to truth and reconciliation in Canada and beyond.

I want to express my gratitude and respect for each panel member's commitment to sharing the best of their knowledge and experiences to the process. On behalf of the panel, I want to acknowledge the hosts who welcomed us with good words and nourishing food at our in-person gatherings. I want to also express *niawehnko:wa* (great thanks) to all of those who helped inform the panel's deliberations, including workshop participants, interviewees, and peer reviewers. Finally, we are

grateful to the CCA staff for their outstanding efforts in carefully supporting the success of this assessment.

Skennenko:wa,



Treena Wasontio Delormier
Chair of the Expert Panel

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The panel and CCA staff would like to express their sincere appreciation to Kenneth Bear, Agriculture Development Manager, PFN Group of Companies (Pasqua First Nation, SK) for generously providing his time and knowledge to support this assessment.

They also extend their gratitude to those who welcomed participants onto their lands during panel meetings:

Kahnawà:ke, Mohawk Nation, Chief Stephen McComber (Kahnawà:ke, QC)

Mādahòkì Farm, Belle Bailey (Ottawa, ON)

Native Canadian Centre of Toronto, Lori Boros (Toronto, ON)

Two O Seven, Sonia Desgens (Kahnawà:ke, QC)

Bridging Knowledge Systems Workshop

As part of the evidence-gathering process, a workshop to discuss and synthesize successful examples of bridging knowledges was held on November 6, 2025. The workshop was funded by Braiding Knowledges Canada and the Social Sciences and Humanities Research Council. It included the expert panel members (except Jason Akearok and Tabitha Robin, who were unable to attend), as well as several external participants. A list of the contributors is provided below; the full proceedings are available [online](#).

Brielle Beaudin-Reimer, Founder and Research Director, Sage Research (Winnipeg, MB)

Rachael Cadman, Assistant Professor, Marine Affairs Program, Dalhousie University (Halifax, NS)

Jennifer Grenz, Assistant Professor, Department of Forest Resources Management, The University of British Columbia (Vancouver, BC)

Murray Humphries, Co-Research Director, Braiding Knowledges Canada; and Professor, Centre for Indigenous Peoples' Nutrition and Environment, McGill University (Montréal, QC)

Elder Copper Joe Jack, Indigenous Knowledge Holder and Creator of the Land and Peoples Relationship Model (Whitehorse, YT)

Jodie Lane, Director of Education, Nunatsiavut Government (Makkovik, NL)

Deborah McGregor, Canada Excellence Research Chair, Indigenous Planetary Wellbeing, University of Calgary (Calgary, AB)

Ken Paul, Adjunct Professor, Marine Affairs Program, Dalhousie University; Principal/Owner, Pokiok Associates; and Member of the Wolastoqey Nation at Neqotkuk (Tobique First Nation, NB)

Interviewees

As part of the evidence-gathering process, CCA staff conducted interviews to better understand the important work being done within communities in Canada and abroad. On behalf of the panel, CCA staff spoke with the following individuals, who generously shared their experiences and knowledge:

Jacob Beaton, Gitxaala Nation, Co-Founder and Lead, Tea Creek

Erica Gregory, Manahautū (General Manager), Kaupapa Kura Taiao (Māori Engagement and Operations, and Regulatory Policy), Environmental Protection Authority / Te Mana Rauhi Taiao

Nang Jingwas Russ Jones, Hereditary Chief, Haida Nation

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Richard Paton, Assistant Executive Director, Marine and Wildlife Conservation, Qikiqtani Inuit Association

Marci Riel, Senior Director, Energy, Infrastructure and Resource Management, Manitoba Métis Federation

suiki?st Pauline Terbasket, Executive Director, Okanagan Nation Alliance

Sarah Wickham, Coordinator, The Heartwood Collective

Peer Reviewers

This report was reviewed in draft form by reviewers selected by the CCA for their diverse perspectives and areas of expertise. Their anonymized submissions were considered in full by the expert panel. Reviewers were not asked to endorse the conclusions, nor did they see the final draft before its release. Responsibility for the final content of this report rests with the expert panel and the CCA.

Mia Beattie, Youth Mentor, Ikaarvik (Cambridge Bay, NU)

Kerry-Ann Charles, Member, Chippewas of Georgina Island First Nation; Founder and Executive Director, Ne'ikaanigaana Inc.; and Environment Partnership Coordinator, Cambium Indigenous Professional Services (CIPS) (Georgina Island First Nation, ON)

Dalee Sambo Dorough, Senior Scholar and Special Adviser, University of Alaska Anchorage; and Expert Member, United Nations Expert Mechanism on the Rights of Indigenous Peoples (Anchorage, AK)

Laura Forsythe, Associate Professor, Faculty of Education, University of Winnipeg (Winnipeg, MB)

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Catherine Lambert Koizumi, Executive Director, Mi'gmaq Wolastoqey Indigenous Fisheries Management Association (Gegapegiag, QC)

Allyson Menzies, Assistant Professor, Department of Biological Sciences, University of Calgary (Calgary, AB)

Damian Morgan-Bulled, Member of the Yorta Yorta Nation; and Senior Indigenous Facilitator, Climate Systems Hub, National Environmental Science Program, Commonwealth Scientific and Industrial Research Organisation (Echuca, Australia)

Robert Patrick, Professor, Department of Geography and Planning, College of Arts and Science, University of Saskatchewan (Saskatoon, SK)

Gary Pritchard, Conservation Ecologist, 4 Directions Conservation; and Adjunct Professor, Carleton University (Curve Lake First Nation, ON)

Thierry Rodon, Professor, Department of Political Science, Université Laval (Québec, QC)

The peer review process was monitored by **Kyle Bobiwash**, Assistant Professor and Indigenous Scholar, Department of Entomology, University of Manitoba.

Executive Summary

Indigenous Peoples' knowledge and food systems are interrelated, mutually sustaining, and grounded in responsibilities that connect Indigenous Peoples to Land, Water, and living and non-living Kin relations. Healthy Indigenous knowledge systems (IKS) are supported by recognition of and respect for Indigenous rights, sovereignty, governance, and self-determination. Healthy IKS depend on access to territories, intergenerational learning, language continuity, individual and community well-being, and the cultural resurgence of Indigenous Peoples. Healthy Indigenous food systems derive from and reinforce these knowledge systems; they enable Indigenous Peoples to support themselves and their communities in a self-determined way. When supported appropriately, these systems generate social, environmental, economic, and cultural benefits.

Despite growing recognition of Indigenous knowledges in national and international policy, federal governance structures continue to operate within colonial frameworks. Existing mechanisms typically consider Indigenous knowledges as input, without sharing control or enabling Indigenous decision-making power. As a result, the inclusion of Indigenous knowledges often remains extractive, producing limited or no reciprocal benefits for the communities that hold them. Meaningful bridging of knowledge systems requires institutional learning and transformative change across government and society.

In light of commitments to reconciliation and recognizing a need to foreground Indigenous knowledges¹ and leadership in Canadian policy and governance in respectful and appropriate ways, the Government of Canada's Indigenous Science, Technology, Engineering and Mathematics (I-STEM) Cluster² (hereafter referred to as the sponsor) asked the Council of Canadian Academies (CCA) to answer the following question and sub-questions:

- 1 Note that the term *Indigenous science* is used by the sponsor, which Environment and Climate Change Canada (2022a) defines as “a distinct, time-tested, and methodological knowledge system that can enhance and complement western science.” The panel, however, has chosen to use the terminology of *Indigenous knowledges* and *Indigenous knowledge systems* for this report, and they provide a rationale for this decision in section 2.1.1.
- 2 The I-STEM Cluster is a federal inter-departmental and agency team that informs and enhances federal policies, programs, and activities related to science, technology, engineering, and mathematics with a foundational focus of bridging Indigenous and western knowledge systems. Agriculture and Agri-Food Canada is the host and co-chair of the I-STEM Cluster, which also includes: Fisheries and Oceans Canada (Co-Chair), Canadian Food Inspection Agency, Canadian Space Agency, Environment and Climate Change Canada, Health Canada, Ingenium, Knowledge Circle for Indigenous Inclusion, National Research Council of Canada, Natural Resources Canada, Natural Sciences and Engineering Research Council of Canada, Office of the Chief Science Advisor, Parks Canada, Public Health Agency of Canada, and Public Services and Procurement Canada (GC, 2024a).



How can policy and governance³ support Indigenous science in a way that advances Indigenous priorities and achieves reciprocal benefits for Canada's social, environmental, and economic goals?

- Considering foreign and domestic best practices, what would be the key elements of a framework to support Indigenous science and innovation in policy and governance in Canada? How might this framework be used in the support of food sovereignty and food security in Canada?
- What are the opportunities for, and barriers to, supporting Indigenous science, innovation, and leadership in food systems across Canada?
- How does policy and governance support Indigenous science and innovation in other countries in the pursuit of food security and food sovereignty?
- How might Indigenous science, innovation, and leadership in food systems lead to economic, environmental, and social benefits for Canada?

To answer the charge, the CCA convened a multidisciplinary panel of eight individuals (hereafter, the panel). The panel is composed of Indigenous⁴ and non-Indigenous researchers and scholars. Panel members emphasize that they do not represent a collective perspective that includes all Indigenous Peoples in Canada and further emphasize that this work is intended to reflect First Nations, Métis, and Inuit distinctions, recognizing that food systems, governance, and knowledges are place-based and not pan-Indigenous.

The members of the panel are grateful to the sponsor for bringing forward this question to the CCA and recognize the importance and the gravity of the work they were asked to do. The panel also wishes to acknowledge feelings of discomfort while addressing questions that, read in a certain light, asked how Canada can derive further benefits from Indigenous Peoples. While the panel believes that the sponsor is earnest and sincere in moving forward in a good way,⁵

3 Governance refers to both Indigenous governance and self-determination as well as Canadian governance and regulatory processes, which all have an impact on advancing Indigenous priorities.

4 Mohawk Territory of Kahnawà:ke, Kitigan Zibi Anishinabeg First Nation, Lac des Mille Lacs First Nation, Inuit from Nunavut, Red River Métis, and mixed-ancestry Métis and Cree.

5 By which the panel means in a shared ethical orientation grounded in respectful relationships, reciprocity, accountability, ceremony/protocol, community authority, IKS, and responsibility to future generations (e.g., Ball & Janyst, 2008; Kendrick & Walsh, 2025; Meng *et al.*, 2025; Reid *et al.*, 2024).

members feel it is important to recognize the inherent tension and challenge in the charge questions.

Panel members also recognize a tension between Indigenous and western knowledge systems in terms of methodologies and worldviews. The CCA's processes are grounded in a western tradition that was not developed in consideration of Indigenous paradigms. Despite this, the panel and staff have attempted to honour Indigenous perspectives and voices in their work, drawing on diverse sources of evidence to inform discussions and deliberations throughout the process. A comprehensive analysis of the work being done across all provinces and territories was beyond the feasibility of this report. Instead, the panel approached their deliberations as a scoping exercise examining a selection of existing practices and policies, with a focus on federal policies given the sponsor.

The panel invites the reader to engage deeply with the report, to draw lessons from the examples discussed as relevant to their own lives and challenges, and to take care to participate in the process of bridging knowledge systems in a good way.

Setting the stage

Supporting IKS requires more than incorporating Indigenous knowledges into western policy processes. Genuine support entails the strengthening of IKS themselves—through actions that bolster Indigenous sovereignty, uphold treaty and Aboriginal⁶ rights, promote access to traditional territories, and support Indigenous languages and cultural resurgence. Ongoing, sustained effort is needed to ensure a strong foundation before establishing a process to bridge knowledge systems. Such work includes addressing inequities and developing a relationship based on mutual understanding.

Begin from a good place: Foundations for engagement

A healthy relationship between Indigenous Peoples and the Government of Canada begins by recognizing Indigenous rights and addressing structural inequities: unsafe living conditions, lack of access to traditional territories, poverty, systemic racism, gendered violence, food insecurity, and loss of language and cultural continuity. Without these foundations, expectations for partnership cannot be met in good faith. Policy support therefore begins with foundational investments that strengthen Indigenous well-being—e.g., improving infrastructure, housing, health services, education, access to clean water, land-based learning, and

6 *Aboriginal* is used here to reference the language of the *Constitution Act, 1982* (GC, 1982); the panel uses the terminology of *Indigenous rights* elsewhere in the report. Indigenous Peoples are legally recognized in Canada under the *Constitution Act, 1982* as the “aboriginal peoples of Canada [which] includes the Indian, Inuit and Métis peoples of Canada” (GC, 1982).

sustainable food systems—while also protecting Indigenous rights, such as those to harvest and of self-determination, recognizing Indigenous sovereignty, and ensuring safe access to traditional territories for harvesting, ceremony, and cultural practice. Equally essential is fostering cultural safety by ending discriminatory practices, equipping public servants with appropriate training, creating spaces where Indigenous partners can participate without harm, and recognizing that Indigenous Peoples are rights-holders and equal partners in policy and governance.

Relationship building before decision-making

Policy and governance mechanisms that support relationship development rather than consultation alone help foster meaningful collaboration. This requires time for building trust, dialogue, and shared understanding; respect for protocols, ceremony, and Indigenous laws that guide knowledge exchange; and recognition of differing worldviews, especially regarding relationality, spirituality, and responsibilities to Land, Water, and Kin relations. This relational work is an essential precursor to successful partnerships by building trust and establishing reciprocal benefits.

Recognizing Indigenous knowledges as systems, not data

Current federal frameworks often treat Indigenous knowledges as information that can be extracted, translated, and inserted into western processes—an approach that fundamentally misunderstands IKS. IKS are relational, spiritual, experiential, and contextual. They are tied to Land, language, ceremony, and kinship, and are oral traditions embodied within people and communities rather than separable from them. Effective policy and governance mechanisms must therefore move beyond extracting information and instead support the integrity of entire knowledge systems. The panel was asked to identify elements of a framework that could support such work, particularly as they relate to food sovereignty and food security in Canada.

Elements of a framework

Drawing on promising domestic and international practices, the panel identified key elements of a framework that can support IKS in policy and governance; these elements are grouped into three phases (Figure 1).

Within these framework elements, phase one begins by building strong foundations through actions to enable safe, secure, and supported participation. Such actions include training for non-Indigenous participants to establish an understanding of Indigenous worldviews and knowledge systems, recognizing

Indigenous rights and ensuring access to Land and Water, investing in Indigenous economies, supporting Indigenous language and culture revitalization, and prioritizing Indigenous research methodologies. Phase two is about creating the time and space for Indigenous and western knowledge systems to meet respectfully by prioritizing long-term relationship building over short-term policy timelines. Phase three identifies appropriate methodologies to co-develop governance mechanisms that share decision-making authority, using approaches that draw equitably from these knowledge systems and meet shared priorities. Phase three is the bridging of knowledge systems, which the panel notes will not necessarily be the appropriate solution for all challenges.

Applied to food sovereignty and food security, these framework elements reinforce the fact that IKS and Indigenous food systems are mutually sustaining—policies that support knowledge systems inherently strengthen food systems, co-governance enhances access to traditional foods, and Indigenous-led stewardship sustains food-producing ecosystems. Together, these elements position food sovereignty not as a service delivery issue but as a rights-based, self-determined foundation for community well-being and ecological health.

Successful bridges are built by people who come from strong foundations (Phase 1), who approach connection humbly and in a manner respectful of the rights and priorities of the people with whom they seek to engage (Phase 2). Bridges are specific to their environmental context and their use case, and there are many methods available to adopt, adapt, or build upon in order to find success (Phase 3).

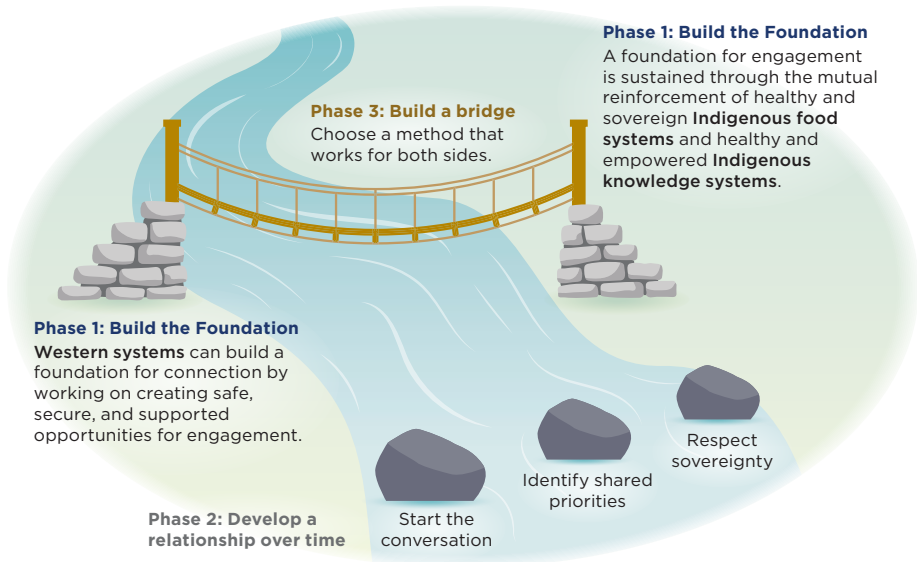


Figure 1 Three phases of bridging knowledge systems

The panel conceptualized three key phases of activity to support Indigenous knowledge systems in western policy and governance, and vice versa, by building bridges that can cross a knowledge stream (as described by Jack, 2025). Success is most often a result of doing these activities in sequence, though the panel emphasizes that all three are ongoing; for example, ongoing work in phase 1 supports beginning phase 2. Phase 1 lays a foundation for good work in both Indigenous and western knowledge systems by ensuring readiness on both sides of the knowledge stream. Phase 2, crossing the knowledge stream, develops a relationship among knowledge systems without explicitly taking from one or the other. Phase 3 is the co-development and co-governance of a bridge to meet shared objectives. Importantly, not all successes result in phase 3; there may be situations where, through the development of a mutually beneficial relationship, bridging is ultimately determined to be an inappropriate solution. Bridges solve specific challenges; foundations and relationships are sustained through ongoing effort.

Opportunities and barriers

Indigenous-led stewardship and governance create significant opportunities to strengthen food systems, restore ecosystems, and advance environmental management practices across Canada. For example, Indigenous-led or co-led environmental management can enable wholistic approaches to conservation,

land stewardship, and food system restoration. Indigenous fisheries and wildlife stewardship revitalize cultural food practices and support intergenerational knowledge transfer. Land-based education models are producing leaders skilled in both IKS and western science. At the same time, Indigenous-led climate, health, and environmental monitoring initiatives have been shown to improve safety (e.g., through better knowledge of ice conditions) and food security. Efforts to revitalize culturally significant species strengthen ecosystems and communities, while growing collaborations among and within nations further expand knowledge exchange and drive innovation.

Colonial and structural barriers continue to constrain Indigenous knowledge and food systems. For example, colonial legal frameworks restrict Indigenous jurisdiction over Lands and Waters, while systemic underfunding weakens long-term Indigenous governance and food sovereignty initiatives. Western science-centric policies often disregard the relational, spiritual, and place-based dimensions of Indigenous knowledges. Moreover, fragmented and piecemeal implementation of federal commitments limits transformative change. Food safety regulations and harvesting restrictions hinder access to traditional foods, while climate change and environmental degradation disproportionately threaten Indigenous food systems, further undermining cultural, ecological, and community well-being.

International comparators

International models offer examples of how other countries support Indigenous knowledges, governance, and food sovereignties in policy and government. In Aotearoa New Zealand, Māori knowledge (*mātauranga Māori*) is formally recognized in legislation and environmental governance, with co-governance structures embedding Māori law and worldview directly into decision-making. For example, advisory committees ensure Māori perspectives guide regulatory processes. Elsewhere, Australia demonstrates the importance of structural support for environmental protection programs that bring together Indigenous and western ecological knowledges through national frameworks to provide long-term funding for land management and ecological restoration. Across Latin America, constitutional recognition of Indigenous rights and knowledges in countries such as Bolivia, Ecuador, Guatemala, and Venezuela has enabled participatory governance in climate, agriculture, and biodiversity policy. Arctic international partnerships also highlight strong governance models that demonstrate how Inuit knowledges can guide the cross-border stewardship of vital food-producing marine ecosystems. Collectively, these examples show that meaningful support for IKS requires more than consultation—it depends on legal recognition of Indigenous rights, structural inclusion of Indigenous governance, long-term

Indigenous-directed funding, and acceptance of Indigenous laws, protocols, and worldviews as equal to western systems.

Economic, environmental, and social benefits

Investing in Indigenous knowledge systems and food systems generates economic benefits as Indigenous-led initiatives, from Indigenous government-led programs to private agricultural business ventures, have been shown to create employment, training, and entrepreneurial opportunities. For example, Indigenous Guardians and Rangers programs centre Indigenous methodologies for environmental monitoring. Research from Australia and Canada has found that investment in these programs yields economic and social returns, and that ecosystem restoration is revitalizing local and regional economies. Environmental benefits are similarly significant. Indigenous stewardship practices maintain biodiversity, restore degraded ecosystems, and strengthen climate resilience. Traditional agricultural and harvesting practices support long-term food system health, while protected areas can safeguard large, intact ecosystems vital for carbon sequestration and species survival. These approaches demonstrate that IKS are essential to sustaining healthy lands, waters, and food systems.

The social and cultural benefits of strengthening Indigenous food and knowledge systems can also improve physical, mental, emotional, and spiritual well-being. Food sovereignty supports cultural resurgence by reinforcing language, intergenerational learning, and kinship relationships. Beyond Indigenous communities, everyone in Canada benefits from healthier ecosystems, more sustainable food systems, and increased community resilience, while Indigenous-led governance offers innovative models for addressing broader societal challenges, such as climate change, biodiversity loss, and food system fragility.

Panel reflections

Supporting IKS is inseparable from supporting Indigenous rights, responsibilities, sovereignties, and relationalities. Policies that merely include Indigenous knowledges without sharing power are insufficient and risk perpetuating extractive dynamics. It is time to embrace transformative governance grounded in reciprocity, respect, and long-term relationship building. A framework built on foundational investments, reciprocal relationships, and shared authority can enable mutually beneficial governance arrangements. When Indigenous Peoples' knowledge systems—and the food systems they sustain—are healthy and sovereign, they generate social, environmental, economic, and cultural benefits for all people in Canada.

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Introduction

- 1.1 The charge to the panel
- 1.2 The panel's approach
- 1.3 Report structure

The body of human knowledge is not merely an instance of adding insights of non-Western peoples to the already constructed edifice of Western knowledge.

Deloria (1999a)

Healthy and sovereign Indigenous Peoples’¹ knowledge systems and healthy and sovereign Indigenous Peoples’ food systems are mutually sustaining. Indigenous food practices encompass a wealth of Land- and Water-based activities, and Indigenous Peoples’ relationship with their food systems reflects knowledge systems expressed in practices that are passed down and maintained by a group of people to sustain their existence and well-being (Morrison, 2011). Indigenous knowledge systems (IKS) are diverse and specific, rooted in generational relationships to people and place and woven into Indigenous cultures as processes rather than products (Stirling *et al.*, 2023). Colonization disrupts IKS by breaking generational ties—through residential schools, the Sixties Scoop,² and other ongoing injustices, such as deficits in funding and life-affirming infrastructure that force families apart and away from their home territories, communities, and knowledge systems. IKS are essential to the governance and management of Indigenous food systems, which are maintained through Natural Law³ that outlines duties of reciprocity, respect, and responsibility with all relations—human and otherwise. Indigenous Peoples have also had their Lands and Waters systematically taken from them, degraded, or destroyed through unsustainable development, while ongoing discrimination and oppression further hinder cultural resurgence and revitalization.

Indigenous knowledges and knowledge systems⁴ are essential to the health and well-being of environments—the biodiversity seen in natural areas is often a direct result of the stewardship of relationships among Indigenous Peoples and other beings (Fa *et al.*, 2020; Armstrong *et al.*, 2021; Sze *et al.*, 2024). The spiritual and physical connection between IKS and Lands and Waters has been, and

1 Indigenous Peoples are legally recognized as rights-holders in Canada under the *Constitution Act, 1982*, as the “aboriginal peoples of Canada [which] includes the Indian, Inuit and Métis peoples of Canada” (GC, 1982). Acknowledging there are ongoing discussions about Indigenous membership, the panel chose a rights-based approach for their work.

2 The Sixties Scoop refers to the period beginning in 1951, when amendments to the *Indian Act* placed Indigenous child welfare under provincial control and thousands of Inuit, Métis, and First Nations children were taken from their homes without the consent of parents or Indigenous governments and adopted into non-Indigenous families in Canada and abroad (Sinclair & Dainard, 2024).

3 Natural Law is described by McGregor (2015) as derived from nature, not from humanity, and as an explanation of the responsibilities and obligations of all of Creation toward one another.

4 Note that the term *Indigenous science* is used by the sponsor of this report, which Environment and Climate Change Canada (2022a) defines as “a distinct, time-tested, and methodological knowledge system that can enhance and complement western science.” The panel, however, has chosen to use the terminology of *Indigenous knowledges* and *Indigenous knowledge systems* for this report, and they provide a rationale for this decision in section 2.1.1.

continues to be, adapted over millennia. The urgency for all people to respond to climate change highlights the importance of supporting and learning from IKS. Moreover, colonial governments have made commitments to reconciliation and expressed a desire to include Indigenous Peoples in relevant decision-making. As such, there has been much discussion on the appropriate ways to braid, weave, co-develop, or otherwise support Indigenous knowledges in government policy and programming (e.g., ECCC, 2022a; GC, 2024a; Ban *et al.*, 2026).

1.1 The charge to the panel

Recognizing the need to foreground Indigenous knowledges and leadership in Canadian policy and governance in respectful and appropriate ways, the Government of Canada's Indigenous Science, Technology, Engineering and Mathematics (I-STEM) Cluster⁵ (hereafter referred to as the sponsor) asked the Council of Canadian Academies (CCA) to answer the following question and sub-questions:



How can policy and governance⁶ support Indigenous science in a way that advances Indigenous priorities and achieves reciprocal benefits for Canada's social, environmental, and economic goals?

- Considering foreign and domestic best practices, what would be the key elements of a framework to support Indigenous science and innovation in policy and governance in Canada? How might this framework be used in the support of food sovereignty and food security in Canada?
- What are the opportunities for, and barriers to, supporting Indigenous science, innovation, and leadership in food systems across Canada?

(continues)

5 The I-STEM Cluster is a federal inter-departmental and agency team that informs and enhances federal policies, programs, and activities related to science, technology, engineering, and mathematics with a foundational focus of bridging Indigenous and western knowledge systems. Agriculture and Agri-Food Canada is the host and co-chair of the I-STEM Cluster, which also includes: Fisheries and Oceans Canada (Co-Chair), Canadian Food Inspection Agency, Canadian Space Agency, Environment and Climate Change Canada, Health Canada, Ingenium, Knowledge Circle for Indigenous Inclusion, National Research Council of Canada, Natural Resources Canada, Natural Sciences and Engineering Research Council of Canada, Office of the Chief Science Advisor, Parks Canada, Public Health Agency of Canada, and Public Services and Procurement Canada (GC, 2024a).

6 *Governance* refers to both Indigenous governance and self-determination as well as Canadian governance and regulatory processes, which all have an impact on advancing Indigenous priorities.

(continued)

- How does policy and governance support Indigenous science and innovation in other countries in the pursuit of food security and food sovereignty?
- How might Indigenous science, innovation, and leadership in food systems lead to economic, environmental, and social benefits for Canada?

Respecting Indigenous leadership and self-determination—including in food sovereignty, data governance, and decolonization efforts—promotes the revitalization and resurgence of IKS. For example, Indigenous food systems are tied to every aspect of Indigenous life and exploring how Indigenous knowledges can be supported and upheld to advance food sovereignty offers an entry point for examining how IKS can be supported in other areas. Indigenous food sovereignty is fundamentally about self-determination, decision-making power in order to care-take Lands and Waters, harvesting practices, and the ability to sustain cultural and community well-being. Upholding Indigenous knowledges and focusing on Indigenous perspectives and priorities in food sovereignty can help advance Canada's goals for reconciliation, sustainability, biodiversity, and climate change adaptation, and offer benefits for Indigenous Peoples and all people in Canada.

1.2 The panel's approach

To answer the charge, the CCA convened a multidisciplinary panel of eight individuals (hereafter, the panel). The panel was composed of Indigenous⁷ and non-Indigenous researchers and scholars, representing a diversity of perspectives. Panel members emphasize that they do not represent a collective perspective that includes all Indigenous Peoples in Canada and further emphasize that this work is intended to reflect distinctions among First Nations, Métis, and Inuit, recognizing that food systems, governance, and knowledges are place-based and not pan-Indigenous. Panel members were selected for their experience and knowledge in community-based research, food sovereignty, food security, health and nutrition, IKS, wildlife management, fisheries and environmental governance, and Indigenous studies. Panel members served pro bono and were tasked with conducting a thorough and objective assessment of the available evidence. The

7 Mohawk Territory of Kahnawà:ke, Kitigan Zibi Anishinabeg First Nation, Lac des Mille Lacs First Nation, Inuit from Nunavut, Red River Métis, and mixed-ancestry Métis and Cree.

panel met five times virtually and three times in person between April 2025 and May 2026 to develop this report.

To ensure the integrity of the assessment process, panel members were required to disclose to the CCA and fellow panelists any conflicts of interest—actual, foreseeable, or perceived—relevant to the subject under discussion so that they could be managed transparently. Panel members abided by a confidentiality agreement and code of conduct designed to foster an environment of collaborative and respectful deliberations, the free exchange of knowledge, and the assessment of evidence. To maintain the panel’s independence, the sponsor did not appoint panel members, nor did it engage with them during the assessment process, with the following exceptions: (i) at the panel’s first meeting, where the sponsor was invited to present the charge, and (ii) at a briefing scheduled after the panel had formally signed off on the report prior to its public release, where the panel presented the main findings to the sponsor.

1.2.1 The tension in the charge

The members of the panel are grateful to the sponsor for bringing forward this question to the CCA and recognize the importance and the gravity of the work they were asked to do. The panel members also wish to acknowledge some of the difficulties they faced in responding to the charge questions.

In the panel’s experience, conversations about bringing together Indigenous and western knowledge systems are taking place largely outside of Indigenous communities; indeed, there may be few Indigenous Knowledge Holders who would either recognize or feel a resonance with the term *Indigenous science*. Colonial policy and practices have systematically disrupted many aspects of IKS, and the work of reconciliation by colonial governments is in its infancy. Indigenous Peoples need to have their rights respected, for example, through access to Lands and Waters, and through adequate time for the self-determination of approaches to navigating these requests for new kinds of relationships. The panel members also emphasize that the report reflects their own perspectives and experiences as they deliberated on the available evidence and does not speak to a consensus among Indigenous Peoples in Canada.

The panel further wishes to acknowledge the imbalance of power between the sponsor (i.e., the Government of Canada) and the Indigenous Peoples and communities with whom the sponsor seeks to work. Panel members expressed feelings of discomfort when addressing questions that, read in a certain light, asked how Canada could derive further benefits from Indigenous Peoples. While the panel believes that the sponsor is earnest and sincere in moving forward in a

good way,⁸ members feel it is important to recognize the tension and challenge inherent in the charge questions. The history of interactions between the Government of Canada and Indigenous Peoples includes betrayals and abhorrent actions that undermined Indigenous food sovereignty and resulted in the food security issues the panel is being asked to consider. This context is essential to understanding the charge question (Chapter 2); however, the panel wants to be clear about how unsettled, but also hopeful and grateful, members feel about being asked by the Government of Canada to come together to address these concerns.

We are all relatives

“We are all relatives” when taken as a methodological tool for obtaining knowledge means that we observe the natural world by looking for relationships between various things in it...Absent in this approach was the idea that knowledge existed apart from human beings and their communities, and could stand for “its own sake.”

Deloria (1999b)

Indigenous research is a ceremony and must be respected as such.

Wilson (2008)

Another point of discomfort for the panel was the difference in the meaning of *research*, *methodology*, and *outcome* in Indigenous and western knowledge systems. Indigenous research is relational; it is ceremony that “is the knowing and respectful reinforcement that all things are related and connected” (Wilson, 2008). Indigenous knowledges are based in relationships and must be accountable to those relationships when they are put into practice (Deloria, 1999a; Wilson, 2008). In contrast, western knowledge systems categorize and compartmentalize to examine components in detail; knowledge is segregated into disciplines, which are further divided into subdisciplines, topic areas, and so on. This approach removes knowledge from its relationships, conceptualizing facts as distinct and objective regardless of context, which is in contradiction to the wholistic, Indigenous worldview (Deloria, 1999a; Wilson, 2008).

This difference in worldviews is one reason why the charge question is being asked: there is no clear answer on how to bridge disparate knowledge systems. Moreover, although the panel members are the authors of this report, the CCA’s support for its development relied heavily on western knowledge systems and approaches, including the CCA’s peer review and citation practices. As one peer

8 By which the panel means in a shared ethical orientation grounded in respectful relationships, reciprocity, accountability, ceremony/protocol, community authority, IKS, and responsibility to future generations (e.g., Ball & Janyst, 2008; Kendrick & Walsh, 2025; Meng *et al.*, 2025).

reviewer noted, there is “an important structural tension between engaging Indigenous knowledge systems as content and meaningfully engaging them as ways of knowing and producing knowledge.” This tension—between the relational and wholistic versus the objective and discrete, between accountability and dialogue versus appropriation and acknowledgment—is one that the panel acknowledged and worked under. The very act of reading this report reflects this challenge; as Wilson (2008) notes, “writing ideas down fixes them as objects that can be taken out of context of time and relationship. As fixed objects, ideas lose the ability to grow and change, as those who hold relations with the ideas grow and change themselves.”

1.2.2 Evidence and scope

The panel acknowledges that the process by which the CCA conducts its work is grounded in western knowledge systems and that the sponsor is based in colonial structures. Despite this, the panel and staff have attempted to honour Indigenous perspectives and voices in their work, drawing on diverse sources of evidence to inform discussions and deliberations throughout the process. In particular, the panel uses quotations from Indigenous scholars to open chapters and sections of the report, with the intention of giving voice and prominence to their important contributions, while acknowledging that these are only a small fraction of the wealth of Indigenous scholarship and thinking on these topics. A comprehensive analysis of the work being done across all provinces and territories was beyond the feasibility of this report. Instead, the panel approached their deliberations as a scoping exercise examining a selection of existing practices and policies, with a focus on federal policies given the sponsor.

The panel’s deliberations included the perspectives of individuals and organizations working with IKS and in Indigenous food sovereignty efforts, as well as peer-reviewed academic literature and publicly available grey literature.⁹ The panel emphasized the importance of personal and lived experiences as critical sources of evidence, since Indigenous rights, needs, and priorities are central to—and guided by—this work. Furthermore, as mentioned above, the panel does not speak for all Indigenous Peoples, nor do the examples discussed in this report cover all the important work being done by Indigenous Peoples across Canada and abroad. In particular, the panel acknowledges the breadth and quality of work being done by Indigenous Peoples on food systems in Canada and emphasizes that the examples presented herein reflect only a small portion of that good work. On November 6, 2025, the CCA hosted a workshop in Toronto, where the panel and

9 E.g., policy documents, government publications, websites, and reports by national and international organizations and committees.

an additional eight individuals with experience in bringing together Indigenous and western knowledge systems gathered to discuss their experiences and perspectives (CCA, 2026). The workshop was sponsored by Braiding Knowledges Canada and the Social Sciences and Humanities Research Council.

Panel members also relied on their own lived experiences to provide additional evidence of challenges and examples supporting promising practices. This report does not represent a systematic review of all available evidence; it synthesizes key sources and topics identified by the panel as representing the best available evidence at the time of writing to answer the charge.

The report underwent a comprehensive peer review, whereby an additional 12 individuals from Canada and abroad provided further evidence, expertise, and knowledge. Like panel members, peer reviewers participated as individuals and not as representatives of their respective organizations or communities. Peer reviewers provided feedback to inform panel deliberations but were not asked to endorse the final report. They remained anonymous to the panel until the report was released. This process was overseen by an independent peer review monitor appointed from the CCA's Scientific Advisory Committee, further supporting the integrity of the review.

1.3 Report structure

The panel was asked to examine how policy and governance can support IKS in ways that advance Indigenous priorities and achieve reciprocal benefits for Canada. As discussed earlier, the inclusion of reciprocal benefits in the charge questions adds to the inherent tension; while foregrounding Indigenous priorities, it simultaneously positions them only in relation to government priorities. The panel felt that understanding the origins of the charge question—including government obligations and prior work in this area—was an essential place to start, and the report begins with an overview of contemporary and historical context, including a discussion of terminology (**Chapter 2**). The sponsor also asked the panel to consider the charge through the lens of advancing Indigenous food sovereignty and food security. As such, **Chapter 3** sets the stage by identifying key qualities and characteristics of healthy and sovereign Indigenous Peoples' food and knowledge systems. As the sponsor represents a collection of federal departments and agencies, the panel next examines existing federal legislation and policies purported to support IKS (**Chapter 4**). **Chapter 5** moves beyond federal policy and explores Indigenous-led initiatives that affect Indigenous food sovereignty and security, operating at scales ranging from small to large, with a focus on how they support—and are supported by—IKS through the lens of well-being, sovereignty, and cultural resurgence. In **Chapter 6**, the

panel draws on lessons from the previous chapters to answer the charge, including a discussion of the tools and strategies available for bridging knowledge systems and transforming governance in a way that addresses Indigenous and western knowledges and priorities for the benefit of all. The report concludes with the panel's reflections on their findings, along with a request for reflection.

The panel invites the reader to engage deeply with the report, to draw lessons from the examples discussed as relevant to their own lives and challenges, and to take care to participate in the process of bridging knowledge systems in a good way.

Context

- 2.1 Key concepts and terms
- 2.2 Historical and contemporary oppression of Indigenous knowledge systems and food systems

To recognize the path home, you need to look behind you from time to time.

Workshop participants (CCA, 2026)

To fully engage with this report, readers require some contextual information. In the interest of developing a common understanding of key terms, this chapter discusses the panel's approach to terminology for Indigenous knowledges and knowledge systems, food systems, food sovereignties, and food security. In addition, a brief overview of Indigenous rights in Canada emphasizes the unique rights of Indigenous Peoples relating to food systems. Recognizing that a comprehensive review is beyond the scope of this report, this chapter provides some selected background on the historical and contemporary colonial injustices enacted upon Indigenous Peoples, their knowledge systems, and their food systems in Canada.

The panel notes that a significant body of work has already been commissioned by and delivered to the federal government on the topic of reconciliation with Indigenous Peoples, including support for IKS and Indigenous self-determination. For example, the Report of the Royal Commission on Aboriginal Peoples (RCAP, 1996), the work of the Truth and Reconciliation Commission of Canada (TRC, 2015a,b), the final report of the National Inquiry into Missing and Murdered Indigenous Women and Girls (NIMMIWG, 2019a,b), the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and associated legislation and policy (UN, 2007; JUS, 2020, 2023; GC, 2021a), and several Senate reports (e.g., POFO, 2022; SRSR, 2024) have provided detailed and evidence-based recommendations and plans for advancing relationships with Indigenous Peoples in Canada. The panel encourages readers to engage with this report in the context of these previous efforts, and to recognize the applicability of many of these prior recommendations to this panel's work.

2.1 Key concepts and terms

Many elements and concepts discussed in this report are referred to by different names in the academic literature and by Indigenous communities and scholars. The panel emphasizes the importance of clarity when discussing the meanings and definitions of this terminology, and how chosen terms here interact with related terms readers may be more familiar with. This section is intended to provide a brief discussion of terminology in order to develop a common understanding among readers and users of this report; decisions on terminology use and approach are highlighted in approach boxes throughout the chapter.

2.1.1 Indigenous knowledges and knowledge systems

The concept of [Indigenous knowledge] should be understood as a collaborative concept. It serves to invite diverse populations to continually learn from one another about how each approaches the very question of 'knowledge' in the first place, and how these different approaches can work together to better steward and manage the environment and natural resources. Therefore, any understanding of the meaning of [Indigenous knowledge] is acceptable only so long as it plays the role of bringing different people working for different institutions closer to a degree of mutual respect for one another's sources of knowledge.

Whyte (2013)

Indigenous knowledge goes by many names depending on the people involved in discussions and the context, including *traditional knowledge*, *traditional ecological knowledge*, *local knowledge*, and, in some cases, *Indigenous science*, with overlapping or similar definitions. However, the use of the word *traditional* can imply a body of old, unchanging, or ancient data, which has led many to reject the term *traditional knowledge* (see evidence presented in SRSR, 2024). The term *science* indicates that Indigenous Peoples have always used scientific methods (Cajete, 2000). Still, this perspective may not resonate with some Indigenous individuals or communities due to colonial history (Stein *et al.*, 2024). As such, it may be either avoided or reclaimed to “contest the hegemony and presumed universality of Western sciences” (Stein *et al.*, 2024). The plurality of knowledge is also recognized through certain terms: *Indigenous knowledges*, *Indigenous sciences*, *Indigenous knowledge systems*, and *ways of knowing*, all of which indicate the multiplicity of knowledges and the more wholistic view that it is not just knowledge that is of interest but the entire system of knowing and understanding that exists around it (McGregor, 2021; McGregor *et al.*, 2023; Carroll *et al.*, 2025).

There is no agreed upon definition of Indigenous knowledge, and many believe it cannot, or should not, be defined (see discussion in De Beer & Dylan, 2015). The nuance and meaning of Indigenous concepts and terminology may not translate well, and the full range of relationships included in Indigenous knowledges may therefore not be adequately reflected by any definition in another language (Ferguson & Weaselboy, 2020). Furthermore, the diversity of Indigenous knowledges and ways of knowing—and the perspective that knowledge is not a definable object—prevents a single statement from providing an adequate or universal definition (Battiste & Henderson, 2000). The panel highlights that there is no one template or approach to understanding or describing these concepts. As one peer reviewer noted, “many Indigenous Peoples’ knowledge systems hold

their own methodologies, validation, and evaluation processes.” As a method of engaging in scholarship, key common attributes of IKS are often provided in the literature (e.g., Porter *et al.*, 2024). This is the approach taken here.

Indigenous knowledges are diverse, purposeful, and unique to specific locations and Peoples

Indigenous knowledges are described as a “complex accumulation of local context-relevant knowledge that embraces the essence of ancestral knowing as well as the legacies of diverse histories and cultures” (Akena, 2012). The diversity of Indigenous knowledges reflects the diversity of global cultures, since “Indigenous knowledge cannot be separated meaningfully from the people who hold it” (McGregor, 2006). “Each family, community, and Nation have their own distinct and diverse languages, cultural practices, traditions, history, and worldviews that contribute to the understanding of what the term [Indigenous knowledge] means” (Porter *et al.*, 2024). Acknowledging this diversity is critical to avoid generalization and the “fallacy of pan-Indigeneity” (Stirling *et al.*, 2023).

Indigenous knowledges are systemic, relational, adaptable, and wholistic

Indigenous knowledges encompass both observation and thought (Battiste, 2005). This blend of epistemology and ontology has been referred to as *Place-Thought*, a “non-distinctive space where place and thought were never separated because they never could or can be separated” (Watts, 2013). Indigenous knowledges exist as a function of the interrelationships among people, the Land, and Kin relations in the past, present, and future (Smylie *et al.*, 2014). Furthermore, Indigenous knowledges are wholistic and inseparable from the spiritual realm, encompassing all aspects of human existence (Brascoupé & Mann, 2001; McGregor *et al.*, 2023). In relation to western knowledge, Indigenous knowledge “benchmarks the limitations of Eurocentric theory—its methodology, evidence, and conclusions—reconceptualizes the resilience and self-reliance of Indigenous peoples, and underscores the importance of their own philosophies, heritages, and educational processes” (Battiste, 2005). Western knowledges are anthropocentric, separating humanity from—and elevating it above—the natural world, while Indigenous knowledges consider humans to be part of the natural order (Cajete, 2000; FAO, 2021). Even if not always recognized by dominant knowledge structures, “Indigenous knowledge has always existed” (Battiste, 2005). It is adaptable and ever-changing; engaging with Indigenous science is not static but “takes a lifetime to learn and practice” (McGregor *et al.*, 2023).



Approach

The term *Indigenous science* is used in the charge and by some Indigenous scholars, but the panel does not rely on it here. Instead, recognizing the complexity, heterogeneity, and broad scope of Indigenous knowledges and how they encompass not just knowing but also the actions of being and doing, the panel refers to *Indigenous knowledges* and *Indigenous knowledge systems (IKS)* throughout this report.

2.1.2 Food systems, food security, and food sovereignty

The charge to the panel mentions three food-related terms: food systems, food sovereignty (or sovereignties), and food security. These are all distinct but connected concepts. Before any discussion of definitions or attributes, the panel emphasizes that, for Indigenous Peoples, food is a relational concept that reflects the multidimensional aspects of Indigenous societies, including and comprising IKS (Figure 2.1). In addition, this section lists only a few examples of the many facets and components of Indigenous food systems; still, they demonstrate the scope of activity that the panel considered throughout this report.

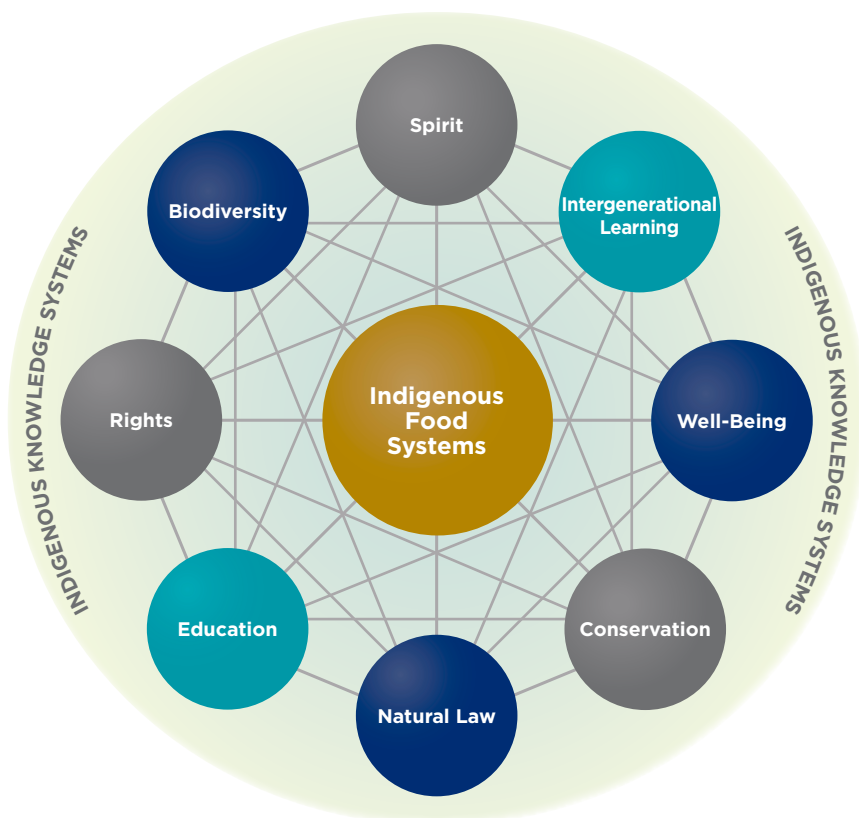


Figure 2.1 Dimensions of Indigenous food systems

The panel's interpretation and understanding of some of the various dimensions of Indigenous food systems. These dimensions are interconnected with numerous other aspects of Indigenous ways of being, including but not limited to education, conservation, well-being, intergenerational learning, biodiversity, and Indigenous rights. Indigenous knowledge systems underpin and surround all dimensions of Indigenous food systems.

Food systems are complex, multifaceted networks that encompass all the activities, processes, people, natural inputs, and infrastructure involved in feeding a population

A key aspect of Indigenous food systems is their reflection of deep and long-standing relationships with, and obligations to, Land, Water, Air, and other species—relationships that colonialism has fundamentally disrupted. Indigenous foods are sacred and actively cared for by Indigenous law and through cultural practice (Morrison, 2020). As Dawson (2020) states, “food is not simply what

we eat but how and why we eat it, and more importantly, what it means.” In addition to agriculture, access to food among Indigenous communities can include hunting, trapping, fishing, foraging, and the cultivation of wild plants for food and medicine or to supply barter and trade networks. Indigenous food systems “are best described in ecological rather than neoclassical economic terms” (Indigenous Food Systems Network, n.d.). Indigenous food systems are often embedded in sustainable use of local resources with minimal damage to ecosystems, emphasizing communal management and sharing practices (FAO, 2021). The panel underscores that, as with Indigenous knowledges, there is a plurality of Indigenous food systems, each unique to the Peoples and communities who maintain their own relationships to food (Box 2.1). As such, there is no universal definition of an Indigenous food system beyond that it is specific to “a community’s own social, political, historical, and cultural contexts, and is best defined by the community itself” (Settee & Shukla, 2020).

Box 2.1 Inuit food systems

Inuit Tapiriit Kanatami (ITK) describes the Inuit Nunangat food system as

the infrastructure, environmental factors, policies, and regulatory practices that influence the quality, costs, and availability of food throughout Inuit Nunangat. It includes the supply chains and retailers involved in transporting food to our communities, as well as the organizations and community networks involved in the harvesting, trade, regulation, and distribution of country foods and locally grown foods. Country foods are all animal, plant, and fish species that are harvested by Inuit, whether or not they are commercially harvested or sold.

Because of the geography and environment of the North, store-bought foods are almost exclusively brought in by air or sea, leading to challenges with availability, quality, storage, and distribution. Despite the importance of country food for Inuit, many local food retailers do not integrate harvested foods into their supply chains, leading to access and distribution challenges.

(ITK, 2021)

The dominant agricultural and agri-food system in Canada is frequently characterized by economic benefits at the local, provincial, territorial, and national levels, as well as by its role in driving exports and supporting economic

growth. In 2023, this system contributed \$150 billion to Canada's GDP and provided employment for 2.3 million people, representing one in nine jobs nationwide (AAFC, 2024). Indigenous people and communities are participants in this system (Box 2.2), though colonial practices and legislation limit their participation and undermine Indigenous food systems in favour of the dominant agricultural economy. Furthermore, the economic focus underlying the policies and governance structures that prescribe the dominant agriculture and agri-food system in Canada differs substantially from the values that underlie the practices of Indigenous food systems, leading to integration and complementarity challenges (e.g., Robin *et al.*, 2023). Although there have been efforts to shift food policy away from a purely economic framing by incorporating considerations for sustainability, health, and Indigenous food systems (e.g., AAFC, 2019), in the panel's view, there remains a gap between these stated goals and the continued structural focus on productivity and economic growth.

Box 2.2 Indigenous participation in the dominant agricultural system in Canada

According to Statistics Canada, people who self-identified as Indigenous accounted for approximately 3% of the agricultural population in Canada in 2021, totalling 16,705 individuals (St. Pierre & Chen, 2024). Of the Indigenous agricultural population, Métis people make up the largest proportion (67%), followed by First Nations people (43%), Inuit (0.3%), and those who identify with multiple Indigenous identities or identities not included in the survey (St. Pierre & Chen, 2024). Métis people have historically participated in the agricultural economy of the Prairies, and continue to do so (Clark, 1983; MMF, n.d.). The Manitoba Métis Federation (MMF) has a dedicated agriculture portfolio with several positions, including Minister of Agriculture, Agricultural Coordinator, OFCAF* Coordinator, Food Security Coordinator, and Agricultural Specialist (MMF, n.d.). Agricultural activities of the MMF include programming for Métis producers, food security initiatives, sustainable land and water management, expanding funding and technical staff, and managing a database of Red River Métis producers (MMF, n.d.).

*On-Farm Climate Action Fund (administered by Agriculture and Agri-Food Canada)

Traditional foods are vital to the spiritual, mental, and physical well-being of Indigenous Peoples

Traditional foods,¹⁰ also known as country foods or wild foods, are specific to the traditional territories of Indigenous Peoples and are part of “a way of life for a given place-based community often shaped by diverse dietary practices, ecological features, geographical variations, and social-political as well as historical experiences” (Settee & Shukla, 2020). Traditional foods provide a full, nutritious diet for Indigenous people while also supporting spiritual and cultural well-being. Colonial policies and practices removed Indigenous people from their traditional territories, cut off access to food and medicine, and tried to destroy cultural knowledge of Indigenous food systems (Kuhnlein & Receveur, 1996; Robin *et al.*, 2021). These policies and practices, along with the introduction of commercial food products, forced many Indigenous communities to shift their diets toward less nutrient-dense options (Kuhnlein & Turner, 1991; Burnett *et al.*, 2016). The impacts of colonization on all aspects of Indigenous Peoples’ lives, including food systems, are discussed further in Section 2.2.

Nevertheless, traditional foods remain an important and contemporary part of Indigenous food systems in Canada. For example, the First Nations Food, Nutrition and Environment Study (FNFNES)¹¹ found that most households actively engage in traditional harvesting and food production, and almost all adults report eating traditional food (FNFNES, 2021). While traditional foods are generally preferred to store-bought foods—and are often of higher nutritional quality than what is available and affordable in many stores—access to such foods does not meet current demand for many communities (Batal *et al.*, 2021a,b; Sebai *et al.*, 2025).

Traditional foods encompass a wide range of hunted, harvested, and grown species, and are linked to diverse activities, from plant cultivation to fishing

There are myriad plant and animal species hunted, harvested, or cultivated by Indigenous Peoples in Canada, and Indigenous Peoples maintain relationships with the Land and the diversity of species that nourish and sustain them. For example, the cultivation and management of plants for food and medicine have been vital components of many Indigenous food systems since time immemorial. Archaeological evidence from the Prairies points to prehistoric and precontact agriculture by Indigenous Peoples in western Canada, as evidenced by the

10 The panel recognizes that some Indigenous people prefer the term *traditional food*, while others prefer *country food* or other terms. The panel uses these terms interchangeably where appropriate; in this report, these terms refer to foods harvested from the Land, Water, Air, and Ice.

11 FNFNES is the first comprehensive study of First Nations diets, traditional foods, and environmental contaminants in Canada. Ninety-two First Nations across 11 ecozones participated in data collection that spanned 2008 to 2018 (FNFNES, 2021).

Lockport site in Manitoba during the Late Woodland period (800 C.E.–1700 C.E.) (Manitoba Culture, Heritage and Recreation, 1985). Forest structure and composition at sites in British Columbia indicate plant management for food and medicine in gardens that pre-date the arrival of settlers in the region (Armstrong *et al.*, 2023a).

Keeping the land productive is a key goal of stewardship and management responsibilities, achieved through restricting access and directing burning, clearing, and cultivation activities (Armstrong *et al.*, 2025). First Nations in British Columbia, for example, have long engaged in plant management practices ranging from “relatively large-scale (geographically) and long-term activities—such as the use of fire to clear prairies and subalpine meadows—to very focused actions, such as the pruning of individual shrubs” (Turner *et al.*, 2013). Haudenosaunee agriculture—notably the Three Sisters cropping system comprising maize, beans, and squash—was extensive at the time of European arrival in North America (Mt. Pleasant, 2016). In the 17th century, corn, ground nut, and Jerusalem artichoke were cultivated by Maliseet along riversides in what is now known as New Brunswick (Hall, 2015). *Manoomin* (wild rice) is an important relative to the Anishinaabeg, growing in the shallow waters around the Great Lakes, and it is ingrained in ceremony and tradition as both a medicine and a source of nutrients (Lisk, 2025; Tran *et al.*, 2025; GLIFWC, n.d.). Although it grows wild, manoomin can be protected and encouraged through alteration of water levels, removal of competitive vegetation, and manual seeding (Hosterman *et al.*, 2023).

Fish and other aquatic species are integral to Indigenous food systems in Canada, and Indigenous Peoples practise diverse fisheries management and governance models. These practices—including rights of ownership and access—have adapted to changing environmental conditions, technological developments, and economic opportunities, such as through trade, employment, or the requirement of payment to access resource sites (Hansen, 1991; Harris, 2001). For many Indigenous communities, fish serve as an abundant, nutritious, and predictable food source year round (Hansen, 1991). Fish are consumed by First Nations in Canada across all ecozones, including on the Prairies, as well as by Métis people across their traditional territories (Tough, 2000; Chan *et al.*, 2019). Historically, fish were a source of wealth and an item of trade for many First Nations (Miller, 1997; Harris, 2001). It was this wealth and abundance that were exploited by colonial rule to benefit imperial and commercial interests through the appropriation of First Nations fisheries (Harris, 2001).

Aquatic species are also a major source of food for Inuit, with a diverse range of species consumed and classified according to Inuit knowledge (Rapinski *et al.*, 2018; ITK, 2023). Fisheries in the Arctic (including those on First Nations or Inuit lands) illustrate the diversity of governance and management models. They can

be subdivided into four categories: subsistence (Indigenous-only and unlicensed but may be locally regulated), domestic (unlicensed among Indigenous people but licensed among non-Indigenous residents), commercial (subdivided into local sale or export; licensed and regulated by gear type, area, seasons, and harvest level), and recreational (includes both residents and non-residents; licensed and regulated by species, size, area closures, seasons, and harvest limits) (Castañeda *et al.*, 2020). Subsistence fishing holds precedence in determining regulatory levels for the other three fisheries (Reist, 2018; Castañeda *et al.*, 2020). The majority of commercial fisheries in Nunavut, Nunavik, and Nunatsiavut are Inuit-owned (ITK, 2021).

Approach

Indigenous food systems are vast and interconnected with all aspects of Indigenous life, including knowledge systems, Land, Water, well-being, culture, and spirit. The panel would like to specify that Indigenous *Peoples'* food systems is a more accurate descriptor for the concept. The use of *Peoples'* emphasizes the relationships that humans hold with the natural world and their responsibilities, outlined in Natural Law, to their knowledge systems, spiritual practices (e.g., ceremonies), and food-related activities that sustain these relationships and the integrity of the Land. The report uses *Indigenous food systems* to encompass these relationships, but the panel reminds the reader that Indigenous Peoples are at the core of these systems.

The panel also emphasizes that this section lists only a few examples of the many facets and components of Indigenous food systems; still, they demonstrate the scope of activity that the panel considered throughout this report.

Food sovereignty and food security are distinct but interrelated concepts, comprising a wide range of activities and efforts to uphold Indigenous food systems

The concept of *food sovereignty* was initially proposed in 1996 at the World Food Summit by the global movement La Via Campesina (Nyéléni, 2007). In this context, food sovereignty was defined as “the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems” (Nyéléni, 2007). By contrast, *food security* is defined by the Food and Agriculture

Organization of the United Nations (FAO) as “a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO *et al.*, 2022). Food security describes a scenario in which basic needs are appropriately met; food sovereignty emphasizes the role of food in strengthening ecosystems, economies, and communities.

Indigenous Peoples have their own context-specific understandings of food security and food sovereignty, which may differ from the above definitions. For example, the Qikiqtani Inuit Association (QIA) defines food sovereignty as “the right to healthy and nutritious food; the right to culturally appropriate food; the right to food harvested through ecologically sound and sustainable methods as guided by the Nunavut Agreement and wildlife management regiment; and the right to access wildlife in ways that empower communities and stimulate local economies” (QIA, 2019). The QIA prefers to use the term food sovereignty because it “allows for a culturally and community-minded approach to food management” (QIA, 2019). The panel notes that there is a diversity of perspectives on how to define food security and sovereignty, even among distinct Indigenous Peoples. The Inuit Circumpolar Council–Alaska (ICC–Alaska, 2015), for instance, has developed a definition for food security that is similar but distinct from the QIA one above:

Inuit food security is the natural right of all Inuit to be part of the ecosystem, to access food and to care-take, protect and respect all of life, land, water and air. It allows for all Inuit to obtain, process, store and consume sufficient amounts of healthy and nutritious preferred food—foods physically and spiritually craved and needed from the land, air and water, which provide for families and future generations through the practice of Inuit customs and spirituality, languages, knowledge, policies, management practices and self-governance. It includes the responsibility and ability to pass on knowledge to younger generations, the taste of traditional foods rooted in place and season, knowledge of how to safely obtain and prepare traditional foods for medicinal use, clothing, housing, nutrients and, overall, how to be within one’s environment. It means understanding that food is a lifeline and a connection between the past and today’s self and cultural identity. Inuit food security is characterized by environmental health and is made up of six interconnecting dimensions: 1) Availability, 2) Inuit Culture, 3) Decision-Making Power and Management, 4) Health and Wellness, 5) Stability and 6) Accessibility. This definition holds the understanding that without food sovereignty, food security will not exist.

The ability to access foods that are culturally nutritious and appropriate is a necessary component of food security for Indigenous Peoples, encompassing food types, procurement, processing, sharing, and eating (Skinner *et al.*, 2016; Trott & Mulrennan, 2024). This framing goes beyond the FAO's use of food preferences and instead highlights cultural needs. Indigenous food sovereignty “respects the sovereign rights and power of each distinct nation to identify the characteristics of our cultures and what it means to be Indigenous” (Morrison, 2011). The panel also notes that Indigenous food sovereignty differs from food sovereignty writ large due to Indigenous Peoples' unique relationship with the Crown. In addition to rights to land, food, and control over production systems, Indigenous food sovereignty focuses on relationships with, and responsibilities to, the elements of food systems. Morrison (2011) describes four principles of Indigenous food sovereignty:

- **Sacred or divine sovereignty**, where “food is a gift from the Creator,” thus the right to food and the responsibilities of upholding relationships with nature are sacred;
- **Self-determination**, representing the freedom and ability to choose what is eaten, including quantity and quality;
- **Participation**, meaning the day-to-day activities that comprise healthy relationships with the Land at individual, family, community, and regional levels; and
- **Legislation and policy**, where a restorative framework exists to “reconcile Indigenous food and cultural values” with colonial laws and policies through reform in multiple areas.

As with *science*, the term *sovereignty* has been rejected by some Indigenous individuals and communities because of its roots in European notions of power (Alfred, 2002; Daigle, 2019). Thus, some strategies or scholarship regarding food sovereignty may instead rely on other terms that resonate more strongly, such as *food security* or *hunger*, or language and concepts specifically associated with individual communities (e.g., Kamal, 2018; Lebar, 2024). In reference to Indigenous sovereignty more broadly, the use of the term has grown beyond a description of political power and is now more aligned with the maintenance and continuation of cultural integrity (Deloria, 1997a). Even when the term *food sovereignty* is used, the meanings of its component words (i.e., *food* and *sovereignty*) may be transformed to reflect the realities of those who use it. For example, rather than viewing food as a resource, the O-Pipon-Na-Piwin Cree Nation views it as a set of relationships (Kamal, 2018).



Approach

The panel uses the term *food sovereignty* to encompass the wide range of activities and efforts to advance food security and uphold Indigenous food systems. In specific cases, the panel uses *food sovereignties* to reflect the plurality and unique nature of various Indigenous political and legal systems, which in turn impact food systems.

2.1.3 Indigenous rights and title and Canada's obligations to Indigenous Peoples

Given Canada's shameful history, defining Aboriginal rights in terms of, for example, a right to fish for food and traditional purposes is better than nothing. But to what extent does that state-regulated 'right' to food-fish represent justice for people who have been fishing on their rivers and seas since time began?

Alfred (1999)

This section covers Indigenous rights and title from the perspective of the Canadian government, providing an overview of laws and court cases that shape the distinct legal status of Indigenous Peoples in Canada. This section also describes the Government of Canada's obligations to Indigenous Peoples. The panel stresses, however, that Indigenous rights do not exist because the courts or the Crown affirm them. They exist because they are inherent to the Indigenous Peoples who occupied the Land now known as Canada before the Crown's existence (SCC, 1996a). Litigation that defines the parameters for exercising Aboriginal¹² rights has been described as a "means by which the government and the legal system have attempted to accommodate Aboriginal peoples' rights within a system that had not been initially designed to recognize them" (Indigenous Foundations, n.d.).

The rights of Indigenous Peoples in Canada are enshrined in the Constitution

Canadian law recognizes and affirms what it calls treaty and Aboriginal rights as integral elements of Indigenous rights writ large. "The common law doctrine of Aboriginal rights recognizes that when Europeans arrived in North America,

¹² *Aboriginal* is used here to reference the language of the *Constitution Act, 1982* (GC, 1982); the panel uses the terminology of *Indigenous rights* elsewhere in the report.

Indigenous peoples were already here, living in communities on the land, and participating in distinctive cultures, as they had done for centuries” (GC, 2025, referencing SCC, 1996a). This is affirmed under Section 35 of the *Constitution Act, 1982* (GC, 1982), which protects the practices, traditions, and customs of Indigenous Peoples as Aboriginal rights (SCC, 1996a). Within Section 35, the Aboriginal Peoples of Canada are defined as “Indian, Inuit and Métis peoples of Canada” (GC, 1982). Activities that are protected as Aboriginal rights must be considered integral to the culture claiming that right; an integral activity “must be of central significance...one of the things which made the culture of the society distinctive” (SCC, 1996a). These rights may also evolve to reflect modern circumstances. Despite protection in the *Constitution Act, 1982*, these rights are not specifically defined and must be defined on a case-by-case basis by the courts. Some practices deemed as Aboriginal rights by the court include the right to hunt for food (SCC, 2003), the right to fish for food, social, and ceremonial purposes (SCC, 1996b), and the right to harvest and trade particular species on a commercial basis (SCC, 1996c).

Aboriginal title is a distinct subset of Aboriginal rights that represents a right to the Land itself:

Aboriginal title is a right to land that is similar to property defined at common law as fee simple title and “pleine propriété” in civil law in that it confers the right to decide how land will be used; the right to enjoyment and occupancy; the right to possess the land; the right to economic benefits from the land; and the right to proactively use and manage the land. It differs from fee simple title in that it is a collective right belonging to the Indigenous group; Aboriginal title lands are alienable only to the Crown; and cannot be used in a manner which prevents future generations from use and benefit of the land (Tsilhqot’in Nation v British Columbia, 2014 SCC 44).

GC (2025)

The Indigenous perspective may be demonstrated through evidence of practices, customs, or traditions specific to Indigenous groups, as well as collective laws (SCC, 1996a, 1997). Crucially, Aboriginal rights can apply even when Aboriginal title cannot. A history of environmental dispossession and forced removal of Indigenous Peoples from their homelands has, in some cases, severed physical ties to the Land. Due to this colonial legacy, some Indigenous groups may not be able to claim Aboriginal title. However, they still possess Aboriginal rights under Section 35 of the *Constitution Act, 1982*.

Indigenous rights are also conferred through treaty rights, which are recognized and affirmed in Section 35 of the *Constitution Act, 1982*. These include both

historical treaties with First Nations formally recognized by the Government of Canada and modern treaties (also known as *comprehensive land claim agreements*) made between the Government of Canada and Indigenous groups (CIRNAC, 2024). Other historical treaties among Indigenous Nations (e.g., A Dish with One Spoon) and between Indigenous Nations and non-Indigenous governments (e.g., the Royal Proclamation of 1763 and the Treaty at Niagara of 1764) remain relevant to Indigenous Peoples' approaches to relationship building (Borrows, 2007; Glover, 2020). Treaty rights comprise rights specific to the treaty's parties, with benefits and obligations for the signatories varying across treaties. Modern treaties and land claims are generally more comprehensive than historic treaties, and they often include "consultation and participation requirements; ownership of lands; wildlife harvesting rights; financial settlements; participation in land use and management in specific areas; self-government; resource revenue sharing and measures to participate in the Canadian economy; and preparations for when the agreement takes effect, such as implementation planning" (CIRNAC, 2024).



Approach

The panel took a rights-based approach in the development of this report. Under Canadian law, Aboriginal rights are distinct from the rights afforded to non-Indigenous people in Canada. These rights stem from Indigenous People's occupation of their home territories in addition to their ongoing political, legal, and social structures.

The Government of Canada has made commitments to reconciliation with Indigenous Peoples, both domestically and internationally

In 2021, the Government of Canada enacted the *United Nations Declaration on the Rights of Indigenous Peoples Act* to affirm UNDRIP "as a universal international human rights instrument with application in Canadian law" and to provide an implementation framework (i.e., an action plan) for Canada (GC, 2021a). UNDRIP recognizes the "urgent need to respect and promote the inherent rights of Indigenous peoples which derive from their political, economic and social structures and from their cultures, spiritual traditions, histories and philosophies, especially their rights to their lands, territories and resources" (UN, 2007). Article 5 recognizes the right of Indigenous Peoples to "participate fully, if they so choose, in the political, economic, social and cultural life of the State" (UN, 2007). In the panel's view, the *United Nations Declaration on the Rights of Indigenous Peoples Act* lays the foundation for addressing policy issues and implementation gaps across

all aspects of policy and governance in Canada, including support for Indigenous knowledges and Indigenous food sovereignty. As Ignace *et al.* (2023) articulate, “UNDRIP is important because it attempts to right wrongs; equalize the uneven power relationship that resulted from colonialism, exclusion, and systemic racism; and navigate toward potential futures that uphold the rights and sovereignty of Indigenous peoples.”

Similarly, the Kunming–Montreal Global Biodiversity Framework, adopted by the Conference of the Parties to the Convention on Biological Diversity (which includes Canada) in 2022, “acknowledges the important roles and contributions of Indigenous Peoples and local communities as custodians of biodiversity and as partners in its conservation, restoration and sustainable use” (CBD, 2022). The framework’s implementation requires the free, prior, and informed consent of Indigenous Peoples before engaging with, documenting, or preserving Indigenous knowledges (e.g., knowledges related to biodiversity, innovations, worldviews, and practices) (CBD, 2022).

Domestically, the Truth and Reconciliation Commission’s (TRC) 94 Calls to Action and the 231 Calls for Justice developed by the National Inquiry into Missing and Murdered Indigenous Women and Girls (NIMMIWG) provide additional guidance for work that federal, provincial, and territorial governments must undertake in order to address historical and ongoing harms to Indigenous Peoples in Canada (TRC, 2015a; NIMMIWG, 2019a,b; Second Harvest, 2025). Many of the TRC Calls to Action relate to both supporting IKS and Indigenous food systems (Second Harvest, 2025). For example, those that request capacity building and financial support for Indigenous education, health, language revitalization, and healing are interconnected with IKS, and advancing progress on these Calls to Action may involve uplifting Indigenous food systems and food sovereignty (TRC, 2015a; Second Harvest, 2025). Similarly, the NIMMIWG 231 Calls for Justice have been linked to the gendered dimension of violence related to food systems and being on the land (NIMMIWG, 2019a,b; Robin *et al.*, 2026). Calls for equitable access among genders to basic rights, health and wellness, and human security, among others, have been linked to the “realization of and respect for the individual and collective rights of Indigenous women, girls, and 2SLGBTQQIA people as prerequisites for Indigenous life and the basis on which Indigenous land and food systems flourish” (Robin *et al.*, 2026).

2.2 Historical and contemporary oppression of Indigenous knowledge systems and food systems

For over a century, the central goals of Canada’s Aboriginal policy were to eliminate Aboriginal governments; ignore Aboriginal rights; terminate

the Treaties; and, through a process of assimilation, cause Aboriginal peoples to cease to exist as distinct legal, social, cultural, religious, and racial entities in Canada. The establishment and operation of residential schools were a central element of this policy, which can best be described as “cultural genocide.”

TRC (2015b)

As articulated in Chapter 1, there is a tension between the sponsor’s charge to the panel—which is looking to support Indigenous knowledge through policy and governance—and the historical and ongoing oppression of IKS and food systems. To advance reconciliation and support Indigenous knowledges in policy and governance, especially at the federal level, recognition of the realities of colonialism is critical. As Czyzewski (2011) notes, “reconciliation will only be possible...if racism is recognized as structural, pervasive and on-going; but is also addressed as impactful, and inherently linked to other forms of discrimination.” Numerous scholars and committees from a wide range of perspectives have documented the history of colonialism and the associated exploitation, assimilation, and dispossession of Indigenous Peoples in Canada (e.g., TRC, 2015a). A wide-ranging and thorough discussion of the mistreatment of Indigenous Peoples is beyond the scope of this report; however, the panel believes an understanding of some of the historical and ongoing impacts of colonial policies and practices in Canada is required. Grounding the assessment of evidence in these realities is important for fostering a more equitable and respectful approach to supporting IKS in policy and governance.

Canadian policies and regulations have explicitly acted to disenfranchise, assimilate, and displace Indigenous Peoples in Canada

The *Indian Act*, *Fisheries Act*, *Manitoba Act*, and *Canadian Food Inspection Agency Act* are just some of the numerous legislative instruments that have harmed and continue to harm Indigenous Peoples and their ways of life. For example, the ultimate goal of Indian policy¹³ in the late 1800s (and beyond) was to assimilate Indigenous people into white society through missionaries, schools, and agriculture (Carter, 2019). Agricultural provisions in the numbered treaties reflected the desire of Indigenous communities to farm; however, the items promised in the treaties as payment for land—such as livestock, seed, and tools—were often viewed by settler society as government charity and frequently not delivered (Carter, 2019). Despite challenges, First Nations farmers were agriculturally successful on the Prairies in the early 1880s, practising novel

13 The panel notes that Indian policy is not an official term and, in this context, refers to a collection of policies and practices pertaining to First Nations Peoples at the time.

dryland farming techniques, testing new crop species, and adopting a collective agrarian lifestyle, as exemplified by the File Hills Farm Colony on traditional Peepeekisis Cree Nation land (Tang, 2003). Métis people also participated in the agricultural economy of the Prairies (Clark, 1983). However, policies enacted by the federal government (e.g., limiting the amount of wood, hay, grain, or other produce Indigenous people could sell to settlers or the government) were deployed to protect non-Indigenous farmers against competition, sabotaging the future successes of First Nations farming (Carter, 2019). Other policies, such as scrip, severalty, and enfranchisement, were developed to take land from Indigenous rights-holders for other purposes (Kermaal *et al.*, 2018; Carter, 2019) (Box 2.3).

Box 2.3 Erosion of Métis and First Nations land holdings through scrip, enfranchisement, and severalty

Following Métis political organization, negotiations, and armed resistance, the Government of Canada promised 1.4 million acres of land to Métis people living in Red River when it acquired Rupert's Land from the Hudson's Bay Company through the *Manitoba Act* of 1870 (Kermaal *et al.*, 2018). Scrip was a system of documentation implemented by the Government of Canada to allow Métis people to acquire formal title for their lands or equivalent cash value (Tough & McGregor, 2007; Robinson, 2019). A complex and lengthy legal process was devised for redeeming land scrip—it was non-transferable, required interactions with financial and legal institutions that could be located some distance from an individual's residence, and restrictions were placed on which lands Métis people were allowed to claim (Tough & McGregor, 2007; Robinson, 2019). In 2013, the Supreme Court of Canada found that “the federal Crown failed to act with diligence in implementing the land grant provision set out in s. 31 of the *Manitoba Act*, in accordance with the honour of the Crown,” noting that “a persistent pattern of errors and indifference that substantially frustrates the purposes of a solemn promise may amount to a betrayal of the Crown's duty to act honourably in fulfilling its promise” (SCC, 2013).

The Government of Canada also introduced laws and policies

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designed to take away First Nations reserve land awarded to bands through numbered treaties by transforming parcels into private property; these strategies included enfranchisement and severalty (Carter, 2019). Enfranchisement describes an individual “giving up” their so-called Indian status, ostensibly to access the full benefits of Canadian citizenship. The 1869 *Gradual Enfranchisement Act* sought to coerce Indigenous people’s enfranchisement through a variety of mechanisms. It was presumed that Indigenous people would seek enfranchisement as a reward for becoming “civilized,” but this was not the case. The Act also instituted federal control over on-reserve governments, ignoring existing systems of self-government. At the same time, severalty was a policy that required First Nations people to farm their land individually, in allotments, rather than collectively as a band. Severalty was enforced on Prairie reserves in the late 1880s and the 1890s—allotment titles were granted to “successful” individuals through enfranchisement, eroding reserve holdings and bands piece by piece (Carter, 2019).

Indigenous laws and practices regulating natural resources¹⁴ were also systematically ignored and replaced with colonial systems and laws, with the intention of exploiting the Lands and Waters of Indigenous Peoples. For example, Harris (2001) documents the legal capture of Indigenous fisheries in what is now British Columbia (and Canada more broadly) following the arrival of settlers and Confederation. The analysis points to British legal forms—the public right to fish and the law of master and servant—as fundamental to the development of legislation that undermined existing Indigenous law regarding ownership and access. In particular, the public right to fish (for British subjects) ignored existing Indigenous law and regulation of a communal resource, while the law of master and servant recontextualized fish harvesting as an employer–employee relationship. The *Constitution Act, 1867* made seacoast and inland fisheries a federal responsibility, and the *Fisheries Act* codified new rules about resource access and management (Harris, 2001). The *Fisheries Act* “has been deployed to displace Indigenous peoples’ and nations’ governance systems, fisheries, and economies” since its introduction in 1857 (Claxton, 2019). In the 1880s, the federal government distinguished between “food fishing” and “commercial fishing” to, arguably, further limit the participation of Indigenous people in fish harvesting. At the same

14 The panel notes that the term natural resources is extractive and creates a hierarchy in which humans are above all other beings in Creation. However, this term is used in the report to maintain clarity for the reader.

time, existing Indigenous laws were recontextualized into “privileges” granted under Canadian law (Harris, 2001).

This dismissal of Indigenous legal forms was further developed in the 20th century, “where ‘Indian law’ became ‘oral tradition’ to be considered by courts as evidence but not as law” (Harris, 2001, citing Fiske, 1997/8). Similar legal processes dispossessed Indigenous rights-holders from their fisheries outside British Columbia. For example, the prohibition against spear-fishing Atlantic salmon outlawed Mi’kmaw¹⁵ harvest methods to benefit elite sport fisheries in the Maritimes (Parenteau, 1998). In February 1894, the Supreme Court of Canada “ruled that the Government of Canada had the authority to enact legislation for the protection of the inland fisheries and that the Government of Ontario had proprietary interests in the fisheries and the authority to issue licences for fisheries within the province,” a ruling upheld in 1898 (Hansen, 1991). Such legal decisions have led to conflict between Indigenous fishers and the Government of Ontario, such as the assertion of the Saugeen Ojibway Nation’s rights to a commercial fishery (ONSC, 1993; Gobin *et al.*, 2023).

Regulation and policy continue to limit access to traditional foods

While the practices, traditions, and customs of Indigenous Peoples are protected as Aboriginal rights under Section 35 of the *Constitution Act, 1982* (GC, 1982), accessing traditional lands for hunting and fishing is an ongoing challenge for many Indigenous people across Canada. One major area of conflict is fishing—numerous court challenges have been necessary to affirm existing Indigenous and treaty rights to hunt and fish (Box 2.4).

Box 2.4 Mi’kmaw fishing rights

The Peace and Friendship Treaties were a series of treaties negotiated between the British and Mi’kmaq, Wolastoqiyik/Wəlastəkwiyik (Maliseet), and Peskotomuhkati (Passamaquoddy) First Nations after 1713 (CIRNAC, 2010). *R. v. Simon* (1985) held that the 1752 *Peace and Friendship Treaty* between the Crown and Mi’kmaq continues to be in force and effect, which stipulates that Mi’kmaq have “free liberty of Hunting & Fishing as usual” (SCC, 1985; GC, 2008). The case of *R. v. Sparrow* (1990) held that the Aboriginal right to fish includes social and ceremonial needs, which led Fisheries and Oceans Canada to establish Indigenous-specific approaches to fisheries regulation under the

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15 Also spelled Mi’gmaw. The panel uses the spelling of the source materials.

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Fisheries Act (SCC, 1990; GC, 1993; Denny & Fanning, 2024). The 1999 Marshall decision further clarified that treaty rights included the right to “securing necessities” through trade, which was interpreted to mean the right to fish for sale in order to ensure a “moderate livelihood” (SCC, 1999; Denny, 2022).

Following the Marshall decision, Indigenous fishers across Wabanaki territory have repeatedly attempted to exercise their treaty rights to fish lobster and eel and repeatedly encountered violence and backlash from non-Indigenous commercial fishers as well as federal fisheries officers (Demont, 1999; Fanning & Denny, 2020; POFO, 2021; Donovan, 2023). Implementation challenges include conflicting relations among user groups, lack of recognition or integration of Indigenous governance systems, marginalization of Indigenous fishers, and policy gaps related to Indigenous and treaty-rights-based fisheries (Denny & Fanning, 2024).

Another challenge of access to traditional foods lies with food safety regulations in Canada, which do not allow for the sale or trade of traditional foods without inspection (Robin *et al.*, 2021) (Box 2.5). Moreover, even wild meat that is processed and inspected in accordance with the *Canadian Food Inspection Agency Act* is not eligible for interprovincial or international trade (Aurora Research Institute, 2017). Provincial regulations, such as those governing food handling, create further barriers to serving or sharing traditional foods in the community, particularly when a community continues to lack access to basic needs like clean drinking water (Robin *et al.*, 2021). Food safety rules and regulations can also create a barrier to market entry for traditional foods, since they impose inspection requirements before public consumption; thus, hunters and harvesters can be prohibited from sharing food with their community or participating in markets (Robin *et al.*, 2021).

Box 2.5 Sioux Lookout Meno Ya Win Health Centre

The Sioux Lookout Meno Ya Win Health Centre (SLMHC) offers patients two meals per week of *Miichim* (traditional food) (SLMHC, 2025). The ability to serve traditional foods as medicine followed many years of protest and activism, including a 1988 hunger strike (Baker, 2019). In 2001, provincial legislation was enacted that specifically allows the

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SLMHC to serve “uninspected meat from animals and birds killed by way of hunting” (Gov. of ON, 2001). All traditional food and wild game are donated by local hunters, gatherers, and outfitters, and patients must sign waivers to eat these foods (Baker, 2019; SLMHC, 2025).

The legacy of colonialism is a major contributor to food insecurity for Indigenous Peoples

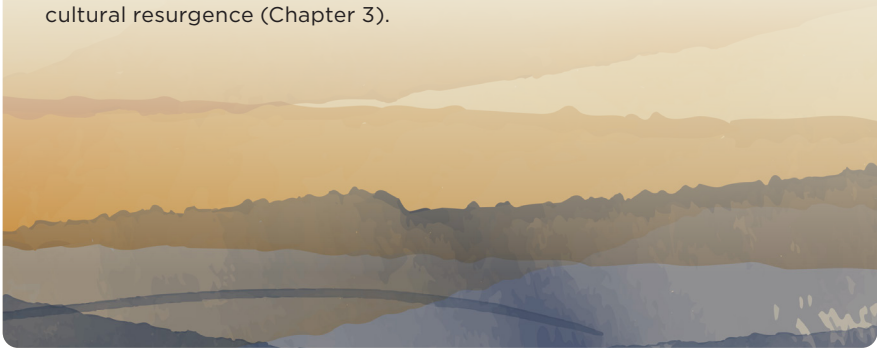
Despite the legal recognition and affirmation of Indigenous rights (GC, 1982), Indigenous Peoples continue to live with the negative effects of the Government of Canada’s colonial policies in many aspects of life. Food insecurity is one of the major inequities faced by many Indigenous Peoples in Canada today, stemming from a variety of issues rooted in colonialism. Indigenous people are especially at risk of food insecurity, with over a third of off-reserve Indigenous people in the provinces experiencing food insecurity in 2021 (Tarasuk *et al.*, 2022). Food insecurity is also high among populations living on-reserve; 48% of households living on-reserve were found to be food insecure by an FNFNES survey that measured households’ ability to access country foods and purchase market foods between 2008 and 2018 (FNFNES, 2021). Inuit households experience high levels of food insecurity as well, a situation which has been identified “among the longest-lasting public health crises faced by a Canadian population” (ITK, 2021).

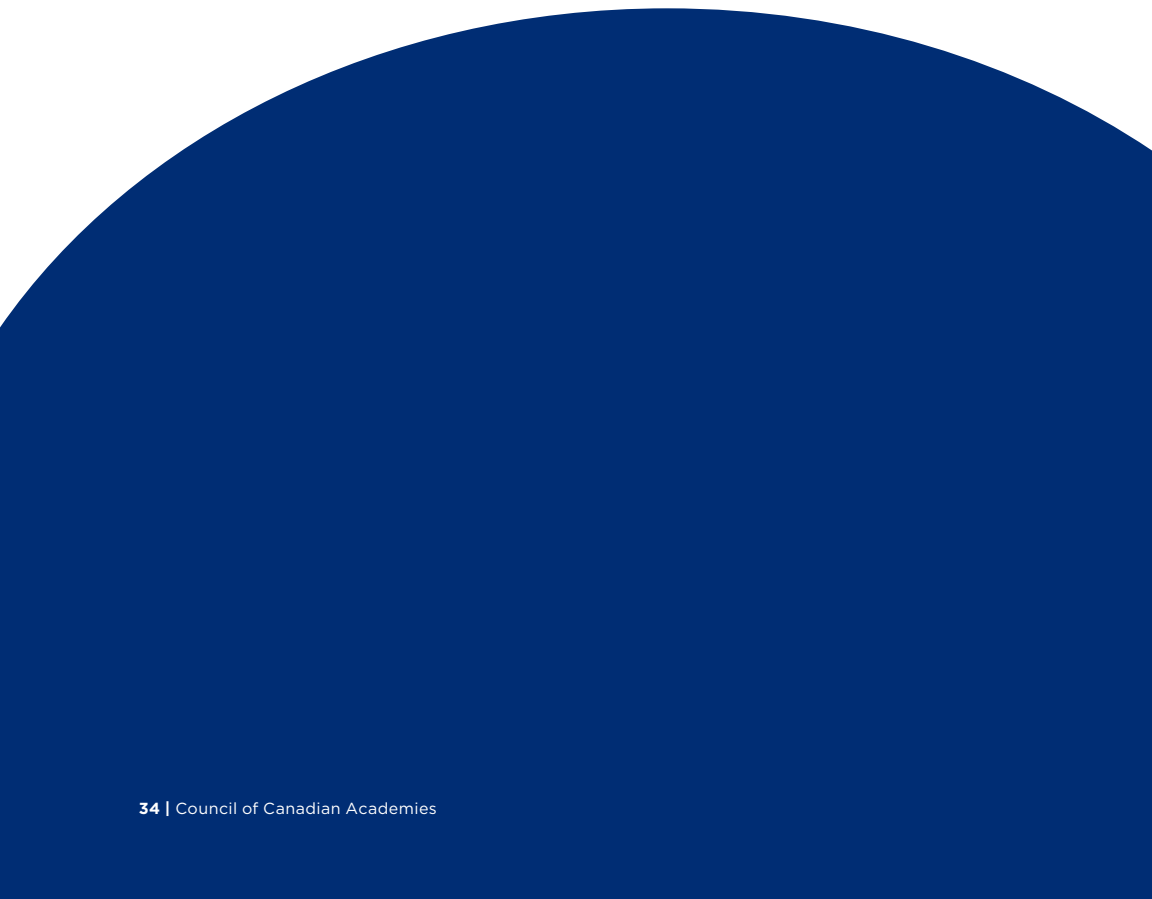
Understanding the underlying factors that contribute to food insecurity among Indigenous Peoples requires taking into consideration the context of historical and ongoing colonialism (Harper *et al.*, 2022). Food insecurity among Indigenous Peoples includes a lack of access to traditional foods, which are increasingly affected by environmental, economic, and social pressures (Blom *et al.*, 2022). Hunting restrictions, climate change, increasing transportation costs, and high contaminant levels in country foods all contribute to declining access to those foods (PPF, 2015; Harper *et al.*, 2022). Ecosystems where traditional foods are grown or harvested have been degraded, contributing to the loss of Indigenous Peoples’ livelihoods and culture (FAO, 2021). The forced and widespread displacement of Indigenous Peoples from their traditional territories by colonial governments has physically prevented them from maintaining their diets and ways of life (RCAP, 1994; Joseph & Turner, 2020). This deficit has led to increased reliance on market foods, which are expensive (due to high transportation and storage costs) and less accessible in rural and remote areas (Spring *et al.*, 2018). Food insecurity related to the loss of access to traditional foods “has resulted in loss of Indigenous knowledge and, in turn, has affected the nutritional, emotional, and spiritual health of Indigenous Peoples in Canada” (Harper *et al.*, 2022).

For Inuit, environmental factors, the high cost of living, and poverty are all determinants of food insecurity (ITK, 2021). Poverty is the most significant, preventing households from purchasing many market foods or harvesting country foods (ITK, 2021). Challenges associated with poverty, including household crowding, stress, underemployment, and intergenerational trauma, further exacerbate food insecurity. Inuit in the North “spend a disproportionately large share of income on food and housing compared with other Canadians” due to the high prices of market foods, rent, transportation, ammunition and fuel for hunting, and other goods and services (ITK, 2017, 2021).

Synthesis

The panel emphasizes that knowledge of historical and contemporary colonialism is necessary to fully engage with answering the charge. IKS have been and continue to be diminished and lost through structural and systemic colonialism in Canada. Any attempt to better bridge Indigenous knowledges with food systems decision-making will be heavily influenced by the extent to which the larger systemic and institutional issues of ongoing colonialism in Canada are also addressed. That being said, Indigenous Peoples have always lived, embodied, practised, and engaged with IKS and food systems and continue to do so, despite historical and ongoing oppression. This resilience is founded on a wealth of activities focused on revitalizing Indigenous food and knowledge systems, including language, education, and harvesting. Renewed and sustained recognition and support of healthy food and knowledge systems provide a path forward for a multitude of actions and activities concerning Indigenous well-being, sovereignty, and cultural resurgence (Chapter 3).





3

Healthy Indigenous Knowledge Systems and Food Systems

Chapter findings

- Healthy Indigenous knowledge systems and Indigenous Peoples' food systems are rooted in cultural practices and Natural Law, which are sustained through reciprocal relationships with Land, Water, and living and non-living Kin.
- Supporting these reciprocally interconnected systems relies on affirming Indigenous well-being, sovereignty, and cultural resurgence at all scales, from individuals to the planet as a whole.
- Transmitting and practising Indigenous knowledge—through language, oral traditions, and land-based activities—are vital for maintaining the cultural identity and health of Indigenous Peoples and the Land.

Kwəlncutn, the Creator, put us here and gave us a sacred responsibility to care for the land. From time immemorial, our knowledge institutions were based on being out on the land: developing a relationship with, being sustained by, and becoming one with the land. We have been—and continue to be—nourished by a wealth of biodiversity, including fish, game, berries, roots, and medicines. Hunting and gathering these resources require a localized knowledge that is dictated by the seasonal cycles of the land. We pick siya (saskatoon berries) in the early summer, then huckleberries, and soon afterwards it is time for salmon fishing.

suiki?st [Terbasket, P.] (2019)

The resurgence of cultural practices and languages, including the embodiment of knowledges expressed through food systems, relies on sovereignty and self-determination for Indigenous Peoples in all aspects of life. IKS and Indigenous food systems influence, strengthen, and support one another at multiple scales. This interconnectedness is further linked to the mental, physical, and spiritual well-being of people and the Land. “Ultimately, [Indigenous Knowledge] is related to Indigenous rights. Indigenous Knowledge cannot be separated from the people. This means that to protect [Indigenous Knowledge], the people themselves and their ways of life must be protected” (McGregor, 2004).

This chapter expands upon the discussion of IKS and food systems in Chapter 2 by characterizing the aspects and qualities of healthy, supported IKS and Indigenous food systems, emphasizing the relationships among these systems, Indigenous Peoples themselves, and the Land.

Healthy IKS and food systems are co-constituted through relationships and intricately linked to the Land

Indigenous knowledge is also inherently tied to land, not to land in general but to particular landscapes, landforms, and biomes...[it] embodies a web of relationships within a specific ecological context.

Battiste (2005)

Food system knowledge is expressed in culturally rich and diverse practices such as hunting, fishing, harvesting, and trapping, which reinforce cultural meanings, spirituality, and Natural Law (Morrison, 2011; Robin & Hart, 2025). Culturally transmitted culinary practices for food preparation, preservation, storage, cooking, and consumption are vital components of Indigenous food systems and knowledges (e.g., PCMB, 2016; Aqqiumavvik, n.d.-a; Barkwell *et al.*, n.d.). These activities are intertwined with the care, management, and stewardship of the environment—the forests, oceans, wildlife, and rivers that are sources of food and medicine (Beaton *et al.*, 2022).

Spirit is a key aspect of IKS and Indigenous food systems as it is embodied in every element of the natural world and in the spirituality expressed in the relationships people hold with the Land (Deloria, 1999a; Brascoupé & Mann, 2001; Cloud & Redvers, 2023; McGregor *et al.*, 2023). Spirituality is particular to place and the cosmology of the people who inhabit it, and spiritual systems can be expressed through specific beings and narratives. For example, Haida spiritual beings “reinforce [Haida Peoples’] shared history and connections with the land and sea and teach [them] how to live respectfully with the land and sea...they all have unique histories, appearances, and magical powers” (Williams-Davidson & Davidson, 2019). Spirit is connected to all things; for example, “when you request to take something (e.g., a plant medicine), you are bound by the spirit of that with which you ask to take (e.g., plant medicine)” (Cloud & Redvers, 2023). Blackfoot scholar Leroy Little Bear (2000) describes this concept:

In Aboriginal philosophy, existence consists of energy. All things are animate, imbued with spirit, and in constant motion. In this realm of energy and spirit, interrelationships between all entities are of paramount importance, and space is a more important referent than time...The idea of all things being in constant motion or flux leads to a holistic and cyclical view of the world. If everything is constantly moving and changing, then one has to look at the whole to begin to see patterns.

The practice and embodiment of Indigenous knowledges are aspects of well-being and are thus intimately tied to being on the Land. Indigenous relationships with the Land are manifested and experienced in diverse ways. Seasonal shifts

in weather, animal and plant abundances, and other environmental conditions dictate many of the activities undertaken by Indigenous Peoples throughout the year. Inuit of Nunatsiavut, for example, live their lives in accordance with seasonal shifts; knowledge of these changes is a foundational component of Inuit knowledge systems (Cadman *et al.*, 2025). Relying on seasonal calendars that reflect regional ecological and climatic changes is a way to demonstrate not only important information while being on the Land but also an act of Inuit self-determination in the face of colonial impositions of the Gregorian calendar (Cadman *et al.*, 2025) (Figure 3.1).



Cadman *et al.* (2025); used under a Creative Commons Attribution 4.0 International (CC BY 4.0) licence

Figure 3.1 A Labrador Inuit Year

A seasonal calendar by Inuk artist Jessica Winters representing species, indicators, and activities integral to Inuit in Nunatsiavut throughout the year. “A Labrador Inuit Year brings the experiences of being on the Land into a narrative, an unbroken cycle bursting with colour and abundance, in which Inuit and animals are embedded in the landscape, drawn together by the marine space” (Cadman *et al.*, 2025).

Métis harvesters hold significant knowledge of the Land, including of its natural resources and food sources. Through interviews conducted with Métis harvesters in Manitoba, Beaudin-Reimer (2020) found that “all harvesters, regardless of their current harvesting frequency, made comments regarding migration patterns, wildlife health, wildlife behaviour, population dynamics, habitat, and environmental assessments.” Indigenous knowledge of the Land also applies to cultivation and agriculture (Box 3.1).

Box 3.1 Contribution of land-based Indigenous knowledges to agricultural successes

As discussed in Chapter 2, Indigenous Peoples have been, and continue to be, participants in agriculture. For example, Carter (2019) describes how First Nations on the Prairies west of the Red River Settlement were able to harness their environmental knowledge to farm successfully: “they were aware of the vegetation in their environment, and they knew when and how to harvest it. They were much better informed on rainfall and frost patterns, on the availability of water, and on soil varieties than the settlers from the East and overseas who were to follow.” Elsewhere, Haudenosaunee knowledge contributed to their agricultural successes, notably through the development of the Three Sisters intercropping system, in which maize is grown alongside beans and squash (Mt. Pleasant, 2016). Grown together, these crops provide abundant energy, nutrients, and, overall, yield more food than monocultures (Mt. Pleasant, 2016).

Healthy Indigenous knowledge and food systems are expressed and conveyed in diverse practices and through Indigenous languages

Language matters not only for its ecological ties but also in how people frame relationships and for the energies it embodies and carries forward when people speak.

Redvers et al. (2022)

IKS and Indigenous food systems are intricately connected to and reflected in Indigenous languages. Languages stem from specific cultures and worldviews and, in turn, inform the behaviour of a culture; while words may be translated into other languages, the very specific meaning and weight behind a term (including its connection to other aspects of culture and history) may not be translatable (Ferguson & Weaselboy, 2020; Tokeley, 2024). “Our language embeds the values in which we continue to thrive, and it is relational with how we hold up our

responsibilities to care for our lands” (P. Terbasket, personal communication, 2026). Language is central to Indigenous ways of being, knowing, and doing, and it is expressed in relationships with the Land (Ferguson & Weaselboy, 2020). “Language reverberates within and through Land, and thus is intrinsically connected to all beings upon that land; it is not a variable easily separated, as it allows and acknowledges both communion with—and understanding of—land” (Ferguson & Weaselboy, 2020).

As classification and description systems are practised in local languages, they act to preserve IKS (Wilder *et al.*, 2016; UNESCO, 2025; UN, n.d.). For example, Inuit ice knowledge is reflected through the terminology used for different types of ice in Inuktitut (Krupnik *et al.*, 2010; SIKU, n.d.) (Box 3.2). However, the loss of Indigenous languages around the globe affects the passing on of oral traditions and ecological knowledges (UN, 2019; Redvers *et al.*, 2022). “The loss of the last speaker of a language entails not only the loss of names of flora, fauna, and places, but also the deep cultural interrelation with them that the language represents, embodies and transmits” (Tokeley, 2024).

Box 3.2 The language of ice and its relationship to hunting

Inuit Knowledge Holders and Elders hold detailed, specific knowledge of local and regional environmental conditions, including ice and other marine phenomena (Laidler *et al.*, 2010). Inuit languages are “infused with terminology to describe dynamic and local ice features and characteristics” (Beaulieu *et al.*, 2023). The naming of places and phenomena can be considered a way of experiencing the environment; Inuit names for land and seascape features hold particular cultural importance (Aporta, 2010). Inuit have a “living connection to sea ice” and include seasonal ice conditions in their calendars, as they rely on ice for transportation and food procurement through hunting (Beaulieu *et al.*, 2023). “This knowledge has been developed and transmitted from generation to generation through personal experience, and by oral means, to the point that Inuit knowledge of sea ice could in fact occupy several written volumes if documented comprehensively” (Laidler *et al.*, 2010).

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The importance of ice knowledge is observed across the North. For example, Iñupiat whaling crews rely on detailed observations and knowledge of ice conditions in order to safely conduct whale hunts in the spring (Druckenmiller *et al.*, 2010). For Kigiqtaamiut hunters in the eastern Bering Strait,

sea ice terminology provides a set of descriptions of ice phenomena; yet this does not speak to the depth of hunters' understanding and ways of knowing. Kigiqtaamiut hunters' ways of knowing, like the Inupiaq language structure, are flexible and context specific. 'Knowings' are rendered significant through activity. Just as being in the flow of specific circumstances requiring meaningful actions, the significances embodied in hunter's sea ice lexicon are continuously and creatively constructed in relation to ongoing activities.

Wisniewski (2010)

Indigenous knowledges are passed down from generation to generation through Indigenous food system-related practices that strengthen human and non-human kinship ties (Stiegman & Pictou, 2024). Healthy Indigenous knowledges are communicated and practised in diverse ways, through “artwork, designs, symbols, scientific and ecological methods, crafts, music, dance, songs, stories, foods, medicines and wellness (or disease-prevention) products” (Brascoupé & Mann, 2001). Healthy Indigenous knowledges are also expressed through everyday practices of food sovereignty, including ceremony, language, art, being on the Land, and sharing knowledges through stories and songs (Dennis & Robin, 2020; Geniusz, 2023). Oral traditions are how knowledge is disseminated from one generation to another, a “loosely held collection of anecdotal material that, taken together, explains the nature of the physical world as people have experienced it and the important events of their historical journey” (Deloria, 1997b). The connection between healthy ecosystems and the transmission of Indigenous knowledges is recognized by Indigenous Peoples around the world. For example, the Nyikina and Mangala people of Australia tie healthy country (i.e., Land) to the practice and transmission of their traditional knowledges to future generations (Walalakoo Aboriginal Corporation RNTBC, 2016). Respect for Creation and all living things is a critical component of Indigenous knowledges (as reflected in Natural Law and protocol) and is often expressed through storytelling and oral traditions (Box 3.3).

Box 3.3 A Nisga'a volcano story

Long ago, two children were playing down by the river. One child caught a salmon and slit open its back. The child stuck sticks into the salmon's back, set them on fire, and returned the fish to the river. The children were amused to see the salmon swim erratically, smoke rising from its back. The other child caught a salmon and slit open its back, inserted a piece of shale, and put it back into the river. The salmon floated on its side, weighed down by the shale. The children laughed at the struggling fish. An elder happened upon the scene and warned the children, "Take care what you do. The salmon will curse you and the Creator will respond in kind." The ground began to tremble and shake. Nature's harmony had been upset. A scout was sent to investigate. From the top of Gennu'axwt, he saw smoke and flames and ran to warn the people of their fiery destiny. In panic, some villagers fled up the mountain. Others canoed to the far side of the river but were killed by the lava. As the people watched the lava flow over their villages, Gwaxts'agat (a powerful supernatural being) suddenly emerged to block the lava's advance. For days, Gwaxts'agat fought back the lava by blowing on it with its great nose. Finally, the lava cooled and Gwaxts'agat retreated into the mountain where it remains to this day.

(Nisga'a Nation, 2004)

Stories often form the backbone of Indigenous pedagogical approaches to learning and are key to the transmission of knowledges from one generation to the next (Staples *et al.*, 2021). Storytelling has been viewed as a decolonizing practice that emphasizes relational ties (Rieger *et al.*, 2020). For example, in Anishinaabe Creation and Re-Creation stories,

instructions are given by the Creator on how to relate appropriately with the beings of Creation. It is important to understand that in the Aboriginal worldview, knowledge comes from the Creator and from Creation itself. Many stories and teachings are gained from animals, plants, the moon, the stars, water, wind, and the spirit world. Knowledge is also gained from vision, ceremony, prayer, intuitions, dreams, and personal experience.

McGregor (2004)

In Inuit communities, storytelling is an effective form of communication, conveying information such as health knowledge, education, and cultural identity (Healey & Tagak Sr., 2014; Healey Akearok *et al.*, 2024). Métis harvesters pass on

their knowledge of the Land and wildlife primarily through familial relations, sharing stories while strengthening community relationships (Beaudin-Reimer, 2020). Foregrounding Indigenous knowledges and the ways they are passed on (e.g., through storytelling, on-the-Land learning, and Indigenous languages) in education is an active area of work across Canada, and many initiatives are focused on rejuvenating Indigenous food practices on the Land (e.g., Aqqiumavvik, n.d.-b; Dechinta, n.d.; Ittaq, n.d.). These modes of learning do more than strengthen ties between Knowledge Holders and learners; being on the Land and learning from the natural world strengthen kinship ties among human and non-human beings. In the panel's view, Indigenous languages expressed or used in storytelling and oral traditions are particularly important in education and learning activities.

Healthy Indigenous knowledge and food systems rely on Natural Law and protocols to foster reciprocity with, and respect for, all beings

Practices of Indigenous science involve weaving protocols of stewardship and caretaking with scientific inquiry as part of the approaches of particular Indigenous nations to sustainability.

Whyte *et al.* (2016)

A key aspect of IKS is Natural Law or protocol. This concept emphasizes the responsibility humans have to steward and care for the Earth, and the relationships among all beings and the Land. Natural Law is described by McGregor (2015) as derived from nature, not from humanity, and as an explanation of the responsibilities and obligations of all of Creation toward one another. The health of the planet is tied to the well-being of Indigenous Peoples, whose health is determined by their access to Land, culture, and sovereignty (Redvers *et al.*, 2022). By adhering to Natural Law in the care and stewardship of the planet, Indigenous Peoples are, in turn, nurturing their own well-being; “it is imperative that Indigenous Peoples’ health is approached from a holistic lens that acknowledges cultural and Land-based practices as being crucial for human health and for the health of the planet” (Redvers *et al.*, 2022). Indigenous laws are further linked to the exercising of Indigenous rights, governance of territory, knowledge transmission, and stewardship (Box 3.4).

Box 3.4 *Eeyou Indoh-hoh Weeshou-Wehwun:* Traditional Eeyou Hunting Law

In 2009, the Cree Trappers' Association published a written record of Cree (Eeyou) Hunting Law. This document was created in response to growing concern among Eeyou Elders about a lack of understanding and knowledge of Eeyou law and custom, resulting in conflicts and disputes. This document was intended to pass on this knowledge in a new way, to strengthen existing protocols, and to demonstrate to non-Eeyou the value and strength of Eeyou law.

The Eeyou term “Weeshou-Wehwun” refers to much more than what the term “law” suggests in English. It refers more generally to teachings and practices and includes the notion that practices evolve. It refers also to what might be termed a “code of ethics.” It must be understood that this written law only reflects part of traditional Eeyou custom and practice that relates to harvesting and the governance of hunting territories and it does not pretend to describe all of Eeyou Indoh-hoh Weeshou-Wehwun... it is understood that Eeyou law is not static and will continue to evolve as the Eeyou themselves continue to evolve and adapt to the changing circumstances in which they find themselves and their land.

(Cree Trappers' Association, 2009)

Kinship, as “an ordering principle of society itself,” is a key aspect of relationships and relationality (Cattelino & Simpson, 2022). Relationality is “grounded in a holistic conception of the inter-connectedness and inter-substantiation between and among all living things and the earth” (Moreton-Robinson, 2017), guiding Indigenous Peoples in their observations and understandings of other beings (Deloria, 1997b). Indigenous knowledges of food (e.g., harvesting, fishing, gathering, and preservation and preparation techniques) are intimately tied to kinship and reciprocity; food knowledge is “values-based and has a theoretical underpinning that includes deep reciprocal connection to ancestral and natural worlds” (Robin & Hart, 2025). Ethical engagement and protocol to ensure reciprocity and respect are key components of Indigenous interactions with the Land and, therefore, food sources (Stiegman & Pictou, 2024; Robin & Hart, 2025). This perspective can be observed in restoration and conservation efforts led by Indigenous Peoples aimed at renewing relationships with key species such as Lake Sturgeon (Box 3.5).

Box 3.5 Nmé (Lake Sturgeon) stewardship program

The Nmé (Lake Sturgeon) stewardship program of the Little River Band of Ottawa Indians demonstrates how scientific inquiry can be integrated with Indigenous protocols within food systems (Whyte *et al.*, 2016). The Little River Band of Ottawa Indians' Natural Resources Department uses the Anishinaabe cultural system of *Baamaadziwin*,¹⁶ which translates to “living in a good and respectful way” (Mitchell, 2013; Whyte *et al.*, 2016). Baamaadziwin is also connected to global responsibilities and sacred Mother Earth and has been characterized in English as *caretaking* and *stewardship*, for example (Mitchell, 2013; Whyte *et al.*, 2016).

Nmé are an important food species as well as an integral part of clan identity. Through a riverside rearing program intended to restore populations, the department encourages residents to be more responsible for how they treat the watershed (Whyte *et al.*, 2016).

Every September, a public release ceremony occurs involving a pipe ceremony and feast that commemorate the renewal of the human relationship with Nmé. Each of the now over 300 attendees guides a young sturgeon back to the river. The new relationships become stronger as the members of the relationships realize their own responsibilities to Nmé. The 2013 release ceremony...featured participants, including many children, according to their own ways, feeling a sense of responsibility to Nmé and the watershed.

Whyte *et al.* (2016)

These restoration efforts appear to be having a positive effect on sturgeon populations, though it is too early to assess whether restoration will be successful in the long term (Whyte *et al.*, 2016). Beyond the ecological goal of restoration, however, rehabilitating Nmé “also provided for the health and improvement of the animals, plants, and people living within the watershed” (Holtgren *et al.*, 2015).

16 This term may have alternative spellings (e.g., Bimaadziwin) (Koognaasewin, 2024).

Healthy Indigenous knowledge and food systems contribute to, and stem from, sovereign and self-determined Indigenous Peoples

The governance practices and embodiment of Natural or First Law by Indigenous Peoples relates directly to the rights of Indigenous Peoples. Maintaining Indigenous governance and Natural or First Law through negotiated instruments—combined with Indigenous Peoples' self determination—is foundational to the health of the planet as it will continue to prioritise the rights of all our relatives as well as Mother Earth.

Redvers et al. (2022)

The advancement of Indigenous rights and self-governance efforts is concurrent with the increasing recognition of IKS in policy-making, especially in environmental decision-making. Indigenous Peoples “have a strong desire to see their knowledge and traditions inform the decision-making that impacts their lives and lands. The study of [Indigenous knowledge] is therefore not just an esoteric or academic exercise; it can be and has been utilized as a powerful tool in the establishment of [Indigenous] influence in environmental and resource management regimes” (McGregor, 2004). Engaging in IKS is an expression of Indigenous sovereignty and is reinforced by being on the Land and Water. In interviews with Indigenous fishers and Knowledge Holders from Batchewana First Nation, Lowitt et al. (2022) heard that it was the responsibility of fishers to “use traditional knowledge to preserve and protect the Lake and the fisheries and uphold their inherent rights and responsibilities, even if that meant going against the settler state and coming into conflict with recreational (sport) fishers” (Box 3.6).

Box 3.6 Batchewana First Nation fishing rights

Members of Batchewana First Nation, located on the eastern shore of Lake Superior, hold specific knowledge about all aspects of fishing in their home territory. This knowledge is practised and passed on through the exercise of their sovereign fishing rights and the maintenance of jurisdiction over their fisheries.

Fishing is an inherent right and the people of Batchewana have jurisdiction, as well as responsibilities to protect their territory. [Chief] Dean Sayers discussed this relationship: “You can’t just look at the land, or just the water. Everything is interconnected in our environment so, as an exercise of jurisdiction, we assert our authority throughout the whole territory, including Lake Superior and all of the fishery that comes with it.”

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Creating and perpetuating knowledges, passing it on to younger generations, and continuing to fish on Lake Superior are also acts of resurgence by members of the Nation.

Ways of knowing, along with Indigenous law and governance, are primary, can stand on their own and are continually upheld in relation with the community, land, and spirit. For these reasons, as Dean Sayers explained, [Batchewana First Nation] has chosen not to negotiate with the province on the terms of commercial licensing or sit at fisheries co-management tables.

(Lowitt *et al.*, 2022)

Sovereignty and self-determination for Indigenous Peoples are further expressed through inter-Nation relationships, interactions, and sharing of knowledges and resources. The “right to trade” has been explicitly included in some definitions of food sovereignty (e.g., Masioli & Nicholson, 2010) and, in the panel’s view, the affirmation of pre-colonial inter-Nation relationships is part of reaffirming Indigenous laws, protocols, and diplomatic traditions for many Nations. Extensive trade networks among Indigenous Peoples historically fostered the exchange of both food and knowledges (Armstrong *et al.*, 2023b). For example, grease trails, so named for the dripping of oil from oolichan (a type of fish also known as *eulachon*), embody past and present relationships among communities (Nuxalk-Carrier Grease Trail, n.d.). IKS influence and learn from each other—Indigenous knowledges practised by one community may be shared with others for the benefit of all practitioners. For example, in the context of food systems, Elders from Kangiqsujuaq and Ivujivik in Nunavik have incorporated new shellfish species into their diets, which they observed being consumed in neighbouring communities (Rapinski *et al.*, 2018).

Healthy Indigenous knowledge and food systems are reliant on, and contribute to, the health and well-being of people and the Land

Food sovereignty offers a culturally centered approach to improving a community’s food system at the root causes of chronic disease, the inequitable food system, and does so in a way that may be more sustainable than external food security or health interventions.

Blue Bird Jernigan *et al.* (2021)

Healthy Indigenous knowledge and food systems are critical components of the well-being of Indigenous Peoples. Being well and having knowledge of medicine

and healing are key aspects of IKS and Indigenous relationships with the Land and Water; those connections are, in turn, critical to the reclamation of Indigenous food systems (Robin & Hart, 2025). As an example, wetlands are sources of clean water and medicinal plants for many First Nations across Canada, improving mental and physical health through access to the plants and animals that live on the Land (Cox, 2020; Dene Tha' First Nation, 2021; Latimer, 2021; Hessey, 2023). Traditional foods hold cultural and spiritual value for First Nations and enhance food security and ways of knowing (FNFNES, 2021). Consumption of traditional foods may also be linked to improved physical health and feelings of enhanced well-being (e.g., Kenny *et al.*, 2019; Blanchet *et al.*, 2021).

Métis connections to plants and medicines are explicitly about food; an old Métis saying goes “let food be your medicine and let medicine be your food” (Barkwell, 2018). When asked about the relationship between their health and the environment, 88% of Red River Métis Citizens interviewed in a health survey indicated that this relationship is extremely important to their physical, mental, and emotional health (Shcholak *et al.*, 2023). Respondents further linked access to traditional foods to improved health outcomes and emphasized the importance of traditional harvesting practices (e.g., hunting, fishing, berry picking) for living well (Shcholak *et al.*, 2023).

Inuit knowledges are critical for understanding many aspects of life, including health and the environment (Caughey *et al.*, 2024). Also known in some regions as *Inuit Qaujimajatuqangit*, or IQ, these knowledges are tied to the Land and Sea, and “relationships with the land and water are essential for living and thus had (and continue to have) therapeutic benefits because of the reciprocal nature of the relationship which is both physical and spiritual” (Healey Akearok *et al.*, 2024). Many species of marine animals and plants are used to maintain good health and address certain ailments (e.g., skin problems, fevers, stomach aches) (Rapinski *et al.*, 2018) (Box 3.7).

Box 3.7 Supporting health through country food

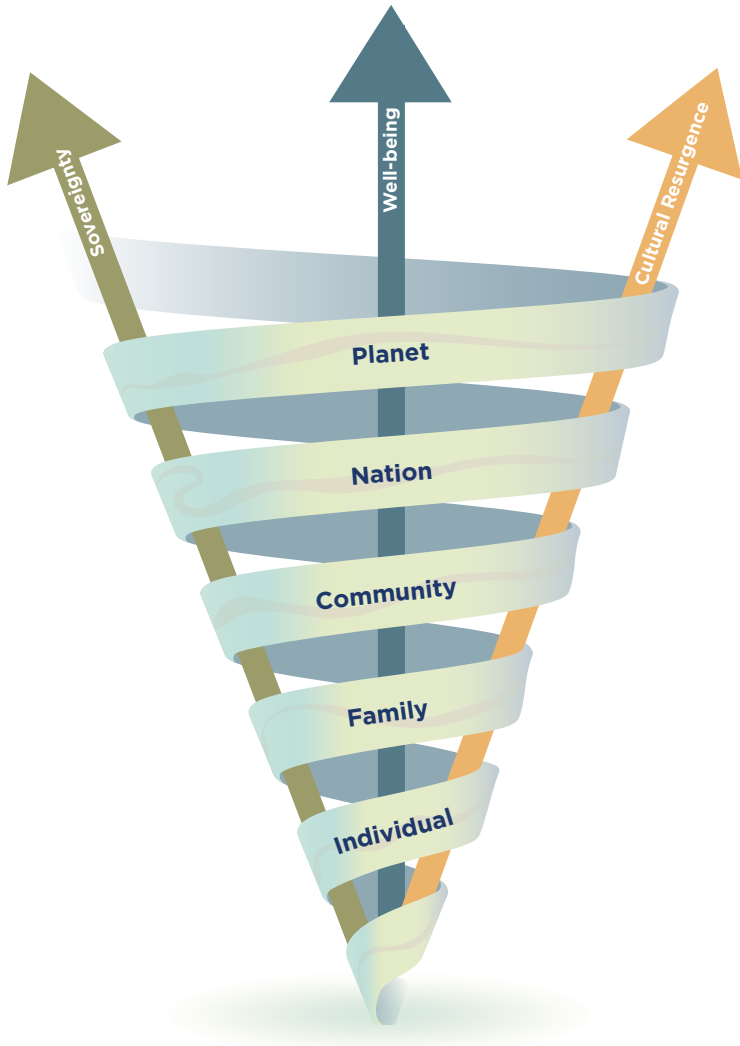
Through participatory research with Inuit women in the Qikiqtani Region of Nunavut, Caughey *et al.* (2024) reported that country food is vital to mental and physical well-being, supports community connection, and acts as a source of medicine. Inuit women discussed the best ways to eat and prepare country food, offering insights into cultural values dictating food preferences and traditions.

Many women discussed the role of country food for supporting health at different life stages, for example when breastfeeding: “I would have to have seal broth, whale broth, or caribou broth, or harp seal broth...you just boil the meat...those are very rich in nutrition. They are very healthy for the baby.” Others described the importance of country food for elders and those who are sick: “Their body is completely changed, because that craving that they want when they are sick, the country food will help them either way, every way...their condition, their mind. Any country food will help a person.” Another woman explained that for people who are sick, “we always have to give them what they’re craving for, that’s part of healing.”

(Caughey *et al.*, 2024)

Supporting healthy Indigenous knowledge and food systems involves well-being, sovereignty, and cultural resurgence

In answering the charge, the panel draws on the spiral resiliency model developed by the Native Counselling Services of Alberta and LaBoucane-Benson (n.d.) and modifies it to recognize three conditions that, taken together, support Indigenous Peoples across multiple scales: Indigenous well-being, sovereignty, and cultural resurgence (Figure 3.2). These three pillars, when strong and supported, offer reinforcement and structure to the resiliency spiral, in turn maintaining resilience at all levels—from individuals, families, and nations to the planet as a whole.



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Figure 3.2 Conceptual model for supporting healthy Indigenous systems

This model is based on the spiral resiliency model created by the Native Counselling Services of Alberta and Patti LaBoucane-Benson. It emphasizes the three key pillars for supporting healthy Indigenous knowledge and food systems: well-being, sovereignty, and cultural resurgence. The spiral indicates a healthy, interconnected system at all scales.

Synthesis

Healthy IKS are interconnected with all aspects of Indigenous Peoples' lives, while healthy Indigenous food systems stem from and support IKS. All aspects of Indigenous life discussed in this chapter comprise ways of being, knowing, and doing, and they are intimately connected to one another and the Land. Actions to support and bolster these systems are mutually reinforcing—activities in one area (e.g., promoting on-the-Land practices and learning initiatives for youth) contribute to other areas (e.g., practising IKS and improving community access to traditional foods). Healthy IKS and food systems are supported through three key pillars: well-being, sovereignty, and cultural resurgence.



Indigenous Knowledges in Federal Policy and Governance

4.1 Legislation

4.2 Policy

4.3 Recognition and consideration

Chapter findings

- Implementation remains inadequate and siloed for federal policy and legislation that recognizes and purports to include Indigenous knowledges in decision-making.
- Mechanisms for shared decision-making that affirm Indigenous sovereignty and self-determination are largely absent from federal policy and legislation.
- Structural and systemic barriers continue to constrain meaningful support for Indigenous knowledge systems, as processes do not align with a fundamental understanding of Indigenous knowledges and knowledge systems.

Indigenous Knowledge has made, and continues to make, valuable contributions to environmental, regulatory, and other processes across the country.

GC (2021b)

While dominant science's aims are often articulated as a drive toward inclusion (into Empire, I assume), its attempts to "incorporate" (use, assimilate, ingest, nom nom nom) Indigenous knowledges are often another form of colonialism that extends the reach of colonial and settler goals by acquiring more types of data. Most scientists and staff at federal granting agencies I work with do not appear to understand that TEK [Traditional Ecological Knowledge] et al. are about ways of knowing, not what is known. Ain't no data in TEK.

Liboiron (2021)

The panel was asked by the sponsor (the federal government) to examine how policy and governance can support Indigenous knowledges, and how Indigenous knowledges could be supported in policy and governance in Canada, all through the lens of food security and food sovereignty. As explored in the previous chapters, Indigenous Peoples' food systems are co-constituted with IKS (recall Figure 2.1) such that a broad swath of federal policy and legislation has the potential to support Indigenous knowledges, and vice versa.

For example, well-being is an important aspect of Indigenous food systems, and policies and legislation affecting Indigenous healthcare services can be directly linked to food and knowledge systems (recall Box 2.5). Kelly (2011) tracks a shift

in federal policy related to First Nations healthcare service delivery, moving from policies of assimilation to those of recognition, in which the federal government acknowledges its responsibilities to Indigenous Peoples as rights-holders. It is important to note, however, that while First Nations, Inuit, and Métis are collectively recognized as Indigenous Peoples, policies affecting healthcare services are not consistently applied among these groups even at the federal level (Kelly, 2011).

Following these shifts in federal policy toward the recognition of the right to self-determination for First Nations, there have been notable legislative changes provincially, and successes in the development of health and social services delivery models by and for First Nations in Canada (e.g., Gov. of QC, 1994; FNHA, 2013; CBHSSJB, 2025a). Indigenous knowledges are foundational to health and well-being in the delivery of these services, and the services themselves contribute to the maintenance and flourishing of IKS (CBHSSJB, 2025b; FNHA, n.d.). However, such examples do not necessarily explore how IKS is supported in federal policy or governance, as the governance bodies created through these shifts are led by Indigenous Peoples themselves, examples of which are examined in Chapter 5.

Nevertheless, IKS are formally recognized and, to some extent, included in federal decision-making through several policy and legislative mechanisms. This chapter provides a high-level overview of these mechanisms, the majority of which, while not centred on Indigenous food security or food sovereignty, intersect with it through environmental management and regulation.

There are ongoing efforts worldwide to support Indigenous knowledges in state-level decision-making, though they vary substantially given diverse historical and colonial contexts. While the charge questions specifically ask about foreign best practices, the panel notes the difficulty in assessing the potential success of such practices in light of the complexity within and among Indigenous Peoples in Canada—in terms of political organization, treaty relationships, cultures, and historical interactions with the Crown, among other dimensions—as well as the challenge of identifying relevant evidence from foreign jurisdictions, given diverse languages, histories, political systems, and cultures. Throughout this chapter, the panel includes illustrative examples from foreign jurisdictions where Indigenous Peoples' knowledge systems are explicitly included in legislation or policy. The panel notes that these are not intended to be case studies or to be viewed as success stories from abroad; rather, they are snapshots of policy options currently at play worldwide (e.g., Box 4.1).

Box 4.1 IKS in policy in Latin America

Mechanisms for IKS to inform policy take several forms across Latin America, and various tools to support its inclusion are in use throughout the region. In certain cases, legislation has been created to empower IKS at national levels; provisions relating to Indigenous rights, culture, and knowledges appear in the constitutions of several Latin American countries, including Bolivia, Ecuador, Guatemala, and Venezuela (Gov. of Guatemala, 1985; Gov. of Venezuela, 1999; Gov. of Ecuador, 2008; Gov. of Bolivia, 2009; Navarro & Saldaña, 2022).

In addition to legislation, the civil services of several countries have been directed to pursue closer ties with Indigenous Peoples in different policy areas. In Bolivia, most government ministries are statutorily mandated to work with Indigenous Peoples (EC *et al.*, 2022). The Ministry of the Environment of Panama and the Presidential Office for Climate Change in Honduras both coordinate with Indigenous organizations and communities on environmental matters in their respective countries (EC *et al.*, 2022). Belize's Ministry of Agriculture, Food Security, and New Growth Industries assists IKS-led agricultural projects by providing soil analysis and other scientific support grounded in western knowledge systems (IFAD, 2016). In Peru, climate change legislation was developed through consultations and participatory processes with Indigenous Peoples (EC *et al.*, 2022).

Despite legislative mandates to consult with or consider IKS in policy-making, information on mechanisms for accomplishing this—and whether it is done—is generally lacking.

4.1 Legislation

In Canada, support for Indigenous knowledges (sometimes referred to as *Indigenous science and innovation* in federal policy documents) can be identified in federal legislation as a requirement for Indigenous consideration, consultation, or inclusion, such as through the creation of exclusively Indigenous committees or advisory panels. Most of the federal government's work on pathways and supports for IKS has focused on environmental decision-making, such as species-at-risk designations, environmental protection and impact assessments, and conservation strategies. Therefore, much of this work is within the jurisdiction of Environment and Climate Change Canada (ECCC), which, in 2022, put in place its Indigenous Science Division, whose mandate is to “bridge, braid, and weave Indigenous

science with western science approaches to inform and enhance decision-making” (ECCC, 2022a).

4.1.1 Conservation

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) was created in 1977 to inform national-level decisions on the classification of wildlife species at risk (COSEWIC, n.d.-a). In 2002, the *Species at Risk Act* (SARA) formally established COSEWIC as an advisory body to the Government of Canada, one that uses the best available western and Indigenous knowledge to conduct wildlife status assessments (GC, 2002). Under SARA, designations made by COSEWIC must be considered by the Government of Canada when establishing the legal list of wildlife species at risk (COSEWIC, n.d.-a).

COSEWIC’s Species Specialist Subcommittees (SSCs) provide taxon-specific support in the development of species status assessments, which are reviewed by COSEWIC twice a year. These reviews are followed by COSEWIC’s recommendation on the status of wildlife species at risk of extinction in Canada (COSEWIC, n.d.-b, 2025). The Aboriginal Traditional Knowledge (ATK) Subcommittee was added in 2000 to facilitate access to and the gathering of ATK, as well as its integration into the species status assessment process (COSEWIC, n.d.-a,-c). There are 34 voting members on COSEWIC; one of them represents the ATK Subcommittee (COSEWIC, 2021).

The inclusion of Indigenous knowledges is said to “benefit species by providing another perspective for COSEWIC’s wildlife species assessments” (COSEWIC, n.d.-c). While COSEWIC acts independently from the Government of Canada, the outcome of a species assessment is a recommendation from COSEWIC to the Minister of the Environment, Climate Change and Nature and the Canadian Endangered Species Conservation Council to list a species as at risk of extinction (i.e., extinct, extirpated, endangered, threatened, or of special concern) (GC, 2002). Final decision-making authority regarding listing a species at risk, however, rests with the Minister.

Once a species has been designated as either extirpated, endangered, or threatened, the responsible Minister, in cooperation with other relevant authorities, must prepare a recovery strategy; management plans are required for species designated as special concern (GC, 2002). SARA stipulates that “to the extent possible, the recovery strategy must be prepared in cooperation with every aboriginal organization that the competent Minister considers will be directly affected by the recovery strategy” (GC, 2002). Hill *et al.* (2019) reviewed all recovery strategies and management plans published on the SARA registry between 2006 and 2017 for Indigenous involvement. They found that over half

(52%) of the documents had no evidence of Indigenous involvement—no mention of Indigenous Peoples or of any consultation efforts (Hill *et al.*, 2019). However, there are some efforts to improve this situation; for example, the Centre for Indigenous Environmental Resources (CIER, 2026) has been working with ECCC to support Indigenous participation in species at risk recovery planning over the past five years (2021–2026) through their Species at Risk Act (SARA) Consultation, Cooperation and Accommodation Project.

4.1.2 Environmental regulation

The *Canadian Environmental Protection Act, 1999* (CEPA) provides the basis for regulating various forms of pollution and waste, including toxic substances and products of biotechnology (GC, 1999). In response to recommendations from a Parliamentary committee study, the federal government expanded engagement opportunities in risk assessment prior to its regulation of certain living organisms new to Canada; Indigenous participation in the related consultations is noted as a high priority (ECCC, 2025a). ECCC states a desire to potentially use this consultation initiative to allow Indigenous knowledges to inform risk assessment, but uptake has thus far been limited, as “most of the comments received have not been the scientific information, test data, and traditional knowledge originally sought by the [voluntary public engagement initiative]” (ECCC, 2022b). In 2023, amendments to CEPA came into force, asserting the Government of Canada’s commitment to implement UNDRIP (GC, 1999; ECCC, 2023a). These amendments acknowledge the potential for some Indigenous communities to face greater exposure to toxic substances through traditional foods, since pollution standards are not set with traditional diets in mind (ECCC, 2023a).

4.1.3 Consideration, protection, and confidentiality

Provisions for protection and confidentiality are included in legislation in which Indigenous knowledge is explicitly identified as an input for consideration in decision-making. For example, the *Impact Assessment Act*, which mandates an impact assessment process for major physical projects under federal jurisdiction, explicitly recognizes the importance of an assessment that “integrates scientific information and Indigenous knowledge” (GC, 2019a). The Act includes a section on Indigenous knowledge that covers responsibilities for confidentiality and consultation and provides for an advisory committee to the Impact Assessment Agency of Canada on the interests and concerns of Indigenous Peoples; its membership comprises First Nations, Inuit, and Métis representation. There are also provisions for an advisory council to the Minister that include Indigenous membership requirements (GC, 2019a). Similar provisions for both the consideration and protection of Indigenous knowledges are included in the

Canadian Navigable Waters Act, the *Canadian Energy Regulator Act*, and the fish and fish habitat protection provisions of the *Fisheries Act* (GC, 1985a,b, 2019b, 2021b).

4.2 Policy

Policy documents provide guidance on implementing legislative changes. For example, the implementation of the *United Nations Declaration on the Rights of Indigenous Peoples Act* (GC, 2021a) was accompanied by the publication of an action plan that “outlines a whole of government roadmap for advancing reconciliation with Indigenous peoples through a renewed, Nation-to-Nation, government-to-government, and Inuit-Crown relationship based on recognition of rights, respect, cooperation, and partnership as the foundation for transformative change” (JUS, 2023). As noted with legislation, federal policies that directly recognize IKS in decision-making are concentrated in the areas of environment and resource management, including the development of policy to guide government decision-making in accordance with the goals of reconciliation. Select examples of how Indigenous knowledges are addressed in federal policy are examined in the sections below.

4.2.1 Biodiversity and climate strategies

Canada’s 2030 Nature Strategy: Halting and Reversing Biodiversity Loss in Canada is a policy that outlines actions to meet the goals and targets set forth in the Kunming–Montreal Global Biodiversity Framework (ECCC, 2024a). Indigenous Peoples are recognized as “the first biodiversity protectors, and have stewarded the lands, waters, and ice across Canada since time immemorial,” and as integral to achieving biodiversity goals. The policy promotes “recognizing, upholding, and implementing the rights of Indigenous Peoples and advancing reconciliation” (ECCC, 2024a). This includes recognizing that:

Indigenous governments and Peoples are Rights holders and landowners, and honour their responsibilities to the lands, waters, and ice through stewardship and the keeping of Indigenous Knowledge systems. They are essential leaders, experts, and partners in conservation and stewardship. Crown governments share with Indigenous Peoples treaty responsibilities to steward the lands and waters within the context of biodiversity protection and conservation in a way that respects Indigenous Peoples’ rights.

ECCC (2024a)

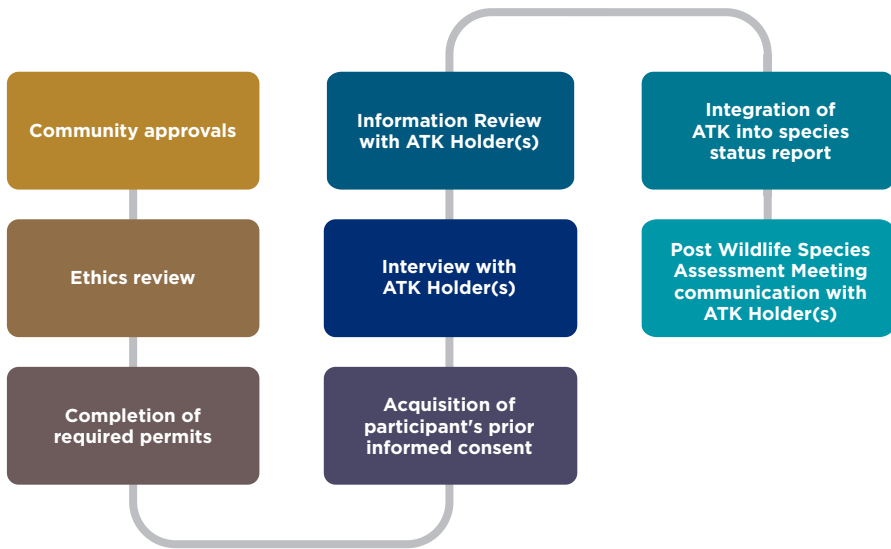
The policy states that “Indigenous knowledge systems—including creation stories, lived experience, and practices on the land—must be honoured, must be

woven with western science where appropriate and guided by Knowledge Holders, and ultimately must be respected in decision-making, building on progress to date” (e.g., under the *Impact Assessment Act* and *Fisheries Act*). Indigenous knowledges and priorities are included throughout the plan’s actions and goals, often characterized as actions “supporting meaningful Indigenous participation and leadership,” as well as building capacity in areas such as species recovery, sustainable use and management of wild species, and harvesting (ECCC, 2024a).

In 2024, the Government of Canada published its Climate Science 2050: National Priorities for Climate Change Science and Knowledge Report, which includes a chapter on Indigenous climate change science and knowledges (ECCC, 2024b). The report explicitly recognizes the equal importance of Indigenous and western science systems, using the term *science* to encompass both knowledge systems where appropriate. It also recognizes “Indigenous self-determination in research to support an approach to climate change science that is holistic, place-based, and responsive, and that respects Indigenous sovereignty and ownership of data” (ECCC, 2024b). Priorities related to Indigenous knowledges include supporting the development of Indigenous leadership in climate change science and Indigenous science networks; braiding and weaving Indigenous and western approaches; creating materials responsive to cultural revitalization and respectful of Indigenous languages; strengthening funding mechanisms; and building local and regional capacities in science and knowledge practice (ECCC, 2024b).

4.2.2 Guidelines and frameworks

For COSEWIC, guidelines for the use of Indigenous knowledges (i.e., ATK) were approved in 2017 (COSEWIC, n.d.-c). The guidelines state that, first and foremost, when available, the processes and protocols used to gather Indigenous knowledges from individuals or communities should come from the community itself; however, when such guidance is not established, published guidelines can be used (COSEWIC, n.d.-c). Figure 4.1 illustrates the eight steps of integrating Indigenous knowledges into wildlife species assessments.



Data source: COSEWIC (n.d.-c)

Figure 4.1 The eight steps of the COSEWIC ATK process and protocols guidelines

The steps of the COSEWIC ATK process outline a series of actions for gathering Aboriginal traditional knowledge. The first four steps confirm that the process leading up to engagement with ATK Holders regarding species status was conducted in a respectful and ethical manner, with supporting documentation. The interview and information review steps support the creation of a summary of ATK (agreed upon by all participants), which is then used to inform the assignment of status. The final two steps integrate ATK into the draft status report and define timelines for follow-up with ATK Holders regarding the outcome of the related COSEWIC species assessment meeting.

In 2021, the Government of Canada published the Indigenous Knowledge Policy Framework for Project Reviews and Regulatory Decisions (GC, 2021b). This framework provides an overarching, principles-based approach to support the consideration and protection of Indigenous knowledge as included in the *Impact Assessment Act*, the *Canadian Navigable Waters Act*, the *Canadian Energy Regulator Act*, and the fish and fish habitat protection provisions of the *Fisheries Act* (GC, 2021b). The language of these Acts is such that Indigenous knowledge must be taken into account (i.e., considered) when it is provided to a Minister, agency, or review panel with respect to a specific project review or regulatory decision, and that Indigenous knowledges provided in accordance with these Acts must be treated with appropriate confidentiality and protected from unauthorized disclosures (GC, 1985a,b, 2019a,b). As such, the framework provides guidance on

consistency and respect in processes of relationship building and meaningful consideration of Indigenous knowledges, as well as support for capacity building; this guidance assists both federal officials (e.g., through cultural competency and awareness training) and Indigenous communities (e.g., through funding or other mechanisms to ensure accessibility, availability, and participation of representatives) (GC, 2021b).

Similarly, the 2025 Implementation Framework for the Right to a Healthy Environment Under the *Canadian Environmental Protection Act, 1999* lays out an Indigenous knowledge strategy to support decision-making (ECCC, 2025b). This framework stresses the need for relationship development, first and foremost, as well as respect for Indigenous data sovereignty (ECCC, 2025b). ECCC applies a weight-of-evidence approach to risk assessment; meaning that the influence of different knowledge sources on decisions is weighted according to the qualities (e.g., strength, relevance, uncertainty) of the evidence (ECCC, 2025c).

Aotearoa New Zealand uses strategies that bring Indigenous knowledges into environmental decision-making and their implementation (Box 4.2).

Box 4.2 Mātauranga Māori in environmental decision-making

“We are facilitators, not a replacement, for the voices of Māori—if you’ve got that respect for the role and the voice of the actual experts and Elders, then you’ll stay in a good place” (E. Gregory, personal communication, 2026).

Although national legislation and treaties define clear Māori rights as relating to the environment (e.g., Gov. of New Zealand, 1991, 2002; NZ History, 2023), the establishment of a framework in which mātauranga Māori¹⁷ could directly inform decision-making required many years of collaborative work. The legislation that established the Environmental Protection Authority New Zealand (EPA NZ) included provision for a statutory Māori advisory committee, Ngā Kaihautū Tikanga Taiao, to ensure Māori perspectives are a key part of considerations and decision-making (EPA NZ, n.d.-a). Importantly, this committee does not act as a single voice on behalf of Māori, but rather serves to ensure that meaningful engagement has been carried out (EPA NZ, 2024). This

(continues)

17 Mātauranga Māori is “the body of knowledge originating from Māori ancestors, including the Māori world view and perspectives, Māori creativity and cultural practices” (Te Aka Māori Dictionary, n.d.).

(continued)

advisory committee can be considered the first of four *pou* (poles or pillars) that enable the EPA NZ to build Māori perspectives into its work (E. Gregory, personal communication, 2026). Around 2003, a second *pou*, a network of kaitiaki¹⁸ and other environmental practitioners, was established (now called the Te Herenga Network) to further improve Māori participation in environmental decision-making (EPA NZ, n.d.-b).

A third *pou* is the EPA NZ protocol, Incorporating Māori Perspectives Into Decision Making, which begins by analyzing a proposed environmental action through the lens of treaty obligations (Te Tiriti o Waitangi, or the Treaty of Waitangi) (NZ History, 2023; EPA NZ, 2024). This treaty, as interpreted through the EPA NZ's statutory requirements, requires the EPA NZ to take several steps, including establishing relationships with Māori and recognizing that Māori, as well as non-Māori, should be beneficiaries of projects (EPA NZ, 2024). The protocol follows four key principles: partnership, protection, participation, and potential (EPA NZ, 2024). Hearings on decision-making by the EPA NZ can receive submissions in Māori or expressed in a manner that follows Māori culture. The protocol advises entry points for *mātauranga* Māori throughout the decision-making process and promotes engagement with Māori prior to filing applications to the EPA NZ (e.g., for permits) (EPA NZ, 2024). The protocol is supported by a fourth *pou*, the *Mātauranga* framework, which describes a process for decision-makers to “understand, test and probe *mātauranga*” (EPA NZ, 2020).

A main challenge for EPA NZ staff has been in using (or transmitting) *mātauranga* Māori as evidence while curtailing reliance on familiar western scientific frameworks to scrutinize the veracity of Indigenous knowledge (Jones *et al.*, 2022). Jones *et al.* (2022) argue that creating and maintaining alignment between Indigenous and non-Indigenous participants within this decision-making framework is key, underscoring the importance of early and ongoing engagement. Furthermore, the EPA NZ is an independent Crown entity, governed by a ministerially appointed board of directors, and its leadership has long supported flexibility and continuity in working to improve Māori participation in EPA processes (E. Gregory, personal communication, 2026).

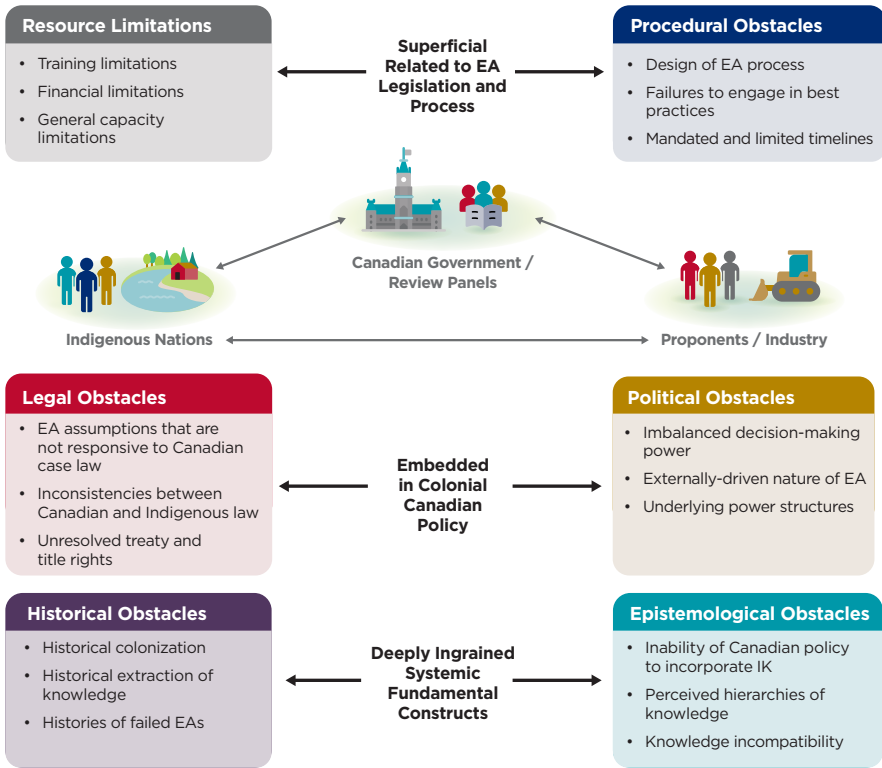
18 Māori who have *whakapapa* (roughly translated, genealogical) connections and responsibilities to an area or environmental resource (Denham, 2025).

4.3 Recognition and consideration

As Reed *et al.* (2022) found in their review of Indigenous knowledge in federal climate policy in Canada, there is “a growing inclusion and recognition of Indigenous knowledge.” However, this inclusion is in the form of engagement and consideration by federal authorities, without provisions for shared decision-making (Reed *et al.*, 2022). For example, the inclusion of ATK in the COSEWIC process recognizes, to some degree, the value of Indigenous knowledges in informing decision-making, while the existence of the ATK Subcommittee provides for a voting position at the COSEWIC table. However, as workshop participants noted, this is one vote at a large table that ultimately makes recommendations to a federal Minister who holds decision-making authority on the listing of Canadian species at risk (CCA, 2026).

Putting into action existing federal policy and governance mechanisms is a first step toward meaningfully supporting IKS

In a review of the *Impact Assessment Act* and other environmental assessment legislation, Eckert *et al.* (2020) note that the Act legislates some best practices, provides financial opportunities, and seeks to address historical issues related to the extractive use of Indigenous knowledges. However, the Act fails to address most of the obstacles to engaging with or incorporating Indigenous knowledges into the federal environmental assessment process (Figure 4.2). Many of these obstacles are relevant to other federal legislation and policies that seek to include Indigenous knowledges. For example, regarding CEPA revisions, the limited time allotted for public input on risk assessment and the constraints placed on how related knowledge is communicated (e.g., by email) (ECCC, 2025a) are not aligned with leading practices for the inclusion of Indigenous knowledge, such as those published by the First Nations of Quebec and Labrador Sustainable Development Institute (FNQLSDI, 2022). ECCC has since received feedback that engagement with Indigenous Peoples on these matters should occur earlier and more directly, particularly in cases involving genetically modified counterparts to species relevant to inherent or treaty rights (ECCC, 2023b).



Based on Eckert *et al.* (2020), modified by the authors and used under the Creative Commons Attribution 4.0 International (CC BY 4.0) licence

Figure 4.2 Obstacles to engaging and integrating Indigenous knowledges in environmental assessments

These obstacles and their components are divided into three categories: superficial (i.e., related to legislation and process), embedded (i.e., part of colonial policy), and deeply ingrained (i.e., systemic constructs).

EA – Environmental assessment

Even with these steps, however, other obstacles identified in Figure 4.2 cannot be addressed without substantial and transformative changes to existing governance and power structures (Eckert *et al.*, 2020; Ignace, 2025). Reed *et al.* (2022) provide clarity on one aspect of the challenge here, recognizing that “as a result of the limited consideration of Indigenous Nations as jurisdictions, the participation of Indigenous Peoples is often downgraded to that of ‘engagement’ rather than shared decision-making.” Another aspect of the challenge is the piecemeal nature of change to these policies and legislative mechanisms. As one interviewee noted,

in their region there are seven different legislative tools that address conservation and eight different approaches to conservation through an Indigenous lens within government (R. Paton, personal communication, 2026). Alignment across legislation and among departments and agencies through a collective or unified approach could improve support for Indigenous knowledges.

The inclusion of Indigenous knowledges in federal decision-making can have broad implications for Indigenous communities

Indigenous knowledges are systemic, relational, and wholistic; the inclusion of Indigenous knowledges in any decision-making process therefore has impacts across other aspects of Indigenous life and culture. For example, their inclusion in COSEWIC work encompasses many challenges and tensions in wildlife assessment processes writ large, including fundamental differences between conservation and Indigenous rights (e.g., Lamb *et al.*, 2023). For one, financial support for COSEWIC, including the ATK Subcommittee's work, is low (CCA, 2026). The work of subcommittee members is done on a volunteer basis, but funding is required to convene meetings, provide secretariat support, and contract for research and writing. Some panel members noted that the subcommittee's work is hampered by a lack of resources and competing demands on members' and contractors' time. Appropriate compensation is an important aspect of supporting Indigenous Knowledge Holders and knowledge systems, as well as recognition that the volume of requests for input and consultation can overwhelm existing capacity. Panel members also noted that for some species—particularly those that are widespread and important food sources for many Indigenous communities—the resourcing (financial and logistical) needed to cover the breadth of Indigenous knowledges adequately is far beyond that provided to the ATK Subcommittee or its contractors.

Additionally, a species-at-risk listing will result in some level of legal protection (under SARA) for that species and its habitat, which may indirectly affect harvest—including for Indigenous peoples (Lamb *et al.*, 2023). Conservation is one of the few legal mechanisms available to the Government of Canada to limit Indigenous rights and access to harvest (GC, 1982; SCC, 1990, 1996d, 1999; Joseph, 2018). In a history of Indigenous Peoples and wildlife conservation in the Northwest Territories, Sandlos (2007) concludes, “the institution of wildlife conservation and its attendant legal instruments constituted a deliberate imposition of state power over independent Aboriginal communities in northern Canada.” Subsistence hunting economies of Indigenous Peoples were excluded from consideration by federal wildlife authorities in the early twentieth century (Sandlos, 2007), and this exclusion persists today. For example, the population size at which the federal government considers a species to be recovered¹⁹

19 That is, no longer at risk of extinction.

can be much smaller than an Indigenous nation or community's definition of a recovered population, which could include numbers sufficient to support a harvest (Lamb *et al.*, 2023). Wildlife management activities could therefore fall short of meeting targets that meaningfully address food security and nutritional needs for Indigenous communities (Kenny & Chan, 2017). Thus, panel members and peer reviewers noted there can be substantial tension between Indigenous communities and COSEWIC subcommittee members or contractors, manifesting in a reluctance to share Indigenous knowledges to inform species assessments that might, ultimately, negatively impact their food systems.

Synthesis

Most legislated mechanisms for recognizing Indigenous knowledges within federal governance structures remain extractive and siloed, offering little to no benefit to IKS. However, the approaches discussed in this chapter comprise an official statement by governments in Canada and abroad on the value of IKS. They also provide initial steps toward educating non-Indigenous policy-makers about the ethical landscape underlying engagement with IKS, while (in some cases) providing the mandate or resources for crucial relationship building. Recognition is a necessary first step in supporting IKS; however, on its own, it is insufficient to advance Indigenous priorities and achieve benefits. Affirming Indigenous sovereignty and a commitment to understanding IKS are foundational.

There is some published guidance on practices and considerations for working with Indigenous Peoples, communities, and Knowledge Holders in ways that recognize the importance of building relationships and of respecting Indigenous protocols. However, implementation is fragmented and often secondary to other decision-making processes.

The methods described above narrowly conceptualize Indigenous knowledges as an input to government decision-making. While Indigenous knowledges and representation of interests are, in some cases, mandated in legislation through advisory committees and other engagement opportunities, final decision-making authority and governance mechanisms remain with the Government of Canada.

Indigenous-Led Policies and Governance Structures

5.1 Well-being

5.2 Sovereignty

5.3 Cultural resurgence

Chapter findings

- Indigenous legal orders and Indigenous-led policies and governance structures are essential for supporting Indigenous knowledge systems, and their success depends on stable, long-term funding and the affirmation of Indigenous rights.
- Access to Lands and Waters, culturally safe foods, and traditional harvesting practices are fundamental to the well-being of Indigenous Peoples, with Indigenous policy and governance mechanisms playing a crucial role in promoting stability, kinship responsibilities, and safety within Indigenous communities.
- Indigenous sovereignty is advanced through legitimate decision-making authority, commitments to reciprocal relationships, and respect for Indigenous laws.
- Cultural resurgence comprises Indigenous ways of being, knowing, and doing. Policies that mandate knowledge co-production, promote on-the-Land learning, and empower Indigenous governance support the flourishing of Indigenous knowledge systems for future generations.

If colonization is a disconnecting force, then resurgence is about reconnecting with homelands, cultures, and communities. Both decolonization and resurgence facilitate a renewal of our roles and responsibilities as Indigenous peoples to the sustainable praxis of Indigenous livelihoods, food security, community governance, and relationships to the natural world and ceremonial life that enables the transmission of these cultural practices to future generations.

Corntassel (2012)

In contrast to existing federal government policies discussed in Chapter 4, Indigenous-led²⁰ policies and governance structures are supported by, and provide support for, the maintenance and flourishing of IKS. There are many initiatives that have concurrent aims, including food sovereignty and security, conservation, ecosystem restoration, on-the-Land education and learning, and resource management. Often, these activities are focused on a single community or region, which allows them to be tailored to specific contexts, in contrast to

²⁰ The panel uses Indigenous-led to indicate that Indigenous Peoples are driving the activity or initiative in question and hold some form of final decision-making power.

national policies. Recalling Figure 3.2, the examples discussed in this chapter are organized under the three broad themes that support healthy Indigenous knowledge and food systems: Indigenous well-being, sovereignty, and cultural resurgence. The panel recognizes that many of these initiatives advance all three interconnected goals and often proceed in spite of existing policies that have hindered implementation. However, the panel takes an intentionally positive approach to this chapter, highlighting Indigenous-led examples that support IKS rather than examples that have failed to adequately centre IKS and Indigenous Peoples in decision-making.

5.1 Well-being

The spiritual, mental, and physical health and well-being of Indigenous Peoples are inextricably tied to healthy knowledge and food systems. The panel reminds readers that although many programs do not appear to be closely linked to food sovereignty (e.g., conservation or education initiatives), food systems run through all aspects of Indigenous life. Many Indigenous food sovereignty initiatives aim to improve health outcomes by expanding access to safe, nourishing, and culturally relevant foods. Access to country food relies on access to the Land, so any activities aimed at improving this access (e.g., recognizing Aboriginal rights and title, developing protected and conserved areas) contribute to the health and well-being of Indigenous Peoples, their knowledge systems, and their food systems. IKS support food sovereignty and well-being through policies and governance mechanisms that promote stability, safety, and the practice of kinship responsibilities.

5.1.1 Stability

The success of food sovereignty initiatives depends on sustainable funding support and the appropriateness of the model for community needs

Food sovereignty initiatives often have a broad scope, and support numerous interconnected aspects of health and well-being in Indigenous communities. For example, Tea Creek is an Indigenous-led, land-based, and culturally safe Indigenous food sovereignty and trades-training initiative located in northern British Columbia, in Gitxsan territory (Tea Creek, n.d.). Tea Creek and its sister organization, the Indigenous Food Sovereignty Association, provide skills training, mentorship, employment opportunities, knowledge-sharing, and free, locally grown produce—over 25,000 lb in 2024—to their communities (Tea Creek, 2025). However, Tea Creek's success is supported by a precarious funding model, relying on private U.S. foundations as well as short-term contracts (J. Beaton, personal communication, 2026). One interviewee noted that provincial and

federal funding for agriculture initiatives is often unavailable to First Nations due to systemic inequities and, for true reconciliation, Indigenous Peoples should be able to access the same tools and resources as everyone else—parity before reconciliation (J. Beaton, personal communication, 2026). Participants can face challenges in meeting basic needs such as housing, transportation, and food, highlighting the importance of Tea Creek’s wholistic approach to supporting food security; it is about not just growing local food but also providing a safe space for training, employment, and education (Dickie, 2024). For example, Tea Creek’s Free Farmstand Fridays program provides hundreds of Elders, parents, children, and families with fresh local produce as well as recipes, samples, information sheets, and educational opportunities (Tea Creek, 2025).

Indigenous Protected and Conserved Areas²¹ (IPCAs) are “lands and waters where Indigenous governments have the primary role in protecting and conserving ecosystems through Indigenous laws, governance and knowledge systems” (Indigenous Circle of Experts, 2018; ECCC, 2024a). Long-term stability is constrained by funding arrangements in Canada and foreign jurisdictions (Box 5.1). For example, the Thaidene Nēné IPCA, established by the Łutsël K’édene First Nation, only came about after decades of work and the securing of independent funding sources alongside sufficient internal management capacity (Wood, 2022). IPCAs may be funded through multiple avenues (e.g., government grants, ecotourism, trust funds, ecosystem service fees, private donations) (Tomkinson, 2024). However, despite strong interest in and progress on starting up IPCAs, long-term funding is recognized as a barrier to maintaining the current momentum (Cyca, 2023; Tomkinson, 2024). IPCAs are further discussed in Section 5.2.1.

Box 5.1 Indigenous Protected Areas in Australia

Since 1997, Australia has recognized Indigenous protected areas (IPAs) as part of its National Reserve System (NRS) (Gov. of Australia, 2026a). As of 2026, there are 96 IPAs across Australia, accounting for about half of all NRS land (Gov. of Australia, 2026a,b). The IPA program aims to “protect and conserve Australia’s biodiversity, help Indigenous Australians manage their land and sea Country for environmental, cultural, social and economic benefits, [and] increase the size of

(continues)

21 There are also distinctions-based variations of this term, such as First Nations, Inuit, or Métis Nation Protected and Conserved Areas.

(continued)

the NRS and improve its condition” (Ninti One Limited, 2024). A federal government framework is used to both establish and provide long-term, sustained funding to IPAs, though it has been noted that these funds often fall short of what is required to advance biodiversity and self-determination goals (Cyca, 2023; Ninti One Limited, 2024). Strengthening Indigenous leadership of IPAs is recognized as critical to achieving better life outcomes for First Nations in Australia and to supporting the government’s Indigenous policy goals (Ninti One Limited, 2024).

5.1.2 Responsibility

Salmon are not only a form of sustenance, they are our relative.

Okanagan Nation Alliance (n.d.)

Responsibility to Kin is an important aspect of Indigenous knowledge and food systems, and policies and practices that support stewardship and caretaking responsibilities have wide-ranging benefits.

Responsibility can be illustrated by efforts to restore keystone species; this can advance goals of food sovereignty, ecosystem health, and self-determination simultaneously

For decades, the Okanagan Nation Alliance (ONA) has been working to return Sockeye salmon (*ntytyix*, one of four Syilx Food Chiefs) to the Okanagan River basin (Alexander *et al.*, 2024; ONA, 2025). This initiative is rooted in the experience, knowledge, and vision of Syilx Elders, and was championed and initiated by Syilx leadership (Correia *et al.*, 2024; ONA, 2025). Revitalization of cultural practices is a key aspect of the program, with a focus on ceremony and the *nsyilxcən* language (Blanchet *et al.*, 2022). Recognition of the interconnectedness of Indigenous knowledge and food systems was crucial to the success of this work: “to bring back the fish, you need to bring back the habitat, and you need to bring back the people” (P. Terbasket, personal communication, 2026). Another key component of this initiative is the Fish Water Management Tool (FWMT), a “complex decision-support model that incorporates real-time data (e.g., lake levels, snowpack levels and instream forecasts, stream inflows and outflows, salmon spawner numbers and egg development, in-lake productivity) to model and predict different water management scenarios” (ONA, 2025). Syilx knowledge is an integral component of the FWMT, providing, for example, contextual

knowledge on ecosystem dynamics, fish abundance pre-1900, population patterns, and spatial range (Correia *et al.*, 2024).

Salmon restoration efforts by the Syilx Okanagan Nation relied on assertion of Syilx title and rights in negotiations with other governments (both colonial and Indigenous, in Canada and the United States), while also respecting international trade agreement laws and obligations (Blanchet *et al.*, 2022). The coordination and commitment of partners, including ONA, Syilx Okanagan Nation, Fisheries and Oceans Canada (DFO), and the Government of British Columbia, were critical to the program's success (Alexander *et al.*, 2024). The ONA is also classified as an AAROM (Aboriginal Aquatic Resource and Oceans Management) department (AAROM, n.d.-a), which means it is supported through federal funding to “build and maintain scientific and technical capacity in fisheries, aquatic resources, and oceans management” (AAROM, n.d.-b). AAROM departments offer opportunities for community-led water management initiatives that reflect local priorities while also enabling scientific research valuable to DFO (CCA, 2026). Over the course of the project, the ONA has grown from supporting 2 to more than 70 full- and part-time staff (Correia *et al.*, 2024).

The ONA's efforts have been successful. An annual average of over 200,000 adult salmon was recorded from 2008 to 2016 (Hyatt & Stockwell, 2019), with a projected return of over 500,000 in 2022 (Strachan, 2022). Syilx adults linked eating salmon to increased feelings of well-being and cultural connectedness, with the greatest positive effects stemming from eating Okanagan Sockeye salmon (Blanchet *et al.*, 2021). The return of salmon has positively contributed to “subsistence, cultural, and ceremonial goals” while also supporting intergenerational knowledge transfer (ONA, 2025). The restoration of salmon to the watershed has also resulted in improvements for other fish species, as well as ospreys and eagles, aquatic mammals, and plants (ONA, 2025).

Cultural responsibility for the health and well-being of future generations is reflected in integrated health and education programming

The community of Kahnawà:ke maintains self-determination in both healthcare and education services, allowing for an integrated approach to long-term well-being (Delormier, 2025). The prevalence of type-2 diabetes (T2D) in the community spurred the creation of the Kahnawà:ke Schools Diabetes Prevention Program, which, in turn, inspired grassroots community efforts to prevent T2D (Macaulay *et al.*, 1997). This program focuses on promoting healthy lifestyles and diets in school-aged children by providing supports at home, at school, and in community settings (Macaulay *et al.*, 1997; Delormier, 2025). Culturally relevant learning styles are prioritized, including “story telling, games, food tasting,

experiments, puppet shows, crafts, and audiovisual presentations,” alongside emphasis on the importance of traditional foods (Macaulay *et al.*, 1997). This dedicated, grassroots work by the people of Kahnawà:ke to improve community health has contributed to an overall decline in T2D incidence in that community (Onkwata’karitáhtshera, 2024a). The 2024–2032 Community Wellness Plan emphasizes responsibility to future generations, wherein family and childhood supports, environmental stewardship, food sovereignty, and sustainability all play a fundamental role in the health and well-being of individuals, families, and the community (Onkwata’karitáhtshera, 2024b).

5.1.3 Safety

To support IKS, people must be able to engage in their food systems safely, without persecution and with appropriate tools and knowledge

In the North, ice knowledge is a critical input into models and forecasts that keep Inuit safe while out on the Land and Water, where they often gather country food. Knowledge of ice conditions among Inuit is a complex body of information that mitigates the impacts of climate change and keeps hunters and harvesters safe (Miner *et al.*, 2023; SmartICE, n.d.-a). Ice travel is a vital part of life and food systems in the North, but climate change is making ice conditions increasingly unpredictable and travel more hazardous (Whitten, 2025; SmartICE, n.d.-a). Long-term observations of the location, type, and quality of ice, along with its interaction with the local environment, can provide critical information for forecasting and real-time decision-making related to weather and climate change (Krupnik *et al.*, 2010).

SmartICE is a community-based social enterprise that combines monitoring technologies with Inuit knowledge of sea ice and is represented in over 35 Indigenous communities across the North (Whitten, 2025; SmartICE, n.d.-a). Communities are provided with hazard maps and information on ice thickness, travel conditions, and satellite data, based on local monitoring equipment and Indigenous knowledge of ice conditions; this information is available in multiple formats to enhance accessibility (ACOA, 2024; SmartICE, n.d.-b). Real-time use of Inuit ice knowledge, combined with remote monitoring and satellite data, provides safer travel across the ice for hunters and community members (SmartICE, n.d.-a). Youth employment and training are critical components of the SmartICE approach, and communities drive research approaches and directions (SmartICE, n.d.-a). SmartICE is governed by a board of directors (with 50% Indigenous, 40% female, and 50% Northern representation) whose priorities are informed by Community Management Committees, councils, and consultations with Knowledge Holders (ACOA, 2024).

Cultural safety is at the heart of Indigenous-led health and wellness programming

Numerous Indigenous Nations across Canada are involved in providing health and social services to their members in a culturally safe and respectful manner, including by uplifting Indigenous knowledges unique to the Nation or region. For example, the Qaujigiartiit Health Research Centre (QHRC) works to advance the health of Nunavummiut through the promotion of both Inuit Qaujimagatuqangit (IQ; Inuit knowledge) and western knowledge systems in order to address community priorities in a culturally sensitive, supportive, and safe environment (QHRC, n.d.). Tajikeimik, an organization aimed at transforming health and wellness services for Mi'kmaq in Nova Scotia, is rooted in a culturally safe approach that uses wholistic and Two-eyed seeing methods to advance the physical, mental, emotional, and spiritual health of Mi'kmaq (Tajikeimik Mi'kmaq Health and Wellness, n.d.). Recalling Chapter 3, healthy Indigenous knowledge and food systems contribute to the well-being of Indigenous Peoples and are realized when Indigenous Peoples exert self-determination over their health and well-being.

Recognition and enforcement of inherent Indigenous harvesting rights represent a first step toward the support of Indigenous food systems

Indigenous governance systems and harvesting practices, such as the Métis Laws of the Harvest, are integral to food sovereignty (MMF, 2013; Beaudin-Reimer, 2020). In Manitoba, anti-harvesting laws and regulations—such as the imposition of harvest fees, failure to recognize Métis rights to harvest, and prosecution of Métis hunters for poaching—have limited the continued practice of traditional harvests (Beaudin-Reimer, 2020). In 2012, the Government of Manitoba reached a memorandum of understanding (MOU) with the Manitoba Métis Federation to legally recognize just over half of southern Manitoba as an area for Métis natural resource harvesting where Métis people can hunt, trap, and fish for food and domestic use without a provincial licence (Gov. of MB, 2012; MMF, 2013). Such harvesting practices are integral to maintaining environmental health, as well as the health and well-being of Métis people and their relationships with family and community (Beaudin-Reimer, 2020). The ongoing exercise of harvesting rights by Métis is a step toward further activities (e.g., data governance, research, resource management) that support Métis knowledges and bring together western and Métis knowledge systems (Chartrand, 2023; CCA, 2026). The MOU has enabled the development of Nation-to-Nation agreements between Métis and First Nations (Chartrand, 2023), and it provides a framework for sustainable harvest with built-in compliance and enforcement measures (MMF, 2013; CCA, 2026).

5.2 Sovereignty

Indigenous sovereignty and self-determination are inextricably linked to Indigenous laws, values, and customs, and may be reflected in various policies and governance structures. Indigenous Nations and Peoples are working toward sovereignty goals on many parallel tracks, through, for example, food sovereignty, data and information sovereignty, and Aboriginal rights and title. This section presents examples of initiatives in which policy and governance support, and are supported by, IKS through the lens of activities aimed at advancing sovereignty and self-determination for Indigenous Peoples. Such initiatives recognize, to some degree, Indigenous authority in decision-making, and reflect long-term commitments between Indigenous and non-Indigenous partners, as well as with living and non-living Kin.

5.2.1 Authority

IKS are upheld through Indigenous sovereignty and self-determination, and manifested through legitimate decision-making authority

While Indigenous knowledges are often recognized and valued by decision-makers, Indigenous Peoples rarely have ultimate decision-making authority—this generally resides with colonial governments. Indigenous sovereignty is a key pillar supporting Indigenous knowledge and food systems and is achieved when Indigenous Peoples have legitimate authority in decisions affecting their territories and foodways, whether as the sole decision-maker or in partnership with others. For instance, the salmon restoration program discussed in Section 5.1.2 is governed by the Canadian Okanagan Basin Technical Working Group, comprising the ONA, DFO, and the B.C. Ministry of Forests. Rotating leadership and consensus-based decision-making help to overcome the common co-management pitfall of final decision-making resting with colonial governments (Correia *et al.*, 2024).

Indigenous conservation abides by Natural Law and responsibilities, emphasizing Indigenous perspectives on human kinship with the natural world and the essential, integral role of humans in healthy ecosystems (Indigenous Circle of Experts, 2018).

Natural laws are not negotiable. Indigenous law stems from natural law, which in turn came from higher universal [principles] connected to observations of nature and the principle of peaceful relationship with the rest of creation in the forms of duty, responsibility and guardianship of the lands and waters.

Indigenous Circle of Experts (2018)

IPCA are expressions of Indigenous sovereignty, grounded in Natural Law and IKS. They may be subject to various forms of governance and jurisdiction, including full Indigenous authority and governance, co-management under Crown legislation, or shared decision-making through a joint designation (Innes *et al.*, 2021). It is not necessary for IPCAs to partner with or collaborate with Canadian governments, but some may choose to pursue protected area designations or co-management arrangements to obtain protections under Canadian law (Kacer, 2023; Tomkinson, 2024). For example, the absence of a protected area designation led the Province of Ontario to continue granting mineral exploration permits on a proposed IPCA site, despite the Asubpeeschoseewagong Netum Anishinabek (Grassy Narrows First Nation) declaring an IPCA and receiving federal government funds in 2019 (Cyca, 2023).

Co-management arrangements reflect specific negotiations among governments and Nations, as well as existing land claim and treaty activities

Kluane National Park and Reserve is cooperatively managed through the Kluane National Park Management Board (comprised of representatives from Champagne and Aishihik First Nations, Kluane First Nation, and Parks Canada) (PC, 2024). The park management plan begins with principles intended to guide decision-making and management:

- *Kwiyaajàl' – Welcome*
- *Nàts' jì't'är – Respect*
- *Kwädäy kwändür jenìth't'a k'e kídän – We listen and learn the long ago teachings*
- *Dazhän nän käy yè dàkeyi dághàshûr t'ù ghàkwīnjì – We are all thankful for our land, it gives us all that we need for life*
- *Nłaye uk' anìthāt – You people, you are thinking about it together*
- *Shāwthān kuk āts ānātā dāzhān nän kay – Everyone look after the land very well*

PC (2024)

Indigenous knowledge is explicitly recognized under the above principle of Nłaye uk' anìthāt, in which decisions are guided “by using land-based Traditional Knowledge and scientific information to form one vision,” as represented by an image of two trees growing separately yet supporting each other (PC, 2024).

Elsewhere, the Government of Canada retains legal jurisdiction and authority over Torngat Mountains National Park while respecting treaty rights pursuant to land claims agreements with Inuit in Nunavik and Nunatsiavut (Innes *et al.*, 2021). Contractual agreements ensure that Inuit play a significant role in the park's

operations, but authority rests with the Crown (Innes *et al.*, 2021). Work is ongoing, however, to develop a marine protected area adjacent to the park; in 2024, the Nunatsiavut Government and Parks Canada conducted a feasibility assessment on the potential for an IPCA under the *Canada National Marine Conservation Areas Act* (Nunatsiavut Government & PC, 2024). They found that it was feasible and desirable to establish this IPCA through contributions from both Inuit and western knowledge systems (Nunatsiavut Government & PC, 2024; CCA, 2026), including a previous study based in IQ (Wilson *et al.*, 2014). This area would contribute to the Government of Canada's conservation goals, as well as to its commitment to reconciliation and to the recognition of inherent and treaty rights to harvesting, fishing, hunting, and trapping (Nunatsiavut Government & PC, 2024). Through Nunatsiavut Government legislation, the IPCA could be designated and governed by Inuit laws, traditions, and knowledges (Nunatsiavut Government & PC, 2024). As of 2024, negotiations were still underway to develop a legally binding agreement for the management and establishment of the area.

IKS and values can play a primary role in international governance agreements

The Pikialasorsuaq Commission was formed in 2016 in response to a workshop held by the Inuit Circumpolar Council (ICC) in 2013, where the importance of the Pikialasorsuaq ("great upwelling" in Kalaallisut or North Water Polynya) to Inuit ways of life was recognized (Pikialasorsuaq Commission, 2017). Pikialasorsuaq is a biologically rich area with nutrient-rich waters critical to supporting Inuit hunting and harvesting, and it is recognized as spiritually and culturally vital to Inuit. However, the region is at risk from climate change, as well as from shipping and other commercial and industrial activities (Pikialasorsuaq Commission, 2017). This Inuit-led commission was charged with conducting consultations in both Greenland and Nunavut to determine the best way forward for managing and protecting the region (Jones *et al.*, 2024). These consultations revealed some key themes, including the importance of Pikialasorsuaq for food security and the health and well-being of Inuit in the region (Bär *et al.*, 2025).

One of the key recommendations of the Pikialasorsuaq Commission was the establishment of an Inuit Management Authority (IMA), to be led by Inuit in the Pikialasorsuaq region (Pikialasorsuaq Commission, 2017). From the perspective of the ICC, this authority would be comprised of Inuit Knowledge Holders, hunters, fishers, and harvesters from the Pikialasorsuaq region, centring Inuit knowledge in decision-making, stewardship, and management (UNDP, 2025). The IMA would regulate industrial activities such as shipping and offshore development while ensuring the monitoring and conservation of the polynya and the health of adjacent communities relying on these resources (Pikialasorsuaq Commission,

2017; UNDP, 2025). Progress toward the IMA has been made since the original recommendation in 2017, including the signing of a Letter of Intent between the Government of Canada and Greenland in 2023 to establish an international joint committee, and an initial meeting convened by the ICC in 2024 to discuss potential IMA options (DFO, 2023; UNDP, 2025). Terms of reference for an implementation committee are currently being developed in order to achieve conservation outcomes outlined by the Pikialasorsuaq Commission; however, government turnover and legal negotiations have stalled progress in recent years (R. Paton, personal communication, 2026). Concurrently, the Qikiqtani Inuit Association has been working to establish several new marine protected areas in Canadian waters, at least one of which (Sarvarjuaq) would sit adjacent to Pikialasorsuaq (GC, 2024b; UNDP, 2025).

Recognition of Indigenous laws in resource management provides an opportunity to advance self-determination

The *Listuguj Lobster Law* is an expression of Mi'gmaq²² sovereignty in resource management that mandates the preparation of an annual draft Lobster Fishing Plan for the Listuguj First Nation (Listuguj Mi'gmaq First Nation, 2019; LMG, 2019). In the development of this plan, the Listuguj Mi'gmaq Government (LMG) Fisheries department wants to ensure that it is “rooted in Mi'gmaq social and cultural values, reflective of local and traditional knowledge, economically sustainable, ecologically responsible, accessible to community members and demonstrative of Listuguj’s ability to manage, monitor and govern its own lobster fishery” (LMG, 2019). These goals are reflected in the preamble to the law, where Mi'gmaq sacred responsibilities of stewardship and respect for the Land are explicitly mentioned, alongside affirmation of Aboriginal title and rights (Listuguj Mi'gmaq First Nation, 2019). Advice derived from a presentation by Chief Darcy Gray and Fred Metallic on the development of Indigenous laws focuses on embedding cultural values and beliefs within laws: “By utilizing the tools within your nation’s knowledge system and teachings, it is possible to develop culturally appropriate and effective laws. Specifically, language and the use of a nation’s language should be incorporated into the lawmaking process. Remember that laws are not only created, but they are also *lived* and should be informed by lived experiences” (Gray *et al.*, 2022).

The Council of the LMG appoints members to the Listuguj Lobster Oversight Board, whose responsibilities include overseeing the implementation of the Lobster Law, advising the Natural Resources Directorate in the preparation of the annual Lobster Fishing Plan, and advising the Council on the results of annual

22 An alternate spelling of Mi'kmaq. The panel uses the same spelling as the source materials.

community consultations undertaken to inform that plan (Listuguj Mi'gmaq First Nation, 2019). The Mi'gmaq Rangers are responsible for ensuring compliance with the law, and the LMG is the sole party responsible for the implementation of the Lobster Fishing Plan. However, it may enter into co-management arrangements with adjacent governments should they deem it necessary for achieving conservation and fishery management goals (Listuguj Mi'gmaq First Nation, 2019). Precursors to the Lobster Law include the *Listuguj Mi'gmaq First Nation Law on Fisheries and Fishing* (the Mi'gmaq Fisheries Law) and *A Law to Make Provision for an Aboriginal Ranger Service for the Listuguj Mi'gmaq First Nation* (the Mi'gmaq Ranger Law), which were developed to protect community control over, and rights to, fisheries (LMG, 1993; Listuguj Mi'gmaq First Nation, 1994; Gray *et al.*, 2022). Rangers do not require authorization from the federal government and play an important role by ensuring that members comply with the Mi'gmaq Fisheries Law and Listuguj Lobster Law, while also minimizing conflict between fishers and enforcement officers (Gray *et al.*, 2022). The Rangers derive their authority entirely from Indigenous law (LMG, 2022), which contrasts with the Aboriginal Fishery Guardian program operationalized under DFO's Aboriginal Fisheries Strategy (National Indigenous Fisheries Institute, 2018).

Recognizing natural features as legal persons helps to bridge governance approaches and gives rights to no-voice relatives

Recognizing the personhood of natural features or areas is relatively new to western knowledge systems and Crown law, but has existed in Indigenous cultures since time immemorial (Innes *et al.*, 2021). In Canada, legal personhood has been granted to the Magpie River in Quebec, known as Mutehekau Shipu to the Innu (Berge, 2022). The Innu Council of Ekuanitshit and the Minganie Regional County Municipality bestowed legal personhood on the river in 2021, granting it with nine rights, including the rights to flow, be free from pollution, and maintain biodiversity (Berge, 2022). Personhood was bestowed in the hope of protecting the river from hydroelectric projects that have dammed other important rivers in the area (Nerberg, 2022). "In the case of the Magpie River, Indigenous law is showing up in a language that Canadian law can understand" (Lindsay Borrows, as quoted in Berge, 2022). Mutehekau Shipu is considered a relative and a provider of water, food, and medicines to Innu (Nerberg, 2022). To bolster protections, an IPCA has been proposed for the river region along with an Indigenous Guardians program (Nerberg, 2022). Since the declaration of personhood for Mutehekau Shipu, other Indigenous Peoples in Canada have sought the same recognition for their non-human Kin; for example, Alderville First Nation in Ontario has declared Rice Lake as a person to protect it from further degradation (Pollock, 2026). Although precedents for granting legal personhood to natural features

have been set internationally (Box 5.2), there could be legal challenges in Canada (Nerberg, 2022).

Box 5.2 Te Urewera National Park

The governance of the forest in Te Urewera National Park has been a source of disagreement in Aotearoa New Zealand, despite treaty requirements asserting Māori rights (Hartigan, 2022). Although the forest was formally protected as a national park by the Department of Conservation, the conservation mandate—and how it was implemented—prevented Māori from harvesting in the park, despite their inherent rights (Ruru, 2008; Herman, 2024).

To reconcile these differing approaches, the government divested from its ownership of the land and took the unprecedented step of granting legal personhood to Te Urewera (Gov. of New Zealand, 2014). The land is co-governed by a board comprising government and Māori appointees, initially on a 50-50 basis but now with a majority of Māori appointees (Gov. of New Zealand, 2014). Forest health is assessed through a community-led monitoring process that focuses on indicators such as the characteristics of water, land, and forest; the availability of resources; and the spiritual, mental, and physical relationships of Māori with the forest (Lyver *et al.*, 2017). In addition, title disputes have effectively been neutralized, since Te Urewera owns itself (Innes *et al.*, 2021).

5.2.2 Commitment

Supporting Indigenous sovereignty through policy and governance mechanisms is a long-term commitment to a process of negotiation, compromise, and relationship building

IPCA creation is not without challenges—Indigenous governments may be reluctant to enter into agreements with the Crown due to a history of broken promises and lack of trust. However, there have been some successes, including shared decision-making and joint IPCA designations, resulting from a shared commitment to achieving goals. For example, protecting Gwaii Haanas has been 40 years in the making (Strand *et al.*, 2024). Despite great progress and accomplishments, the relationship between the Haida Nation and Canadian governments has not been without conflict; policies have changed in response to legal challenges and Haida direct action, resulting in negotiated agreements

and management plans (Jones *et al.*, 2024). Various co-management plans have been developed during that time for both terrestrial and marine areas, relying on consensus-based decision-making as the foundation for negotiated agreements (Strand *et al.*, 2024). These include the *Gwaii Haanas Agreement*, signed in 1993, which is a Nation-to-Nation agreement establishing the Archipelago Management Board, a cooperative body overseeing reserves and heritage sites on Haida Gwaii (Sawyer, 2018; PC, 2025). Despite differing views on the ownership of Haida Gwaii, the parties represented agree that “all actions related to the planning, operation and management of the Archipelago will respect the protection and preservation of the environment, the Haida culture, and the maintenance of a benchmark for science and human understanding” (GC & CHN, 1993). The 2018 Gwaii Haanas Gina’Waadluxan KilGuhlGa Land-Sea-People Management Plan sets out a vision for the management of Gwaii Haanas; it is based on a set of guiding principles rooted in Haida law (CHN & GC, 2018). Haida title was recognized by the Province of British Columbia and the Government of Canada in 2024 and 2025, respectively (Strand *et al.*, 2024; PMO, 2025). The Archipelago Management Board will continue to co-manage Gwaii Haanas through the transition period to full Haida management (PMO, 2025).

5.3 Cultural resurgence

The revitalization of Indigenous ways of knowing, being, and doing is encompassed within the concept of cultural resurgence. Working toward healthy Indigenous knowledge and food systems is a vital part of cultural resurgence. It involves many of the activities already discussed throughout this report and this chapter, including conservation, on-the-Land learning, ecosystem recovery, and knowledge co-production arrangements.

5.3.1 Knowing

Knowledge co-production respects the value of Indigenous knowledges, expressed through Indigenous languages, values, and principles in policy

Some regions mandate the use of both Indigenous and western knowledge systems for resource management to draw on the best available evidence for decision-making in several areas, including conservation and food sovereignty (Box 5.3). For example, the Nunavut Wildlife Management Board (NWMB) is mandated, in accordance with the *Nunavut Land Claims Agreement*, to incorporate the principles of IQ. IQ is a constantly evolving process, and can be heard through community meetings, discussions with Hunters’ and Trappers’ Associations and other relevant organizations, and public hearings (NWMB, n.d.-a). The co-management process for the NWMB is reflected in a series of partnerships

that support decision-making by commissioning additional research, providing approvals or recommendations, and making use of best available information from IQ and western science (NWMB, n.d.-b,-c).

Box 5.3 The Potato Park in Peru

In Peru, the Parque de la Papa (or Potato Park) applies Indigenous knowledge in pursuit of diverse goals related to food sovereignty. The guiding principle of the Potato Park is *Sumaq Kausay*, an Indigenous concept signifying a “harmonious existence or a good life” (ANDES, 2014). This principle hinges on reciprocity and respectful relations among three realms (human, wild, and sacred) within the Andean cosmovision. In the mountainous environment, 1,400 varieties of potato are managed collectively by 6,000 inhabitants (ANDES, 2014). The park promotes biodiversity and food sovereignty while supporting small enterprises (e.g., tourism, natural products), governance models, and innovations in adapting agriculture to climate change (ANDES and the Potato Park, 2015). It is governed by a mixture of formal structures based on both Peruvian and Indigenous laws, with decision-making shared among the park’s member communities through inter-community agreements (ANDES *et al.*, 2011; Iles & Montenegro De Wit, 2015). The park is legally designated as an Agrobiodiversity Zone, which provides a legal basis for Indigenous-led efforts toward agricultural biodiversity and pre-colonial land management approaches (ANDES *et al.*, 2011; Vernooy & Ramirez, 2025). Research agendas and educational programming are led by local communities, with support for the maintenance and evolution of Indigenous knowledge resulting in many positive outcomes, from technological innovations in potato cultivation to policy innovations for climate change mitigation (ANDES and the Potato Park, 2015).

In the Northwest Territories, species-at-risk assessments are undertaken by the Species at Risk Committee (SARC), comprising ecosystem and species experts based in Indigenous and western knowledge systems (SARC, 2022; Singer *et al.*, 2023). In 2020, SARC determined that the species-at-risk assessment process required changes to ensure the equal treatment of both knowledge systems (Singer *et al.*, 2023). The result is a process in which dual species assessments are conducted in tandem: one based on IKS and the other on western science (SARC, 2022). The final assessment recommendation is based on consensus among members and is supported by one or both knowledge systems (Singer *et al.*, 2023).

Another example is the Haida Gwaii 'íináang | íinang Pacific Herring Rebuilding Plan, which reflects a knowledge co-production process between DFO and the Haida Nation that includes Haida knowledge and language and western science in both production and peer review (CHN *et al.*, 2025; Moffat *et al.*, 2025). Indeed, Moffat *et al.* (2025) highlight the plan as a “bright spot for IKS inclusivity,” noting the use of multiple local dialects of the Haida language, quotes from Haida knowledge-keepers, the role of Haida values and principles, and indicators of extensive knowledge-gathering and consultation work that meaningfully inform understanding, co-governance, and decision-making processes.

IKS play an integral role in post-fire recovery monitoring and research. For example, when monitoring vegetation regrowth post-wildfire, classifying plants using Indigenous values can reframe interpretations of recovery and reveal gaps in western approaches (Oeggerli & Grenz, 2025). Working with St'at'imc knowledge of traditional plant species and employing the “walking on two legs” framework of Dickson-Hoyle and John (2021), Oeggerli and Grenz (2025) were able to “depart from common functional plant groupings used by western science and government agencies and embrace culturally appropriate plant groupings representative of St'at'imc community research priorities.” This process revealed a shortfall of restoration efforts—western scientific classifications of plant species were masking the relative lack of recovery of important traditional plant species by relying solely on native/non-native classifications (Oeggerli & Grenz, 2025; CCA, 2026).

5.3.2 Being

Being on the Land and Water is vital to maintaining and nurturing IKS

Policy and programming support for Indigenous presence on the Land and Water advances both Indigenous ways of knowing and cultural resurgence through, for example, conservation, education, heritage protection, and food sovereignty initiatives. In Canada and abroad, Indigenous Guardians care for Lands and Waters on behalf of their Nations, communities, and governments (ILI, 2023) (Box 5.4). They fulfill multiple mandates, including environmental protection, cultural and language programming, disaster response, and ecosystem rehabilitation and monitoring (ILI, 2023). Guardians also maintain and protect cultural sites; for instance, Haida Watchmen are posted at village sites across Haida Gwaii to protect these areas and educate visitors on Haida history and heritage (CHN, n.d.). Crucially, Guardians use both Indigenous and western knowledge systems to inform their work (ILI, 2023).

The First Nations National Guardians Network (NGN) was launched in 2022 as a national, First-Nations-led, non-profit platform to support First Nations

Guardians initiatives (ECCC, 2024a). “The NGN is the first Indigenous-led national stewardship network in the world. It is designed and managed by First Nations individuals, and it centers on First Nations knowledge, values, and perspectives” (NGN, n.d.). Some Guardians are supported by the federal Indigenous Guardians program, which establishes Indigenous-led conservation initiatives that use context-specific approaches designed, developed, and implemented in partnership with First Nations, Inuit, and the Métis (ECCC, 2024a). The program provides funding for Indigenous Peoples’ stewardship of their traditional lands, waters, and ice, and includes, among other things, a variety of eligible cultural, educational, planning, and enforcement activities (ECCC, 2018, 2024a). However, the program faces challenges due to the lengthy interval between application, funding decision, and disbursement, although efforts are underway to address these challenges (PSPC, 2024).

5.3.3 Doing

Indigenous knowledges are embodied in people, who advance and live these knowledges by doing

Practising Indigenous knowledges, being on the Land, and passing on learnings to future generations are all aspects of cultural resurgence and are required for the maintenance and flourishing of IKS. In addition to conservation duties, Indigenous Guardians can directly contribute to food security and food sovereignty through action. For example, the Guardians in the Nauttiqsuqtiit program (run by the Qikiqtani Inuit Association) actively harvest and provide food to their communities while also contributing to a wide range of activities in the region, including intergenerational knowledge-sharing, land and marine planning and management, ecological monitoring, and maintenance of important cultural sites (QIA, 2020). “The Nauttiqsuqtiit, or Inuit stewards, are the eyes and ears of Tallurutiup Imanga—not only monitoring the region but also harvesting to help feed and benefit their communities” (QIA, 2020). Nauttiqsuqtiit are paid full-time salaries, at least through 2026, and the recently signed *SINAA Agreement*²³ contains funding support for Inuit stewardship through the Nauttiqsuqtiit program, including for conservation centres that provide equipment and office space to the Guardians (Jamal, 2023; DFO, 2025). SINAA funding will also enable the QIA to hire an additional 130 staff over the next five years, boosting the regional conservation economy and paying Inuit to be out on the Land and to engage with the environment (R. Paton, personal communication, 2026).

23 *Sinaa* is an Inuktitut word meaning “the floe edge where the land fast ice meets the open water” (DFO, 2025).

Box 5.4 Indigenous land management and Guardian programs in Aotearoa New Zealand and Australia

In Aotearoa New Zealand and Australia, various Healthy Country and Joint Management plans are administered by Indigenous communities based on their own priorities and leading practices in IKS and western science (e.g., WGAC, 2010; Walalakoo Aboriginal Corporation RNTBC, 2016; Lincoln & Hedge, 2019). Joint Management plans reflect “cultural, ecological, heritage, and recreational values” as well as include indicators and methods for assessment, with Indigenous Rangers playing an instrumental role for bridging western science and Indigenous knowledges (Lincoln & Hedge, 2019).

Monitoring and evaluation conducted by Indigenous Rangers, for instance, can serve as a gateway to bridge knowledge systems in land and sea management (Campion *et al.*, 2024). In the Balpara approach, implemented by the Arafura Swamp Rangers Aboriginal Corporation in Australia, Indigenous Rangers spend significant time on the Land visiting places slowly, aided by technology and western science when needed (Campion *et al.*, 2024). Their monitoring efforts are synthesized into reports that include recorded stories based on ecological observations and assessments of the “health of relationships” on the Land, as well as written reports intended for external partners or sponsors of Indigenous Rangers’ work (Campion *et al.*, 2024).

Results and testimony regarding Guardians programs are generally positive and demonstrate substantial co-benefits (ILI, 2023; PSPC, 2024). For example, an analysis of participating IPAs and their associated Guardians programs across Australia concluded that they generate a 2.7:1 return on investment in health, social, and economic benefits for every dollar spent (SVA, 2016a). These returns are driven by program outcomes such as skilled workers, improvements to health and well-being, and more cost-effective land management, among others (SVA, 2016a). Underfunding and structural barriers to revenue generation have been identified as challenges in Australia (Reed *et al.*, 2021).

In Canada and foreign jurisdictions, prescribed burning—also called cultural burning—is an area of land management wherein Indigenous knowledges are practised. For instance, the Xwísten First Nation (also known as the Bridge River Band) developed a Burn Plan Framework to revitalize cultural burning practices

in their community in partnership with the First Nations' Emergency Services Society of British Columbia and the Canadian Forest Service (Xwísten Nation *et al.*, 2018; FireSmart Canada, 2020). Before colonization, the Xwísten people held extensive knowledge of burning practices to reduce wildfire risk and achieve cultural objectives (FireSmart Canada, 2020). Government regulations to strictly suppress cultural burning have resulted in the loss of Indigenous knowledges around this practice, as well as unhealthy forest conditions and increased wildfire risk. "The Burn Plan Framework incorporates local Indigenous [Xwísten] values, knowledge, and climate change concerns with weather conditions and prescribed burning science to reduce climate change impacts on the community" (FireSmart Canada, 2020). Cultural burns are implemented with community members, volunteer firefighters, the BC Wildfire Service, the First Nations' Emergency Services Society, and wildland fire ecologists hired by the community to help plan operations (BC Wildfire Service, 2024; Strachan, 2024).

Synthesis

Leading practices to support IKS through policy and governance move beyond inclusion or consideration and into action—that is, building capacity and relationships to sustain and grow Indigenous ways of knowing in relationship with Land, Water, and other beings. IKS are supported by the recognition of Indigenous sovereignty through authority in decision-making, which often results from committed efforts to assert Indigenous laws, rights, and title, as well as commitments to uphold respectful relationships with partners. In practice, this includes reciprocity in the form of financial, logistical, and management support for programs that address Indigenous priorities as well as the economic, social, and environmental priorities of the Government of Canada. For example, reconciliation, climate change mitigation, ecosystem restoration, and food security goals are all advanced by supporting Nation-to-Nation relationship building and mutual respect.

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Policies and governance arrangements that explicitly support and make space for Indigenous knowledges are also advancing Indigenous well-being (stability, responsibility, safety), sovereignty (authority, commitment), and cultural resurgence (ways of knowing, being, and doing). Encompassed within these concepts and initiatives are recognition of and support for Indigenous food sovereignty, which is intertwined with IKS. These concepts constitute a wholistic societal system. Keys to the success of the examples discussed in this chapter are Indigenous leadership from the beginning of the process and adequate time and resources to build relationships and ensure that consultation and communication are done in a good way.

Healthy Knowledge Systems for Healthy Food Systems

- 6.1 Starting from a good place
- 6.2 A diversity of approaches
- 6.3 Finding a path
- 6.4 An invitation to reflect

Chapter findings

- Healthy Indigenous food and knowledge systems are interdependent and mutually reinforce community well-being, sovereignty, and cultural resurgence.
- Bridging Indigenous and western knowledge systems requires building relationships grounded in respect, reciprocity, and context-specific approaches rather than one universal model.
- Three key phases—building foundations, developing relationships, and co-developing governance—provide the elements of a framework for bridging knowledge systems for policy and decision-making.
- Investing in Indigenous knowledge systems yields demonstrable economic, social, and health benefits for both Indigenous communities and broader Canadian society.

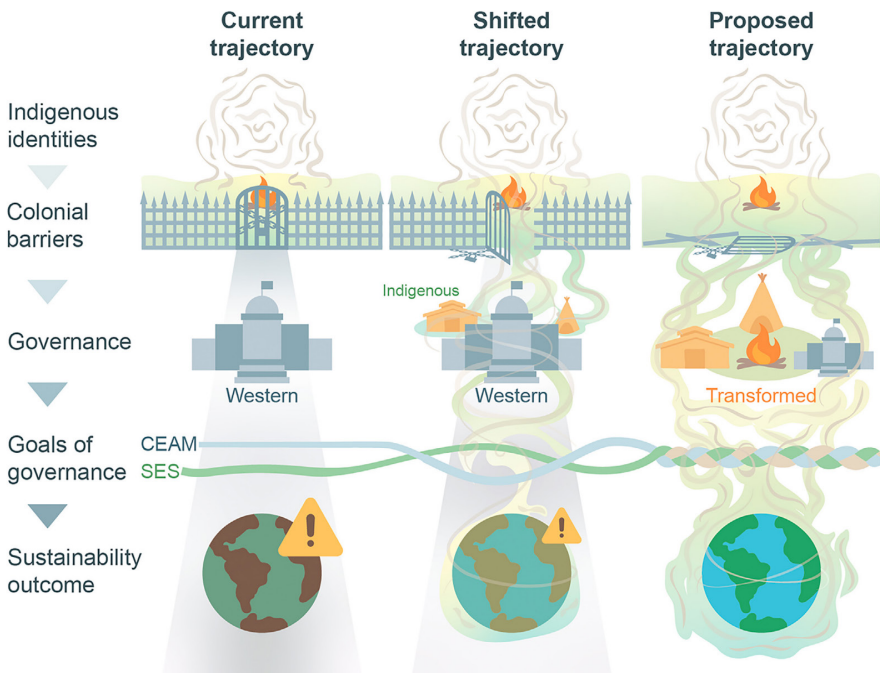
Generosity is simultaneously a moral and a material imperative, especially among people who live close to the land and know its waves of plenty and scarcity. Where the well-being of one is linked to the well-being of all...The moral covenant of reciprocity calls us to honor our responsibilities for all we have been given, for all that we have taken.

Kimmerer (2013)

Healthy food systems and healthy knowledge systems are the foundation for healthy and productive communities, both Indigenous and non-Indigenous. From individuals and families to communities, Nations, and beyond, resilience is supported by well-being, sovereignty, and respect for diverse cultures (recall Figure 3.2). The charge to the panel asks, “How can policy and governance support Indigenous science in a way that advances Indigenous priorities and achieves reciprocal benefits for Canada’s social, environmental, and economic goals?” Part of this reciprocity is reflected in the first sub-question, which asks about the key elements of a framework to support Indigenous science and innovation in policy and governance in Canada.

Thus, the charge asks for methods to use existing (or new) policy and governance mechanisms to support IKS as well as methods to use IKS to support decision-making in Canada. Chapter 4 reviews the existing mechanisms for the latter; roughly summarized, this is a formal recognition of the value and importance of IKS through advisory committees and a requirement

for consideration, without legislating any authority over decision-making. These mechanisms reflect the politics of inclusion shortfall, which is a lack of transformative change. At best, inclusion of IKS is a first step toward the shifted trajectory Ignace (2025) recognizes in Figure 6.1. Transformation requires institutional learning within government, where policies, governance practices, and decision-making authorities evolve to work with IKS rather than consult them.



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Figure 6.1 Moving from the status quo to a transformative governance model

The shifted trajectory illustrates current mechanisms for Indigenous Knowledge Systems inclusion in federal policy and regulation: Indigenous inputs are allowed, but governance mechanisms and goals reflect existing colonial structures. A transformative governance model requires the removal of colonial barriers and the development of co-governance mechanisms that meet shared, interdependent goals. Graphic design by Fuse Consulting.

CEAM – Cumulative effects assessment and management

SES – Socio-ecological systems

Chapter 5 examines what a transformation of the ways IKS interact with western knowledge systems can look like through the lens of resilience, which is supported at all levels by well-being, sovereignty, and cultural resurgence. These are some of the foundational elements identified by the panel for supporting healthy Indigenous knowledge and food systems. The panel recognizes that healthy and sovereign Indigenous Peoples’ food systems create healthy, empowered IKS, and that both systems are supported through opportunity, infrastructure, capacity, and exchange. Indigenous science in this framing is the application of knowledge through culture—that is, ways of being, knowing, and doing (Figure 6.2).

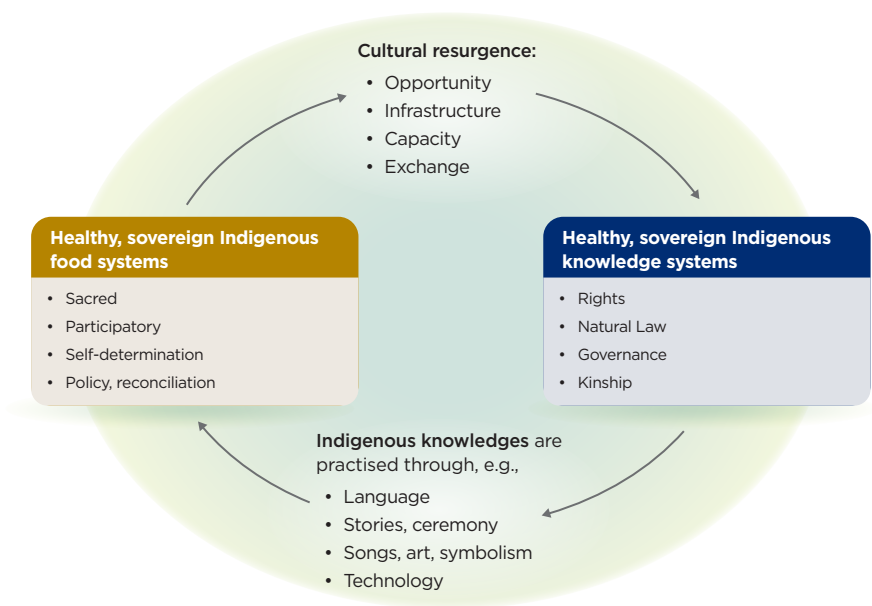


Figure 6.2 Indigenous knowledge and food systems are mutually sustaining

Healthy and sovereign Indigenous Peoples’ food systems support Indigenous knowledge systems—ways of being, knowing, and doing—which, in turn, support food systems through mutually sustaining relationships and cultural resurgence. Cultural resurgence reflects many elements, including opportunity, infrastructure, capacity, and exchange, that lead to healthy and empowered Indigenous knowledge systems. Knowledge systems include the understanding of rights, Natural Law, governance mechanisms, and kinship relationships. These elements then inform the practice of knowledge, through, for example, hunting, cultivation, and stewardship activities that, in turn, support healthy and sovereign food systems.

In response to the charge questions, the following sections examine the tools and strategies available to bridge knowledge systems to transform policy and governance in ways that address both Indigenous and western knowledges and priorities for the benefit of all.

6.1 Starting from a good place

At their core, the charge questions reflect a desire to build healthy and reciprocal relationships between colonial governments and Indigenous Peoples. The framing of the questions recognizes the value such relationships bring to common social, environmental, and economic goals. To build a healthy relationship, however, all parties must come to the table ready and able to participate.

There is a substantial power imbalance between colonial governments (and government structures at all levels, including federal, provincial, territorial, and municipal) and Indigenous Peoples. Regardless of the intentions and desires of governments today, the reality for many Indigenous people and communities is an ongoing experience of violence and oppression. As noted in the workshop, without acknowledgment and efforts to counter this imbalance, relationships will remain extractive (CCA, 2026). Transformative change of institutions includes “a drastically different way of being, doing, and working” (Cote-Meek, 2020). Key aspects of transformative change include new decision-making and power-sharing processes, as well as different governance and leadership structures (Gaudry & Lorenz, 2018; Cote-Meek, 2020), along with sustained funding commitments: “putting money behind insurgence, resurgence, and transformative change” (Lavallee, 2020).

Education is vital to sustainable and vibrant IKS

Indigenous knowledge is embedded in Indigenous languages, which are intrinsically linked to the land, to Indigenous ways of life.

Aboukakrine et al. (2025)

Indigenous knowledges are held within individuals and communities; IKS are ways of knowing that require active participation in cultural practices and ceremony in order to adapt and thrive across generations. For example, Indigenous language education is vital to advancing IKS; the protection and revitalization of Indigenous languages emphasize the connection of language to knowledges and the Land. “Through (re)engaging with the language, relationships to the language as well as to ways of knowing, and to the land and all of life, are deepened” (M’sit No’kmaq et al., 2021). In their work with Cree Elders in Manitoba, Robin and Hart (2025) heard that “Cree knowledge must include Cree languages, which are derived

from the land. Or rather, the land contains the languages, which contain the knowledge for being well.” Support for IKS must therefore include support for Indigenous languages.

Similarly, supporting IKS includes supporting access to the Land for participation in cultural and ceremonial practices. Indigenous knowledge cannot be removed from the context of the community that holds it; its use in any situation requires the involvement of Knowledge Holders in decision-making, in part to avoid viewing it as supplemental or as an add-on to western knowledges (McGregor *et al.*, 2023). Education, along with infrastructure, investment, and other supports, ensures that subsequent generations include Knowledge Holders with the capacity, experience, and ability to engage in future partnerships.

Land-based programs, such as those delivered by the Ittaq Heritage & Research Centre and the Dechinta Centre for Research and Learning, provide opportunities for accredited education and contribute to research, food security, and wellness for Indigenous people (Dechinta, n.d.; Ittaq, n.d.). For example, Ittaq’s Angunasuktiit is a “full-time hunting and land-based apprenticeship program” that trains future hunters, provides healthy country foods to communities, and contributes to knowledge of weather and sea ice as well as the development of Inuit approaches to research, monitoring, and environmental evaluation (Ittaq, n.d.). Education also includes building capacity and resilience among students so they can thrive regardless of the setting; for example, the University nuhelot’ine thaiyots’i nistameyimâkanak Blue Quills provides on-site diploma and certificate programs as well as opportunities to transfer credits to other colleges and universities, while creating a space for Cree spirituality, culture, and healing (Blue Quills First Nations College, 2001; University nuhelot’ine thaiyots’i nistameyimâkanak Blue Quills, n.d.).

Education is a vital starting point for colonial governments and their staff

The panel emphasizes that healthy Indigenous food systems sustain healthy IKS, meaning that, in order to contribute fully to a relationship, Knowledge Holders—and Indigenous communities more broadly—must be safe, secure, and supported. Governments can support readiness through cultural safety training and awareness for employees, relationship building through repeated, respectful interactions with Indigenous communities, and enabling access to Land and Water, among other activities (e.g., Fischer *et al.*, 2022) (Figure 6.3).

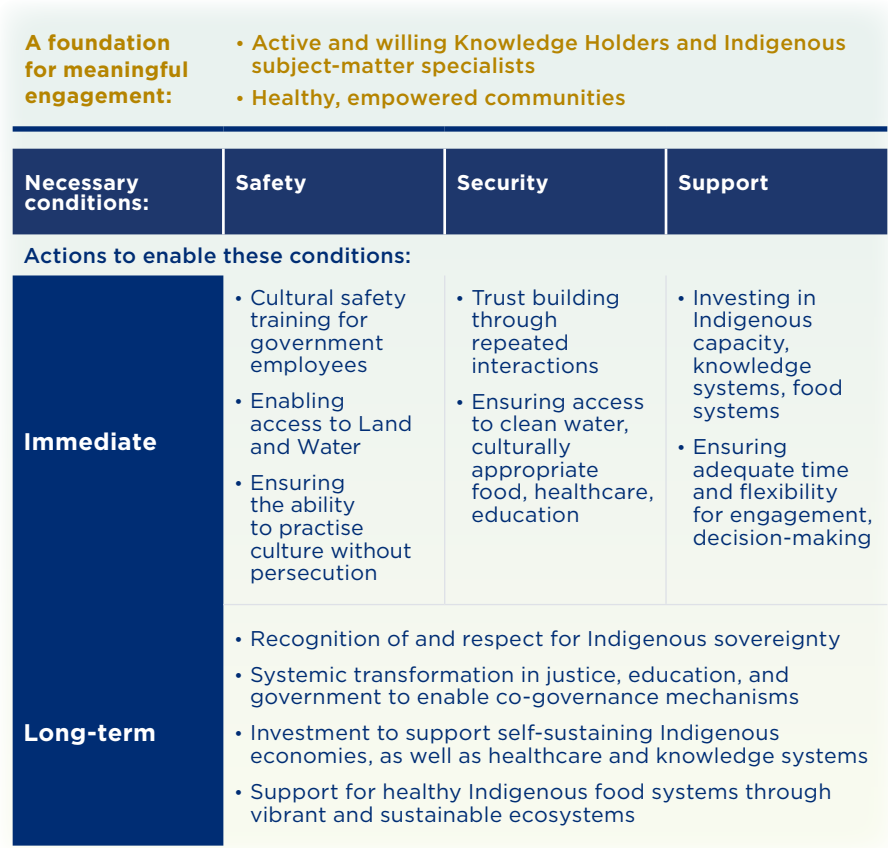


Figure 6.3 Ensuring a strong foundation for engagement with IKS

People are the foundation for bridging meaningful relationships between knowledge systems. Before engaging with Indigenous Knowledge Systems in pursuit of a common goal, preparatory work can help ensure that the necessary conditions for respectful and reciprocal relationship building are met. For example, colonial governments seeking to engage meaningfully with Indigenous Knowledge Systems must recognize power imbalances and ongoing injustices and seek to rectify these through immediate and long-term actions. These actions include supporting the safety and security of Indigenous participants by providing cultural safety training for government employees, investing in Indigenous economies, and supporting access to Land and Water. These actions are a first step toward bridging knowledge systems—a foundation for engagement—and do not reflect meaningful, transformative change in governance systems. While this figure was developed through panel deliberations on the Canadian context, it may be useful in other jurisdictions.

Safe participation in relationships requires that non-Indigenous people approach new learning with humility and build capacity to understand and support IKS. Approaches, such as Indigenous Science, Technology, and Society (Indigenous STS), seek to “[build] the capacities of scientific fields so that they

are capable of producing and backing highly interdisciplinary, relational, and Indigenous research and training approaches” (Kolopenuk, 2020). There are many opportunities to start learning, including online courses (e.g., Indigenous Corporate Training Inc., n.d.; NVision Insight Group, n.d.; University of Alberta, n.d.; Yellowhead School, n.d.).

Participation by Indigenous Knowledge Holders and subject-matter specialists in these activities can be supported through investments in capacity building, including in Indigenous research and communities. The panel emphasizes the importance of funding for exclusively Indigenous research methodologies, not just research that seeks to pair or braid knowledge systems. Such funding can build capacity within Indigenous Nations and communities to revitalize and develop their own knowledge and food systems (e.g., Tea Creek, 2025; Pauquachin First Nation Marine, n.d.). It can also provide a foundation for co-development and co-management projects. For instance, decades of funding from the Gordon and Betty Moore Foundation to Coastal First Nations have supported the development of marine-use plans across multiple coastal Indigenous communities, facilitating negotiation and co-production with provincial and federal governments (CFN, 2020). Indeed, this funding supported a study to document Haida marine knowledge, which provided training for Haida staff and informed the Haida Gwaii Marine Plan—a partnership between the Haida Nation and the Government of British Columbia (R. Jones, personal communication, 2026).

6.2 A diversity of approaches

Exchange is vital to nurturing Indigenous and western knowledge systems and the opportunity for exchange can benefit all parties. Part of the panel’s charge was to consider best practices for supporting Indigenous science through western policy and governance. *Bridging, braiding, pairing, partnering, integrating, weaving*—these are all terms used to describe various ways of bringing together Indigenous and western knowledge systems (e.g., Kourantidou *et al.*, 2020; Frid *et al.*, 2023; Singleton *et al.*, 2023; ECCC, 2025b). There are a growing number of models—including the concept of ethical space, Two-eyed seeing (*Etuaptmumk* in Mi’kmaw), and the Land and Peoples Relationship Model (Ermine, 2007; Bartlett *et al.*, 2012; Jack, 2020)—that offer different approaches, though the panel emphasizes that best practices are contextual and no single solution applies to all situations.

IKS are often discussed in the published literature in the context of their relationships to western knowledge systems and science. Some scholars reject the notion that Indigenous and western knowledge systems are distinct and incompatible, instead arguing that they are already co-constituted through the

processes of colonialism and resurgence (e.g., TallBear, 2013; Long, 2024), with the potential for overlap and synergy (Stein *et al.*, 2024). Long (2024) argues that, to truly address the challenges of working across western and Indigenous approaches, we must attend to questions of power, governance, and colonial “white possession.”²⁴ It is not uncommon for some Indigenous Peoples to draw from natural science methodologies as contemporary knowledge to support their own knowledge and food systems, such as in fish reintroduction programs (Whyte *et al.*, 2016; Alexander *et al.*, 2024) or in Chief John Snow’s description of Biculturalism²⁵ (Snow, 1977; Stoney Nakoda Consultation Team, 2022). However, other scholars maintain that these systems are distinct and that attempting to blend them together risks prioritizing one system over another; this is most often seen when Indigenous science is treated as support for, or confirmation of, western science (see discussion in Stein *et al.*, 2024).

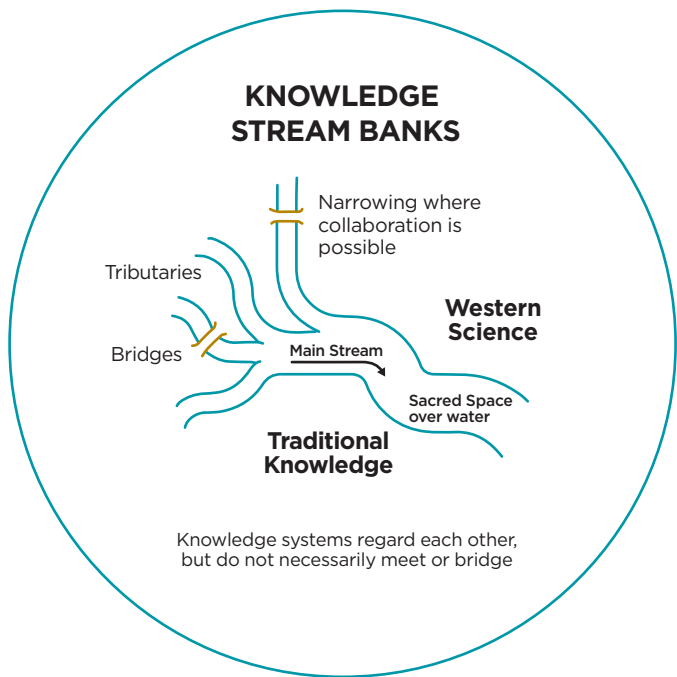
Epistemological differences between Indigenous and western knowledge systems can make bridging difficult

Indigenous approaches to conducting research or applying Indigenous science involve spiritual considerations—often centred on relationships among humans, nature, and objects (Kawagley *et al.*, 1998; Wilson, 2008; Lincoln *et al.*, 2017). Such considerations are eschewed in western methodologies, but efforts to bridge knowledge systems cannot fail to acknowledge the spiritual and cultural dimensions of Indigenous science. Elder Copper Joe Jack provides one way of thinking about these challenges in the knowledge stream banks model (Figure 6.4).

Working with the knowledge stream banks concept, different approaches to bridging knowledge systems can be considered as different types of crossings, each more or less appropriate depending on the conditions and contexts. Notably, there will also be some situations for which bridging will not be appropriate or applicable.

24 Jacobs (2017) summarizes Moreton-Robinson’s (2015) conceptualization of colonial white possession as “the notion that White supremacy and capitalism rest on the possession of Indigenous lands...a mode of rationalization that divides residents of settler colonial nations into one of three positions: ‘owning property,’ ‘becoming propertyless,’ or ‘being property.’”

25 “We came to understand that we could still follow Stoney tribal custom but, at the same time, adjust to a technological age on our own terms. Our hope was (and still is) to retain the best in the Stoney culture and to take the best in the dominant culture” (Snow, 1977).



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Figure 6.4 Knowledge stream banks

“A parable of how two (or more) knowledge systems and worldviews could function collaboratively and equitably side-by-side. The watershed framework of the stream tree consists of tributaries (branches) that allow life-giving water (knowledge) to flow into the mainstream (trunk). The area between and above the banks are the Sacred Space where meaningful dialogue takes place” (Jack, 2025).

Approaches to bridging knowledge systems are appropriate for different contexts

Workshop discussions on bridging knowledge systems highlighted a variety of approaches, with no single model succeeding across diverse contexts (CCA, 2026). For example, the Land and Peoples Relationship Model developed by Elder Copper Joe Jack (2020) is a process for collaborative planning (through knowledge-building) based on key laws (Respect, Care, Share) and decision-making tools (No Voice and Knowledge Stream Tree).

Collaborative knowledge-building is a process by which participants reach favorable conclusions through the sharing and exchange of knowledge. Participants are asked to show the greatest respect possible during the

planning and decision-making stages...The model is the guideline that directs and balances the collaborative planning process. The crux of the model is how respect is shown among participants within the planning and decision-making processes.

Jack (2020)

This process has been used as a framework for cooperative water management planning in the Liard River basin (MRBB, 2025) and to inform land use planning in the Yukon (YLUPC, 2022).

Another approach is Two-eyed seeing (Etuaptmumk), a conceptual framework for equitably including diverse perspectives within a system. Developed by Elder Albert Marshall, Two-eyed seeing is

the gift of multiple perspective treasured by many aboriginal peoples and... it refers to learning to see from one eye with the strengths of Indigenous knowledges and ways of knowing, and from the other eye with the strengths of Western knowledges and ways of knowing, and to using both these eyes together, for the benefit of all.

Bartlett et al. (2012)

Two-eyed seeing was developed in the context of education (Bartlett et al., 2012) but has also been applied, or at least discussed, in relation to public health (Hovey et al., 2017; Liberda et al., 2022), environmental change (Abu et al., 2020), and fisheries management (Reid et al., 2021; Gobin et al., 2023; Bate et al., 2026). Though applied across a variety of settings, some critiques of the approach include its perceived exclusion of more than two perspectives both within and among knowledge systems (e.g., gender-based differences within knowledge systems; knowledge systems that are neither Indigenous nor western) (McFadden et al., 2023; Pictou, 2025).

Willie Ermine (2007) developed the concept of *ethical space* in the context of the intersection of Indigenous laws and Canadian legal systems. The creation of ethical space between entities, where contrasting worldviews and perspectives can equitably meet and be respected, is one avenue for bringing knowledge systems together.

It is the thought about diverse societies and the space in between them that contributes to the development of a framework for dialogue between human communities. The ethical space of engagement proposes a framework as a way of examining the diversity and positioning of Indigenous peoples and Western society in the pursuit of a relevant discussion on Indigenous legal issues and particularly to the fragile

intersection of Indigenous law and Canadian legal systems...The new partnership model of the ethical space, in a cooperative spirit between Indigenous peoples and Western institutions, will create new currents of thought that flow in different directions of legal discourse and overrun the archaic ways of interaction.

Ermine (2007)

Other approaches are discussed in various literatures. For example, in the context of ecocultural restoration and wildfire recovery, the framework of “walking on two legs,” as articulated by Secwépemc Elder Ronald E. Ignace, seeks to balance IKS with western knowledge systems to support Indigenous stewardship (Dickson-Hoyle *et al.*, 2022; Oeggerli & Grenz, 2025). Finding an appropriate approach requires engagement and relationship building to establish a path forward collaboratively.

6.3 Finding a path

Part of the challenge of bringing together Indigenous and western knowledges for policy and governance is structural. As noted in Chapter 1, western knowledge systems categorize and compartmentalize, packaging information and data into discrete units (e.g., papers, books, data sets) that are recognized as distinct and can be submitted for consideration in policy- or decision-making. In contrast, IKS are relational, and knowledges are used within the context of relationships. On a practical level, this means that using Indigenous knowledges requires active participation by users and cannot be solicited as input through, for example, an online consultation form (CCA, 2026). It also means that Indigenous knowledges are contextual, and methods to bridge knowledge systems will work best when tailored to specific circumstances, Knowledge Holders, and communities (e.g., Morgan-Bulled *et al.*, 2025). The panel recognizes three key phases that offer a means to successfully co-develop policy and governance among Indigenous and western systems (Figure 6.5).

Successful bridges are built by people who come from strong foundations (Phase 1), who approach connection humbly and in a manner respectful of the rights and priorities of the people with whom they seek to engage (Phase 2). Bridges are specific to their environmental context and their use case, and there are many methods available to adopt, adapt, or build upon in order to find success (Phase 3).

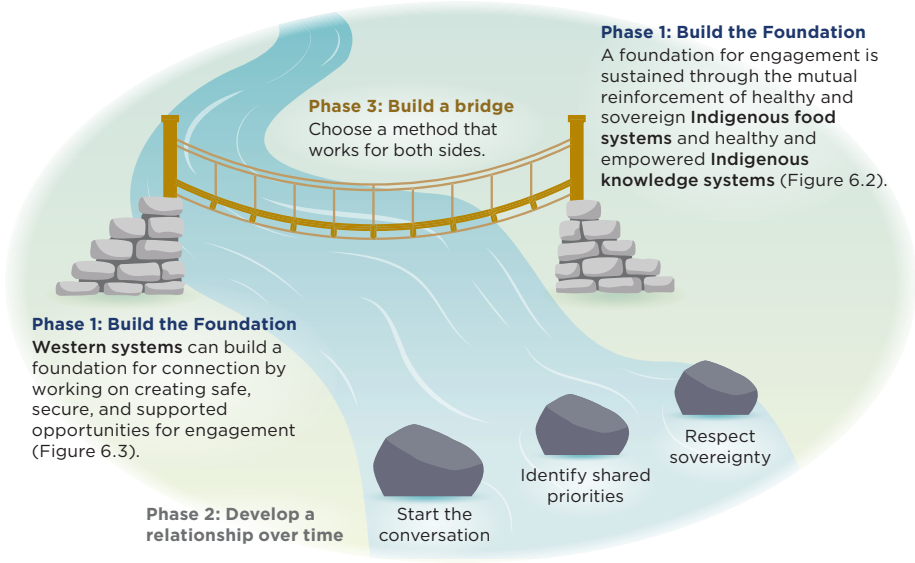


Figure 6.5 Three phases of bridging knowledge systems

The panel conceptualized three key phases of activity to support Indigenous Knowledge Systems in western policy and governance, and vice versa, by building bridges that can cross a knowledge stream (as described by Jack, 2025). Success is most often a result of doing these activities in sequence, though the panel emphasizes that all three are ongoing; for example, ongoing work in phase 1 supports beginning phase 2. Phase 1 lays a foundation for good work in both Indigenous and western knowledge systems by ensuring readiness on both sides of the knowledge stream. Phase 2, crossing the knowledge stream, develops a relationship among knowledge systems without explicitly taking from one or the other. Phase 3 is the co-development and co-governance of a bridge to meet shared objectives. Importantly, not all successes result in phase 3; there may be situations where, through the development of a mutually beneficial relationship, bridging is ultimately determined to be an inappropriate solution. Bridges solve specific challenges; foundations and relationships are sustained through ongoing effort.

As discussed in Section 6.1, a good relationship will begin from a good place, where both parties have the capacity and ability to engage with each other fully. For colonial governments that wish to engage with Indigenous Peoples and communities, this means recognizing and rectifying, to the extent possible, power imbalances and historical and ongoing oppressions. For Indigenous Peoples and communities, this means having the capacity and ability to practise their

knowledge systems through education, support, and access to traditional Lands and Waters. These actions are reflected in phase 1, building foundations on either side of the knowledge stream.

Reciprocity comes from building relationships before working toward a common goal

Phase 2 is when both parties recognize where the knowledge stream narrows and provides stepping stones to allow for exchange. One important aspect of phase 2 is that there is no other outcome beyond developing a good relationship; that is, phase 2 does not result in, for example, Indigenous consultation and engagement for the explicit purpose of policy-making. Phase 2 is about giving time and space to develop a relationship wherein each party understands the priorities and context of the other. For example, as Elder Copper Joe Jack explained at the Bridging Knowledge Systems workshop (CCA, 2026), the Land and Peoples Relationship Model provides a series of questions that can help guide relationship building, including:

- What do you wish to attain?
- What do you wish to learn?
- What are the obstacles?

Phase 3 is the method by which knowledges are exchanged for the benefit of all parties. As discussed in Section 6.2, there are a variety of approaches. Still, the best practice for any situation will be one that is co-developed, co-managed, and co-governed by both Indigenous and western parties for a shared purpose. Domestically and internationally, co-management arrangements have proliferated across several areas, including land and resource management and health (Chapter 5). Co-management arrangements can be driven primarily by either Indigenous or western partners, depending on what has been agreed. Co-governance involves greater power-sharing than co-management or western-led approaches, with deeper engagement and participation, and goals that reflect the priorities and objectives of each participating culture (Hill *et al.*, 2012).

Investing in IKS has broad economic, social, and health benefits

Nurturing healthy and sovereign Indigenous food and knowledge systems creates a foundation for exchange, partnership, and growth, as well as economic and social benefits. A systematic review of the impacts of traditional ecological knowledge on Indigenous Peoples found that IKS provide both economic and health benefits (Salim *et al.*, 2023). Economic activities include providing sources of income, employment, and entrepreneurial opportunities, while human health impacts include supporting food security, health, and well-being, as well as

the livelihoods and practices of local communities (reviewed in Salim *et al.*, 2023). Indeed, Indigenous natural resource management has been identified as a means of improving the health and well-being of “some of Australia’s most marginalised and disadvantaged peoples” while, more broadly, supporting biodiversity conservation and sustainable community development (Burgess *et al.*, 2005). Recalling Box 5.4, Indigenous Guardians and Ranger programs generate demonstrable economic returns on investment, as well as social returns in health, well-being, and the development of skilled workers, among other benefits (SVA, 2016a,b; ILI, 2023). For example, over eight years, the Łutsël K’ę and Dehcho Guardians programs in the Northwest Territories of Canada were estimated to have provided a social return on investment of approximately \$2.50 for every dollar invested (SVA, 2016b).

In Canada, investment in Indigenous communities benefits Indigenous food and knowledge systems as well as the broader Canadian economy, environment, and society. For example, the Manitoba Métis Federation, the national government of the Red River Métis, has disbursed over \$13 million to its Citizens in support of for-profit agricultural enterprises and distributes over 6,000 lbs of produce annually (H. Keenes, personal communication, 2026). Food sovereignty is also supported through at-home garden boxes and seed programs, the Riel House vegetable garden, as well as research and education related to traditional horticultural practices (H. Keenes, personal communication, 2026; MMF, n.d.). More broadly, investments that address inequities among Indigenous communities can provide both economic and social returns. For example, addressing infrastructure, housing, and educational disparities among First Nations communities in Canada has been estimated to cost nearly \$350 billion (AFN & ISC, 2023). However, closing this infrastructure gap would generate more than \$600 billion in economic output and support more than 330,000 jobs (Figure 6.6).



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Figure 6.6 Investing to close the First Nations infrastructure gap, generating significant economic benefits across Canada

The total projected economic impact from 2023 to 2030 of the estimated \$349-billion investment required to close the infrastructure gap, including direct, indirect, and induced impacts.

At the local level, investment in Indigenous food sovereignty initiatives can improve Indigenous health and well-being by supporting food production, preparation, and distribution, as well as by providing training, employment, knowledge-sharing, and advocacy opportunities (Tea Creek, 2025). The revitalization of Sockeye salmon, led by the Okanagan Nation Alliance (ONA), for instance, resulted in more than 10,000 fish harvested for community members and 40,000 for the ONA commercial fishery in 2022 (Strachan, 2022). This program supports families to harvest fish together, providing public education forums and reacquainting community members with food preservation practices, along with countless other community engagements that culminate with the Annual Salmon Feast Celebration (P. Terbasket, personal communication, 2026). Among Inuit, Arctic char are harvested commercially and for subsistence in Nunavut, and the Cambridge Bay fishery accounts for 44% of Canada’s wild harvest, with more than 38,000 kg of Arctic char processed by Kitikmeot Foods²⁶ annually (NWRCC, n.d.). The Wuikinuxv crabapple orchard restoration project, initiated by the Wuikinuxv Stewardship Department, revitalizes practices for the cultivation and management of crabapple trees to sustain both the Wuikinuxv and wildlife, including bears (Wickham *et al.*, 2022; Armstrong *et al.*, 2023c). It aims to reduce conflicts with bears and it provides an annual harvest that supports ceremonial and cultural practices (S. Wickham, personal communication, 2026).

26 Kitikmeot Foods is “jointly owned by the Nunavut Development Corporation (a Crown corporation of the Government of Nunavut) and the Ikaluktutiak Coop, a local member-owned cooperative” (Kitikmeot Foods, 2023).

While quantified economic returns are relatively scarce in the literature, one study that examined the returns on investment for land-based education programming at Dechinta and Angunasuktiit estimated returns of \$2.25 and \$1.43 per dollar spent, respectively, with these estimates increasing to \$3.70 and \$5.37, respectively, when the economic value of well-being was included (Hackett & Fox, 2025). At a broader scale, fisheries in Nunavut provide both food security and economic opportunities for Inuit (NWRCC, n.d.). For example, the primary offshore commercial fishery for Nunavut is the Greenland halibut (turbot) fishery, which supports Inuit-owned enterprises (NWRCC, n.d.).

Synthesis

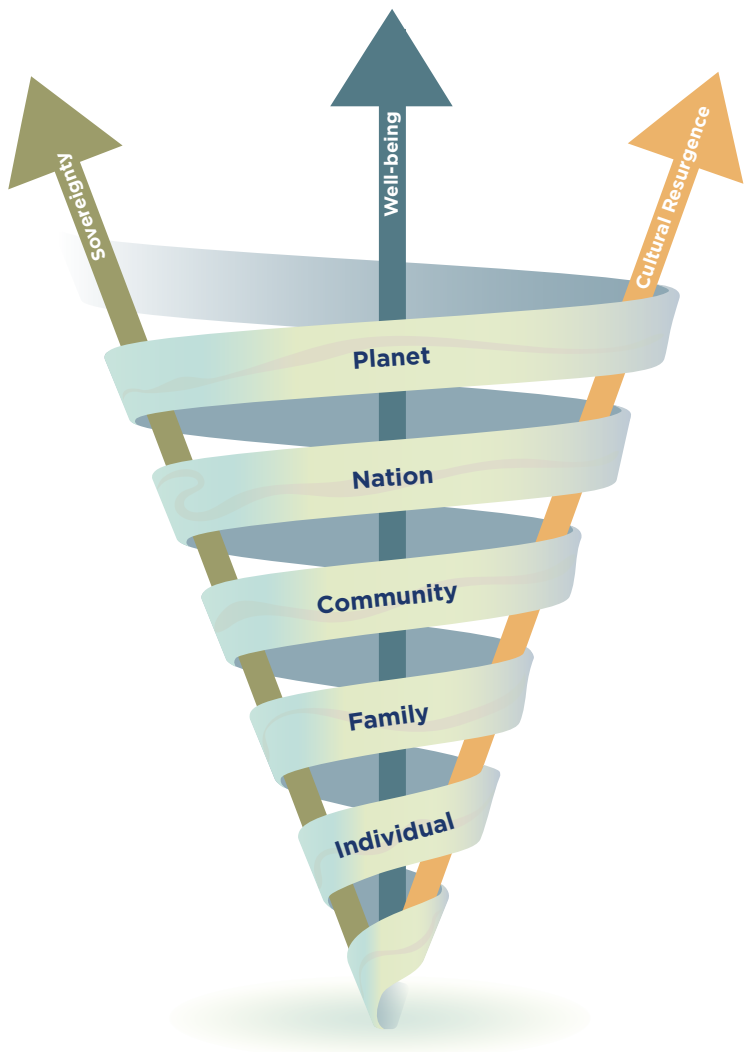
Leading practices for bridging knowledge systems reflect goals and shared priorities identified in dialogue and co-developed among partners.

Successful bridges are built on reciprocity; they create opportunities for exchange and support investment in Indigenous Peoples and communities with returns that benefit all people and ecosystems in Canada.

Successful bridges uphold treaty rights; they are built by people from systems that affirm Indigenous sovereignty and self-determination.

6.4 An invitation to reflect

Healthy and sovereign IKS *are* healthy and sovereign Indigenous food systems. The panel emphasizes that these concepts are interconnected and mutually reinforcing. Actions to support one will support the other through the three pillars of well-being, sovereignty, and cultural resurgence (Figure 6.7).



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Figure 6.7 Conceptual model for supporting healthy Indigenous systems

Based on the spiral resiliency model by NCSA and Patti LaBoucane-Benson, this model emphasizes the key pillars for supporting healthy Indigenous knowledge and food systems: well-being, sovereignty, and cultural resurgence. The spiral indicates a healthy, interconnected system at all scales.

When adequately nourished and supported, these pillars hold up the spiral of resilience at all scales, from individual to planetary. Supporting Indigenous food and knowledge systems will not only benefit Indigenous Peoples; safeguarding and respectfully stewarding the Land and Water will be crucial to the health and well-being of all future generations. Efforts to bring Indigenous knowledges into food systems can improve all food systems for the betterment of everyone in Canada.

Good work is already happening at all scales

This report discusses only a small fraction of the important work led by, or done in partnership with, Indigenous Peoples to achieve healthy knowledge and food systems. Food sovereignty, conservation, ecosystem rehabilitation, species restoration, on-the-Land education, and numerous other areas are continually advanced by Indigenous Peoples to restore healthy and sovereign food and knowledge systems. Though benefits may only be fully realized in the long term, immediate actions to bolster these systems will echo into the future, affecting food system decisions for individuals, their families, and their communities. The success of these initiatives requires significant time and effort from countless individuals working toward a common goal, one informed by the teachings and wisdom of Knowledge Holders, Elders, and Natural Law.

It is vital to note, however, that many of these initiatives and activities are occurring despite existing policies and governance arrangements, which remain primarily rooted in colonial laws and priorities. Panel members remind readers of their own discomfort at being asked to discuss how IKS may best be supported by a government that, for much of its existence, has actively worked to suppress such systems. Indigenous Peoples' food and knowledge systems are not a response to colonialism; they have been in practice since time immemorial and will continue to be practised into the future. Only through reconciliation and advancement of Indigenous sovereignty, safety, and self-determination—a pathway charted, for example, in the 94 Calls to Action of the TRC report and the 231 Calls for Justice of the NIMMIWG report, among others—can there be genuine progress by colonial governments in supporting healthy Indigenous knowledge and food systems.

Shifting from supporting to investing in IKS is an avenue for transformational change

Economic and material investment in Indigenous communities and Knowledge Holders is a necessary component of strong and healthy IKS. Shifting the paradigm from support to long-term, sustained investment is required to ensure the longevity and transmission of IKS to future generations. Investing in IKS

also means investing in Knowledge Holders and their communities. Indigenous research and knowledge production have occurred for millennia and do not need to be co-produced or bridged with western knowledge systems to merit support and investment. Investment that moves beyond the acknowledgment of IKS and toward a shift in institutional culture and systems thinking is foundational. Current efforts are stalled by governments trying to fit Indigenous knowledges into existing policy and management approaches. For transformational change, Indigenous knowledges and Knowledge Holders need to be involved and leading from the outset of any research process or funding agreement that involves Indigenous Peoples and their Lands. In the panel's experience, this takes hard work and dedicated resources—the status quo is not enough.

There is an opportunity for Canada to showcase leadership

Despite these challenges, the panel recognizes an opportunity for Canada to showcase leadership in meeting its obligations to reconciliation and in supporting IKS in policy and governance. Advancing co-governance or shared decision-making arrangements and recognizing Indigenous rights and title will rebalance relationships among Indigenous Peoples and governments and help advance reconciliation commitments. A significant body of work has already been commissioned by, and delivered to, the federal government on the topic of reconciliation, which provides a starting point for bridging knowledge systems in a good way, as self-determined by Indigenous Peoples. Education is key to understanding the histories and developing the empathy necessary to support transformative change. In the face of rapidly changing domestic and international contexts, Canada has an opportunity to maintain and advance its relationship with Indigenous Peoples and offer a path forward through Indigenous leadership and explicit support of Indigenous ways of knowing, being, and doing. The transformation of food systems in Canada is one avenue through which Indigenous well-being, sovereignty, and cultural resurgence can be expressed, for the betterment of all. The panel would like to end with an invitation to readers to pause and reflect: if Indigenous Peoples' knowledge and food systems were fully recognized, respected, and supported, how might Canada be transformed?

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