

# **Seeds of Change: Strengthening Metlakatla Cultural Food and Material Practices**

**by  
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## **Abstract**

Indigenous food sovereignty is an important means to strengthen and honor traditional food systems and knowledge that have been impacted by colonialism and the neoliberal food regime. Given the importance of food sovereignty, the Metlakatla First Nation seeks to implement a cultural food and material strategy to strengthen and protect Metlakatla participation in important food, social, and ceremonial activities. This study sought to explore different mechanisms to implement Metlakatla's strategy and found that governance frameworks, such as adaptive management and transition management, can be useful tools. However, this study has also found that before using such governance frameworks, there are pre-conditions that are important to consider, including system awareness, compatibility, and structural conditions, that can help address institutional barriers that may otherwise impede intervention efforts. This study reinforces the importance of paying attention to the place-based pre-conditions needed to achieve long-term sustainable visions through intervention efforts.

**Keywords:** Culture and Food Sovereignty; Indigenous; Capacity-building; Sustainability Transformations; Governance; Adaptive Management; Sustainability Transitions; Transition Management; British Columbia

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## List of Acronyms

<b>AM</b>	Adaptive Management
<b>AFS</b>	Aboriginal Fisheries Strategy
<b>BC</b>	British Columbia
<b>FSC</b>	Food, Social, Ceremonial
<b>IFS</b>	Indigenous Food Sovereignty
<b>LNG</b>	Liquid Natural Gas
<b>MDC</b>	Metlakatla Development Corporation
<b>MGC</b>	Metlakatla Governing Council
<b>MSS</b>	Metlakatla Stewardship Society
<b>SFU</b>	Simon Fraser University
<b>ST</b>	Sustainability Transitions
<b>TM</b>	Transition Management

# Introduction

Indigenous food sovereignty (IFS) is a movement that addresses a myriad of complex issues involving Indigenous food systems, including political autonomy, authority, sovereignty, rights, and persistent ideologies (Morrison, 2006; Fairbairn, 2010). IFS, in essence, represents the ability to create food policies and systems that sustain Indigenous communities' cultural food practices (Coté, 2016). By building food sovereignty, Indigenous communities seek to enable social change and transformation of society “as a whole” (Desmarais & Wittman, 2014, p.5) to strengthen and honor traditional food systems and knowledge, while addressing the impacts of colonization and the neoliberal food regime. Yet, there are still knowledge gaps about the application of Indigenous food sovereignty in real world practices, especially in the context of using theories of change, such as sustainability transformations and transitions. Sustainability transformations and transitions are prescriptive and iterative in application and have a similar end goal to IFS of enabling change across society to achieve sustainability goals.

IFS and sustainability transformations and transitions literature emphasize the importance of developing a deep understanding of the place-based context. In particular, IFS is not a blanket framework, it is a context-specific “living reality” that is shaped by local dynamics (Coté, 2016; Desmarais & Wittman, 2014). Similarly, Wolfram (2016) and Murphy (2015) argue the importance of building a deep understanding of the place-based context and pre-conditions to enable change, which includes socio-spatial relations, underlying politics, and functional capacity (Murphy, 2015; Wolfram, 2016) to “create a more fertile ground” (Wolfram, 2016, p.9) for intervention efforts.

In an attempt to contribute to the growing efforts to apply food sovereignty in practice, this study investigates the place-based pre-conditions that would support the Metlakatla First Nation in implementing a cultural food and material strategy using adaptive management and transition management governance frameworks. This study is part of a larger program within the Metlakatla First Nation, titled the Cumulative Effects Management (CEM) Program, which aims to understand and manage the potential impacts of proposed developments in Metlakatla territory and achieve sustainability of diverse ecosystem and social values. Cultural food and material practices are referred to as food, social, and ceremonial (FSC) activity within the CEM Program (the CEM



Program defines “FSC Activity” as harvesting, preparing, and processing traditional foods [e.g., halibut] and materials [e.g., stripping cedar bark]). FSC Activity and cultural food and material practices will be used interchangeably hereinafter.

This paper presents a study of the Metlakatla First Nation’s strategy “to strengthen and protect Metlakatla’s continued participation in important cultural [food and material] practices for future generations”. This research made use of in-depth interviews with Metlakatla managers and leadership, and engaged with literature from food sovereignty, sustainability transitions and transformations, and governance and management frameworks. Using insight from the literature and interviews, this paper presents recommendations for the Metlakatla First Nation to consider before implementing the FSC Activity Strategy to increase their cultural food sovereignty. While generalizing these insights across other communities should only be undertaken with caution, practitioners and researchers in the IFS field may benefit from, and replicate, the pre-conditions approach used in this study to assess the place-based context in other settings.

## **Metlakatla First Nation Study Site**

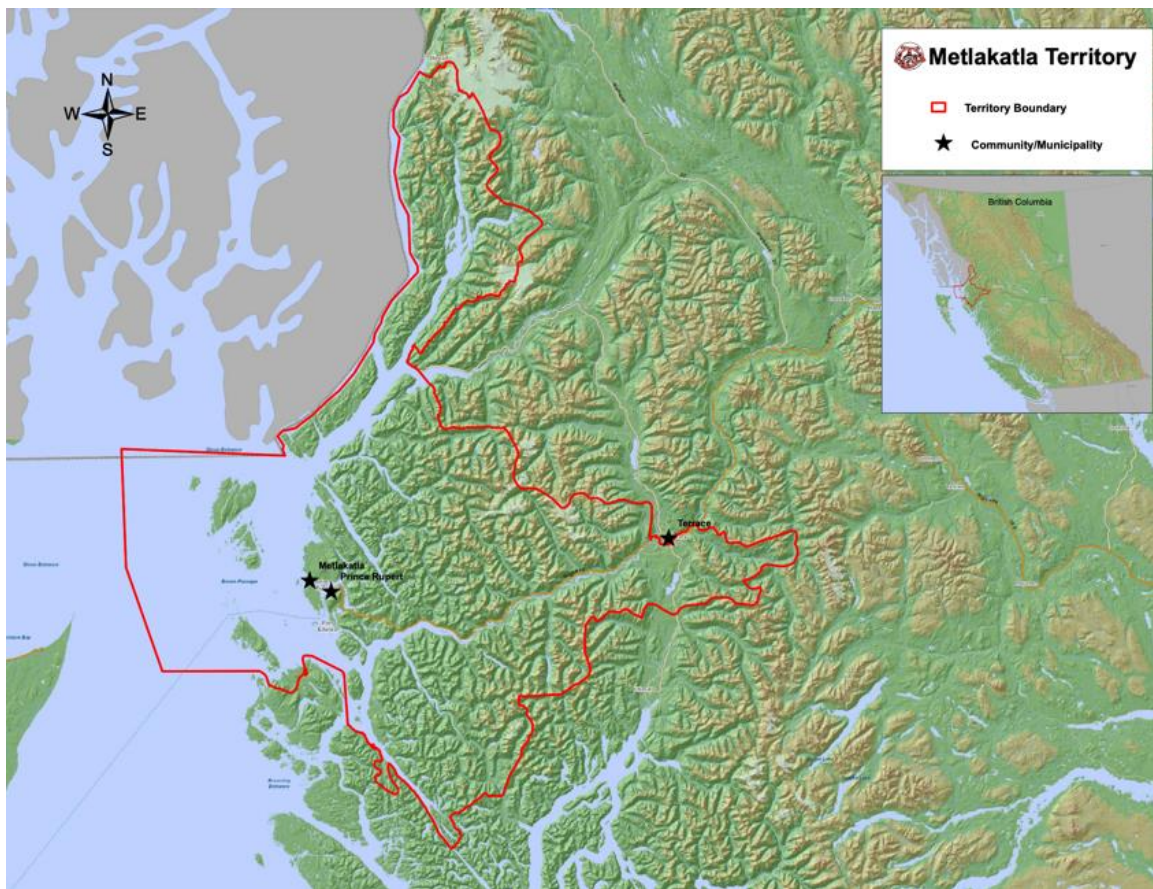
The people of the Metlakatla First Nation located on the northwest coast of British Columbia (BC) Canada, are descendants of the Nine Allied Tribes of the Coast Tsimshian. Metlakatla traditional territory encompasses over 20,000 square kilometers of land and sea in the area now known as the Great Bear Rainforest (see Figure 1).

The Metlakatla First Nation has approximately 986 registered members (Indigenous and Northern Affairs Canada, 2019). The governance structure consists of an elected Governing Council and three programs:

- Metlakatla Governing Council, which provides management oversight of social and health programs.
- Metlakatla Stewardship Society, which manages and protects the land, sea, and environment of Metlakatla Territory (Figure 1).
- Metlakatla Development Corporation, which pursues economic development and capacity building opportunities for the benefit of the Metlakatla Nation and its members, and

- Metlakatla Treaty Office, which oversees treaty-related discussions with the federal and provincial governments (Metlakatla have not signed a comprehensive treaty, but are currently at an advanced stage of tripartite treaty negotiations).

Over the past decade, economic development proposals for major resource development in Metlakatla Territory have increased, including proposals for the construction of liquid natural gas (LNG) pipelines and terminals, as well as other export-related developments. To monitor and respond to the potential undesirable cumulative effects of such development, the Metlakatla First Nation entered a collaborative research partnership with Simon Fraser University (SFU) in 2014 titled the “Cumulative Effects Management” (CEM) Program. The Metlakatla CEM Program focuses on protecting and restoring “priority values” that are important to the Metlakatla community and may be affected by development (Compass Resource Management, 2015).



**Figure 1** Location of Metlakatla First Nation's Traditional Territory retrieved from <http://www.metlakatla.ca/overview/stewardship/development-and-project-applications>



**Figure 2 Metlakatla generalized seasonal round calendar adapted from Hutchison (2017)**

One of the priority values in the CEM Program is to protect and strengthen cultural, social, and ceremonial food and material practices—also known as FSC Activity (Metlakatla CEM Synopsis, 2019). FSC Activity includes harvesting (e.g., fishing, gathering, hunting, or trapping), processing (e.g., gutting fish), and preparing (e.g., jarring, canning, or smoking) traditional foods (e.g., halibut) and materials (e.g., stripping cedar bark). FSC Activity is essential to transmitting knowledge, strengthening cultural identity, and renewing and honoring cultural practices, traditions, and knowledge. Examples of FSC Activity in the Metlakatla First Nation are captured in Figure 2. Repeated censuses of Metlakatla members show that participation in FSC Activity has declined over the past five years, while anecdotal evidence confirms FSC activity participation among members has been declining over recent decades. This research aims to strengthen participation in Metlakatla

food and material practices by investigating place-based pre-conditions to support the implementation of an existing cultural food and material strategy. In previous engagement with Metlakatla members and staff, some of the initiatives identified in the strategy include cultural harvest days, a conservation-focused education program, and learning days.

## **Literature Review**

This section explores multiple bodies of literature to guide the research project approach and situate itself within a larger body of research. The section starts with an overview of Indigenous food sovereignty to better understand FSC Activity and its wider socio-political context. The section then explores two governance frameworks (i.e., adaptive management and transition management) that could be used to implement the FSC Activity Strategy. Adaptive management and transition management are selected because they offer prescriptive tools to manage complex systems with high uncertainty, such as food systems. The final section explores the necessary place-based pre-conditions required to utilize the management frameworks.

### **Food Sovereignty**

Food sovereignty, or people's right to control and define their food systems, is an alternative approach to sustainable food systems that challenges neoliberal and capitalist food regimes (La Via Campesina, 1996). The term 'food sovereignty' was coined in La Via Campesina, by a group of land-based peasants, farmers, and Indigenous Peoples, to address the underlying politics behind the globalized food system and encourage a close relationship between food production and consumption (Cidro et al., 2015; Desmarais & Wittman, 2014; Fairbairn, 2010). Challenging neoliberal capitalism and the current food regime is important to try to reclaim power over decisions around food policy, ensure affordable food prices, and reinstate the importance of culture, biodiversity, and traditional knowledge (Fairbairn, 2010).

Food sovereignty is not a new phenomenon to Indigenous Peoples in Canada, and has been practiced for generations (Morrison, 2011). Despite this, there are still knowledge gaps about IFS and opportunities for integrating food sovereignty into policy to increase self-determination and support traditional food practices through reforming forestry and fishery policies (Cidro et al., 2015; Desmarais & Wittman, 2014; Morrison, 2011).

According to Morrison (2011), Indigenous food sovereignty is not universal but viewed in relation to each Nation's distinct rights and powers to exercise its authority and political autonomy over its food systems. As such, IFS is a "daily mode of resistance" (Grey & Patel, 2015, 3) against colonization, displacement, and unsustainable neoliberal food structures. There are four principles that Morrison (2011) uses to describe IFS: food is sacred; active participation is essential at different societal levels; self-determination is required to make decisions about Indigenous foods and practices; and lastly, mobilization of legislation and policy is required to support IFS. The concept of food sovereignty is also useful in thinking about other cultural revitalization efforts highlighted by the FSC Activity Strategy that apply to non-food purposes, including stripping cedar bark and harvesting devil's club plants.

Relationship formation and mobilizing the community are integral to achieving IFS and sustainable self-determination (Corntassel, 2008; Coté, 2016; Morrison, 2011). Corntassel (2008) argues that change should come from within Indigenous communities through action, strategies, and policies, in order to rebuild community values and relationships (Timler & Brown, 2019) that are poorly accounted for in current state political and legal affairs (Coté, 2016). Corntassel (2008) also argues that Indigenous Peoples should fulfill their cultural responsibilities towards their ecosystems by transmitting and renewing cultural food practices, traditions, knowledge, and languages in order to achieve sustainability. Food is ultimately a reflection of relationships between Indigenous Peoples and their homelands.

IFS is strengthened by collaboration among different agencies and actors, and the formation of like-minded networks to challenge the current food and political regime (Morrison, 2011). Inspiring systematic change requires analyzing the underlying issues that hinder IFS (e.g., power imbalances, limited territorial spaces, capitalism, and colonial structures). Given the complex socio-political systems that Indigenous communities operate within, IFS can benefit from prescriptive frameworks, such as sustainability transformations and transitions, to better visualize the multi-level system and intervention efforts to achieve long-term sustainable visions (i.e., becoming a food sovereign state). Prescriptive frameworks are process-based and identify "different clusters of activities" that can support normative goals (e.g., sustainability) and long-term governance change (Loorbach, 2010, p.172).

## **Sustainability Transitions and Transformations**

Sustainability transitions and transformations are terms increasingly used in scientific and public discourses (Hölscher, et al., 2018). Both seek to address societal and institutional challenges related to sustainability (e.g., food security, resource depletion, poverty) that are deeply ingrained in modern societies as a result of unsustainable practices (Loorbach, 2010; Olsson et al., 2014; Roorda et al., 2014; Spekkink et al., 2013). Both aim to achieve long-term sustainability goals and visions through large-scale disruptive change (Lam et al., 2020; Markard, et al., 2012). Transitions and transformations differ in their theoretical origins and the system being described (Hölscher, et al., 2018).

Transitions is concerned with enabling change across sectors (e.g., food systems, mobility, energy) in socio-technical systems, and borrows its ideas from multiple bodies of literature including complex systems theory, technology studies, and innovation studies (Loorbach et al., 2017; Markard et al., 2012). Sustainability transitions operate at a meso-level (Geels, 2004), and aims to analyze societal patterns, origins, and functions that enable a system to transition from one state to another. A common premise in the field is that many current challenges in society stem from systemic dysfunctions (Loorbach et al., 2017). Addressing the systemic challenges requires a deep understanding of the role and dynamics of governance systems across different levels in society.

Transformations is concerned with macro-level changes in socio-ecological systems (e.g., fisheries) (Folke et al., 2010), and stems from complex adaptive systems theory (Lam et al., 2020; Patterson et al., 2015). Transformations analyzes human-environment interactions and the capacity of socio-ecological systems to handle “disruptive change” (Olsson et al., 2014). A common premise in the field is that given that humans and the environment are interconnected, it is essential to understand the environment’s capacity to deal with and adapt to change to help build the environment’s capacity, resiliency, and occasionally encouraging change while maintaining essential function (Herrfahrdt-Pähle et al., 2020; Olsson et al., 2014; Patterson et al., 2015).

Food sovereignty is interdisciplinary and spans across socio-ecological-technical systems. According to Morrison (2011), current food systems are characterized by

uncertainty, therefore IFS should “adapt strategies and cultural techniques to an equally dynamic system – one of learning by doing, of acquiring knowledge through trial and error (feedback learning) and of engaging in social learning with Elders and traditional harvesters” (p. 104). Transition management and adaptive management are branches of sustainability transitions and transformations that can be used to address uncertainty and enable change across socio-ecological-technical systems.

## **Governance Frameworks**

Governance frameworks are prescriptive tools that can empower Indigenous communities to establish new institutions (Karanasios & Parker, 2018). Adaptive management (AM) and Transition management (TM) are both “learning-oriented management theories” (Van Der Brugge & Van Raak, 2007, 4) that seek to address uncertainty, build understanding, and improve management mechanisms for complex adaptive systems (Foxon et al., 2009). AM is particularly concerned with improving knowledge and management approaches in socio-ecological systems, which are characterized as complex, self-organizing, dynamic, and in disequilibrium (Holling, 1978; Levin, 1999). In contrast, TM focuses on socio-technical systems and seeks to influence the speed and direction of governance activities to achieve long-term sustainable futures through short-term action (Loorbach et al., 2017). TM discourse also view transitions as multi-actor and multi-dimensional processes that interact across three levels: socio-technical regime, landscape, and niche. ‘Landscape’ highlights external factors, preferences, and pressures. The patchwork of ‘regimes’ highlights the incumbent systems that may be resistant to change. ‘Niches’ are new innovations that emerge from specific sectors to influence the regime (Markard et al., 2012). Niches and innovations will be used interchangeably hereinafter.

AM and TM have the potential to influence change within a regime through collective experimentation, continuous learning, and adaptation (Van Der Brugge & Van Raak, 2007). Both governance frameworks are prescriptive (i.e., process-oriented) and emphasize “learning-by-doing”, thus holding value for implementing strategies to achieve short and long-term goals (Foxon et al., 2009). This is especially important for achieving IFS, as food systems are highly uncertain and comprised of elements (i.e., social, cultural, scientific) that span socio-technical and socio-ecological systems.

While both governance frameworks offer a prescriptive and iterative process to manage change, designing and implementing projects can be challenging (Greig et al., 2013). Barriers to implementation typically arise from the political and social arena that the projects operate within, and are often institutional in nature, rather than scientific (Johnson, 1999; Williams, 2011). Institutional issues include an organization's rigid and inflexible framework for making decisions, non-participatory approaches, limited resources, lack of leadership, and inability to accept change and uncertainty (Greig et al., 2013; Wolfram, 2016). Thus, considering the critical pre-conditions needed to promote internal change and create an environment that allows for adaptive decision-making, planning, and learning is essential when applying governance frameworks (Williams, 2011).

## **Pre-conditions**

The literature on AM and TM tends to underemphasize the importance of addressing the underlying politics and the importance of place (i.e., institutions, political arena, community, socio-spatial relationships) when designing experiments and making decisions about participation, experimentation, and learning (Murphy, 2015; Voß & Bornemann, 2011; Wolfram, 2016). Some scholars argue that legal, organizational, and ideological changes are needed across an institution in order for the institution to be amenable to governance frameworks to achieve change; in other words, to separate the governance frameworks “from the burden of failures that result from the complex policy, social, and institutional environment within which management occurs” (Rist et al., 2016, 3). Thus, growing research has been devoted to identifying necessary pre-conditions and factors that enable change across systems, which include transformative capacity, empowerment, leadership, and stakeholder autonomy (Murphy, 2015; Schöpke et al., 2017; Wolfram, 2016).

The pre-conditions that we will explore in this study are compatibility (Murphy, 2015), system awareness (Roorda et al., 2014), and structural conditions (Greig et al., 2013; Wolfram, 2016). Compatibility refers to the importance of making the niche or innovation (i.e., CEM's FSC Activity Strategy) compatible with elements in the regime/landscape (i.e., Metlakatla First Nation) to avoid the risk of being marginalized or fragmented in its implementation (Murphy, 2015). System awareness and analysis are the process of understanding a system, its actors, and dynamics (i.e., how does the Metlakatla First



Nation manage and govern FSC Activity?) (Roorda et al., 2014). Finally, structural conditions are factors that span legal, organizational, and ideological systems that can support an institution to be amenable to governance frameworks (Wolfram, 2015). Structural conditions can be categorized into attitude or philosophy (e.g., effective leadership), process (e.g., effective collaboration and communication), and resources (e.g., funding) (Grieg et al., 2013).

## Methods

This study investigates place-based pre-conditions to support the implementation of the Metlakatla FSC Activity Strategy. We first conducted a document analysis of Metlakatla documents and records (e.g., government documents, consultant reports, past CEM project work, environmental assessment submissions) to get a better understanding of the social, political, historical, and legal context in which Metlakatla operates.

Second, we conducted eight semi-structured interviews with Metlakatla managers and leaders to fill knowledge gaps after the document analysis and to update information on Metlakatla management and governance of cultural food and material practices (i.e., mapping out Metlakatla's regime). This step helped identify the necessary structural pre-conditions to support implementation of the FSC Activity strategy. The use of semi-structured interviews in this research was a key component of understanding Metlakatla's knowledge, values, beliefs, and decision-making processes (Young et al., 2018) and gave interviewees flexibility to guide the direction of the conversation according to their opinion on what needed to be talked about in relation to the interview objectives. The interviews targeted key informants (Newing, 2011), who were identified through peer selection, which involved the help of the Metlakatla First Nation and research collaborators in selecting knowledgeable people in this field. Examples of key informants included Metlakatla leadership and managers (staff) from different agencies in the Metlakatla First Nation.

Table 1 presents an overview of the interview approach and questions based on insights from the literature review and document analysis. We specifically drew from Murphy (2015), Grieg et al. (2013), and Wolfram (2016) to develop the questions. The interviews explored the following general themes: how Metlakatla and the respective leadership entity or department currently manage and govern FSC Activity; organizational barriers

and opportunities related to interviewees' experiences in managing FSC Activity and day-to-day operations; and the common understanding about FSC Activity and its importance between Metlakatla leadership and managers. All the interviews were recorded by Zoom and transcribed. We then analyzed the interview transcripts and identified key themes and quotes based on the goals of the research. Combining insight from the interview findings and the literature review was essential to inform the analysis.

**Table 1 Interview Approach and Questions**

<b>Interview Themes</b>	<b>Enabling Conditions</b>	<b>Sample Interview Questions</b>
<p><b>System awareness and analysis</b> (Roorda et al., 2014)</p>	<ul style="list-style-type: none"> <li>Develop knowledge of the system linked to management plans (i.e., system awareness)</li> </ul>	<ul style="list-style-type: none"> <li>Can you tell me more about the current management of FSC Activity in your department?</li> </ul>
<p><b>Compatibility</b> (Murphy; 2015)</p>	<ul style="list-style-type: none"> <li>Make the niche or innovation compatible with elements in the regime/landscape</li> <li>Build shared understanding and internal support</li> <li>Collective vision for sustainability changes</li> <li>Empower agents from the regime</li> <li>Gain trust and build legitimacy through new programs</li> </ul>	<ul style="list-style-type: none"> <li>Do you think there are any opportunities for collaboration between the work you are doing and the CEM Program?</li> <li>Are you hopeful that initiatives, such as the CEM Program, could help to strengthen harvest participation?</li> </ul>
<p><b>Structural conditions</b> (Greig et al., 2013; Wolfram, 2016)</p>	<ul style="list-style-type: none"> <li>Effective leadership</li> <li>Effective collaboration and communication (e.g., lack of siloes and institutional fragmentation)</li> <li>Commitment</li> <li>Adequate funding and human resources</li> <li>Transformative capacity (i.e., the power to change)</li> <li>Engage in participatory approaches</li> <li>Design a rigorous program with a strong monitoring and learning component</li> <li>Social capital and social learning networks (i.e., networks, groups, individuals, agencies, etc.)</li> <li>Transmit knowledge or learning (i.e., avoiding memory loss)</li> <li>Accessibility</li> </ul>	<ul style="list-style-type: none"> <li>In your day-to-day operations, what kinds of challenges do you encounter in managing FSC Activity?</li> <li>What has helped/would help you overcome the challenges?</li> <li>In your opinion, what type of organizational structure would best support the implementation of an FSC Activity strategy?</li> <li>How do you think that community members could be mobilized to take on FSC Activity independently?</li> </ul>

## Results

All interviewees shared an interest in protecting and enhancing FSC Activity in the Metlakatla First Nation. The interviews increased our understanding of Metlakatla's socio-political system and revealed opportunities to improve the current management and governance of FSC Activity. The interviews also highlighted important structural pre-conditions that would support implementation of the FSC Activity Strategy, such as improving accessibility, transformational capacity, and effective collaboration. Finally, the interviews highlighted that the CEM Program is generally aligned with elements within the Metlakatla regime; however, there is an opportunity to improve general understanding about Metlakatla's definition of FSC Activity as it can occasionally be confused with the definition of FSC in the Canadian federal government's Aboriginal Fisheries Strategy <sup>1</sup>. The following section will discuss each of the three pre-conditions, as they relate to the work with Metlakatla, starting with system awareness and analysis, then compatibility, and finally structural conditions.

### System awareness and analysis

Understanding and analyzing the system (i.e., how FSC Activity is managed by Metlakatla First Nation) is necessary for designing or implementing the FSC Activity Strategy, to find areas of collaboration within existing management structures, adapt to organizational enablers and barriers, and assess the strategy's compatibility with the existing system.

The interviews demonstrated that despite there being a shared interest in protecting and enhancing FSC Activity in the Metlakatla First Nation, the Nation does not yet have a formalized program, governing structure, or clear mandate to manage FSC Activity. As such, different Metlakatla departments organize FSC Activity depending on opportunity, funding, and resources "...we get funding, we try to get people out on the territory to

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<sup>1</sup> The Aboriginal Fisheries Strategy (AFS) was developed by the Government of Canada's fisheries agency to manage Indigenous fisheries for food, social, and ceremonial purposes and focuses on fisheries, distribution of food, and catch limits. AFS was created in response to the *R v. Sparrow* (1990) court decision, which set the precedence for Aboriginals right to fish for food, social and ceremonial purposes (FSC) and ruled that FSC takes precedence over all other uses of the fishery, except conservation.

harvest medicines or participate in cultural activities, try and get fishermen out...but yeah, no formalized program per say". Most interviewees, however, agreed that all departments have either a direct or indirect role in protecting the environment and resources to ensure Metlakatla members can practice their constitutionally protected Section 35 rights<sup>2</sup> and preserve culture. Additionally, Metlakatla programs have mostly concentrated on practices linked to the marine environment, "right now, concentration for access for youth and elders is the ocean. We need to get up into cedar boughs and berry patches and salt licks where the deer travel".

Similarly, Metlakatla does not yet have a comprehensive formal planning and decision-making structure specifically for FSC Activity. Interviewees described current planning for FSC as "reactive" or occurring on a "case-by-case basis". Several interviewees also shared that FSC Activity tended to be an "advocacy item" in planning processes, which is when a Metlakatla agency or leadership entity delegates responsibility to another Metlakatla agency to address a particular issue based on the agency's jurisdiction.

## **Compatibility**

Compatibility refers to an experiment or niche's relevance, legitimacy, and importance to the regime (i.e., Metlakatla First Nation). The interviewees generally shared a positive perception of the CEM Program, with one of the managers sharing, "[The CEM Program plays] a huge role in helping us structure work and connect all these complex dots and just being a supportive group of people...", and "maybe we just need the CEM Program to help us sit down and really think through some of this stuff". The positive attitude towards the CEM Program is particularly important as it fulfills a precondition that Murphy (2015) argues is an essential ingredient to the success of enabling change, which is that new programs need to gain the trust and legitimacy of the regime. Given that the CEM Program has gained the trust and legitimacy of Metlakatla, it has a good opportunity to continue to work with Metlakatla agencies to apply structural changes through the FSC Activity Strategy.

However, there was one element from the CEM Program that could be changed to ensure compatibility with the existing Metlakatla regime. The term "FSC Activity," defined

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<sup>2</sup> Section 35 of the Canadian Constitution Act, 1982 recognizes and affirms Indigenous rights in Canada.

in the CEM Program as harvesting, processing, and preparing traditional foods and materials, was sometimes confused by interviewees with FSC as defined in the federal government's Aboriginal Fisheries Strategy (focused on fisheries, distribution of food, and catch limits). For example, when one of the interviewees was asked about the FSC Activity's mandate, the interviewee responded: "each one of our organizations have a mandate to make sure that Section 35 fish [i.e., FSC fish managed under the Aboriginal Fisheries Strategy] is always protected and distributed".

## **Structural conditions**

Structural conditions are system conditions that would support implementation of the FSC Activity Strategy. Based on the interviews, the pre-conditions can be organized into the following categories: accessibility, effective collaboration, and capacity.

Accessibility refers to Metlakatla members' access to traditional foods and materials and FSC Activity opportunities. Interviewees identified various factors that affect accessibility including, (1) employment opportunities and relocating from traditional territories to seek opportunities in urban centres, (2) species quality and environmental contamination, and (3) reliance on food from Western markets or Metlakatla food programs. Another factor that can affect accessibility is concern about whether community members are properly protected in the event of accident or illness when the Nation is supporting them to access FSC opportunities, "if we take members, anywhere on the territory, are they covered? If we put them on the boat, if we take them to a beach, there may be wildlife interactions, many risks associated".

The interviews identified that effective collaboration among Metlakatla programs and agencies is an important structural pre-condition for implementing the FSC Activity Strategy. By establishing a clearer mandate and operating procedures for managing FSC activity, Metlakatla leadership could reduce overlap between departments and avoid having each agency or program operating in "[their] own wheelhouse." Interviewees also highlighted the importance of clear communication, coordination, and knowledge about how planning and decisions are made in implementing the FSC Activity strategy.

Lastly, transformational capacity will be essential to implement the FSC Activity Strategy. Interviewees specifically discussed the challenges of securing or competing for funding, limited human capacity (i.e., people with knowledge about FSC Activity who are available to manage it), and effective negotiation skills that are important for interactions with government about FSC-related issues.

## **Key recommendations for the CEM Program and the Metlakatla First Nation**

Insights from the document analysis, literature review, and interviews were used to develop recommendations for the CEM Program and the Metlakatla First Nation to consider when implementing the FSC Activity Strategy. The recommendations are summarized in Table 2 and include:

1. *Continue to build system awareness and analysis through tracking data and information on organizational changes and responses to intervention efforts.*

While this study has improved and updated Metlakatla's current understanding of how FSC Activity is managed and governed, institutional learning is an ongoing process that should be prioritized when tracking the system's response to the FSC Activity Strategy (Williams, 2011). Tracking, monitoring, and updating organizational changes are also essential to find areas of collaboration between the FSC Activity Strategy and new programs or assess the implications on FSC Activity if a program is altered or discontinued.

2. *Build the FSC Activity Strategy's compatibility with the broader Metlakatla management system by aligning it with Metlakatla's programs and understanding of FSC Activity.*

CEM Program managers and leadership of the Metlakatla First Nation should consider the various implementation mechanisms for the FSC Activity Strategy proposed by the interviewees (e.g., stand-alone program, sub-department, interdepartmental). Aligning the strategy with Metlakatla agencies is important for the strategy not to be "marginalized or fragmented" when implemented

(Murphy, 2015). Improving compatibility also includes clarifying the term FSC Activity for the Metlakatla First Nation or consider replacing it with another term, such as “cultural food and material sovereignty”, “resource use and occupancy”, or a similar term that resonates with the community. This would fulfill the important condition of building a shared understanding concerning the issue at hand for successful implementation (Greig et al., 2013).

3. *Dedicate efforts to addressing and monitoring Metlakatla’s structural conditions that are needed for successful implementation.*

Actions that Metlakatla can take to meet the structural conditions include developing an explicit mandate for FSC Activity, to reduce institutional fragmentation, and improving communication laterally and vertically (i.e., agency to agency and leadership to agency) to build trust and create shared meaning (Greig et al., 2013; Wolfram, 2016). While system awareness and compatibility have generally been met by the CEM Program and Metlakatla, additional effort should be dedicated to meeting the structural conditions to successfully implement the FSC Activity Strategy.

**Table 2 Summary of the assessment and recommendations for the CEM Program and the Metlakatla First Nation**

<b>Conditions</b>	<b>Enabling Conditions</b>	<b>Assessment</b>	<b>Recommendations</b>
<p><b>System awareness and analysis</b></p> <p>(Roorda et al., 2014)</p>	<p>Is there a consistent understanding of how FSC Activity is managed across the Nation's departments?</p>	<ul style="list-style-type: none"> <li>- Collective interest in protecting FSC Activity</li> <li>- No comprehensive formalized program, governing structure, or specific mandate to manage FSC Activity</li> <li>- Heavy focus on marine species, although some programs have organized land-based activities</li> </ul>	<ul style="list-style-type: none"> <li>- Continue to build and update system awareness.</li> <li>- Align current and future Metlakatla-based FSC Activity initiatives.</li> <li>- Develop an FSC Activity structure around Metlakatla's four seasons that expands beyond marine species.</li> <li>- Develop a clear mandate for FSC Activity, to better manage FSC Activity between the agencies.</li> </ul>
<p><b>Compatibility</b></p> <p>(Murphy; 2015)</p>	<p>Does the strategy align with principles and elements in the Metlakatla First Nation?</p> <p>Has the CEM Program gained trust and built legitimacy?</p>	<ul style="list-style-type: none"> <li>- Interviewees suggested numerous organizational structures for integrating and implementing the strategy</li> <li>- CEM's FSC Activity was occasionally confused with the more narrow definition of FSC used in the federal government's Aboriginal Fisheries Strategy</li> <li>- CEM seen as a hopeful program that could inspire change</li> </ul>	<ul style="list-style-type: none"> <li>- Create a system for managing FSC Activity.</li> <li>- Raise awareness about FSC Activity as interpreted in the CEM Program or consider replacing the term FSC with another term that resonates with the community.</li> </ul>
<p><b>Structural conditions</b></p>	<p>Have the Metlakatla First Nation met the necessary structural pre-conditions to implement an FSC Activity strategy?</p>	<ul style="list-style-type: none"> <li>- Interviews identified important pre-conditions that need to be met including improving accessibility, transformational capacity, and effective collaboration</li> </ul>	<ul style="list-style-type: none"> <li>- Develop clear mandate for FSC Activity, to better manage FSC Activity between the agencies.</li> <li>- Ensure Metlakatla members are properly protected or covered in the event of accident or illness when pursuing FSC activities.</li> <li>- Improve communication between Metlakatla agencies vertically and laterally.</li> </ul>



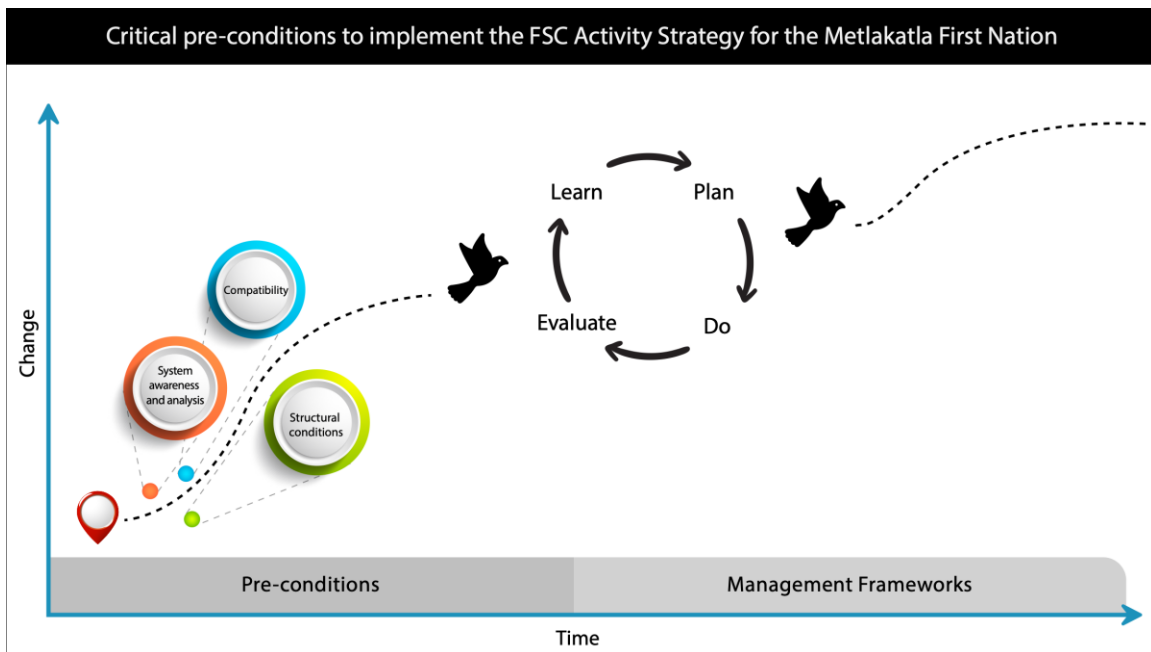
## Implications and lessons for researchers and practitioners

The Metlakatla study highlights some important themes that researchers and practitioners should consider when enabling systematic change to strengthen cultural food sovereignty. These include:

1. Experiments in highly uncertain systems (i.e., food systems) may benefit from applying governance frameworks, such as AM and TM, which offer prescriptive and theoretical approaches to guide interventions and change across different systems. In this study, FSC Activity comprises scientific, social, and cultural elements that span between socio-technical and socio-ecological systems. Thus, the FSC Activity Strategy benefited from applying insights from both AM and TM to guide the implementation of the strategy.
2. Given that Indigenous food sovereignty is place-based, applying governance and management frameworks to enable food sovereignty is similarly contextual and is "...unique in terms of context, actors, problems and solutions" (Loorbach, 2010, p.10). Place and its context-specific pre-conditions play important roles in facilitating or hindering food transformations and transitions (Murphy, 2015; Wolfram, 2016). To maximize the positive impacts of intervention efforts on policy and social processes, researchers and practitioners should pay attention to the critical place-based pre-conditions in the early stages of designing experiments. Focusing on an institution's critical pre-conditions, prior to implementing governance frameworks, can promote internal change and create an environment that allows for adaptive decision-making, planning, and learning (Williams, 2011).

Figure 3 illustrates the role of pre-conditions in early intervention stages of change processes. The pre-conditions from this study (i.e., system awareness, compatibility, and structural conditions) are embedded into an initial s-curve in stage 1 prior to the application of the frameworks. The s-curve generally represents transformation processes or changes in a system (Grin et al. 2010). Addressing the various pre-conditions in stage 1 accelerates internal transformation, making the system more amenable to successful intervention efforts, such as applying

transition management or adaptive management to facilitate further changes. Ultimately, focusing on the pre-conditions “shift(s) the focus away from ‘take-off’ and ‘exploitation/acceleration’ towards the ‘reorganization/pre-development’ phase in system(s)” (Rijke et al., 2013, 64 as cited in Wolfram et al., 2015) in order to “create a more fertile ground for focused accelerative intervention approaches” (Wolfram, 2016, p.9).



**Figure 3** Conceptualizing the critical pre-conditions to implement the FSC Activity Strategy before implementing the management frameworks

## Conclusion

This paper investigated place-based pre-conditions to support the implementation of an FSC Activity Strategy to strengthen Metlakatla cultural food and material practices. The three pre-conditions assessed were system awareness and analysis (i.e., how does Metlakatla manage and govern FSC Activity?), compatibility (i.e., did the CEM Program build trust and legitimacy?), and structural conditions (i.e., what institutional conditions need to be considered?). The document review and interviews with Metlakatla leaders and managers revealed that although there is a shared vision of restoring food and cultural material practices, there is more effort required at the regime level to address structural conditions to ensure Metlakatla institutions are amenable to intervention efforts for increased food sovereignty. Given that the pre-conditions in this study were context

specific and place-based, researchers should be careful about generalizing the findings. However, the Metlakatla example reveals several broader lessons for consideration by other researchers. We encourage further research on the application of pre-conditions in different contexts to build on and further emphasize the importance of pre-conditions in implementing governance and management frameworks.

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