

Restoring One Health: The Impact of Food Safety Legislation on Bison as an Indigenous Food Source in Western Canada

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Abstract

The *Food Policy for Canada* intends to support the revitalization of Indigenous food systems and address food insecurity. From a food safety perspective, multiple barriers exist that prevent Indigenous Peoples from exercising traditional hunting, harvesting, and slaughtering practices for traditional animal-derived foods. The current provincial (British Columbia, Alberta, Saskatchewan, and Manitoba) and federal (Canada) food safety regulatory environment poses restrictions on the raising, slaughtering, and processing of livestock, of which bison may be classified, that hinder the ability of First Nations and the Métis Nation to define their food systems. Licenses and restrictions, land accessibility and infrastructural costs hinder Indigenous Peoples from exercising food sovereignty and participating in the broader food system. Reducing barriers, while leveraging a minority of current regulations (e.g. on-farm slaughter in British Columbia and bison classified as a livestock product), are first steps to enabling food sovereignty, economic growth, and allowing communities to achieve wholistic One Health outcomes related to nutrition, identity, and health of the natural environment. Thus, universally benefitting rural and isolated populations irrespective of cultural background. Capacity-building founded on a sense of trust and common knowledge related to acceptable level of risk could allow Indigenous communities to identify hazards associated with traditional foods and make decisions on how to best control them within their food system.

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Introduction

Food ensures well-being and is a way humans connect with the land while sustaining culture and community (Shukla et al. 2019; Blanchet et al. 2021). Indigenous (i.e., First Nations, Inuit, and Métis Nation (or Red River Métis)) food is often referred to as “country food” or “traditional food” (Shukla et al. 2019). Traditional foods, such as bison meat, are linked to identity, and physical, mental, emotional, and spiritual health (Shukla et al. 2019; Blanchet et al. 2020). Hunting, fishing, harvesting, cooking, or feasting are also elements of culture, identity, and Indigenous well-being (Shukla et al. 2019; Robin et al. 2021), which embody components of Indigenous worldviews and involve one’s relationship and responsibility to the land (Shukla et al. 2019). In tandem with the natural environment, Indigenous Peoples have practiced safe food handling, preparation, and storage for centuries. For example, the Kanaka Bar Indian Band (British Columbia, Canada) still uses the natural environment as their guide (Steiner and Neathway 2019). Western science may not know what types of contaminants the foods were protected from, but as indicated through sustained environmental and community health, food safety practices appear to have been successful.

Canada’s colonial history used food as an assimilation tactic through the coercion, manipulation, and starvation of many Indigenous Peoples (Robin et al. 2021). For example, the intentional overhunting of bison by non-Indigenous people deprived First Nations and Métis Nation people of a vital food source. Canada’s historical policies (e.g., treaty agreements) resulted in market-based colonial foods becoming

the social norm for many Indigenous Peoples and the environment turned into poorly managed resource extraction sites (Robin et al. 2021). This colonized perception of food and agriculture removed humans from the concept of land (Robin et al. 2021). King (2012) describes land as “a defining element of [Indigenous] culture, contain[ing] the languages, the stories, and the histories of a people. It provides water, air, shelter, and food. Land participates in the ceremonies and the songs. And land is home” (p. 218). Therefore, since land represents “who Indigenous Peoples are...food from the land is how culture is lived” (Robin et al. 2021, p. 7). More importantly, Indigenous foods contribute to cultural resilience and knowledge transfer among community members and Indigenous youth (Shukla et al. 2019). Despite this truth, government policies and regulations have created social inequities which deter Indigenous Peoples from practicing their traditional values. Current realities faced by Indigenous communities result in food being solely a source of caloric sustenance and food insecurity becoming prevalent as food systems collapsed (Power 2008; Joseph and Turner 2020). An important aspect of truth leading to reconciliation between Indigenous Peoples and the Government of Canada is the need to acknowledge how historic and current policies disrupt Indigenous food systems. Therefore in 2017, the Canadian Government hosted public engagement sessions on the first-ever *Food Policy for Canada*; a priority outcome of which is to develop strong Indigenous food systems and decreasing food insecurity within Indigenous communities. *The Food Policy for Canada* aims to accomplish this by co-developing food policies and supporting Indigenous food self-determination (Government of Canada 2020).

Food insecurity for Indigenous Peoples is linked to extreme poverty and limited opportunity for socioeconomic growth resulting in poor health outcomes such as diabetes and cardiovascular disease (Power 2008). Indigenous-led initiatives, such as the Columbia River Salmon Reintroduction Initiative and the Buffalo Treaty practice a shared understanding of the benefits of traditional foods to environmental and human health (Crosschild et al. 2021; Blanchet et al. 2021). They acknowledge that returning cultural keystone species to their natural environment (i.e., traditional Indigenous territory) provides a stable food source for community members that holistically meets social and ceremonial needs, while contributing back to the land through biodiversity gains. These Indigenous-led initiatives work to safeguard human, animal and environmental health, and thus embody One Health principles (World Health Organization (WHO) 2025). One Health and Indigenous food systems analogously share principles, yet current One Health frameworks often lack Indigenous perspectives (Blume 2024) and do not address wholistic Indigenous culture and practices (Hillier et al. 2021).

Although Indigenous food systems have the potential to decrease food insecurity and increase One Health benefits, their full revitalization is only possible if Indigenous Peoples are allowed to exercise their right to define their food systems. Consequently, as created from a western perspective, food safety legislation (which is often the basis for One Health frameworks) presents barriers and may deny Indigenous communities the potential to define and decolonize their food systems as is the intent of the *Food Policy for Canada*. To highlight chances and barriers of Indigenous food systems revitalization and its contribution to One Health, this paper reviews the current food safety regulatory environment, including agricultural, food safety, and wildlife conservation legislation, as it pertains to bison meat production at Canadian federal and select provincial levels of government. A focus was placed on

Western Canadian provinces (British Columbia, Alberta, Saskatchewan, and Manitoba), as these regions have the highest number of bison in Canada (Altmann and Juárez 2023), as well as are home to multiple First Nations and the Métis Nation who share bison as a cultural keystone species. It is important to note that not all Indigenous Peoples in Canada, or in these provinces, share a unique relationship with bison.

Policy Background: Bison, Treaty and Restoration

Prior to European colonization, an estimated 30–60 million bison roamed the North American Great Plains (Kelliher and Clark 2010). By 1890, the bison population was less than a thousand due to overhunting (Hubbard 2016), disease transmission (e.g. bovine tuberculosis and brucellosis) from immigrated European cattle (Stoneberg Holt, 2018), and oppressive government policies (e.g., Pemmican Proclamation), often carried out under the pretext of industrialization (e.g., railroads) (Hubbard 2016). The loss of bison pressured First Nations People into entering treaty negotiations. For example, Numbered Treaties (1871 to 1921) 6 and 7 were agreed to as a response to reduced bison populations, conflicts over resources with other Nations, and disease (e.g., smallpox) (Daschuk 2013). Currently, the right to fish and hunt wildlife for food is protected under Section 35(1) of the *Constitution Act* (1982) for First Nations and Métis Nation people (as well as embedded in some post-modern treaty agreements); specific hunting and fishing methods (e.g, fishing net size), as well as the sale of fish or wild game, are restricted (*Regina v Sparrow*, 1990; *Regina v Van der Peet*, 1996). It was not until the early 2000s that the right for non-status and Métis Nation people to hunt for food, as Indigenous Peoples of Canada, were recognized as a result of the Powley and Daniels decision (*Daniels v. Canada*, 2016; *Regina v. Powley*, 2003). Since colonization and despite government assimilation efforts, First Nations and Métis Nation people in Western Canada have empowered and supported the growth of their communities and continue to advocate for greater equity within present-day colonial policies (Grant, 2021). In 2021, Canada affirmed the United Nations Declaration on the Rights of Indigenous Peoples (*UN Declaration*) Act, which addresses cross-cutting Indigenous priorities (e.g., self-determination and food sovereignty), and has the potential to influence future legislation.

Bison conservation was initiated by First Nations ranchers, whose animals were subsequently purchased by the Government of Canada in 1907 (Markewicz 2017). Today, Parks Canada Agency (PCA) manages bison conservation in collaboration with First Nations and the Métis Nation. Plains bison (*Bison bison bison*) and Wood bison (*Bison bison athabasca*) are the two bison subspecies currently existing in North America (Markewicz 2017). As a keystone species and ecosystem engineer, bison bring ecological and cultural balance to the land (Crosschild et al. 2021) while creating conditions needed to achieve ecosystem biodiversity (Tielkes and Altmann 2021) and resiliency (Ratajczak et al. 2022) to prevent large-scale trophic cascade fluctuations (Nickell et al. 2018). Going beyond species conservation, Indigenous Peoples initiated bison restoration with the signing of the Buffalo Treaty in 2014 by 10 Indigenous tribes and nations from United States and Canada (Crosschild et al. 2021). This established an alliance through a joint commitment to restore bison to their historic range while creating opportunities for Indigenous communities to experience economic growth (e.g., the sale of bison meat),

greater access to nutritious food (i.e. food security) and exercise their right to food sovereignty, i.e. control how food is celebrated, consumed, and managed (Arcand et al. 2020; Shamon et al. 2022). The policy analysis enclosed identifies opportunities and barriers for achieving economic and food security, food sovereignty, and ultimately addressing One Health outcomes for First Nations and the Métis Nation in Canada.

Methodology: Policy Analysis Framework

Western Canadian agricultural, food safety, and wildlife conservation legislation and regulations were selected and analyzed to highlight opportunities and barriers preventing Indigenous food self-determination pertaining to One Health outcomes. A focus on Western Canada (Fig. 1) was chosen because the provinces unequivocally fall within the historical geographical range of both sub-species of bison, it has the highest number of wild and livestock bison (Altmann and Juárez 2023) and is geographically home to numerous Indigenous groups with strong historical and contemporary ties to bison (Hubbard 2016; Crosschild et al. 2021). The policy analysis was guided by three core principles and policy lenses (Table 1) which highlight three food safety policy areas: licenses and restrictions, land accessibility, and infrastructural costs. Intersectionality, rights-based, and cultural safety are the core guiding principles of the framework. Intersectionality is defined as “an approach to understanding and influencing the multiple forces that shape social inequalities and discrimination” (National Collaborating Centre for Determinants of Health and National Collaborating Centre for Healthy Public Policy 2016, p. 1). Indigenous knowledge and practices need to be considered alongside non-Indigenous forms of knowledge and evidence in food systems (FAO 2021). Indigenous Peoples have the right to the highest standards of health, which is possible through access to traditional medicines and health practices (Browne et al. 2020). A sense of cultural safety is fostered when Indigenous Peoples can produce and share foods relevant to their culture and identity.

Western Canadian food safety policies were assessed through the lenses of reconciliation and decolonization, relationality, and inclusion, diversity, equity, and accessibility (IDEA). Reconciliation and decolonization are important for revitalizing Indigenous food systems and restoring Indigenous worldviews, cultures, and traditions. It is a process which requires “bureaucratic, cultural, linguistic and psychological [expropriation] of colonial power” (Indigenous Corporate Training, 2017, Decolonization section, para. 1). IDEA is a framework for the development and fostering of equitable practices and beliefs through policy (Baker and Vasseur 2021). IDEA can be understood using the following definitions (Baker and Vasseur 2021). (p3):

Inclusion

“Ensuring all individuals are equally supported, valued, and respected...to enable full participation and contribution.”

Diversity

“A wide range of attributes [e.g. ethnic origin, gender, sexual orientation, socio-economic background, religion or beliefs] within a person, group or community which makes them distinctive.”

Equity

“The fair treatment and access to equal opportunity (justice) that allows the unlocking of one’s potential...[through] the identification and removal of barriers.”

Accessibility

“provision of flexibility...and a set of solutions that empower the greatest number of people to participate in the activities in question in the most effective ways possible.”

Relationality emphasizes connectedness and the human need to develop relationships and live in harmony with others (Lejano 2021). Policy development through the lens of relationality is an approach that highlights relationships between policy actors (e.g., policymakers, stakeholders, Rights Holders, and the public) are key forces that shape the outcomes of policy (Lejano 2021; Alta and Mukhtarov 2022). These relationships have an ontological quality because they shape actors’ identities and interests which influence how policy is created, implemented, and disseminated (Alta and Mukhtarov 2022). These policy lenses are intended to assist policy makers in co-developing future food safety policy with Indigenous communities based upon the results of this analysis. Following the Indigenous Science Liaison Office of Agriculture and Agri-Food Canada, co-development is defined in this research as a collaborative and participatory research and policy development approach that supports the concept of “nothing about us without us”, acknowledging the distinct nature and lived experience of First Nations, Inuit, and the Métis Nation, in support of Canada’s constitutional relationship with Indigenous Peoples, recognized and affirmed under s. 35 of the *Constitution Act*, 1982. The lenses are also founded upon 10 key values and/or themes which offer guidance for the tone, terminology, and content of future food safety policy. Food safety policy considers multiple aspects along the food production continuum including licenses and restrictions, land accessibility, and infrastructural costs. These policy areas affect the extent at which Indigenous Peoples may define and decolonize their food systems. Therefore, although interconnected, these three policy areas, lenses and guiding principles informed the food safety policy analysis as they pertain to bison. Food ‘production’ is the terminology used throughout this analysis to refer to the legislation, and the authors acknowledge this portrayal does not cover the entirety of Indigenous food systems. For the purposes of considering Indigenous agriculture and food systems in future policy, food ‘procurement,’ a term inclusive to bison raised as livestock and wild bison, may be more appropriate. ‘Bison’ is also used throughout this analysis for the purposes of referencing legislation versus ‘Buffalo’; however, the authors acknowledge that ‘Buffalo’ is the preferred terminology used by First Nations and the Métis Nation when referencing the animal in the English language.

Table 1
Food safety policy analysis framework.

Guiding Principles		
Intersectionality	Rights-Based	Cultural Safety
Policy Audit Lenses		
Reconciliation & Decolonization	IDEA	Relationality
Values & Themes		
Human Rights – Safety – Participation – Self-Determination – Truth, Trust & Transparency Physical, Mental, Emotional & Spiritual Healing – Strengths-Based		
Community, Animal & Environmental Health – Constructive Action – Accountability		
Food Safety Policy Areas		
Licenses & Restrictions	Land Accessibility	Infrastructural Costs
<i>Note.</i> Adapted from the Rural Development Network’s Shelter Pulse Policy Guide (Rural Development Network 2022).		

Approaches to food safety policy co-development must be distinctions-based because Indigenous communities and food systems are unique. Therefore, this policy analysis is focused on urban and rural First Nations and Métis Nation communities currently located in Western Canada which are distinct in their cultures, governance and relationship to bison, and influence how their food systems are practiced. It is also important to acknowledge the rights and responsibilities of the Canadian federal and provincial governments to Indigenous Peoples (i.e., treaty agreements) and a collective responsibility to uphold these principles. The focus of this analysis is on the rights of First Nations and the Métis Nation within the geographical region to hunt, harvest, and share meat. The authors acknowledge the analysis framework is applicable to other areas, such as traditional plants and medicines.

Meat Production in Canada: Current Legislative Status

The Canadian food safety system consists of federal and provincial mandates, each with its own areas of responsibility. At the federal (Canada) level, national standards are established overseeing interprovincial and international trade of food products, while provincial governments manage food safety within their respective provinces. In Canada, bison is a unique species as it is considered a wildlife species at risk, commercial livestock, and culturally important animal, simultaneously. The current Western Canadian (provincial) and federal regulatory environment for bison production places stipulations on a variety of food and agricultural practices which include but are not limited to harvesting and hunting, livestock rearing, slaughtering, and processing. In general, all commercial (i.e., farmed) meat is subject to regulation and inspection by federal, provincial, and territorial governments prior to sale and/or public consumption. The sale of game meat is prohibited with the intent of ensuring meat is

a safe food commodity in Canada. A summary of the current legislative status of meat production in Canada is detailed in Table 2.

Meat Production Federal Legislation in Canada

Bison fall under the legislated definitions of animal food, livestock, and bovine species. The Canadian Food Inspection Agency (CFIA) is responsible for regulating livestock rearing, slaughter, and product processing. The CFIA works with industry in preventing and mitigating risks to the food supply chain. Foodborne disease is a risk to food security and the CFIA controls the extent to which food is interprovincially traded. The CFIA enforces the *Consumer Packaging and Labelling Act* (Government of Canada 2019a) and *Regulations* (Government of Canada 2019b), *Food and Drugs Act* (Government of Canada 2025a) and *Regulations* (Government of Canada 2025b), *Health of Animals Act* (Government of Canada 2019c) and *Regulations* (Government of Canada 2025c), *Safe Food for Canadians Act* (Government of Canada 2023) and *Regulations* (Government of Canada 2024a). To reduce the risk of foodborne illness, meat must be handled under sanitary conditions within a federally inspected facility with a CFIA approved operator’s license. Meeting these requirements allows meat products to be sold and transported between provinces and internationally as per reciprocal trade agreements.

Environment and Climate Change Canada (ECCC) works to preserve species at risk through the establishment of sustainable hunting practices, which control the extent to which Canadians may hunt and harvest native animal species. ECCC enforces the *Canada Wildlife Act* (Government of Canada 2024b), *Species at Risk Act* (Government of Canada 2025d), and *Wildlife Area Regulations* (Government of Canada 2025e). Wood bison (*Bison bison athabasca*) are a designated threatened species in Canada and for this reason the hunting of wood bison is prohibited (Government of Canada 2025d). More generally and pertaining to plains bison (*Bison bison bison*) the sale of wild meat, which is by default uninspected, is also strictly prohibited and only intended for personal use and consumption. Bison fall under the legislated definition of a wildlife species because they are “wild by nature” (Environment and Climate Change Canada 2018). Populations are to be assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and animals not designated as livestock are managed by COSEWIC.

Meat Production Legislation in Western Canada

The following summarizes the current regulatory environment for meat production in the Western Canadian provinces of British Columbia, Alberta, Saskatchewan, and Manitoba as it pertains to bison (Table 1).

British Columbia

Seven pieces of legislation govern meat procurement and sales in British Columbia: *Hunting and Trapping Regulations Synopsis* (Government of British Columbia 2024); *Animal Health Act* (Government of British Columbia 2014); *Food Premises Regulation* (Government of British Columbia 2000); *Meat Inspection Regulation* (Government of British Columbia 2022a); *Public Health Act* (Government of British Columbia 2022b); *Reportable and Notifiable Disease Regulation* (Government of British Columbia 2015); and, *Wildlife Act* (Government of British Columbia 2025). All livestock raised and slaughtered intended for commercial sale and production must undergo inspection by a provincial or federal authority. British Columbia has three license types which provide producers with differing degrees of flexibility when processing and selling meat in the province. Abattoir licenses allow for the slaughter, preparation, packaging, and storage of inspected meat for commercial purposes (Government of British Columbia 2022a). Farmgate Plus and Farmgate licensed products are slaughtered and processed on-farm and may be directly sold to end consumers under specified conditions (Government of British Columbia 2022a). Farmgate Plus products may also be sold at retail, such as local markets. Meat products processed under these two licenses must be labelled as “uninspected and not for resale”. All food-handling (e.g., restaurants) establishments must only handle and sell meat products which come from inspected sources, such as licensed abattoirs. Wildlife may only be hunted and transported in accordance with a license or permit. Meat sourced from a hunted animal is for personal consumption only and may not be sold. Bison are defined as big game and a bison-specific hunting license is required to hunt big game in British Columbia. The sharing of wild meat within First Nations and Métis Nation communities is permitted (Government of British Columbia 2024).

Alberta

Alberta is governed by the *Alberta Guide to Hunting Regulations* (Government of Alberta 2025a), *Animal Health Act* (Government of Alberta 2007), *Food Regulation* (Government of Alberta 2024), *Meat Inspection Act* (Government of Alberta 2000a) and *Regulation* (Government of Alberta 2025b), *Public Health Act* (Government of Alberta 2000b), *Wildlife Act* (Government of Alberta 2000c) and *Regulation* (Government of Alberta 2025c). Commercial meat processors may only operate in accordance with a provincial or federal license. If animals are slaughtered in an uninspected facility, the meat must be processed in accordance with a license if it is going to be sold. Meat processing licenses are divided into two categories: inspected and uninspected. Inspected operations require an Abattoir or Mobile Butcher Facility license. Uninspected operations require a Mobile Butcher or On-Farm Slaughter Operation license. Abattoir licenses allow for the slaughter, preparation, packaging, and storage of inspected meat for commercial purposes. Mobile Butcher Facility licenses allow for the processing of inspected or uninspected meat at Mobile Butcher Facilities. Mobile Butcher Facility licenses allow for an animal slaughtered by a licensed Mobile Butcher on the owner’s private property or slaughtered at an On-Farm Slaughter Operation to be delivered and processed at a mobile butcher facility (Government of Alberta 2025b). This meat is solely for the owner of the carcass (i.e., personal use only) and cannot be re-sold; it must be labelled as uninspected. In Alberta, uninspected meat cannot be processed or sold, and all animals must be inspected prior to slaughter apart from mobile butchers. Wildlife may only be hunted

and transported in accordance with a license or permit. Hunted meat is for personal consumption only and may not be sold. The *Wildlife Regulation* (Government of Alberta 2025c) primarily concerns threatened wood bison; bison are classified as big game in the *Hunting Regulations* (Government of Alberta 2025a). Meat sharing within First Nations and Métis Nation communities is permitted (Government of Alberta 2018, 2021).

Saskatchewan

The regulatory environment for meat processing and production in Saskatchewan is less precisely outlined, compared to British Columbia and Alberta, and includes overlaps and sometimes gaps between numerous statutes. Meat procurement and sales are governed by the *Animal Health Act* (Government of Saskatchewan 2024a) and *Regulations* (Government of Saskatchewan 2023a), *Public Health Act* (Government of Saskatchewan 1994), *Saskatchewan's Domestic Meat Inspection Standard* (Government of Saskatchewan 2025), *Slaughter Plant Standards* (Government of Saskatchewan 2018a), *The Animal Production Act* (Government of Saskatchewan 2024b) and *Regulations* (Government of Saskatchewan 2024c), *The Food Safety Regulations* (Government of Saskatchewan 2023b), *The Hunting, Fishing, and Trapping Heritage Act* (Government of Saskatchewan 2010), *The Wildlife Act* (Government of Saskatchewan 2020) and *Regulations* (Government of Saskatchewan 2023c). Slaughter facilities are regulated and inspected by the federal government and/or the provincial Ministry of Agriculture. The Saskatchewan Health Authority (SHA) also regulates, inspects, and licenses slaughter facilities (Government of Saskatchewan 2023b). Operators must apply to the SHA for a license for products to enter the commercial market (Government of Saskatchewan 2023b). All licensed meat products sold in Saskatchewan are subject to inspection. Three general licenses may be issued to a slaughter facility: a license, license with conditions, and probationary license. A license is valid for up to two years from the date of issuance; a license with conditions has terms and conditions under which a facility must operate (Government of Saskatchewan 2023b, 2025). For example, if a meat processing facility lacks the specific equipment required to produce cuts of meat from a particular livestock animal, restrictions will be placed on the type of meat products produced (Government of Saskatchewan 2023b, 2025). Probationary licenses establish timelines for the correction of infractions (Government of Saskatchewan 2023b, 2025). Wildlife may only be hunted and transported in accordance with a hunting license or permit. The sale of uninspected wildlife meat is prohibited; bison are designated as big game in Saskatchewan (Government of Saskatchewan 2023c). It is permitted for wild meat to be shared within First Nations and Métis Nation communities (Government of Saskatchewan 2018b).

Manitoba

The Food and Food Handling Establishments Regulation (Government of Manitoba 2025a), *General Hunting Regulation* (Government of Manitoba 2024), *Livestock Regulation* (Government of Manitoba 2001), *Reportable Diseases Regulation* (Government of Manitoba 2014), *Reporting of Diseases and Conditions Regulations* (Government of Manitoba 2022a), *The Animal Diseases Act* (Government of

Manitoba 2022b), *The Livestock and Livestock Products Act* (Government of Manitoba 2022c), *The Public Health Act* (Government of Manitoba 2025b), and *Wildlife Act* (Government of Manitoba 2025c) govern meat procurement and sales in Manitoba. In general, a food-handling establishment (e.g., food processors and butcher shops) must be provincially registered and hold a permit issued by a public health inspector (Government of Manitoba 2025a) to prepare, sell and distribute food to the public. Any person who manufactures, processes, packages and/or distributes food for human consumption (i.e., commercial use) must be either federally inspected or operate under a provincial permit (Government of Manitoba 2025a). Uninspected meat may be processed in accordance with a provincial permit but is not eligible for sale and is only for personal use by the owner. Legislation governing wildlife and hunting are similar to that of the other Western Canadian provinces. Wildlife may be hunted and transported in accordance with a license and transport permit (Government of Manitoba 2025c). The sale of wildlife or wildlife parts is prohibited unless given special permission by a provincial authority. This is only permitted for special occasions or under special circumstances and is subject to prescribed terms and conditions. Bison are considered big game; wood bison are a protected species under Manitoba's *Wildlife Act* (Government of Manitoba 2025c), yet can be classified as livestock, when housed as such (Government of Manitoba 2001). According to provincial law, wild meat may be shared within First Nations and Métis Nation communities (Manitoba Métis Federation 2013).

Table 2

Synopsis of the current regulatory environment in 2022 concerning meat production in Western Canada.¹

Country or Province	Authority	Current Status
Canada	Canadian Food Inspection Agency (CFIA) Environment and Climate Change Canada (ECCC)	• Meat intended for interprovincial import/export and international export must be CFIA inspected. • Meat must be manufactured, processed, treated, preserved, packaged, and labelled in Canada by a license holder under sanitary conditions as prescribed by legislation. • Meat may not be sold if it is not inspected and processed within a federally regulated slaughter facility. • Killing, capturing, buying, selling, or collecting wildlife is prohibited. This prohibition does not apply if an individual wildlife species is used by Indigenous persons for medicinal or ceremonial purposes; sale prohibited.
British Columbia	Ministries Agriculture & Food Health Water, Land & Resource Stewardship Environment & Climate Change Strategy	• All slaughter facilities are federally registered or provincially licensed. Food establishments must be constructed in accordance with license and permit stipulations. • A license is not required for slaughter activities where the derived products are for personal use on the condition the products may not be sold or cross provincial borders. • Three license types: 1.) Abattoir, 2.) Farmgate Plus, and 3.) Farmgate. - o Abattoir licenses enable resale of products and food handling. - o Farmgate Plus and Farmgate products must be labelled “uninspected and not for resale” when retailed. • Food establishments may only process food from approved sources (e.g., licensed abattoirs). • A big game license is required for hunting wild bison and a permit allows for the transport of wildlife or game meat. • A person may have a wildlife carcass in their possession if it is sent to a meat cutter or food processing operator, processed/butchered by the owner, and consumed on their private property or presented to a ministry employee for inspection. Wildlife meat is for personal use only.
Alberta	Ministries Agriculture & Irrigation Health	• Meat processing facilities (including mobile butcher facilities) must be operated in accordance with a license. Uninspected slaughter operations must also carry a license (i.e., on-farm slaughter license) if the meat is not for personal use and consumption. • Uninspected slaughter operations may only process meat from a (co-)owned (i.e., producer plus up to three

Country or Province	Authority	Current Status
	Environment & Protected Areas	individuals) carcass and that meat may only be used by the (co-)owners. • Operators shall not purchase, sell, slaughter, store, or process uninspected meat. • Except for mobile butchers, animals must be inspected prior to slaughter. • A valid license is required to hunt big game and must be transported/trafficked in accordance with a permit or transportation license. • Wildlife carcasses may not be brought into a facility for processing unless it is edible and free from contamination. These carcasses are uninspected and must be labeled as such and may not be sold.
Saskatchewan	Ministries Agriculture Health Environment	• Slaughter facilities must be operated in accordance with a license. • Foods intended to be sold to the public must be inspected or obtained from a federal or provincial source subject to inspection. • Licenses are required for hunting, importing, exporting, and selling wildlife or wildlife meat of big game.
Manitoba	Ministries Agriculture Health Natural Resources & Northern Development Environment & Climate	• Food handling establishments (e.g., abattoirs) must be registered (licensed). • Animals must be inspected prior to slaughter. Exemptions apply to those slaughtering and processing animals on their own property and for their own consumption and use. • The sale of uninspected meat is prohibited. • Processing and storing uninspected meat are prohibited unless an operator holds a valid permit, the meat is kept separate from inspected meat and is received/returned directly from/to the owner of the meat. • Licenses are required for hunting big game and transporting wildlife is permitted under a transportation permit. • The import and export (interprovincial and international) of wildlife and/or wildlife parts is prohibited. Buying, selling, and serving the meat of wild animals is prohibited unless otherwise authorized. • Meat from game animals may be processed at a registered facility if the meat is kept separate from inspected meat and is received from the owner of the meat and is directly returned to the owner.

¹ This information is based on the food safety legislation for Canada (British Columbia, Alberta, Saskatchewan, and Manitoba) and does not include historical or modern treaty agreements as they pertain to food procurement.

Canada's Meat Production Legislation: Barriers to Indigenous Food Sovereignty

As a result of the above policy analysis, three food safety policy factors were found to contribute to food insecurity and inaccessibility for First Nations and the Métis Nation: licenses and restrictions, land accessibility, and infrastructural costs. Although the policy analysis focused on bison as an agricultural and culturally relevant species, we acknowledge that these barriers are not limited to First Nations and Métis Nation Peoples and their ability to practice One Health, but are also relevant for other Indigenous Peoples and their ability to access food and medicinal products; access which is often facilitated through food sovereignty. The barriers described below restrict access, decrease availability, and/or may increase prices (and further decreasing access) of culturally appropriate healthy foods for First Nations and the Métis Nation. If not addressed, these barriers will continue to prevent First Nations and the Métis Nation from practicing their food sovereignty essential for nutritional, cultural, and spiritual well-being, while hindering the implementation and dissemination of the *Food Policy for Canada* towards the achievement of its priority outcomes.

Licenses and Restrictions

Under the current legislation, individuals in Canada are required to have a license to conduct a variety of food-handling and agricultural practices. Licensing requirements vary with activity and are dependent upon whether the activity is for personal and/or commercial use. License conditions also vary with license type and there is a high degree of heterogeneity among the provinces.

Meat intended for commercial use must be manufactured and sold in accordance with a license. Out of the four Western Canadian provinces, British Columbia has the most license options, which come with varying degrees of flexibility when it comes to procuring, processing, and selling uninspected meat. Flexibility may support community-level meat processing within the province of British Columbia and increase local access (commercial and otherwise) to local products. The wording of Saskatchewan and Manitoba legislation is ambiguous but is enforced similarly to the other provinces. Yet, ambiguity in policy serves as a double-edged sword as gaps in understanding occur while affording a certain amount of flexibility when navigating food safety legislation. In general, commercially owned bison are considered domesticated under federal and provincial legislation, and if slaughtered under an appropriate license could be sold and further distributed. Bison are classified as wildlife in Canada and specific licenses are required to hunt big game. Hunting and harvesting species at risk is prohibited in Canada; however, the *Species at Risk Act* provides exemptions to this prohibition including if a wildlife species at risk is used by an Indigenous person for cultural use. An exemption to hunt may be allowed if the food and/or practice of obtaining the food is distinctive to that person's culture (*Species at Risk Act*,

2002). Indigenous diets prior to colonization did not include domesticated animal products and these food safety policies do not consider Indigenous hunting and harvesting practices. The regulations outlined in this analysis are intended to protect human health as well as preserve Canada's wildlife population (Robin et al., 2021). Yet, food safety and wildlife conservation policies do not consider the sustainable and safe hunting and harvesting practices of Indigenous Peoples (Robin et al., 2021). Canadian food safety license requirements and restrictions are based solely on a western agricultural system and science of domesticated animal-rearing. Risk as defined by the CFIA and provincial governing bodies may pose as a barrier preventing First Nations and the Métis Nation from fully re-connecting with the land through hunting, sharing and fully benefiting from traditional foods.

Today, traditional foods are still harvested from the land and "include wild game, water mammals, fish, seafood, berries and other wild growing fruits, vegetables and medicines" (Robin et al., 2021, p. 3). From a western science perspective, culturally significant wild foods are often considered high-risk because they have not been produced, processed, or inspected at a federal or provincial abattoir (Robin et al., 2021). Legislation governing the harvesting and sharing of country foods varies among First Nations and Métis Nation communities in Western Canada and is permissible within specific territories. Community-specific legislation (e.g., Métis Laws of the Harvest) allows for the sharing of wild meat and is a right protected by the constitution. Provincial licenses are not always required for First Nations and Métis Nation peoples to hunt or harvest on their traditional territory, but hunting must be accompanied with the appropriate documentation (e.g., harvester cards, conservation trust fund stickers, and big game tags) which is similar to the provincial hunting license/tag issue system (Manitoba Métis Federation, 2013). Wildlife hunted or harvested for food is for the sole use of the hunter and their family or nation (i.e., sharing or gifting) according to the legislation covered within this analysis. Under the modern treaty agreements with First Nations in British Columbia, Alberta, Saskatchewan, and Manitoba, it is specified that wildlife and wildlife parts may not be sold unless this is conducted in accordance with federal or provincial law. Although sharing is permitted, it is not always economically viable for First Nations and Métis Nation communities, as costs for procurement are often incurred (e.g. infrastructure costs, opportunity costs of labour, etc.). Livestock production is often considered the most viable and legal form of providing bison meat and resident livelihoods to First Nations and Métis Nation rural and urban individuals.

Furthermore, the ability to exercise license powers is reduced within First Nations and Métis Nation communities due to geographic barriers. Oftentimes, inspectors are available to travel to communities at infrequent times that are not always practical for First Nations and Métis Nation producers or community members wanting to sell or share traditional foods. In British Columbia, Farmgate Plus and Farmgate licenses enable on-farm slaughter and processing; bison producers can also sell these uninspected meat products, so long they are appropriately labelled. Written labels which state a product as "uninspected and not for resale" could imply that uninspected food is unsafe, but it supports consumer autonomy when making purchasing decisions, especially regarding perceived risk. Market access for these products is restricted, as meat is not allowed to be included in food handling (i.e., gastronomy markets). However, if taken up, such flexible food safety systems would offer First Nations

and Métis Nation communities the opportunity to balance access to nutritional foods while supporting ecological production of bison within and outside their communities.

For communities wanting to participate in the Canadian agricultural industry, the cost of licenses and inspection services are often not economically feasible. Federal and provincial inspections determine where food may be transported. For food to cross provincial borders, it must be federally inspected to reduce the risk of foodborne pathogens (e.g., *Mycobacterium bovis*) from spreading across the country. This requires an individual producer or community obtain a federal license at an additional cost. Inspectors also require animals and carcasses be tagged accordingly for traceability purposes in the event of a foodborne illness outbreak. Regardless of whether the products are for commercial or personal use, this may not always be affordable for First Nations and Métis Nation producers and communities looking to serve small populations.

Infrastructural Requirements & Costs

To meet the food needs of First Nations and Métis Nation communities and government food safety guidelines, traditional food should be supported by the appropriate infrastructure (Robin et al., 2021) and producers (individuals or collectives) should have the opportunity to recoup costs associated with providing such infrastructure. Transportation and equipment costs often render First Nations and Métis Nation people unable to hunt or gather traditional foods (Elliot et al., 2012). It is costly to construct and maintain slaughter and processing facilities according to current legislation. For example, considerable financial and human capital investments are required for meat slaughter and storage facilities, including staff and volunteer training (Robin et al., 2021), such as a mobile abattoir as would be required in Alberta. In addition, regulations stipulate that facilities must be established in a manner that prevents cross-contamination which may not comply with some First Nations and Métis Nation cultural practices of collective hunting and processing on the land (Crosschild et al. 2021). Space is also required for a variety of animal slaughter and processing activities such as controlled access zones and animal quarantines. These requirements are in place for health hazard prevention, mitigation and response but can be costly to implement. On-farm slaughter (e.g. mobile abattoir) is viewed as improving animal welfare, while substantially lowering required financial investment and product trim losses (McCorkell et al. 2013). In fact, according to western science indicators, traditional slaughter techniques, such as group hunting could reduce animal stress, as stress factors such as isolation and solitary handling (Rioja-Lang et al. 2019) are avoided. Yet, according to the legislation above, any on land processed meat would be considered meat processing under unsanitary conditions and unacceptable for commercial sale. A short-term solution appears to be mobile abattoirs to meet food safety requirements. If communities are unable to produce food that meets government policy regulations, food products must be sent to the appropriate facilities for inspection then returned to the community (Robin et al. 2021), which includes substantial transportation costs.

Regarding processing and/or preparation, if foods are to be served to share, they must also be processed in facilities constructed in accordance with the meat facility standards set and enforced by federal and provincial legislation (Robin et al. 2021). This places additional costs on First Nations and

Métis Nation communities and further prevents them from preparing, disseminating, and sharing knowledge around culturally relevant foods. If a community does invest in a food processing facility, there remain some fundamental prerequisites which may be unattainable for some First Nations and Métis Nation communities. Potable water is an essential food safety infrastructure-related component for sanitation procedures. Potable water is a requirement for sanitary food processing, yet many Indigenous communities in Canada lack access to potable water (Robin et al. 2021). For example, 39 long-term drinking water advisories were in effect in 37 communities as of August 2025 (Government of Canada 2025f). Therefore, prior to considering an investment in their own slaughter and/or processing facilities, communities must first address costs associated with establishing primary infrastructure, such as access to potable water sources.

Although there are a limited number of government-led programs developed to improve access to traditional foods, such as bison meat, they are often over bureaucratized and limit eligibility only to extremely isolated communities. One example of such a program is Nutrition North Canada (NNC), which provides subsidies to transport food to and between communities. For country foods to be eligible for a NNC subsidy, they must be processed and pass inspection at a federally licensed food processing facility (Nutrition North Canada 2025). As access to a federally licensed food processing facility is often limited due to geography and capacity, this may require a hunter to ship their harvested meat potentially thousands of kilometers while navigating federal food safety regulations. As of 2025 only three such facilities exist; all facilities are in Nunavut, the Canadian Arctic. As such, few communities and individuals have the capacity to navigate and benefit from Canada's food safety regulations (Robin et al. 2021). NNC does provide financial support for wild harvesting (i.e. hunting) and food sharing in isolated communities; broadly-speaking NNC programs are not sufficient for strengthening cultural, ecological, and human health outcomes, which need to be community-led (Nutrition North Canada 2022).

Land Accessibility

Indigenous Peoples often lack self-determination over how common land, including their traditional lands, is used in Canada and the degree to which it is degraded and polluted by other industries (e.g. energy sector), which impacts the safety and sustainability of all food systems (Elliott et al. 2012). Land that is available for agricultural purposes is oftentimes polluted, with environmental pollutants having the potential to contaminate water, food, and food sources (Elliott et al. 2012; Robin et al. 2021). Deforestation, overfishing, and overhunting as well as climate change also impact access to traditional foods (Elliott et al. 2012). Therefore, despite having land available, its condition may not be optimal for Indigenous food system revitalization and require additional restorative treatment.

It can be argued land accessibility is indirectly related to capacity limitations resulting from oppressive Canadian policy. Oftentimes, Indigenous lands are rented out to non-Indigenous producers due to financial and/or knowledge deficits (Arcand et al. 2020). Historical and current federal and provincial policies have led to inequitable access to lands as well as profit incurred from the use of the land (Arcand et al. 2020). This is the result of formal and informal land claims such as certificates of possession and the act of leasing land at low prices to non-Indigenous producers respectively (Rudolph

and McLachlan 2013). These types of claims benefit the individual versus the community (Sommerville 2019) and inhibits First Nations and Métis Nation land-owners in deciding the best use of resources. The health and availability of land is central to the health of First Nations and Métis Nation communities as it is the site for ceremony, traditional hunting and gathering, and establishing or maintaining relationships (Hatala et al. 2020). Colonial policy has compromised this connection by portraying land as something to be owned by one person.

Licensing-related restrictions regarding land-use, ownership, and liability place further restrictions on First Nations and Métis Nation food sovereignty. Plains and wood bison subpopulations maintained on protected federal land are subjected to limited areas and predation and are therefore at higher risk of exposure to environmentally transmitted diseases, such as anthrax (New et al. 2017), *Bovine tuberculosis*, and *Bovine brucellosis*. These diseases can be transmitted to humans through the food chain via exposure to *Bacillus anthracis*, *Mycobacterium bovis* and *Brucella abortus*. Although not a direct risk to food safety due to pasteurization and processing, brucellosis is an economic risk to producers resulting from cow abortions, making re-establishing populations challenging. Indigenous food systems often follow traditional knowledge created by observing their natural environment, which may differ from western agriculture food processing (Steiner and Neathway 2019). For example, on *Kainai* First Nation bison meat is slaughtered by specific individuals who have been granted the rights and privilege to hunt and harvest the animal. Individuals granted these rights have extensive traditional knowledge on safe food handling and meat processing. These individuals and their knowledge may parallel those of food safety inspectors in reducing the risk of contamination with these environmental pathogens on the landscape; some hunting and handling techniques (e.g. wearing gloves, hunting during cooler temperatures) have been shown to reduce microbial contamination in wild game meat (Korkmaz et al. 2022). One opportunity would be to have these individuals trained as food inspectors and in safe food handling practices, so that they may braid Indigenous and western knowledge systems of food safety. Nonetheless, the prerequisite for safe food is access to disease-free herds from a healthy landscape.

Practicing an Equitable Food Policy for Canada: Policy Recommendations for Achieving One Health

Food safety policy is intended to be protective and ensure end consumers have access to safe food. This policy analysis provides an overview of the current food safety regulatory system in Western Canada and how legislation creates barriers while offering some compromises to exercise Indigenous food sovereignty. Practicing equitable food policy through consensus-building with Indigenous communities to achieve their food sovereignty is one step in enacting One Health universally (Blume 2024) and for health improvements of Indigenous communities specifically (Riley et al. 2021). Consensus decision-making considers perspectives equally, resulting in new knowledge and ideas “given the configuration of interests that have come together for a given purpose” (Madden 2017)p. 2). Defining food safety policy through consensus has the added value of expanding One Health beyond the current veterinarian medicine focus of western science (e.g. Hillier et al., 2021) so to become more wholistic and aligned with Indigenous values. Every relationship made with Indigenous Peoples is unique and requires different approaches when co-creating policy (i.e., distinctions-based); coalitions and partnerships can

be created to achieve a common goal: One Health through the access of safe food for all people living in Canada.

An equitable and sustainable food system may look like the following: license fees and associated insurance (e.g., liability) costs, where required, will be paid in a manner which ensure the funds go back into the community. Unique food systems could be regulated by and for individual communities and their lands; bison continue to be recognized as a culturally significant animal that can be protected through sustainable hunting practices within traditional territories. Traditional methods of processing bison while maintaining a defined level of acceptable food safety and risk will provide an opportunity for First Nations and Métis Nation to connect with the land. Indigenous Peoples could also have the capacity to produce, label, and sell foods that are reflective of their physical, mental, spiritual, and emotional health to consumers accepting the offered level of food safety. Producers are liable for products sold directly to the consumer through mechanisms such as farmers markets and community-supported agriculture initiatives (Government of Canada 2024c). Concerns surrounding liability are addressed through transparent product labelling supporting consumers to make informed purchasing decisions. A positive step would be for the *Food Policy for Canada* to adopt a wholistic approach to producing, labelling, and selling food by engaging with government departments and establishing relationships with Indigenous Peoples.

Furthermore, the current food safety legislation has multiple implications for One Health as they restrict an individual's ability to practice their culture and access safe food. The *UN Declaration* became law (*UN Declaration Act*) on June 21st, 2021 which was followed by the development of the *UN Declaration Action Plan* which describes the measures Canada is committed to upholding in collaboration with Indigenous Peoples as they pertain to food safety and cultural well-being (Justice Canada, 2024; Justice Canada, 2023). The *UN Declaration Act* and Action Plan provide stipulations and a framework with which the *UN Declaration* may be implemented at the federal level to advance the revitalization of Indigenous food systems and self-determination. The following recommendations aim to support federal and provincial policy in addressing these barriers while promoting sustainable food production in alignment with the required actions and measures in the *UN Declaration* (Articles 20–24) and Action Plan (Measures 86 and 87) respectively (United Nations, 2007; Justice Canada, 2023).

Harmonization of Existing Regulations

The current legislation across Western Canadian provinces would benefit by becoming less heterogeneous and more consistent. For example, there are no standardized terms among the provinces regarding how bison are classified. In some instances and provinces, bison are classified as wildlife in the environmental legislation but livestock in others (e.g. plains bison in Alberta). Furthermore, as mentioned above, British Columbia has the most license options with varying degrees of flexibility under each license type for meat processors and producers. The British Columbia regulations may set the basis for creating inclusive food safety policy at the provincial level. Finally, by communicating with the other provinces, a new food safety policy which reflects the agricultural needs and values of the provinces could be co-developed to facilitate First Nations and Métis Nation food system revitalization

and bison reintroduction within their historical ranges. The establishment of a harmonized food safety policy would provide greater opportunities for First Nations and the Métis Nation to procure and share wild meat within their communities as well as define, decolonize, and revitalize their food systems amongst neighbouring communities across provincial borders.

Build Capacity for Traditional Food Safety Risk Assessments

To control food safety hazards and mitigate risk, one must have an awareness of the specific hazards and their risks potentially present within a given food system. The identification and quantification of risk associated with traditionally raised bison meat requires a large amount of human and financial resources. This is necessary in ensuring an equitable *Food Policy for Canada*, and capacity needs to be established for this to occur. Relationship-building and establishing partnerships between First Nations and Métis Nation communities, government institutions, and non-governmental industry organizations can be leveraged to share knowledge and create capacity where needed. The European Food Safety Authority (EFSA) defines capacity building as “a process of development leading to higher levels of skills and abilities needed to respond to current and future needs” (European Union Food Safety Authority 2018,p. 2). An adapted food safety policy that focuses on relationship-building as previously described, provides an opportunity for identifying potential hazards within Indigenous food systems. By improving the level of knowledge and technical skills in a particular subject (European Union Food Safety Authority 2018), i.e., braiding applicable Indigenous and western science knowledge on food safety. Through capacity building, Indigenous communities gain the necessary skills to conduct community-led risk assessments, based on their own risk perception values and practices of importance. In other words, communities truly exercise food sovereignty. These risk assessments build bridges in facilitating the control of certain parameters within a food system that are a risk factor (e.g., *E. coli* contamination during on-farm slaughter) to community members, without excluding culturally relevant foods necessary for health and well-being. Thus, risk assessment results may be interpreted in a manner which informs food safety without limiting the outcomes of One Health for First Nations and Métis Nation communities.

Create an Inclusive Food Safety Regulation

The general recommendation regarding The *Food Policy for Canada* would be to establish policies that acknowledge traditional food production as an act of safe food handling. Food safety regulations would need to be streamlined so they are implementable and capable of being navigated by First Nations and Métis Nation communities so they can practice food sovereignty and ensure their access to safe foods. One example to increase access of “country foods” could be taken from the European Union’s (EU’s) *General Food Law* (Regulation (EC) No 178/2002) which considers traditional food products when setting food safety standards for human health and the interests of consumers (European Parliament and Council of the European Union (EU) 2002). The EU’s general food policy principles emphasize that member communities (i.e. countries), need to make decisions regarding food safety risk parameters and how they should be managed (European Parliament and Council of the European Union (EU) 2002). The

General Food Law allows for the free movement of food within a community in accordance with the general principles. In the EU, in the absence of scientific evidence, trade is not to be restricted to the extent at which community health is maintained as chosen by the community (European Parliament and Council of the European Union (EU) 2002). This is especially important as Indigenous ways of knowing and doing are not always quantified and published in the scientific literature. Canadian regulations could take a similar approach to food safety by amending legislation with clauses that acknowledge culturally appropriate foods as a prerequisite for safe food. Other examples to increase access to safe food from the EU include opening the options of mobile and partial-mobile slaughter (similar to regulations in British Columbia) to overcome barriers for small and isolated meat-producers.

Conclusion & Outlook

Our research shows that although there is some flexibility within current western food safety legislation to allow for First Nations and Métis Nation communities to exercise food sovereignty as it pertains to bison meat, current legislation could be enhanced in terms of inclusiveness and equitability. A focus on western science's interpretation of food safety and One Health hamper Indigenous food systems and subsequently limit One Health outcomes pertaining to human well-being (e.g. mental and spiritual health) animal health, and the health of the natural environment (Hillier et al. 2021; Blume 2024). Bison restoration as a First Nations and Métis Nation food system could address all three levels of health, if done in an evidence-based manner with active involvement of First Nations and Métis Nation viewpoints and leadership (Riley et al. 2021). Indigenous Peoples view food as means by which one may connect with the land and live out their sense of culture and identity; food is also medicine. Food is a reciprocated gift that has been given to Indigenous Peoples through their relationship of caring for the land (Robin et al. 2021), and this reciprocal relationship with the land could be seen as analogous to western science's concept of One Health, and as such should be reaffirmed through modern-day food safety policy.

Many of the barriers and recommendations discussed above are relevant for other food system actors in Canada and internationally, specifically those situated in rural and isolated regions. Although the barriers identified within this research are most pertinent for First Nations and the Métis Nation in Western Canada and their food sovereignty, it is important to note that bison meat is an exceptional case because it is produced commercially (i.e. livestock animals) alongside hunted wildlife and cultural herds. This affords First Nations and the Métis Nation the opportunity to leverage and springboard off the current knowledge and (sparse, but existent) infrastructure within the western agri-food industry as a first step towards increasing access (i.e. food security) and capacity-building. Bison are a cultural and ecological keystone species on the Great Plains and their production as a food source contributes to One Health for all.

Bison meat is a "country food" critical to the physical, emotional, spiritual, and mental wellbeing of First Nations and the Métis Nation, and the implications of this policy analysis for One Health apply to other "country foods" for other Peoples (e.g. Inuit) as well. As bison meat is regulated as a livestock product

(in addition to being hunted game), it opens doors, which otherwise remain closed for other Indigenous Peoples' "country foods". As such, we emphasize a greater need for the Canadian food system and policy to more equitably and comprehensively integrate all country foods into local universal food systems through the consideration of the recommendations included in this document. From a regulatory standpoint, many barriers exist especially for Indigenous Peoples wanting to participate in the agri-food industry; nonetheless, the *Food Policy for Canada* presents an opportunity to make Indigenous food sovereignty and One Health a priority by creating healthy public policy focused on reciprocal relationships maximizing human well-being through land stewardship. Enhanced food safety policy which considers cultural preservation may strengthen food sovereignty in other regions. By weaving Indigenous and western knowledge systems, diverse perspectives are included in the development, research, and analysis of comprehensive approaches to today's One Health challenges (e.g., climate change) leading to the realization of One Health outcomes (e.g., improved food security) on a global scale.

Declarations

Author Contribution

CRedit author contributions: G.A.: conceptualization, methodology, formal analysis, investigation, writing- original draft; J.F.: conceptualization, validation, writing – review & editing; M.J.: conceptualization, project administration, writing – review & editing; B.A.A.: conceptualization, investigation, writing – review & editing, supervision, project administration, funding acquisition.

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Figures

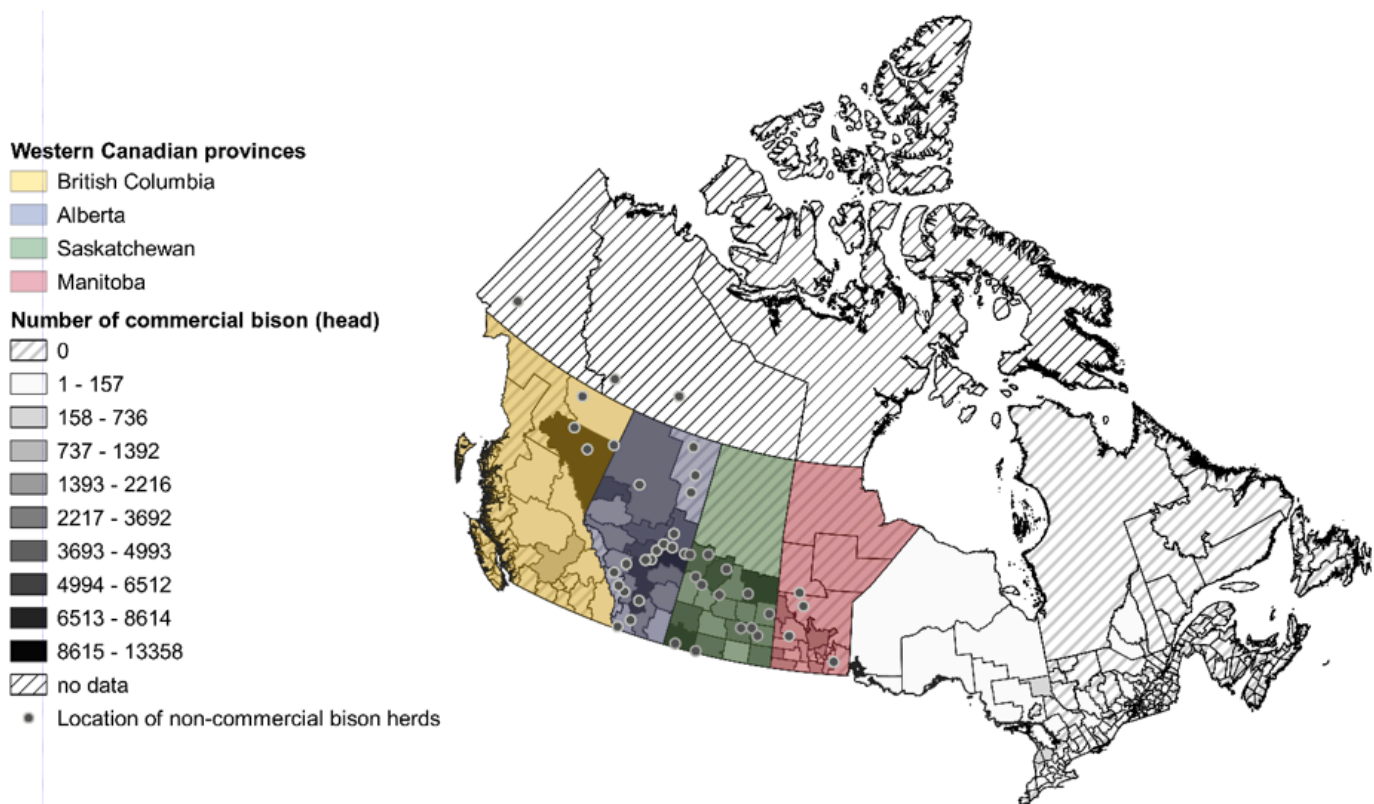


Figure 1

Map of Canada depicting location and density of bison predominantly in Western Canadian provinces (adapted from Altmann and Juárez (2023)).