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Beyond Institutional Ethics: Anishinaabe Worldviews and the Development of a Culturally Sensitive Field Protocol for Aquatic Plant Research

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Citation: Luby, B.; Mehlretter, S.; Flewelling, R.; Lehman, M.; Goldhar, G.; Patrick, E.; Mariotti, J.; Bradford, A.; Niisaachewan Anishinaabe Nation. Beyond Institutional Ethics: Anishinaabe Worldviews and the Development of a Culturally Sensitive Field Protocol for Aquatic Plant Research. *Water* **2021**, *13*, 709. <https://doi.org/10.3390/w13050709>

Academic Editors:
Deborah McGregor and Aimee Craft

Received: 9 December 2020

Accepted: 2 March 2021

Published: 5 March 2021

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Abstract: Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2) guides knowledge production and dissemination in Canada. While it is intended to protect vulnerable populations from harm, it fails to consider Anishinaabe worldviews and, by extension, to effectively direct ethical water research with aquatic plant life. Using Anishinaabe oral testimony and oral stories, Niisaachewan Anishinaabe Nation (NAN) and the University of Guelph (UofG) co-developed a culturally sensitive field protocol to respect Manomin (Wild Rice) as an other-than-human being and guide research into Manomin restoration. By illuminating key directives from NAN, this article showcases the limitations of institutional ethics in Canada. It concludes with recommendations to broaden TCPS2 to better address Anishinaabe teachings about plant and animal relations, but ultimately challenges institutional Research Ethics Boards (REBs) to relinquish control and respect Indigenous Nations' right to govern research within their territories.

Keywords: Anishinaabe worldviews; research ethics; aquatic plant life; field protocol; decolonizing methodology; First Nations

1. Introduction

Western natural science methodologies are founded in a positivist ontology [1], where there is one “truth” that can only be known when researchers remove themselves from their scholarship and claim objectivity [2]. In contrast, Indigenous researchers are more likely to describe truth as relational [2]. While ontologies cannot be tested as right or wrong [3], power imbalances have led to the celebration of Western ontologies as “reflecting ‘higher orders’ of thinking” in colonial institutions [4] (p. 48). Even when Western researchers enter Indigenous communities “armed with goodwill” [4] (p. 24), if they conduct their study through a positivist lens, their outputs reflect colonial understandings of the world. Research “through imperial eyes” [4] (p. 56) perpetuates a history of unethical research where Indigenous people are objectified, quantified, and treated as data points by outsiders [4]. Indigenous thought leaders and settler advocates have long protested colonial injustice in academe, calling on researchers to honor Indigenous worldviews in their work [5], prioritize Indigenous research paradigms that value relationality [2], and advocate for self-determination in Indigenous research [4,6]. This article builds on the work of change makers like Linda Tuhiwai Smith and Shawn Wilson to decolonize research.

Our journey begins in the territory currently known as Canada. In Canada, there are three federal agencies, collectively referred to as the Tri-Council, that fund research in health, social sciences, and natural sciences and engineering. The Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2) guides knowledge production and dissemination [7]. It is administered by Research Ethics Boards (REBs) that have the power to approve (or reject) project proposals submitted by faculty. When humans are not direct participants in water research, applications to institutional Research Ethics Boards (REBs) are not required by TCPS2. There do exist alternative policies that require ethical consideration of research involving animals and the environmental impact of research; however, these policies are separate from the ethical conduct of research involving humans. When working with Indigenous populations, whose worldviews may be founded in strong spiritual and material relationships with the natural world, all research involving plants, animals, or water must be considered as research involving spirited beings who are capable of offering, withdrawing, or denying consent. This applies to individuals working in Canada and beyond. Such ethical considerations in research activities, particularly at publicly funded universities, are one mechanism through which settler scholars across the globe can acknowledge and uphold Indigenous peoples' right to "maintain and strengthen their distinct social and cultural institutions, while retaining their right to participate fully, if they so choose, in the social and cultural life of the State" [8] (article 5).

If Manomin (Wild Rice), and the water in which it grows, are viewed by the Anishinabeg as spirited beings, should research involving Manomin not also involve reflection on the ethical treatment of this plant and its aquatic environment? The Manomin Project, a joint initiative being undertaken by Niisaachewan Anishinaabe Nation (NAN) and the University of Guelph (UofG) to restore aquaculture on the Upper Winnipeg River, answered "yes" and quickly identified that the TCPS2 could not effectively mitigate harm against other-than-human beings in Anishinaabe-Aki (the Land of the Anishinabeg). Together, NAN and UofG produced a culturally sensitive field protocol to account for the ethical treatment of aquatic plant relations. This paper outlines the cultural necessity of considering flora in the ethics process of water research. It reveals how accounting for plant life created space for Niisaachewan Anishinaabe Nation to establish a code of conduct that (re)aligned invited researchers with Anishinaabe ethics, particularly the Seven Grandfather Teachings. It concludes by highlighting how TCPS2 can be adapted to de-center Canadian norms and create space for Indigenous determination of the research process, ultimately recognizing that adaptation is an inadequate measure. Anishinaabe ethics that emphasize humility and reciprocity require that Canadian institutions respect Indigenous Nations' right to govern research within their territories.

2. Methodology

2.1. Study Area

The Winnipeg River Drainage Basin (WRDB) is an approximately 150,000 km² watershed that drains into Lake Winnipeg in what is currently known as Manitoba [9]. While primarily located in what is now known as Northwestern Ontario, the southern portion of the watershed is in what is currently known as Minnesota, USA, with the most western extent of the drainage basin in Manitoba. The Winnipeg River flows north-west, discharging the basin's flows into Lake Winnipeg. The upstream end of the river is the outlet of Lake of the Woods, an international water body, and is controlled by two hydroelectric dams in Kenora, Ontario. Niisaachewan Anishinaabe Nation is located on the Winnipeg River, approximately 20 km downstream of Kenora, and 30 km upstream of Whitedog Falls Generating Station, another hydroelectric dam. Within the section of the river between these hydraulic structures, referred to as the Upper Winnipeg River, are several ancestral Manomin fields. NAN Elders identified 5 ancestral Manomin fields for the UofG team to study, all of which historically supported prolific Manomin stands according to oral testimonies.

2.2. Study Origins

The Culturally Sensitive Field Protocol, cited at length in the pages that follow, was co-developed by NAN and UofG for application in the Manomin Project [10]. The Manomin Project was investigating Manomin decline on the Upper Winnipeg River, in what is currently known as Northwestern Ontario. This involves not only learning about Manomin, but also understanding anthropogenic changes to the river's flow patterns and water quality, which can affect crop growth. NAN is concerned about exponential crop declines, which correlate with Canada's post-1945 industrial boom, as sustainable Manomin yields are essential to the health of humans and other-than-human beings. Elder Clarence Henry explained, "You got all sorts of bugs that feed off the wild rice. The birds come in and they eat the insects. So, it's a chain reaction [of survival]" [11]. While a healthy Manomin crop can nurture life, an unhealthy crop can cause death [12]. Western researchers sometimes refer to Manomin as a keystone species for this reason [13]. Anishinaabe leaders negotiated to protect Manomin from settler encroachment during the 1873 treaty negotiations with the Crown. The Paypom Treaty, an Anishinaabe variant of the English written version of Treaty #3 (1873), recognizes Manomin harvesting as a "sacred Inherent Right" of the Anishinabeg [14]. To harvest Manomin is thus to uphold Treaty and sustain the Great Web of Being.

Research questions addressed by the Manomin Project are posed and prioritized by the Chief and Council and address NAN's concerns about Manomin and human health. Research processes, by contrast, are co-developed with and monitored by a Council of Elders—Archie Wagamese, Barry Henry, Clarence Henry, Danny Strong, John Henry, Josephine Klyne, Larry Kabestra, Terry Greene, and Theresa Jourdain—who harvested Manomin throughout their growing-up years. The Manomin Project is also supported by band members Barry Henry, who acts as the Manomin Project's Anishinaabemowin-English translator and Elder liaison, and Allan Luby, who acts as the Manomin Project's river guide and monitors fields alongside Guy Henry. Brittany Luby functions as a bridge between NAN (from whence her paternal ancestors originated) and UofG (where she is employed as an expert in Crown-Indigenous relations). Chief and Council requested that B. Luby use her professional network, particularly because of UofG's reputation for environmental research, to develop an interdisciplinary research team to answer NAN's questions about Manomin's decline. This request mirrors NAN's responsibility for "preserving and protecting this resource for generations to come" [15].

Settler scholar Andrea Bradford, an expert in ecohydrology and water resources engineering at UofG, responded to NAN's call for research partners and identified funding streams. Through the recruitment efforts of B. Luby and Bradford, the UofG team expanded to include several graduate and undergraduate students from a variety of academic disciplines, as well as project advisors with wetland ecology and botany expertise. B. Luby and Bradford took care to engage researchers who were (and are) willing to be learners in Indigenous spaces. Invited researchers (Bradford and students) began to study Manomin using a community-engaged ethnographic approach with B. Luby's guidance. Having been trained in positivist reductionist research methodologies, invited researchers recognized the openness and curiosity with which they needed to approach the Manomin Project. Elders identified that invited researchers might struggle to adopt Anishinaabe relational philosophies due to Western hierarchies that assume human beings are more knowledgeable than other-than-human beings. For this reason, openness and curiosity-encouraged by community-engaged ethnography were considered an acceptable foundation through which relationships could be built, feelings of trust could be developed, and different ontologies and epistemologies could be navigated. Wilson (2008) explains that "[t]raditional Indigenous research emphasizes learning by watching and doing," and asserts that the relationships formed through this process are "an important aspect of ethical Indigenous research." [2] (p. 40). Thus, starting with a community-engaged ethnographic approach was an appropriate, if not essential, way to open the invited researchers' minds to Anishinaabe ways of knowing.

Dialogue between settler and Anishinaabe Nations that can improve life is encouraged by treaty in this region of Anishinaabe-Aki. As the Chief of Lac Seul informed Lieutenant-Governor Alexander Morris during the 1873 negotiations: “[T]he time may come when I will ask you to lend me one of your daughters and one of your sons to live with us; and in return I will lend you one of my daughters and one of my sons for you to teach what is good, and after they have learned, to teach us” [16] (p. 63). The Council of Elders has committed to teaching UofG researchers “what is good” for local wetlands and for future generations. Elders asked UofG researchers to participate in field visits and harvesting activities, encouraging UofG researchers to establish—rather than simply observe—relationships with Manomin as they work collaboratively to restore fields. Teachings shared by Elders during these activities introduced invited researchers to Anishinaabe ethics (e.g., the Seven Grandfather Teachings) and methodologies (e.g., feasting and ceremony).

2.3. Ethical Conduct in Anishinaabe-Aki

During the first research workshop attended by B. Luby and Bradford in June 2018, Elders discussed Manomin as an other-than-human being, highlighting the need to investigate how best to work with aquatic plant life as ethics approval from UofG provided no culturally-relevant direction on this front. Several semi-structured oral interviews were conducted by B. Luby that summer to determine how her Anishinaabe ancestors would have cared for Manomin. In September 2019, B. Luby, Bradford, and Mehlretter returned to NAN to demonstrate proposed sampling techniques and to request Elder feedback. Anishinaabe river guide A. Luby escorted B. Luby, Bradford, and Mehlretter along with 5 Elders (A. Wagamese, D. Strong, J. Henry, J. Klyne, and T. Jourdain) to Elder-selected Manomin fields to discuss proposed interactions with Manomin in situ. These conversations led to additional teachings about how to behave in Anishinaabe-Aki generally. Directives from Elders were drafted into a culturally sensitive field protocol, which was later circulated by email to the Chief and Council for community dissemination and approval.

This paper and the Culturally Sensitive Field Protocol were the results of a journey of humility and collaboration that occurred on the Upper Winnipeg River. Development of the Culturally Sensitive Field Protocol’s alternative ethic for aquatic plant research, shaped by the Seven Grandfather Teachings, was only possible because of the relationships formed.

3. Results

3.1. Honoring Interspecies Relationships

In the Anishinaabe worldview, all beings originating from Earth have a spirit and can enter into a relationship with human beings. James S. Frideres (2019) explains that “[b]oth animate and inanimate objects have a life spirit” in many Indigenous knowledge systems [3] (p. 50). Susan Chiblow emphasizes that water is “regarded as ‘sacred,’” for it is both alive and capable of giving life [17] (p. 4). Nicholas Reo and Laura Ogden (2017) maintain that human beings enter relationships of obligate reciprocity with waters simply by “accepting the generosity of their gifts” [18] (p. 1449). Manomin, as both a food source and a spirited being that grows in the rich sediment of shallow lakes and slow-moving rivers, is one such life-giving gift accessible to us by water.

Euro-originated Enlightenment thinking, which did not influence Anishinaabe axiology, makes the spirited nature of Anishinaabe life foreign to settler-colonists. As a general rule, Americans and Canadians separate “mind and matter” [3] (p. 50). Such thinking can be traced back to metaphysician Rene Descartes (2007), who asserted “*cogito, ergo sum*” or “I am thinking, therefore I exist,” associating spirited beings with intellect [19] (p. 137). Descartes and other Enlightenment thinkers associated rational thought with humankind. Animals, by contrast, were believed to operate on instinct. Divisions between “intellect” and “instinct,” between “humankind” and “beast,” reflect the hierarchal nature of Western, particularly Christian-inflected worldviews. Thomas King traces the separation of humankind and “other” to Genesis, noting that Adam originated before all other beings: Woman, flora, and fauna [20] (p. 24). Adam would then exert power over the plant and

animal kingdoms by naming them (Genesis 2:19). This Western axiology, which enables humankind to exert power over all other living things, inflects TCPS2 today. The TCPS2 “promote[s] ethical conduct of research involving humans,” which seemingly excludes ethical treatment of plants from its scope [7] (p. 3). Tellingly, the word “plant” is only used once in the policy while defining “community customs and codes of research practice” in an optional unit titled “Research Involving First Nations, Inuit and Metis Peoples of Canada” [7] (p. 110). Canada’s consideration of research involving the natural world is separate from the ethical treatment of humans in research; consent is only required by (and attributed to) human beings.

The Anishinabeg assume radically different origins for humankind, which, in turn, reframes relationships between themselves and other beings. The Anishinaabe origin story reveals that “plants and trees, birds and animals, and many crawling insects” inhabited Earth before humankind [21]. Gitche Manitou (the Great Creator) envisioned humankind in response to feelings of loneliness. However, Gitche Manitou did not offer First Man or First Woman dominion over Creation. The intrinsic value of other lifeforms is reinforced by common English translations of Anishinaabe welcoming ceremonies today. Before an event begins in Anishinaabe-Aki, Elders will often thank the “swimmers, crawlers, fliers, two-leggeds, and four-leggeds” and “those who have helped us” (which may include flora) for working collaboratively to create a safe and healthy environment for participants to gather. These descriptors (i.e., “swimmer,” “two-leggeds,” “those who helped us”) do not separate humankind from nonhumankind. Instead, it emphasizes their commonality: Each lifeform is animate or capable of influencing change.

The Anishinabeg not only experience life (or spirit) like other-than-human beings, the Anishinabeg depend upon them. This is evident in Gitche Manitou’s instructions to First Man and First Woman: “Take care of Mother [E]arth, and she will take care of you” [21] (para. 1). Interdependency is coded into this initial directive. Perhaps, for this reason, Anishinaabe Elders teach youth to live with humility and recognize that nonhuman lifeforms can survive without human intervention, but humankind depends on plants and animals for subsistence. Kristi Leora Gansworth (2018) encapsulates this teaching when she writes, “From fur and scale to feather and branch, intertwined powers work together each day constantly renewing this life that you belong to. As you exist, so do they; there is no separation” [22] (para. 10). From the first breath, the Anishinabeg are taught to enter reciprocal relationships with Creation. Deborah McGregor (2015) illustrates the harm that arises when people fail to uphold their duties in relation to waters, thus disrupting “the ability of the waters to fulfil their responsibilities around giving and supporting life” [23] (p. 73). It is understood that the Earth and Waters—and all lifeforms that originate from them—can offer care.

Consider that the Anishinabeg do not independently harness the reproductive potential of Manomin in oral stories. The Anishinabeg do not *discover* or *unlock* the secrets of aquatic plant production. Instead, Manomin (which translates most accurately into English as “spirit berry” or “gift from the Creator”) offered itself to Nanaboozhoo. In Anishinaabe oral traditions, Nanaboozhoo is a half-spirit and half-human trickster figure. His presence suggests that knowledge encoded into the narrative predates human memory. Nanaboozhoo’s human essence prompts Anishinaabe listeners to reflect on their own behavior. Stories featuring Nanaboozhoo and Manomin reinforce the importance of humility in interspecies relationships. Heather Cardinal and Becky Maki (n.d.) reveal that Nanaboozhoo was introduced to Manomin during a vision. He had “fasted for four days in a wigwam,” seeking a solution to the suffering of the Anishinabeg who had “very little food” for several winters.” When he set out from the wigwam, Nanaboozhoo found himself walking “until he came to the edge of a river.” Exhausted, he fell asleep. When he awoke, Nanaboozhoo thought “he saw the feathers and headdresses worn by Ojibwa men” and asked to join these human-like beings in a dance. They danced together until Nanaboozhoo returned to sleep. When he awoke a second time, Nanaboozhoo found no evidence of the human presence and assumed his encounter a dream. Then, he noticed the

“tassels” on a ripening Manomin plant. He found “long seeds that hung from those tassels” and carried them back to the Anishinabeg” [24] (para. 1). Through this story, we see the exemplification of water’s life-giving abilities as it nurtures Manomin. Manomin can then enter into a reciprocal relationship with Nanaboozhoo by providing him with the gift of food in his time of need. What is important here—in the context of conducting ethical research with aquatic plant life—is that Manomin is an animate, spirit being, capable of expressing its desire to support human life and activities. Like Nanaboozhoo, who fasted and requested aid, ethical researchers must create pathways through which Manomin can express its will.

In another Anishinaabe teaching, Nanaboozhoo learned how to find food to eat through his relations with Duck. Duck visited Nanaboozhoo’s campground and sat “on the edge of his kettle of boiling water.” Perhaps Duck observed that Nanaboozhoo “had no game” in his kettle—although Nanaboozhoo did not beseech Duck for aid. Duck eventually departed, and Nanaboozhoo sat down to eat. He noticed a foreign foodstuff in his supper but soon learned “it was the best soup he had ever tasted.” Desirous of more knowledge about this nourishing food, Nanaboozhoo tracked Duck to the water—“a lake full of Manomin” [25] (para. 1). Here again, we find other-than-human helpers contributing to “human” wellbeing. Duck prompted Nanaboozhoo to seek out an alternative to game, and Manomin revealed itself in the lake. As Gitche Manitou indicated at the time of Creation, “Mother [E]arth will take care of you” [21]. However, access to care depends upon the establishment and maintenance of reciprocal relationships. These ancient teachings have not expired and need to be applied broadly (i.e., in life and in study).

For this reason, Niisaachewan Anishinaabe Nation and the University of Guelph created the Culturally Sensitive Field Protocol to guide Manomin researchers in their field activities. To respect Manomin’s right to participate in the study, researchers must offer tobacco at each field they visit. Without tobacco, the researchers will not be welcomed into Manomin’s home (i.e., the field) [10]. Intrusion puts the researchers at risk of injury or inclement weather. Alternatively, Manomin may choose not to regenerate. As noted by Potawatomi scientist Robin Wall Kimmerer (2014), “when people forget to honor the gift, the consequences are always material. The spring dries up, the corn does not grow, and the legions of offended plants and animals and rivers rise up against the ones who neglected gratitude” [26] (p. 20). Manomin thus expresses its consent non-verbally. The Manomin Project’s protocol acknowledges that humans cannot exert their will over aquatic plant life without consequence [10]. By offering tobacco, researchers are aligned with the Anishinaabe ethic of *Dabasendiziwin* (humility) or “to think lower of oneself in relation to all that sustains us” [27]. Reo encourages researchers to seek consent continuously throughout the research process by asking themselves: “How could I engage more conscientiously in a dialogue with other-than-human relatives about the focus or particularities of my work?” [28] (p. 71). Meaningful relationships with other-than-human beings and ethical research that invites the participation of emergent aquatic plants like Manomin recognizes, fundamentally, that relationships require ongoing maintenance and care.

To act with care and to reduce harm to Manomin, Elders also limited the season during which sampling—particularly the removal of aquatic plant life—can occur. Researchers are permitted to take samples once the plant has fully matured and is ready to harvest [10]. This allows Manomin to signal when it is ready for human use. Linda LeGarde Grover (2017) notes that “the beginning of the harvest is determined by the elders and other experienced ricers, who are knowledgeable about the wisest ways to harvest: When the rice stalks are of a color and size to be ready to yield the gift of manomin to us” [29] (p. 92). Waiting until harvest also helps to ensure that Manomin lived as full a life as possible. Active consideration of Manomin’s right to life aligns with the Anishinaabe ethic of *Manaaji’idwin* (Respect) or the need “to go easy on one another and all of Creation” [27]. Humility and respect are two of the Seven Grandfather Teachings. A need to engage ethically with Manomin prompted Elders to consider which Teachings to prioritize in the

fields but prompted discussions of ethical conduct more broadly. Elder teachings soon reoriented external researchers toward Anishinaabe-Aki.

3.2. Upholding the Seven Grandfather Teachings

The first of Seven Grandfather Teachings is *Debwewin*, which is commonly translated into English as “Truth.” Basil Johnston (2013) explains that “truth” is an imperfect word: “A speaker casts his words and his voice as far as his perception and his vocabulary will enable him or her” [30] (p. 6). Elders at NAN recognized that external researchers and band members would have unique experiences and, by extension, different understandings of the world—different truths. Reorienting invited researchers to NAN’s truths is essential to forming healthy, reciprocal relationships among the culturally diverse project team. Honoring these truths and forming healthy relationships are necessary for ethical research with Indigenous people [2,4]. As such, NAN requires all incoming researchers to familiarize themselves with Treaty #3 and the Paypom Treaty [10]. Treaty teachings affirm Anishinaabe territorial and harvesting rights, asserting Anishinaabe jurisdiction over the field sites and countering colonial terms like “Crown Lands” and “off-reserve”, which suggest Manomin fields belong to Canada. Researchers first learn that truth-telling is politicized. Before entering the field, invited researchers must also learn keywords used by band members to make sense of their world [10]. Band members argue that Anishinaabe worldviews may not be accurately captured by English translations of Anishinaabemowin words. For example, “wild rice” does not show that Manomin is cared for through prayer and reseeding as a “gift from the Creator.” By adopting a common vocabulary, members of the Manomin Project can communicate more clearly (and, by extension, more truthfully) with each other.

The second teaching, *Dabasendiziwin*, is often referred to as humility in English. Invited researchers must not only engage humbly with Manomin but also with Elders. Researchers must prepare tobacco pouches for Elders when working in the community [10]. This involves putting some tobacco (approximately what would fit in a pipe) in a piece of cloth and tying a ribbon to close the pouch. Tobacco offerings acknowledge that Elder Knowledge is a gift. Researchers have no innate right to Elder Knowledge; tobacco offerings can be rejected to indicate an unwillingness to participate in the field. Offering tobacco is a recognition that research into crop restoration will not succeed without community consent. *Manaaji’idiwin*, which means respect, is the third teaching and also shapes ethical interactions with band members. The Culturally Sensitive Field Protocol (2020) reads “There are some specific locations on the Upper Winnipeg River that cannot be photographed. This includes any sites with pictographs, as well as Anishinaabe burial grounds. It is also inappropriate to photograph individuals conducting a prayer or a ceremony” [10] (p. 6). If consent cannot be readily given due to alternate planes of existence or flow states, information cannot be recorded.

Zaagi’idiwen, often translated into English as “love,” can be seen as an extension of respect. NAN ensured external researchers act with love through the Culturally Sensitive Field Protocol. For example, team members are to “think communally rather than individually” [10] (p. 3). To think communally is to “ensure that extra food is available for the Knowledge Keeper to take home and/or share with family members that may visit during the knowledge exchange” [10] (p. 3). A knowledge exchange may take the form of an interview or sharing circle. These activities most frequently occur in the Band Office. Researchers are also required to act lovingly, to think communally, in this space. Elders recommend that external researchers “purchase coffee and lactose-free milk in bulk, ensuring that you are entering into a reciprocal [and caring] relationship with band office employees who are sharing their kitchen” [10] (p. 3).

Gwayakwaadiziwin can be translated as “they lives rightly” and is often coded as “Honesty.” This teaching calls upon ethical persons to act with integrity. While the Culturally Sensitive Field Protocol focuses on how to gather information ethically, Elders also spoke about the need to disseminate findings. To ensure external researchers “live rightly,” NAN calls upon them to co-host bi-annual feasts. During the Spring Feast, research goals and

upcoming objectives for the season are revisited with Elders and band members. During the Fall Feast, Elders and band members have an opportunity to respond to initial research findings. Representatives from NAN and UofG use this time and space to co-interpret data. This helps to ensure that invited researchers are not parading information as “Truth” that is not coded as such by NAN. The Fall Feast is also used to co-identify what information should be disseminated, how it should be shared, and who might access it. NAN also devoted a wall of the Band Office for a research installation. Researchers use this space to post early research connections for public engagement. It functions as a public mind map and requires researchers to broadcast early hypotheses and research connections. Lastly, Elders have requested that external researchers create a space for public and ongoing discussion to bridge the geographic divide between NAN and UofG. The Manomin Project’s Instagram account (@manominproject) was developed to bridge this gap and operates as a free forum through which band members can ask questions and learn alongside faculty, students, and staff. It is understood that data interpretation in isolation could result in “inaccurate” or “dishonest” research presentations and publications.

Honesty and Courage overlap and appear sequentially in many iterations of the Seven Grandfather Teachings. *Zoongide’ewin* means to live with a bold heart. If a researcher is living honestly, they must be willing to face adversity. Within the Culturally Sensitive Field Protocol, researching courageously means “accept[ing] guidance from Knowledge Keepers regarding respectful conduct” [10] (p. ii). It requires invited researchers to acknowledge the limits of their formal training. It requires an admission of vulnerability. Within NAN, ethical research allows for error. It is the researchers’ ability to bravely request aid and humbly accept guidance that matters more than perfection. It is the researchers’ willingness to address harms respectfully and lovingly (and to do so openly) that ensures the wellbeing of the study and its participants (including Manomin). Perhaps it is for this reason that the six aforementioned teachings are reinforced by, and culminate in, the expression of *Nibwaakaawin* or Wisdom. Wisdom reflects one’s deep and meaningful consideration of the interconnectedness of all living things—a willingness to shape one’s actions to improve the wellbeing of all.

4. Discussion

Canada’s Tri-council Policy Statement for Ethical Research Involving Humans does not account for the inter-relationship of humans and Manomin. Instead, the TCPS2 is limited in the same way as other conventional justice and ethical frameworks that “seek to protect human (and Indigenous) rights yet continue to characterize other beings as resources, commodities, and private property” [31] (p. 18). Team members from UofG recognized the importance of going beyond the words of the policy to get at the “spirit” of the policy—the “spirit” being the need to consider and avoid potential harms of research to the people involved. For NAN, this meant extending consideration and avoidance of potential harms to Manomin, an aquatic plant relation, and following the principles of the Seven Grandfather Teachings. The Manomin Project team, with representatives from NAN and UofG, accomplished this through the co-creation and use of the Culturally Sensitive Field Protocol. The team felt morally obligated to see past the failure of the TCPS2 to account for Manomin as a spirited being worth ethical consideration. Unfortunately, relying on researchers to “feel morally obligated” is not enough to ensure research with Indigenous populations reflects their worldviews.

Module 9 of the TCPS2 CORE online course states: “Aboriginal cultures and identities are distinct from other Canadian perspectives” [32] (slide 8). However, recognizing distinct worldviews in the policy does not require researchers to incorporate alternative research ethics to reflect these worldviews. As noted by Madeline Whetung and Sarah Wakefield (2018), the REB “operates from a knowledge-supremacy position where it dis-embeds knowledge that is rooted outside of the academy to bring it into the academy by validating some aspects of it as ‘research’” [33] (p. 148). In this light, the relationships between university researchers and Indigenous communities continue to be filtered through a

settler-colonial lens. Martha Steigman and Heather Castleden (2015) add that even though the TCPS2 policy encourages researchers to consider Indigenous perspectives, at the end of the day, researchers must comply “with the academy as opposed to the ethical directives given by Indigenous peoples themselves” for fear of losing project funding and risking harm upon Indigenous partners with the loss of benefits that the research processes may have produced [34] (p. 2). While REBs may include Indigenous faculty representatives in an effort to diversify, there is no formal mechanism through which to include Indigenous community members in the evaluation or approval of community-engaged research. Memorial University in Newfoundland is an exception, as the institution requires an agreement in principle from the community engaged in the research. Agreement in principle can take the form of a formal letter of support, a phone call from an official representative, or a text from relevant leaders [35]. For most Canadian institutions, however, there is still a gap between seeking to minimize harm against Indigenous communities and ensuring that research risk assessments by Indigenous leaders are meaningfully included in the ethics review process. Consequently, research in Canada can and does proceed without culturally specific definitions of harm and harm reduction strategies (like the Culturally Sensitive Field Protocol).

Meaningful engagement with Indigenous ethics is further complicated by vague directives from the Tri-Council Policy Statement. Module 9 of the TCPS2 CORE online course does not suggest to researchers the alternative worldviews, why they are important to consider, how worldviews impact ethical research, and how a researcher would work to create an ethical research design while working with Indigenous Nations. Researchers are thus encouraged to seek guidance from Indigenous collaborators while barred from recording information on ethical conduct until REB approval is granted. TCPS2 provides no guidance on what to do if the principles of the TCPS2 conflict with the Indigenous Nation’s views. There is no override clause to privilege Indigenous governance of research should conflict arise. Sandy Grande (2018) has described the university as a “long-time accessory in the perpetuation of settler crimes against Black and Indigenous humanity” [36] (p. 2). The failure of TCPS2 and REBs that administer it to allow Indigenous Nations to direct their own research reveals how institutional modes of governance continue to define Indigenous interests as secondary.

Nevertheless, TCPS2 could be adapted to accommodate ethical research with aquatic plant life as research institutions treat (i.e., negotiate) with Indigenous Nations to indigenize higher education. The TCPS2 CORE is an online course used to educate researchers on research ethics and the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans. Many Canadian institutions require researchers to submit their Certificate of Completion with their REB application. The purpose of the TCPS2 (2018) is to “promote ethical conduct of research involving humans” [7] (p. 3). While this seemingly removes the ethical treatment of the plants from the scope of the TCPS2, we must address and honor Indigenous worldviews to maintain respectful relationships (a foundation for ethical research) with Indigenous collaborators. The federal policy states that the “intrinsic value of human beings and the respect and consideration that they are due” should be recognized [7] (p. 6). For the Anishinabeg, humans are not alone in having intrinsic value; other-than-human beings also warrant this respect. Respecting the Anishinabeg demands consideration of other-than-humans as members of Anishinaabe-Aki.

Western researchers who may struggle to accept Manomin as a spirited being are not excluded from this call to action. It fits within the operating framework: The TCPS2 (2018) describes human welfare as consisting of “the impact on individuals of factors such as their physical, mental, and spiritual health, as well as their physical, economic and social circumstance” [7] (p. 7). Federal policy also recognizes that an individual’s welfare may be dependent on the welfare of those that are important to them [7] (p. 7). For the Anishinabeg, their spiritual health and thus their welfare are intimately tied to the wellbeing of other-than-human beings. Remember the words of Gitche Manitou: “Take care of Mother [E]arth, and she will take care of you” [21]. Reciprocal relations between

all animate and inanimate beings are considered foundational to life. If the welfare of Manomin, or its aquatic environment, is compromised through water research practices, it is impossible to live well in Anishinaabe-Aki. Western researchers thus have a pre-existing responsibility to recognize the needs of other-than-humans. Taking this a step further, Kyle Whyte (2018) notes that “humans ought to . . . be respectful of nonhuman ways of knowing” [37] (p. 127). By doing so, more inclusive understandings of the intertwined relationships between humans and the environment can be achieved, and in turn, justice for humans can be extended to justice for all spirited beings [37] (p. 126).

In reviewing the TCPS2 and the CORE online course, including Module 9, the authors have identified opportunities where the consideration of other-than-humans can be incorporated more substantively. This would not only bring to the attention of researchers the importance of considering alternative worldviews but would also provide exemplars to prompt reflection and encourage better engagement of researchers with Indigenous communities.

The TCPS2 CORE course provides several examples of ethical issues in research to ensure course registrants understand the diversity of research that involves human participants. In Chapter 1 of the TCPS2 (2018), while discussing the importance of research ethics, the policy expresses the vast list of research involving humans as “boundless as the human imagination” [7] (p. 5). The examples of ethical issues, however, only cover three academic disciplines: Social Sciences, Humanities, and Health Sciences. There is no exemplar to depict how ethical issues in the natural sciences may arise. An example that describes the worldviews of the Anishinabeg and their relationships with other-than-humans might prompt natural scientists completing the TCPS2 to think more broadly about what constitutes ethical research. This is critical considering, as other scholars have recognized, “many natural scientists and engineers have not been trained in a culture of ethical space that includes responsibilities to the land (and water and all-living and non-living entities) and thus fail to consider how the TCPS2 has application to their research” [38]. This concept of viewing water and associated aquatic plants as spirited beings with agency is a thought process rarely, if ever, encouraged in Western institutions, thus limiting the effectiveness of TCPS2 for research with Indigenous communities. A natural sciences example in the TCPS2 would create a valuable opportunity as “most natural scientists do not see the link between their work and Indigenous communities if people are not directly interviewed or sampled” [39] (p. 770). Such examples may prompt greater reflection among researchers who would otherwise have never considered the ethical implications of working on the water with an aquatic plant.

Another example is on slide 27 of Module 9, which discusses the diverse interests within a community [32] (slide 27). The slide only uses human-centered examples of diverse interests, but it does include an image that depicts nature as a diverse interest. Silhouettes of several animals, including a moose, turtle, narwhal, and eagle, among others, symbolize the relationship many Indigenous communities have with other-than-humans. This alludes to a need to consider the ethical treatment of other-than-humans to meet the diverse interests within a community; however, there is no text that explains this directly, leaving the reader to guess the meaning of the image and potentially miss this important consideration. What is more, the image has no silhouette of plant life. This slide, and the corresponding section of Chapter 9 in the TCPS2, is an obvious place to provide a more explicit reference to the need for researchers working with peoples who see the value of other-than-humans as equally important, to determine how to conduct research in a way that these spirited beings are treated ethically. Further, key flora to Indigenous cultures, like Manomin and Mandaamin (Corn), should be included in the image to demonstrate that not only do Indigenous peoples highly value their relationships with animals but plants as well.

5. Conclusions

The TCPS2 (2018) is not ignorant of the poor relationships between the academy and Indigenous peoples in Canada (although it historicizes them). Chapter 9 explains that:

Research involving Indigenous peoples in Canada has been defined and carried out primarily by non-Indigenous researchers. The approaches used have not generally reflected Indigenous world views, and the research has not necessarily benefited Indigenous peoples or communities. As a result, Indigenous peoples continue to regard research, particularly research originating outside their communities, with a certain apprehension or mistrust [7] (p. 107).

This acknowledgment is a first step in addressing inequities in research; however, the TCPS2 must include more explicit descriptions of why and how to consider the ethical treatment of other-than-human beings, along with examples of situations in which researchers have successfully addressed ethical issues pertaining to researching plant life. These changes will create a policy statement that better reflects the worldviews of Indigenous peoples as individuals continue to challenge colonial hierarchies coded into TCPS2. The possibility for reform, however, is not to suggest that the TCPS2 and Institutional REBs should continue to be the primary arbitrators of ethical research with Indigenous Nations. Instead, TCPS2 and REBs should recognize the Right of Indigenous communities to self-govern research within their territories. Should Canadian universities and institutions internationally seek to recognize and uphold the United Nations Declaration on the Rights of Indigenous Peoples, publicly funded administrators must “consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions to obtain their free, prior, and informed consent before adopting and implementing administrative measures that may affect them” [8] (article 19).

Canada’s Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2) seeks to protect vulnerable populations, including Indigenous persons, but has failed to ask researchers to respect Indigenous worldviews and other-than-human relationships when working in aquatic environments and with Indigenous foodstuffs. The Culturally Sensitive Field Protocol highlights this failure. It proposes an alternative ethic that de-centers human beings and fundamentally counters Western values of human superiority and nature’s compliance. By highlighting the failures of TCPS2, the Culturally Sensitive Field Protocol showcases the ability of Indigenous Nations to manage risk and govern research in their own territories. Anishinaabe’s “apprehension or mistrust” of research need not be located in past research practices but in a present that fails to consider Anishinaabe understandings of (and abilities to structure) a good life.

Author Contributions: Conceptualization, B.L. with NAN; methodology, B.L., A.B., S.M., with NAN; investigation, B.L., Mehlretter, R.F., G.G., M.L., E.P.; data curation, B.L., S.M., R.F., M.L.; writing—original draft preparation, B.L., S.M., R.F., and M.L.; writing—review and editing, B.L., S.M., A.B., G.G., E.P., J.M., with NAN; supervision, B.L. and A.B. with NAN; project administration, B.L. and A.B. with NAN; funding acquisition, B.L., A.B., S.M., with NAN. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by George Weston Limited through their Seeding Food Innovation Grant, SFI19-0374, the Royal Bank of Canada through their Ontario Resource Field Program, and the Natural Sciences and Engineering Research Council of Canada (NSERC) through the Alexander Graham Bell Canada Graduate Scholarship—Doctoral, CGSD3-548052-2020.

Institutional Review Board Statement: The Research Ethics Board at the University of Guelph has reviewed and approved this project. It conforms to the standards of the Canadian Tri-Council Research Ethics Guidelines. This project was approved on July 6th, 2018 and assigned the tracking number REB #18-05-001.

Informed Consent Statement: Informed consent was obtained from all Elders involved in the study.

Data Availability Statement: Data is contained within the article.

Acknowledgments: Niisaachewan Anishinaabe Nation acknowledges the contributions of Elders Archie Wagamese, Clarence Henry, Danny Strong, John Henry, Josephine Klyne, Larry Kabestra, Terry Greene, and Theresa Jourdain to the development of the Culturally Sensitive Research Protocol on which this article is based. The Manomin Research Team also acknowledges the invaluable contributors of Elder Liaison and translator Barry Henry, river guide Allan Luby, and field assistant Guy Henry.

Conflicts of Interest: The authors declare no conflict of interest. Luby acknowledges that her paternal ancestors originate from Niisaachewan Anishinaabe Nation and her living relatives are band members. Her call to increase Indigenous governance over community-engaged research generally does not benefit her relatives specifically. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

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