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Rice-ky Business on Pigeon Lake and Indigenous Conservation Education

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Acknowledgement

Before delving into the research, I would like to acknowledge the land on which I reside, my personal connection to this topic, and where I am coming from. While thinking about and writing this essay I have been on the territory of the Michi Saagiig Nishnaabeg in Nogojiwanong (Peterborough) and surrounding areas within the Kawarthas, where the topic of this essay takes place. I would like to formally thank the Michi Saagiig Nishnaabeg for their continued care and love given to the land and the Beings on it for time immemorial, particularly Manoomin and settlers like myself. May your teachings about Mother Earth, reciprocity, relationships, and many more topics I do not have the space to mention be respected and honoured.

I chose this topic due to the continual mention of Manoomin conflicts in my university experience at Trent. The importance of Manoomin to Michi Saagiig Nishnaabeg is immense and has been brought up to me by professors and teachers including Barbara Wall, James Wilkes, Gary Pritchard and Tom Whillans. To honour the land I was on, I chose the Pigeon Lake conflict as my case study; I visited it on a field trip for a class with Tom Whillans. Coming from a scientific perspective, the topic of this essay is very intriguing for me, but it is also important from a human rights and Treaty rights perspective.

I am a settler, raised and taught in a Western-centric education system. My family originates from Germany. Comprehensive topics and in-depth conversations about Indigenous

peoples, rights and issues were never brought up until I entered university. My background, assumptions and bias are inherently Western and colonialist; this essay is not objective. For my whole life, science has been a large interest of mine; I have always dreamed of being a scientist. Realizing the ethical implications of that career path, and being introduced to Indigenous Environmental Science and Studies (IESS) by Barbara Wall, caused me to reassess. I now strive to bring together multiple passions of mine: science, communication, education, and creativity. I believe my unique perspective on this particular case study will bring value to the research on this and related topics.



Figure 1: Picture of Pigeon Lake in 2020

Introduction and Research Question

Along the shores of Pigeon Lake, in the heart of cottage country in the Kawarthas and on traditional Michi Saagiig Nishnaabeg territory, lies a conflict with deep-seated roots. Manoomin, or wild rice, has been the centre of a conflict between Indigenous peoples and settler peoples for quite some time on Pigeon Lake (Beaver, 2010; Clysdale, 2019). Manoomin is a species of grass, in the genus *Zizania*, that grows in shallow still water (Truth and Reconciliation Community in Bobcaygeon, n.d.). In the Nishnaabe language, Manoomin means “most wonderful seed” (LaDuke, 2013; Krotz, 2017; Truth and Reconciliation Community in Bobcaygeon, n.d.). To the Michi Saagiig Nishnaabeg, Manoomin is an incredibly sacred food and is mentioned in creation stories; there is even a moon named after Manoomin in the Nishnaabeg calendar (LaDuke, 2013). Manoomin is a significant part of Michi Saagiig Nishnaabeg culture (Beaver, 2010; Black Duck Wild Rice, 2019; Curve Lake First Nation, 2020; David, 2013; LaDuke, 2013; Truth and Reconciliation Community in Bobcaygeon, n.d.).

History

Due to the importance of Manoomin to the Michi Saagiig Nishnaabeg, although it is only one plant species, the Pigeon Lake Manoomin conflict has deep roots in colonialism and the colonization of Turtle Island (Community Voices for Manoomin, 2020). The Michi Saagiig Nishnaabeg have had Manoomin as a staple of their diet for at least 4000 years and it has sustained them for time immemorial (Beaver, 2010; Black Duck Wild Rice, 2019; Boyd, Surette, Surette, Terriault & Hamilton, 2013; Curve Lake First Nation, 2020; Truth and Reconciliation Community in Bobcaygeon, n.d.). When settler peoples began to impose their control over Turtle Island, this included the construction of the Trent-Severn Waterway (TSW) (Curve Lake Nation,

2020; Parks Canada, 2019). The creation of the TSW involved a substantial series of locks and dams over 386 kilometers in order to connect pre-existing waterways to promote travel and trade (Beaver, 2010; Parks Canada, 2019) It caused water level changes and fluctuations, severely affecting the wetland area on the shorelines of the TSW; this was absolutely devastating for Manoomin (Curve Lake First Nation, 2020; Krotz, 2017; Parks Canada, 2019; Truth and Reconciliation Community in Bobcaygeon, n.d.). The sudden change in the water levels, along with pollution, agricultural run-off, dredging of wetland area, herbicides, invasive species and Manoomin removal have contributed to and sustained the loss of Manoomin on Pigeon Lake (Curve Lake First Nation, 2020; Truth and Reconciliation Community in Bobcaygeon, n.d.). The loss of Manoomin on Pigeon Lake is a direct result of colonialism and colonization (Curve Lake First Nation, 2020; Krotz, 2017).

Present-Day

Despite the large pool of resources about Manoomin, there is still substantial conflict about its value and role in the lives of peoples living on and around the Great Lakes (Clysdale, 2019; Krotz, 2017; Parks Canada, 2019; Spenrath, 2020). The Manoomin conflict arises from not only the Michi Saagiig Nishnaabeg, but also settler peoples living or cottaging along Pigeon Lake (Parks Canada, 2019). While settler peoples have been on Pigeon Lake, Manoomin has been sparse; to them, the reintroduction of a populous Manoomin community would change the lake they came to know and love (Curve Lake First Nation, 2020; Clysdale, 2019; Save Pigeon Lake, 2020). Despite the concern of settler peoples, the ingrained bias of white superiority and colonialist attitudes of their argument attempts to invalidate all other opinions or standpoints (Community Voices for Manoomin, 2020; Save Pigeon Lake, 2020; Spenrath, 2020). It is important to acknowledge the inherent right to the land that Indigenous peoples legally hold in

Canada, and how many settler peoples refuse to mention or educate themselves on this (Curve Lake First Nation, 2020). The attitudes towards Manoomin from cottagers along Pigeon Lake are extremely racist, colonialist, and privileged, whereas Indigenous peoples are more concerned about conservation, caring for the land and preservation of cultural activities (Black Duck Wild Rice, 2019; Community Voices for Manoomin, 2020; Save Pigeon Lake, 2020). Pigeon Lake is on the traditional territory of the Michi Saagiig Nishnaabeg, specifically Curve Lake First Nation, but since it also runs along the edge of the private property of cottager's vacation homes, compromises must be made using legal and third-party action (Clysdale, 2019; Parks Canada, 2019).

Unfortunately, much legal and third-party action taken favours the colonialist side of the conflict (Community Voices for Manoomin, 2020). This specific injustice towards the Michi Saagiig Nishnaabeg and the larger injustice of the continued colonialist attitude from governments and settlers towards all Indigenous peoples drives me to want to take positive action. The path towards positive action may seem unclear in this particular conflict, due to the gravity and depth of the situation, but I believe that education is the path to follow. The education of Indigenous conservation is incredibly important for understanding Indigenous Manoomin initiatives in Pigeon Lake (Gary Pritchard, personal communication, November 6, 2020). Indigenous conservation varies from Western conservation in that it focuses less on a preservationist perspective and more on a case-based and interactive perspective (Gary Pritchard, personal communication, November 6, 2020). Not only does the knowledge of Indigenous conservation reiterate the power colonialism has in our society and governments, but it also challenges the authority of that mindset (Alcorn, 1993). The decolonization of conservation is

incredibly important in our current state of colonialism (Gary Pritchard, personal communication, November 6, 2020).

Research Question

How can the education of Indigenous perspectives of conservation aid in the situation of the Pigeon Lake Manoomin conflict?

This research question holds importance because of the inclusion and prioritization of Indigenous perspectives. This issue is significantly important to the Michi Saagiig Nishnaabeg, therefore, using Indigenous perspectives of conservation and prioritizing Indigenous knowledge will likely provide more beneficial results than prioritizing Western knowledge (Kimmerer, 2013). The prioritization of Indigenous knowledge is incredibly important for challenging the colonialist mindset and authority that has dominated Turtle Island since colonization (Gary Pritchard, personal communication, November 6, 2020). This prioritization of Indigenous knowledge is a step taken to respect the knowledge system and the values of Indigenous research.

My personal interest in this topic and case study stems from my passions in science, communication, education, and creativity. Pigeon Lake is close to where I've been studying for the past three years; to honour the land on which I reside I chose this case study. Because of the continual mention of Manoomin in my post-secondary education, and especially within the past few months, this case study really stood out to me, as opposed to my previously proposed topic based in Vancouver. The inspiration to focus on Indigenous perspectives of conservation came from multiple presentations by Gary Pritchard weeks before choosing my topic. His presentation reflected my personal ideals of conservation. The combination of culture, spirituality, science,

communication and education within the Pigeon Lake Manoomin conflict allows me to use a collage of skills I have gained and integrate my personal interests into the research.

The education surrounding the decolonization of conservation is important for this specific case study, but this concept can also be applied nationally to a variety of different conflicts with roots in colonialism (Alcorn, 1993; Gary Pritchard, personal communication, November 6, 2020; Snively & Corsiglia, 2000). Environmental issues with connection to the land require extensive knowledge not only about general environmental processes but also specific processes, ecosystems and individual Beings directly involved with the land and the issue (Alcorn, 1993; Snively & Corsiglia, 2000). I believe my knowledge of Western science and education and my acknowledgement of the importance of Indigenous knowledge will greatly aid with the education of decolonizing conservation portion of the research project.

Methods

The methodology for this research project will mostly involve research in literature. Geographically, my research will focus on Pigeon Lake within Michi Saagiig Nishnaabeg traditional territory, within Curve Lake First Nation land. A literature review will be conducted surrounding the specific case study while using certain concepts and frameworks posed within them to formulate a potential solution to the Pigeon Lake Manoomin conflict. Along with literature being drawn from I will also draw ideas of how to conduct my research and bias my approach using my own experiences with education, education systems and learning approaches.

This research project will be conducted under the assumption and idea that education is the best method to initiate a change or shift in worldview and to cultivate respect. Education is a very powerful method, but only if hopeful learners are willing to listen and engage (Johansson, Fogelberg-Dahm & Wadensten, 2010). An important part of engaging learners, especially those

who are less willing to learn, is to create a safe and ethical space where the learners feel their interests are valued (Ermine, 2007; Ermine, 2011). This knowledge stems from my own experience with education, being both the student and the teacher as well as inspirations such as Willie Ermine and Barbara Wall. My personal knowledge is integral to creating the methodology for this research project.

My literature search will include a wide range of documents. I will be including a variety of perspectives on the Manoomin conflict on Pigeon Lake from non-scholarly articles in order to capture the true opinion of the stakeholders. I will also be including scholarly articles both about Manoomin, the conflict and Indigenous conservation education. The articles focusing on Manoomin itself will have important value to back up the importance of this being to Indigenous culture, food sovereignty, health and self-determination. Conservation education and perspectives on Indigenous conservation will be used as a framework for the formulation of an educational process as well as contribute to the content used in the education process.

One key concept I will be including in my research is the Three Sisters Garden and its relationship between knowledge systems (Kimmerer, 2013). This garden consists of three plant teachers: corn (Mndaamin), beans (Mashkodesimin) and squash (Kosimaan) (Kimmerer, 2013). Mndaamin represents Indigenous knowledge, Mashkodesimin represents scientific knowledge, being guided by the Mndaamin, each supporting each other in synthesis, and the Kosimaan creating the ethical space for both knowledges to grow and flourish (Kimmerer, 2013). This metaphor will be the model for educational system I will be aiming for in this research paper. Particular attention will be given to the creation of an ethical space, represented by Kosimaan (Ermine, 2007; Ermine, 2011; Kimmerer, 2013).

This research and methodology used to conduct the research will hopefully contribute to the practicality of diminishing or solving the Pigeon Lake Manoomin conflict within the Kawarthas. I believe since I've had much of my post-secondary education on the traditional territory on the Anishinaabe Peoples of Curve Lake First Nation this research project has added relevance as opposed to an issue where research, education and place are disconnected.

The timeframe for this project will only go until December 11th, 2020. There will be limits to this research project. The methodology of this research assignment will unfortunately not use any in person research due to time and the current circumstances. Limits include the lack of interviews due to convenience and time, lack of time for comprehensive research, lack of time and funds for trial education frameworks and the limit of not being able to be on Pigeon Lake to conduct this research.

Literature Review

There is a wide range of literature surrounding the topic of Manoomin and a wide range surrounding conservation education, with fewer focusing on Indigenous knowledge. There is very little literature combining both subjects, with less focusing on Pigeon Lake. The five themes within the literature are the importance of Manoomin, opinionated pieces about Manoomin which include 'For Manoomin' and 'Against Manoomin', the collaboration of Indigenous Knowledge and Western Knowledge and the concept and creation of an ethical space. Each theme will be analyzed in further detail.

Manoomin's Importance

Manoomin is our relative (LaDuke, 2013). Manoomin holds a sacred place within Michi Saagiig Nishnaabeg culture, spirituality, economy, social events and food sovereignty (Beaver, 2010; Black Duck Wild Rice, 2019; Curve Lake First Nation, 2020; David, 2013; LaDuke, 2013;

Truth and Reconciliation Community in Bobcaygeon, n.d.). As mentioned by LaDuke (2013), Manoomin is an integral part of a Michi Saagiig Nishnaabeg creation story, therefore holds significant importance. Before the construction of the TSW, the large Manoomin population was necessary for supporting a large population within the Kawarthas (Truth and Reconciliation Community in Bobcaygeon, n.d.).

There is extensive research done on the biological benefits of Manoomin to ecosystems and human beings; this is supported by Indigenous knowledge (LaDuke, 2013). Manoomin holds antioxidant properties which is beneficial for humans and other beings that include Manoomin in their diet (Wu, Zhang, Addis, Epley, Salih & Lehrfeld, 1994). Manoomin is also important for food sovereignty for Michi Saagiig Nishnaabeg residing in Curve Lake First Nation territory (Beaver, 2010; Black Duck Wild Rice, 2019; Curve Lake First Nation, 2020; David, 2013; LaDuke, 2013; Truth and Reconciliation Community in Bobcaygeon, n.d.). Indigenous people, when disconnected from their land, their traditional food, and their medicines suffer a decline in health status (Joe Pitawanakwat, personal communication, November 17, 2020), therefore having Manoomin included in the Michi Saagiig Nishnaabeg diet is incredibly beneficial for their well-being. Various other beings, such as snow buntings and ducks, include Manoomin in their diet as well (Sutherland, Crins & Dunlop, 2016; Truth and Reconciliation Community in Bobcaygeon, n.d.).

Manoomin has other benefits for ecosystems it is included in as well. Along with being food for an assortment of species, Manoomin also increases the biodiversity in aquatic and wetland systems (David, 2013). This is partially because it is used as a food source, but also because this plant species helps with water clarity, which is important for many fish and

invertebrate species (Ballinger, 2018; Spenrath, 2020; Tom Whillans, personal communication, November 19, 2020).

For Manoomin

Those with the stance of ‘For Manoomin’ recognize the benefits that Manoomin offers to the Michi Saagiig Nishnaabeg, other Beings and ecosystems as a whole. These people also recognize the importance of Manoomin to correcting historical injustices and challenging a colonialist attitude and authority (Alcorn, 1993; Spenrath, 2020). This includes Black Duck Wild Rice, Curve Lake First Nation, Community Voices for Manoomin, the Truth and Reconciliation Community in Bobcaygeon, and a number of Western scientific experts with knowledge of these benefits.

Against Manoomin

Those with the opinion of ‘Against Manoomin’ fail to recognize the benefits and importance of Manoomin. Often this perspective comes from those who are uneducated and ignorant of Indigenous and Treaty rights, such as many people associated with the Save Pigeon Lake movement (2020). These peoples are concerned with their own personal interests put at the forefront, rather than putting their interests in perspective and including other viewpoints (Save Pigeon Lake, 2020).

Collaboration of Indigenous Knowledge and Western Knowledge

The collaboration of Indigenous knowledge and Western knowledge is essential for coming up with a solution to the Pigeon Lake Manoomin conflict (Gary Pritchard, personal communication, November 6, 2020). The concept I will be using in the collaboration of these two knowledge systems will be the Three Sisters Garden (Kimmerer, 2013). This involves Indigenous knowledge guiding scientific knowledge within an ethical space (Ermine, 2007;

Ermine, 2011; Kimmerer, 2013). The collaboration of these two knowledge systems can provide immense benefits when put into practice in a conservation initiative with mutual benefits for the environment, scientific communities and Indigenous communities (Ens, Scott, Rangers, Moritz & Pirzl, 2016). These two knowledge systems, when brought together in an ethical space, harmonize with each other, making up for each other's strengths and weaknesses much like the agricultural collaboration within the Three Sisters Garden (Ens et al., 2016; Gary Pritchard, personal communication, November 6, 2020; Joe Pitawanakwat, personal communication, November 17, 2020; Kimmerer, 2013). James Whetung, a founder of Black Duck Wild Rice, strives to have collaboration between both Indigenous knowledge systems and Western knowledge systems as well as collaboration between the people that hold those knowledges (Anderson & Whetung, 2018; Black Duck Wild Rice, 2019).

The importance of prioritizing and collaborating with Indigenous knowledge is important for not only solving the conflict but also respecting Indigenous and Treaty rights (Gary Pritchard, personal communication, November 6, 2020) Much like how Mashkodesimin needs Mndaamin to guide the way, Western knowledge needs Indigenous knowledge to be at the forefront of the Pigeon Lake Manoomin conflict, and other conflicts involving conservation (Kimmerer, 2013; Simpson, 2004; Whyte, 2016). Many of the authors advocating for the collaboration of Indigenous knowledge and Western knowledge also imply or acknowledge the need for an ethical space in order for these knowledges to appropriately and justly intertwine (Scheman, 2012).

An Ethical Space

The concept of an ethical space for the discussion and interaction of multiple knowledge systems has been applied by Willie Ermine (2007; 2011). He came up with this concept while

thinking about what knowledge is credible and legitimate in an academic setting; this usually does not include oral histories (Ermine, 2007; Ermine, 2011; Kimmerer, 2013). The unethical framework of Western and colonial systems makes an ethical space impossible; it is necessary to act on the creation of ethical spaces outside of colonial frameworks (Ermine, 2007; Ermine, 2011; Gary Pritchard, personal communication, November 6, 2020; Kimmerer, 2013). The creation of an ethical space involves the challenging and dismantling of colonial systems and power structures (Simpson, 2004). In the current colonial system, it is a common occurrence that Indigenous perspectives are overlooked or ignored, due to the lack of ethical spaces (Scheman, 2012).

What does an ethical space look like? An example of an ethical space is an Indigenous Protected and Conserved Area (IPCA) (Enns, 2018). An IPCA is land and waters that is predominantly for the use of Indigenous peoples for protection and conservation of their territory (Conservation through Reconciliation Partnership, n.d.). The creation of IPCAs allow for Western and Indigenous perspectives to come together in a space where all ideas will be considered valuable (Enns, 2018). As stated by Enns, “Reconciliation is not just needed between diverse elements of society, it is also needed between humanity and the environment,” (2018); this is the foundation created within an ethical space. This requires that not only stakeholders and rights holders must come together, but other Beings involved in the conflict must be included as well (Enns, 2018; LaDuke, 2013).

This ethical space can also be created through education (Bisong, 2010). If more people are knowledgeable and conscious of systems that disrupt or do not support an ethical space, those willing to learn may become inspired (Johansson et al., 2010). The more communication, awareness and pressure can be put on the decolonization of conservation through education, the

more likely that will continue to happen and spiral into larger action (Gary Pritchard, personal communication, November 6, 2020; James Wilkes, personal communication, November 6, 2020).

Findings and Discussion

Findings

The findings of the literature review, and my own personal education and perspective can be summed up as followed:

- Manoomin holds significant value for all Beings,
- Manoomin conservation and protection is necessary and beneficial,
- Indigenous perspectives need to be prioritized,
- The collaboration of Indigenous and Western knowledge requires an ethical space and
- An ethical space can be created with education

Discussion

Many unsuccessful reports and workshops done about coming to a resolution to a Manoomin crisis – on Pigeon Lake and other locations on and around the Great Lakes – have been conducted (David, 2013; Parks Canada, 2019). Reports have failed to appropriately consult all stakeholders, rightsholders and Beings and have failed to create an ethical space where all knowledges are respected and valued (David, 2013; Parks Canada, 2019). The creation of an ethical space to collaborate both Western and Indigenous knowledge systems is required to resolve the Pigeon Lake Manoomin conflict (Gary Pritchard, personal communication, November 6, 2020). The acknowledgement that education as a potential method for a resolution

to this conflict is an important step forward but the practicality of education within the Pigeon Lake Manoomin conflict will need to be assessed and contemplated.

Though reports may have failed to come up with adequate solutions to Manoomin conflicts, the Parks Canada Manomin/Wild Rice Workshop Summary and Outcomes Report did come to one significant conclusion: all parties aspired to form respectful relationships (Parks Canada, 2019). The path towards a respectful relationship between Indigenous communities, settler peoples, Manoomin and water (Nibi) beings is underway, but there are conflicts about how to begin (Clysdale, 2019; Parks Canada, 2019).

This beginning agreement is an important step towards the future of a Manoomin conflict-free Pigeon Lake. The next important step would be to know how to go about resolving the conflict itself, during or after respectful relationships are made. Using the concept of the Three Sisters Garden (Kimmerer, 2013) the respectful relationships are inclusive of the squash in creating an ethical space for growth. Indigenous knowledge as the corn can then guide scientific knowledge as the beans for creating a respectful and reciprocal relationship with the land, Nibi and Manoomin (Kimmerer, 2013). I believe the solution to the weaving of Indigenous Knowledge and Western knowledge is to use education of Indigenous and scientific concepts together with an Indigenous perspective of conservation.

Developing an education plan to be inclusive of Indigenous knowledge is a hefty task, but thankfully education implementation plans have already been created by Snively and Corsiglia (See Figure 2) (2000). This education framework emphasizes the importance of Indigenous knowledge and its connection to the land and Indigenous people (Snively & Corsiglia, 2000). Other aspects to consider when creating an education plan are the audience, methods of education and promotion efforts (Mbugua, 2012). The lovely thing about the

education plan from Snively and Corsiglia, is that specifications can be made within the outline to accommodate for specific, case-study events, but the framework is general enough that it can be applied to a variety of situations involving Indigenous knowledge (Snively & Corsiglia, 2000).

- Step 1. Choose a Science Concept or Topic of Interest (e.g., medicine, cultivating plants, animal migrations, geology, sustainability)
- Step 2. Identify Personal Knowledge
 - Discuss the importance of respecting the beliefs of others
 - Brainstorm what we know about the concept or topic
 - Brainstorm questions about the concept or topic
 - Identify personal ideas, beliefs, opinions
- Step 3. Research the Various Perspectives
 - Research the Western modern science perspective
 - Research the various indigenous perspectives and, if possible, the local TEK perspective
 - Organize/process the information
 - Identify similarities and differences between the two perspectives
 - Ensure that authentic explanations from the perspectives are presented
- Step 4. Reflect
 - Consider the consequences of each perspective
 - Consider the concept or issues from a synthesis of perspectives
 - Consider the consequences of a synthesis
 - Consider the concept or issue in view of values, ethics, wisdom
 - If appropriate, consider the concept or issue from a historical perspective
 - Consider the possibility of allowing for the existence of differing view-points
 - Consider the possibility of a shared vision
 - Ensure that students compare their previous perspective with their present perspective
 - Build consensus
- Step 5. Evaluate the Process
 - Evaluate the decision making process
 - Evaluate the effects of personal or group actions
 - Evaluate possibilities in terms of future inquiries and considerations
 - How did this process make each person feel? (adapted from Snively, pp. 66–67)

Figure 2: Education implementation plan by Snively & Corsiglia (TEK-Traditional Ecological Knowledge) (2000).

Having an education model that is capable of being specified to case studies is an important step forward for the Pigeon Lake Manoomin conflict as well as other Indigenous-settler conflicts going on nationally (Snively & Corsiglia, 2000). Regarding issues or conflicts that involve an Indigenous perspective of conservation, this education model provides an ethical space where Indigenous knowledge and Western knowledge can collaborate (Ermine, 2007; Ermine, 2011; Kimmerer, 2013; Snively & Corsiglia, 2000). Ideas from Snively & Corsiglia's education implementation plan have the potential to be applied to policy and the reworking of frameworks in order to ethically consult with Indigenous peoples across Turtle Island.

I believe that using this particular education approach could be extremely beneficial for coming to a resolution at Pigeon Lake. It can be accommodated to the appropriate audience(s), including those of cottagers and disagreeable authority figures. Including other simple and educational resources that make the audience feel safe, an ethical space can be created within the learning environment (Ermine, 2007; Ermine, 2011). Currently, this approach has not been attempted yet within Pigeon Lake, but there are education efforts being developed by Community Voices for Manoomin (James Wilkes, personal communication, December 9, 2020).

Recommendations

In order to achieve a successful solution to the Pigeon Lake Manoomin conflict, there are certain actions I recommend. When creating a case-specific education plan, it is important to consider all aspects unique to the environment. Accommodating for the audience(s) receiving the education is extremely important (Mbugua, 2012) so ensuring interactive activities, educational tools and resources are appropriate for the audience(s) and reflect or cater to their worldview, interests and values is crucial. The action of education should also be suitable for the

environment and time of education; for example, if education tactics were to be taken during the COVID-19 global pandemic, either physically distanced or online education would be necessary.

Another recommendation I have is to work with environmental non-governmental organizations (ENGOS) when implementing an education plan. This will bring forth a larger audience, create more awareness, and provide the potential for more opinions and ideas to be considered. An example of an ENGO associated with Pigeon Lake that is not involved in the Manoomin conflict is Kawartha Land Trust. This ENGO holds land on Big Island in northern Pigeon Lake (Kawartha Land Trust, n.d.). Currently, Kawartha Land Trust's relationship with the Michi Saagiig Nishnaabeg is feeble; they strive for a stronger one, but the organization does not know how to go about improving the relationship (Tom Whillans, personal communication, November 26, 2020). Connecting and working with Kawartha Land Trust could be beneficial for the implementation of an education plan about Indigenous conservation of Manoomin.

Finally, the last recommendation involves food sovereignty and the economic value of Manoomin. Localizing the food economy while still providing traditional food resources to Michi Saagiig Nishnaabeg within Curve Lake First Nation Territory could help with the awareness of the importance of Manoomin to Michi Saagiig Nishnaabeg and the local ecosystem (LaDuke, 2013; Stanciu, 2019). Black Duck Wild Rice has already begun to initiate this process (2019), but to continue to grow this aspect of awareness would be beneficial in junction with education efforts.

Conclusion

Manoomin is our relative and we should treat it as such (LaDuke, 2013). Including discourse about Indigenous perspectives of conservation is a necessary action when working with conflicts involving settler peoples, Indigenous peoples and Mother Nature (Gary Pritchard,

personal communication, November 6, 2020). Not only involving but prioritizing Indigenous knowledge in an ethical space is essential to creating effective solutions through education to conflicts such as the Pigeon Lake Manoomin conflict (Gary Pritchard, personal communication, November 6, 2020; Kimmerer, 2013). As put beautifully by Alcorn, “In the real world, conservation of ... (Manoomin) and justice for biodiversity cannot be achieved until conservationists incorporate other peoples into their own moral universe and share indigenous peoples' goals of justice and recognition of human rights” (1993).

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