



Environmental Management Plan

Version 1.0
September 16, 2019

Contents

Technical Glossary	iii
Anishinaabemowin Glossary.....	viii
1.0 Introduction.....	1
1.1 Wasauksing First Nation	1
1.2 EMP Vision, Goals, Objectives, and Scope.....	5
1.3 Development of the EMP	7
2.0 User Guide	10
2.1 Audience	10
2.2 Main Body of EMP.....	10
2.3 Environmental Stewardship Guidelines.....	11
3.0 EMP Administration.....	14
3.1 Data Management.....	14
3.2 EMP Review Process.....	15
3.3 Community Access, Amendments, and Additions to the EMP.....	17
3.4 Communication Plan	17
3.5 Roles and Responsibilities.....	18
4.0 Environmental Issues	21
4.1 Air Quality and Emissions.....	21
4.2 Groundwater Management.....	21
4.3 Surface Water and Wetlands.....	22
4.4 Drinking Water Management.....	22
4.5 Wastewater Management.....	22
4.6 Medicinal Plants Conservation.....	23
4.7 Wildlife and Wildlife Habitat	23
4.8 Cultural Sites.....	23
4.9 Land Development.....	24
4.10 Solid Waste Management	24
4.11 Chemical and Fuel Storage	25
4.12 Contaminated Sites Management.....	25
4.13 Resource Management.....	26
5.0 Implementation Plan.....	27



6.0	Enforcement and Dispute Resolution.....	45
6.1	Foundations for Law-Making & Enforcement.....	45
6.2	Foundations for Dispute Resolution.....	48
6.3	Strategies for Achieving Compliance with our EMP.....	50
7.0	Environmental Stewardship Guidelines	56
	Air Quality and Emissions	
	Groundwater Management	
	Surface Water and Wetlands	
	Drinking Water Management	
	Wastewater Management	
	Medicinal Plants Conservation	
	Wildlife and Wildlife Habitat	
	Cultural Sites	
	Land Development	
	Solid Waste Management	
	Chemical and Fuel Storage	
	Contaminated Sites Management	
	Resource Management	



Technical Glossary

Areas of Potential Environmental Concern (APECs)

The area on, in, or under a parcel of land where one or more contaminants are potentially present, as determined through a Phase One Environmental Site Assessment (ESA). This is defined in Ontario Regulation 153/04, under the Ontario Environmental Protection Act.

Best Management Practices (BMPs)

A method or technique, or series of methods and techniques, found to be the most effective and practicable means in achieving an objective (e.g., preventing pollution, protecting wildlife) while making optimum use of resources.

Canadian Environmental Assessment Act, 2012

This act, which is administered by the Canadian Environmental Assessment Agency (CEAA), the Canadian Nuclear Safety Commission and the National Energy Board (NEB), focuses on major projects and their environmental effects on areas of federal jurisdiction and as a result of federal decisions associated with a project.

Canadian Environmental Protection Act, 1999

This act, which is administered by Environment and Climate Change Canada (ECCC), is the cornerstone of Canada's environmental legislation and an important part of Canada's broader legislative framework aimed at preventing pollution and protecting the environment and human health.

Capital Planning Study (CPS)

A study to assess and budget resources for the future of an organization's long-term plans. For a community, this might include assessing current community infrastructure systems, and budgeting for new roadways, housing lots and community buildings.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNA)

One of two departments of the government of Canada with responsibilities relating to Aboriginal peoples in Canada, including the First Nations, Inuit, and Métis.

Economic Development Plan (EDP)

A comprehensive and detailed plan that identifies the existing and future economic development opportunities within a community, and where and how the development should occur.



Environmental Assessment (EA)

The process by which the anticipated effects on the environment of a proposed development or project are measured. If the likely effects are unacceptable, design measures or other relevant mitigation measures can be taken to reduce or avoid these effects.

Environmental Management Plan (EMP)

An operational manual to be used by a particular community or organization to manage activities and related environmental risks that have the potential to impact the environment and health of people on their lands.

Environmental Remediation

Refers to the removal or treatment of contaminants from impacted sites to mitigate adverse effects on human health and the environment.

Environmental Site Assessment (ESA)

An investigation to determine the environmental condition of property and any environmental liabilities for the property holder or a prospective buyer/lessor, at a given time.

Environmental Stewardship

The responsible use, and protection of, the natural environment, by all those whose actions affect the environment, through conservation and sustainable practices.

Environmental Stewardship Guidelines and Strategies (ESGs)

A set of step-by-step instructions that describe the activities necessary to complete tasks in compliance with environmental and industry regulations, provincial/federal laws, and an organization's performance and efficiency standards, in response to community values and directions

First Nation Land Management Act (FNLMA)

This act was enacted in 1999 and provides signatory First Nations with the authority to make laws in relation to reserve lands, resources and the environment. This act ratifies the Framework Agreement on First Nations Land Management.

Framework Agreement on First Nation Land Management

A government-to-government agreement that was initiated by 14 First Nations to opt out of the land management sections of the Indian Act and take over the governance and management control of their First Nation Land and natural resources.



Fisheries Act

This act contains two key provisions on the conservation and protection of fish habitat essential to sustaining freshwater and marine fish species. The Department of Fisheries and Oceans (DFO) administers section 35, which states, "No person shall carry on any work, undertaking or activity that results in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery." Environment and Climate Change Canada administers section 36 of the Act which prohibits the deposit of a "deleterious substance into water frequented by fish or in any place under any conditions where the deleterious substance or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water".

Groundwater

Water that is found below ground in the soil or in pores and crevices in rock.

Indigenous Services Canada

The department of the government of Canada with responsibilities relating to Aboriginal peoples in Canada, including the First Nations, Inuit, and Métis.

Land Use Plan (LUP)

A plan made up of various disciplines (i.e., housing, waste management, current/future developments) that efficiently assesses and regulates the use of lands and resources in a particular community, according to their goals for social, economic and environmental developments.

Petroleum Hydrocarbons (PHCs)

The name given to a very broad range of chemicals that comprise oil and products refined from oil, such as gasoline and diesel.

Potentially Contaminating Activity (PCA)

A use or activity that is occurring or has occurred in the study area that may cause contamination (e.g., to soil and groundwater) on a particular site.

Wasauksing First Nation Land Code (The Land Code)

This Land Code was developed pursuant to the Framework Agreement on First Nation Land Management and the First Nation Land Management Act (FNLMA). Under this code, Wasauksing First Nation Council is responsible to develop laws related to the development, conservation, protection, management, and administration of our lands. Wasauksing First Nation's Land Code is tailored to reflect our beliefs, customs, traditions, and expectations. Our land code provides increased protection for our Island and unconditionally recognizes our rights, powers, and privileges of managing our lands.



Soil

Substrate that includes clay, silt, sand, gravel, cobbles, boulders, or peat.

Soil Management

An integral part of land management that focuses on differences in soil types and soil characteristics to define specific interventions that are aimed to enhance the soil quality for the land use selected.

Species at Risk (SAR)

An extirpated, endangered, or threatened animal and plant species or a species of special concern.

Species at Risk Act (SARA)

This Act is a key federal government commitment to prevent wildlife species from becoming extinct and secure the necessary actions for their recovery. It provides legal protection of wildlife species, their habitat, and the conservation of their biological diversity. The Act also provides for the recovery of SAR and encourages the management of other species to prevent them from becoming at risk. SARA only applies to those lands under federal jurisdiction.

Standard Operating Procedure (SOP)

A set of step-by-step instructions compiled by an organization to help workers carry out routine operations. SOPs aim to achieve efficiency, quality output, and uniformity of performance, while reducing miscommunication and failure to comply with industry regulations.

Stormwater Runoff

Runoff generated from rain and snowmelt events that flows over land or impervious surfaces (e.g., parking lots, rooftops) and may pick up pollutants along the way including trash, chemicals, oils, and sediment/soil that can have harm waterways.

Stormwater Management

Management practices that help to minimize the impact of polluted stormwater runoff flowing into lakes and streams, and reduce the strain that stormwater places on infrastructure.

Surface Water

Surface water refers to water flowing across or accumulating on the ground surface, as a result of precipitation processes (e.g., rainfall, snowmelt) or groundwater coming to the surface. As water accumulates on a surface, it begins to flow towards surface water bodies such as creeks, streams, lakes, ditches, or installed storm sewer systems or reservoirs.



Valued Environmental Components

Aspects of the natural and human environment that are considered to have traditional, scientific, ecological, economic, social, cultural, archaeological, historical or other importance, that may have the potential to be affected by a particular project or development, and its activities. They provide the foundation for this Environmental Management Plan.

Wastewater

Water that has been used to supply domestic processes including flushing toilets, doing laundry, and taking showers as well as water used by businesses and industrial processes. Wastewater is a combination of black water (i.e., wastewater from toilets) and grey water (i.e., wastewater from showers, sinks, washing machines).



Anishinaabemowin Glossary

We have included key Anishinaabemowin words and place names throughout our EMP and ESGs and have provided the English translations of these words below. Each time an Anishinaabemowin word appears for the first time within a section of the EMP, we have provided the English translation next to it in brackets to assist with readability.

Keywords¹

Aanikoobijigan – ancestor (plural: aanikoobijiganag)

Ahjijaak – crane (plural: ajjaakwag)

Akii – earth, land

Amik – beaver (plural: amikwag)

Asemaa – tobacco

Asin – rock (plural: asiniig)

Awakaan – animal (plural: awakaanag)

Bineshiinh – bird (plural: bineshiinyag)

Giigoon – fish

Giiwedin – north

Giizhik – cedar

Ishkwaday – fire

Kaaykaayag – Elder

¹ Sources of Anishinaabemowin keywords include:

Benton-Benai, E. (2010). *The mishomis book: The voice of the Ojibway*. Minneapolis, MN: University of Minnesota Press. (Original work published in 1988)

McInnes, B.D. (2016). *Sounding thunder: The stories of Francis Pegahmagabow*. Winnipeg, MB: University of Manitoba Press.

University of Minnesota Department of American Indian Studies. (2015). *Ojibwe people's dictionary*. Retrieved from <https://ojibwe.lib.umn.edu/about>

Wasauksing First Nation Citizen, personal communication.



Maang – loon (plural: maangwag)

Makwa – bear (plural: makwag)

Mashkiki – medicine

Mitig - tree (plural: mitigoong)

Mooz – moose (plural: moozoog)

Mushkodaywushk – sage

Nibiish – water

Ningaabiiian – west

Noodin – wind

Odoidaymiwan – clan governance system

Waabanong – east

Waawaashkeshi – deer (plural: waawaashkeshiwag)

Wabizhashi – marten

Wiingashk – sweetgrass

Zaaghigan – lake (plural: zaaghiganan)

Zhawanoong – south

Ziibi – river, stream (plural: ziibiwan)

Place Names

Demümgak-oodenaang – Depot Harbour; “The Deep Water Town”

Gamiing – Historic Middle Village; “At the Lake”

Gizhijiwan/Ziigwan – Seguin River; “Fast Flowing River/The Mainen of Spring”

Mnidoo-gamii – Georgian Bay; “Spirit Lake”

Mnidoo-zaaghiganing – Three Mile Lake; “At the Spirit Lake”



Niisaakiing – Historic Upper Village; “Down the Hill”

Nishnaabe-oodenaang – Historic Lower Village / Skeena Village; “Nishnaabe Town”

Waaseyakosing – Parry Sound region; “The Place Where the Land is Shining from Its Reflection of the Sacred Light”



1.0 Introduction

1.1 Wasauksing First Nation

Our community, Wasauksing First Nation, is located on a beautiful island in *Mnidoo-gamii* (Georgian Bay) and borders the municipality of Parry Sound and Seguin Township. The Island has year-round road access to the mainland via the Wasauksing Swing Bridge that connects to Rose Point in Seguin Township. Our surveyed *akii* (lands) include the entire island of Wasauksing, with the exception of Salt Point in the northeast. We are currently undergoing claims with the Federal Government to have *Demiimgak-oodenaang* (Depot Harbour) returned to our jurisdiction as an Addition to Reserve, as well as several peninsulas and pieces of *akii* in the *zhawanoong* (south) of the Island in an ongoing Boundary Claim.

1.1.1 History

Waaseyakosing ("Place that shines brightly in the reflection of the sacred light"), also known as the Parry Sound region, has been an important geographical and spiritual location for Ojibway people for time immemorial. The Ojibway first came to the area during a great migration from the *waabanong* (east). Upon reaching the shores of *Mnidoo-gamii* ("The Great Lake of the Spirit", or Georgian Bay) many Ojibway people settled in the area to protect the other migrants from attacks from the *zhawanoong* by the Haudenosaunee, while others continued their migration *giiwedin* (north) and *ningaabiian* (west). Due to its navigable waterways, rich local hunting grounds, and spiritual significance, the region became an important hub for the Anishinaabeg.

Naawanj (Waubuno Channel) is considered to be one of the great historical waterways of the migration, and *Waaseyakosing* was given its name because of a part of the Ojibway legend that called on the people to stop and rest in the area during their great migration. A great shell made itself visible at *Mnidoo-mnising* ("Island of the Spirit", or Manitoulin Island) that reflected light towards the *waabanong* that was cast over the *akii* that came to be known as *Waaseyakosing* ("Place that shines brightly in the reflection of the sacred light"), whose origins can be heard in the modern name Wasauksing.

Over the generations that followed their arrival the *akii* around *Mnidoo-gamii* developed into a robust community of Ojibway bands that had strong kinship ties to one another and a strong and healthy relationship with the local environment. During this time period, our descendants settled at mouth of the *Gizhijiwan/Ziigwan* (Seguin River) and resided there until 1856 when European settlers appropriated the *akii* to build a sawmill and our community officially moved to Parry Island, which we now call Wasauksing.



Parry Island was settled by three different Indigenous groups throughout the 1800s. The first group was two Ojibway bands, following the signing of the Robinson-Huron Treaty and the establishment of the reserve's boundaries. They settled in two locations known as **Niisaakiing** (Upper Village) and **Nishnaabe-oodenaang** (Lower Village) (See Figure 1. Our Community Today). Around the 1880s two additional settlements of Potawatomi and Ojibwe immigrants settled in **Gamiing** (Middle Village).

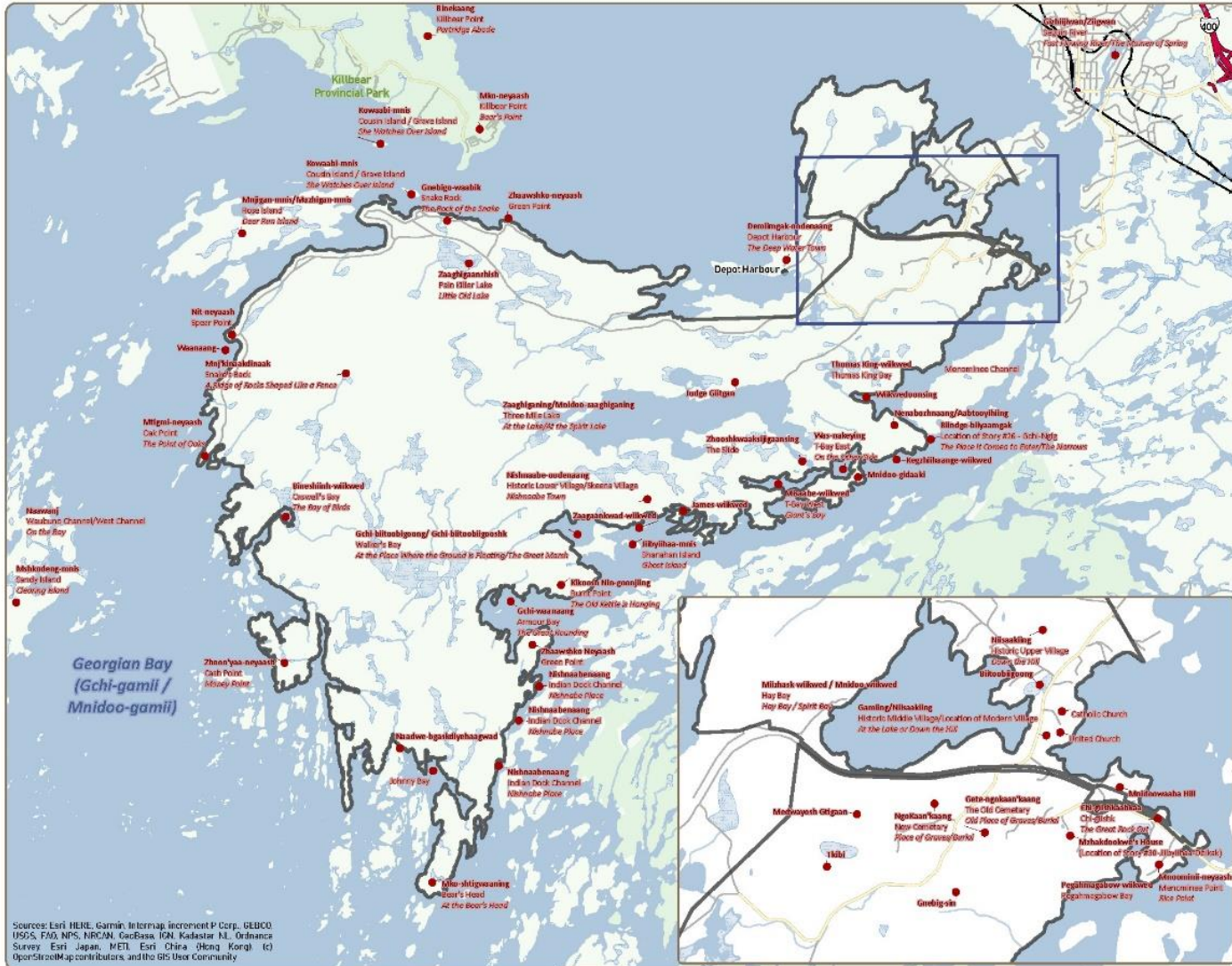
In 1895, J.R. Booth, the owner of the Ottawa, Arnprior and Parry Sound Railway, acquired the **akii** around **Demiimgak-oodenaang** when Canada's Department of Indian Affairs expropriated 435 acres of **akii** for a railway terminal and harbour access to **Mnidoo-gamii**. In 1899, a small peninsula at the **waabanong** end of the Island was gifted to the Reverend Allen Salt, which has come to be known as Salt Point.

Although it was essentially abandoned by late summer of 1959, **Demiimgak-oodenaang** remains separate from Wasauksing First Nation's officially recognized **akii** base due to severe environmental contamination. The Federal Government and Wasauksing First Nation's administration are in protracted discussions to have the area remediated and returned to the band.

Wasauksing First Nation's **akii** base consists of 7,874 hectares (19,457 acres) of **akii** on the Island that makes up the entirety of the Island with the exception of **Demiimgak-oodenaang**, Salt Point and multiple boundary claims in the southern portion of the Island. Our **akii** includes old-growth forest, wetlands, abundant habitat for local **awakaanag** (animals) and plants, including many of our **mashkiki** (medicines), historic and spiritual sites, **zaaghiganan** (lakes) and **ziibiwan** (rivers), and some of the last untouched shoreline along the beautiful coast of **Mnidoo-Gamii**.

This **akii** base makes up only a small portion of our traditional territory, which extends from the shores of **Mnidoo-gamii** inland to the Haliburton Highlands, **zhawanoong** to Moose Deer Point and **giiwedin** to the Pickerel River.





WASAUKSING ENVIRONMENTAL MANAGEMENT PLAN 2019
Our Community Today

WAASAUKSING
 Wasauksing First Nation / Parry Island
*Where it is reflecting /
 shining off poles lying across.*

- Points of Interest
- Ojibway
- English
- Meaning in English*
- ▭ Wasauksing Boundary

Map Features

- Highway
- Major Road
- Local Road
- Railway
- Rivers
- Lakes
- Wetlands
- Provincial Parks

This map depicts basic infrastructure and base features for Wasauksing First Nation for planning purposes. This map may not be reproduced without the express written consent of Wasauksing First Nation.

Scale: 1:60,000

Data sources: Land Information Ontario, Wasauksing First Nation

Spatial Reference
 Name: NAD 1983 UTM Zone 17N
 Datum: North American 1983
 Projection: Transverse Mercator

Date: April 30, 2019

Figure 1. Our Community Today



1.1.2 Clan Governance System

Odoidaymiwan (the Clan Governance System) was given to us by the Creator, as the first framework of government for the Anishinaabe people, with the purpose of ensuring leadership in all areas of our society². There were seven original clans, each with their own distinct roles and responsibilities.



Ahjjaak (crane) – The *Ahjjaak* Clan, along with the *Maang* Clan, were traditionally the leaders and chiefs, working collaboratively for the good of all the nation's people.



Maang (loon) – The *Maang* Clan, along with the *Ahjjaak* Clan, were traditionally the leaders and chiefs, working collaboratively for the good of all the nation's people.



Giigoon (fish) – The *Giigoon* Clan is known as the 'wise people'. They are the mediators between *Ahjjaak* and *Maang* Clan, settling disagreements. They are the problem-solvers of the community.



Miskwaadesi (turtle) – The *Miskwaadesi* subclan is known as the storytellers in the community, disseminating Midewiwin teachings for well-being.



Makwa (bear) – The *Makwa* Clan is known for being the protectors of the community. They patrol the *akii* to watch for danger. They are also the *mashkiki* people as they know how to use plants to create traditional *mashkiki*.



Wabizhashi (marten) – The *Wabizhashi* Clan are the warriors who protect the community. They are known for demonstrating a balanced life, leading by example for the community. They are skilled in economic development.



Amik (beaver) – The *Amik* subclan are the hard-workers and planners in the community.



Waawaashkeshi (deer) – The *Waawaashkeshi* Clan is known as the 'gentle people'. They are peaceful and kind.

² Benton-Benai, B. (2010). *The Mishomis Book: The voice of the Ojibway*. University of Minnesota Press: Minneapolis, MN. (Original work published in 1988)



Bineshiinh (bird) – The **Bineshiinh** Clan is known as the spiritual people. Because **bineshiinyag** (birds) fly high above the earth, they are recognized for being closest to the Creator, with gifts for oversight and supporting the community to understand its vision³.

In our community, one's Clan is typically determined by the father's lineage (i.e., if your father is **Makwa** Clan, you would also be **Makwa** Clan). **Wabizhashi** Clan is considered to be the "adoption" clan, including those of mixed heritage, as well as non-Indigenous people who have developed strong ties to our community and have been honoured with this responsibility. In this way, we ensure that each of us has a purpose in life connected to our respective Clans. By embracing these roles and working together, we can ensure that the **akii** and **nibiish** (waters), and all life that inhabit them, are cared for and protected for current and future generations.

1.2 EMP Vision, Goals, Objectives, and Scope

As stated in our Land Code, we have a profound connection with the **akii** that is rooted in respect for the spiritual value of the Earth and the gifts of the Creator. We have a deep desire to preserve our relationship with the **akii**. As Anishinaabe people, it is our responsibility to maintain the balance of life, seven generations into the future. In order to uphold this responsibility, we must be equal partners in the control and management of our Island.

1.2.1 Vision

We will continue to prosper while upholding our responsibility to maintain balance between the plants, **awakaanag**, and Anishinaabe people for the next seven generations to come. We must respect all of the **akii, nibiish**, air, and natural beings that inhabit our Island as we continue the Anishinaabe Way of Life.

The following vision, prepared by our community through the Strategic Planning process, is the basis for our Environmental Management Plan:

Restore our Anishinaabe Bimaadziwin by reclaiming our language, culture and people, protect our resources and rights, strengthen our Nationhood, actively engage in development opportunities and adequately and fairly deliver meaningful program and service offerings that benefit the People and Nation first, with our Children and Elders as a priority and always included, so together, the quality of life and well-being of all can thrive.

³ Anishinaabemowin. (2011). Seven original clans. Retrieved from http://anishinaabemodaa.com/lessons?lesson_id=97

1.2.2 Our Goal

It is our cultural and spiritual obligation to have, in our best interest, the total well-being of the earth, the creation, and the people. The goal of our EMP is to provide the necessary information for our community to balance this obligation with the our desire for continued growth and prosperity on our Island.

1.2.3 Objectives

This EMP was created to fulfill the following objectives for managing environmental issues in our community:

- Identify and describe the key environmental issues that Wasauksing First Nation faces
- Outline the core environmental values of our community
- Identify how external factors, such as neighbouring contaminated sites, may affect our *akii* and *nibiish*
- Provide a protocol for identifying potential and emerging environmental issues that could impact our Island
- Provide a clear procedural mechanism to identify how our valued environmental components can be protected for the next seven generations to come
- Provide a clear procedural mechanism by which potential and emerging environmental issues at Wasauksing can be mitigated and managed

1.2.4 Scope

Our EMP is intended to serve as an operational guide that will assist our staff, Lands and Resources Committee, and Council in managing and evaluating activities and policies that may impact our *akii* and *nibiish* and the natural resources found within. It provides key information for each of our environmental issue topic areas, including best management practices and relevant provincial and federal legislation, which will assist us in developing relevant land laws that best serve and balance our community's interests. In addition, it provides ideas for community initiatives, allowing for the stewardship of our Island to be carried forward for the next seven generations to come.

Our EMP is a dynamic, living document that is intended to be amended, updated, and expanded as our community also grows and shifts with time. Although it is based on the current environmental conditions of Wasauksing First Nation and our community's current evaluation of environmental issues and concerns, it is designed to be updated to reflect changes to our community, any new environmental issues that may arise, and changes to our *akii* base.

1.3 Development of the EMP

We undertook a community driven approach to developing our environmental management plan, understanding the importance of aligning the plan with the unique interests and needs of Wasauksing First Nation. To identify specific environmental issues that are of top concern for our citizens, and to assist in developing individualized strategies and initiatives that reflect our community's unique interests, the following tasks were completed:

- Parry Sound community meeting, held at the Bobby Orr Community Centre in Parry Sound on February 19th, 2019 from 6-8 pm
- Wasauksing community meeting held at the Wasauksing Administration Building on February 20th, 2019 from 6-8 pm
- Elders focus group held at the Wasauksing Administration Building on February 20th, 2019 from 1-3 pm
- Youth focus group held at the Wasauksing recreation centre on February 21st, 2019 from 6-8 pm
- Tour of community with Wasauksing elder on February 22nd, 2019
- Community Survey conducted between February 18th and March 8th, 2019, distributed both in person as hard copies, and online as a SurveyMonkey link via social media and the Wasauksing Newsletter
- Key knowledge holder interviews held between February 29th and 22nd with the following individuals:
 - Craig Brown – Chief Executive Director
 - Daniella Baker – Lands Manager
 - Ryan Tabobondung – Director of Public Works
 - Teena Tabobondung – Communications



- Nastassja Tabobondung – Water Operator
- David Pawis – Wasauksing Elder
- Development of an interim memo report on March 25th, 2019 outlining the preliminary findings of the community engagement activities and identifying the environmental issues of focus for the EMP
- Review of the following reports and background documents:
 - Wasauksing First Nation Land Code. 2016.
 - Wasauksing First Nation Strategic Plan 2012-2017.
 - Wasauksing First Nation Annual Report 2017-2018.
 - The Ways of Knowing Guide. The Toronto Zoo. 2010.
 - Wasauksing First Nation, Three Mile Lake Habitat Assessment. Anishinaabek/Ontario Fisheries Resource Centre. 2014.
 - Wasauksing First Nation Broad Scale Monitoring and Habitat Assessment of Three Mile Lake. Anishinaabek/Ontario Fisheries Resource Centre. 2016.
 - Structural, Mechanical, and Electrical Inspection and Condition Assessment of the Wasauksing Swing Bridge Parry Sound, Ontario. M.R. Byrne & Associates Ltd. 2001.
 - Wasauksing First Nation Capital Planning Study. First Nations Engineering Services Ltd. 2003.
 - Wasauksing First Nation Community Development Plan. 2003
 - Environmental Screening Report, Community Solid Waste Management Implementation Project. Aboriginal Affairs Northern Development Canada. 2011.
 - Wasauksing First Nation Landfill Closure and Transfer Station Construction. GENIVAR Inc. 2012.
 - Phase I Environmental Site Assessment and Screening Sampling: Wasauksing First Nation. Neegan Burnside Ltd. 2015.



- Phase I Environmental Site Assessment: Community Property, Rose Point Road, Seguin Township, Ontario. AMEC. 2014.
- Phase I Property Transfer Assessment Wasauksing Rose Point Bridge and Adjacent Land Parcel, Parry Sound, Ontario. Environmental Management Solutions Inc. 2004.
- Enhanced Phase I Environmental Site Assessment, Site 1B ATR, Depot Harbour. Neegan Burnside Ltd. 2018.
- Enhanced Phase I Environmental Site Assessment, Parts 3, 4, 5, and 6, Depot Harbour, Parry Island. Neegan Burnside Ltd. 2018.
- Background, Analytical and Site Visit Summary for Site 1A Depot Harbour (FCSI 00025832) and Rail Lands. Neegan Burnside Ltd. 2018.
- Background, Analytical and Site Visit Summary of Sites 2A, 2B, 2C and 2D, Waste Oil Pits #1, #2, #3, and #4 (FCSI 05175006). Neegan Burnside Ltd. 2018.
- Phase III Environmental Site Assessment Sites 2A, 2B, 2C, and 2D (FCSI 05175006). Neegan Burnside Ltd. 2018.
- Phase II Environmental Site Assessment for Site 1B ATR, Depot Harbour (FCSI 00025832). Neegan Burnside Ltd. 2018.
- Phase III Environmental Site Assessment for Site 1A Depot Harbour (FCSI 00025832) and Rail Lands. Neegan Burnside Ltd. 2018.
- Wasauksing First Nation Water Treatment, Storage, & Distribution System – As Constructed. First Nations Engineering Services Ltd. 2009.
- Wetland Assessment Report Conducted by Toronto Zoon on Behalf of the Wasauksing Community. Toronto Zoo. 2009.
- Forest Management Plan for Wasauksing-Parry Island First Nation Parry Island. FORMAC. 2002.
- Wasauksing First Nation Lands and Resources Committee (LARC) Kinna Eh Gwuk Sii Yung Terms of Reference. 2014
- Presentation of EMP environmental issues to Wasauksing Lands and Resources Committee on April 11th, 2019
- Elder interviews regarding traditional teachings and Clan System on April 11th, 2019



2.0 User Guide

2.1 Audience

Our EMP is intended for Wasauksing First Nation environmental managers, planners, regulators, monitors and decision-makers, as well as all of our citizens, to refer to when carrying out any work related to the assessment, management and monitoring of the following priority areas:



Air Quality and Emissions



Cultural Sites



Groundwater Management



Land Development



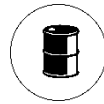
Surface Water and Wetlands



Waste Management



Drinking Water Management



Chemical and Fuel Storage



Wastewater Management



Contaminated Sites Management



Medicinal Plants Conservation



Resource Management



Wildlife and Wildlife Habitat

Our EMP has been written and organized so that specific sections can be passed on to Wasauksing citizens, developers, consultants, educators and others working on projects on our *akii* (lands) to clearly communicate our expectations and outline procedures with respect to environmental management and protection.

2.2 Main Body of EMP

The main body of our EMP is divided up into the following sections:

Technical Glossary contains definitions of key terms used throughout the EMP to assist users in reading, interpreting and implementing the Plan.

Anishinaabemowin Glossary provides the Anishinaabemowin keywords and place names that are included in our EMP, along with their English translations.

Section 1.0 (Introduction) contains contextual information about our community history and our clan governance system; our vision, goal, objectives and project scope; and a summary of the process we undertook to develop our EMP.

Section 2.0 (User Guide) provides directions on how to understand and implement our EMP.

Section 3.0 (EMP Administration) explains how the vision, goal and objectives of the EMP will be managed, including processes related to data management, regular reviews of the EMP, updates to the EMP, community access, communication, as well as roles and responsibilities.

Section 4.0 (Environmental Issues) provides a summary of the 13 environmental issues our community has identified as being of concern and included within our EMP. This section provides the foundation for our Environmental Stewardship Guidelines.

Section 5.0 (Implementation Plan) explains how we intend on implementing our EMP, including the recommendations made within the Plan.

Section 6.0 (Enforcement and Dispute Resolution) describes Wasauksing First Nation’s jurisdiction to enforce our EMP and provides dispute resolution options to be considered by the community through the EMP’s implementation.

2.3 Environmental Stewardship Guidelines

Our Environmental Stewardship Guidelines (ESGs) can be used as standalone resources and provided to users with information and/or direction about specific priority areas of environmental management. Our Environmental Stewardship Guidelines are based on the 13 environmental issues our community identified in Section 4 of this EMP.

The following table summarizes the purpose and intended users of each section of the Environmental Stewardship Guidelines.

ESG Sections	Purpose	Intended Users
Our Stewardship Vision	<ul style="list-style-type: none"> Describes why this issue is important to our community Describes our vision to address this issue 	<ul style="list-style-type: none"> Wasauksing citizens Community leaders and decision-makers

ESG Sections	Purpose	Intended Users
		<ul style="list-style-type: none"> • Environmental manager(s)
Community Objectives	<ul style="list-style-type: none"> • Identifies short- and long-term environmental management outcomes • Identifies specific actions to manage the issue or concern 	<ul style="list-style-type: none"> • Wasauksing citizens • Community leaders and decision-makers • Environmental manager(s)
Stewardship Guidance and Strategies	<ul style="list-style-type: none"> • Describes relevant regulations, guidelines and best management practices to achieve our objectives 	<ul style="list-style-type: none"> • Wasauksing citizens • Environmental manager(s) • Planners, proponents, regulators, monitors and decision-makers
Monitoring and Enforcement	<ul style="list-style-type: none"> • Outlines the responsibilities of our community to monitoring and enforcement of our EMP • Identifies key roles in monitoring and enforcement 	<ul style="list-style-type: none"> • Wasauksing citizens • Community leaders and decision-makers • Environmental manager(s) • Planners, proponents, regulators, monitors and decision-makers
Community Objectives	<ul style="list-style-type: none"> • Involves the community in the implementation of the EMP • Highlights the importance of 	<ul style="list-style-type: none"> • Wasauksing citizens • Community leaders and decision-makers • Wasauksing staff



ESG Sections	Purpose	Intended Users
	<p>awareness and stewardship</p> <ul style="list-style-type: none"> Encourages and fosters community stewardship 	<ul style="list-style-type: none"> Environmental manager(s)
Regulations and Best Practices	<ul style="list-style-type: none"> Identifies all relevant federal and provincial legislation that applies or to which our environmental rules may need to be equivalent Identifies legislation and requirements that must be considered, at minimum, in strategy development and implementation 	<ul style="list-style-type: none"> Environmental manager(s) Wasauksing staff Planners, regulators, proponents, monitors and decision-makers
Glossary	<p>Defines key terms used in the ESG</p> <p>Improves understanding and interpretation of the ESG</p>	<p>Wasauksing citizens</p> <p>Community leaders and decision-makers</p> <p>Environmental manager(s)</p> <p>Planners, proponents, regulators, monitors and decision-makers</p>



3.0 EMP Administration

3.1 Data Management

Who is responsible: Lands Department

The Lands Department manages all Environmental Management Plan data. Key responsibilities include ensuring all documents and associated data are properly stored and making sure the most recent version of documents is available to leadership, decision-makers, the community and proponents, when needed.

3.1.1 Storage Type and Structure

Data we need to manage comes in many forms and formats:

- Word Documents and PDF files
- Digital and Paper Maps
- Spreadsheets
- Specialized Databases
- Audio and Video Recordings
- Photos and Drawings
- Physical Resources and Artifacts

When possible, we store Environmental Management Plan data in a digital format. We digitize hard copy data whenever possible (e.g., photos of physical resources and artifacts; photos, scans of drawings and paper maps). All hard copies are stored in the Lands Department filing cabinet.

3.1.2 Electronic File Structure

We will create an electronic and back-up file structure as follows:

- Main folder: "Wasauksing First Nation Environmental Plan."
- Sub-folders: One for each Environmental Management Plan component, such as Administration, Main Body Text, Environmental Stewardship Guidelines (ESGs) and Reviews. The most recent version of each document(s) is stored within the relevant sub-folder.



- Each sub-folder also contains an “Archived” folder for older versions of documents kept for reference and back-up.
- The “Administration” sub-folder is for tracking project administration and coordination documents, budgets, and other important forms, and is accessible only to Environmental Management Plan administrators.

3.1.3 File Naming Convention and Password Protection

- All final Environmental Management Plan files are password protected.
- All electronic Environmental Management Plan files include a date and version number in the document file name (e.g., 20190606_V1.0_WasauksingFirstNationEMP).
- All Environmental Management Plan hard copies include a date and version number on the title page of the document.
- We refer to the most recent date and highest version number of any file to make sure we are using the most up-to-date version of the file. The most recent file should be easily accessible in the electronic sub-folders.

3.1.4 Back-Up Storage

- We maintain at least two back-up copies of all Environmental Management Plan data.
- We save all Environmental Management Plan documents on both a cloud storage system and an external hard drive that is stored at a different location than the computer containing our Environmental Management Plan data.
- We back-up files on a monthly basis, and as substantial changes are made to Environmental Management Plan data.
- During our annual review, we revisit our back-up strategy in light of changes and improvements in technology.

3.2 EMP Review Process

Who is responsible: Council, with assistance from the Lands and Resources Committee and the Lands Department.

Because this Environmental Management Plan is a living document that is only useful if it remains relevant and current, **we shall review it every year**. The frequency of these reviews



may change over time as the plan is implemented. However, because planning is an incremental process with many variables, this review process is essential to the ongoing usefulness of this Environmental Management Plan in supporting evolving community goals.

The results of our annual EMP review are compiled into an Annual EMP Review Report that is presented to and discussed with Council.

3.2.1 Who Conducts the Review?

The Lands Department conducts the formal review with support from the Lands and Resources Committee members, First Nation staff and Council.

3.2.2 What Does the Review Include?

The Lands Department will include the following information in the Annual EMP Review Report:

- A summary of key examples where the Environmental Management Plan and Environmental Stewardship Guidelines were implemented;
- A review of the key issues and concerns to ensure they are still relevant to the community;
- An assessment of Environmental Stewardship Guideline implementation;
- An assessment of our data management processes;
- An overview of community feedback;
- A review of changes to environmental legislation (if applicable); and
- Recommended improvements for the upcoming year.

3.2.3 Annual Environmental Management Plan Review Meeting

The Lands Department coordinates an Annual EMP Review Meeting and presents the draft Annual Environmental Management Plan Review Report to Council for input.

Council, Lands Department staff, and the Lands and Resources Committee review the draft report in advance of the meeting. During the meeting, the Lands Department presents an overview of the report findings, followed by a roundtable discussion on the goals and actions planned for the next year.

3.2.4 Implementation of Review Results

After the meeting, the Lands Department incorporates feedback and any actions from the meeting into the Annual EMP Review Report and finalizes it. If changes to the EMP are required, the Lands Department will make the necessary changes. All changes will be reviewed and approved by Council.

3.3 Community Access, Amendments, and Additions to the EMP

Who is responsible: Lands Department with assistance from First Nation staff

Wasauksing citizens can access the Environmental Management Plan in two places:

- Online: wasauksing.ca
- In the Lands Department office

Wasauksing citizens have access to hard copies of these documents during office hours. They may also request to take home digital or hard copies of specific documents or sections of the Environmental Management Plan.

By making the Environmental Management Plan accessible, Wasauksing citizens are welcome to suggest changes on an on-going basis. If a Wasauksing citizen or decision-maker wants to see a change, they can submit a request to the Lands Department. These submissions will be reviewed by the Lands and Resources Committee on an as-needed basis and, if necessary, will be discussed with Council for approval. Feedback and suggestions from Wasauksing citizens will be included in the Annual EMP Review Report (See Section 3.2.2 above).

3.4 Communication Plan

Who is responsible: Lands Department with assistance from First Nation staff

Ongoing, regular communication is important in fostering community buy-in, engagement and compliance with the Environmental Management Plan. Through a communication plan consisting of newsletters, community meeting announcements, notices posted at the band office and through email communication, the Lands Department makes sure that Wasauksing citizens as well as other people carrying out activities on our surveyed *akii* (lands) are informed about this Environmental Management Plan. The Lands Department will communicate about major updates and changes.



A key element of this communication plan is ensuring everyone living, using and operating on our *akii* complies with our Environmental Management Plan. The Lands Department informs land users and proponents of their obligations to comply with our Environmental Management Plan when they inquire about using our *akii* by directing them to the online version of the plan and conducts regular check-ins with these project proponents.

3.5 Roles and Responsibilities

Below is a list of key groups and people involved in making sure the plan is well managed and administered, implemented and complied with.

3.5.1 Wasauksing First Nation Citizens

- Comply with the various components of the Environmental Management Plan.
- Hold Council, the Lands Department, and the Lands and Resources Committee accountable for implementing the vision, guiding principles, strategies and guidelines laid out in this Plan.
- Share individual and community vision and priorities to ensure the plan stays current and relevant.
- Participate in the community stewardship activities outlined in each of the ESGs of our EMP.

3.5.2 Council

- Provide leadership in making sure the plan is maintained and implemented.
- Establish organizational structure for the overall decision-making and implementation of this Plan.
- Engage with the community to make sure the Environmental Management Plan aligns with the community's issues and concerns.
- Provide the funding and resources needed to effectively implement and maintain the plan.
- Participate in the annual review process to help set goals and objectives for plan implementation.
- Review and make decisions on any changes to the Environmental Management Plan.



3.5.3 Lands Department

- Carry out the day-to-day management and implementation of the Environmental Management Plan.
- Establish and implement Environmental Management Plan document management structure and protocols.
- Make sure that all Environmental Management Plan documents are accessible to the community and relevant external stakeholders.
- Ensure that the Lands and Resources Committee is kept up to date on changes to the plan.
- Work to ensure that all Environmental Management Plan documents are kept up to date and that out of date versions of these documents are properly archived.
- Prepare an Annual Environmental Management Plan Review written report.
- Coordinate the Annual Environmental Management Plan Review meeting.
- Help source funding and resources needed to implement and maintain the plan.
- Create and carry out the communication plan to convey the purpose and content of the Environmental Management Plan to the community and proponents.

3.5.4 Chair of the Lands and Resources Committee

- Convene and facilitate Lands and Resources Committee meetings.
- Develop and follow meeting agendas.
- Assign tasks to Lands and Resources Committee members as needed.
- Ensure that the Lands and Resources Committee functions well, including taking regular minutes and sharing relevant information to Committee members in advance of meetings.

3.5.5 Lands and Resources Committee Members

- Oversee the implementation and maintenance of this Environmental Management Plan.
- Review feedback and suggest changes, as appropriate.



- Participate in the annual Environmental Management Plan review.
- Review requests to change the Environmental Management Plan and make recommendations to Council.
- Communicate information contained in the Environmental Management Plan to Wasauksing citizens
- Keep up to date with relevant legislation to ensure that all legal requirements, including legislation, regulations, licensing, permitting and authorizations pertaining to the Environmental Management Plan are met and reviewed as needed.
- Oversee Environmental Management Plan Enforcement and Dispute Resolutions.
- Support the Chair with the above tasks as needed.



4.0 Environmental Issues

As Anishinaabe people and citizens of Wasauksing First Nation, it is our cultural and spiritual obligation to have, in our best interest, the total well-being of the earth, the creation, and the people. This obligation underlies the selection and content of each of the following community-identified environmental issues that form the basis of our EMP. The environmental issues selected were identified through a review of historical documents and reports, community engagement sessions and focus groups, community surveys, and meetings and interviews with our staff, citizens, and *kaaykaayag* (Elders). The unique concerns that have potential to impact our Island and our citizens have been considered and addressed through the strategies outlined within each of the applicable ESGs.

4.1 Air Quality and Emissions

Clean air is fundamental to protecting and promoting healthy *akii* (lands), *nibiish* (waters), plants, *awakaanag* (animals), and people. The quality of our air has a direct impact on humans and our natural environment, and is a life-giving source for all living creatures on our Island. Wasauksing First Nation citizens have expressed concerns about the ways in which human activities may affect air quality; for example emissions from aircraft flying over our Island, air pollution from nearby cities and towns, smoke from more frequent forest *ishskwaday* (fires), and compromised indoor air quality due to the presence of mold in our homes. The air quality ESG provides strategies aimed at addressing these issues to help maintain clean, high quality air at Wasauksing for seven generations to come.

4.2 Groundwater Management

Nibiish is the lifeblood of the earth. Like arteries and veins in our bodies, groundwater travels through aquifers and fractures in bedrock beneath the surface to interconnect wetlands, *zaaghiganan* (lakes), and *ziibiwan* (rivers), sustaining all life. At Wasauksing, we primarily rely on the *nibiish* of *Mnidoo-gamii* (Georgian Bay) as the source of our drinking *nibiish*, however, some of our citizens continue to use private wells. Furthermore, the natural springs that exist across the Island are sacred to our people. While we have always cherished our groundwater resources, there is a long history of our groundwater potentially being comprised by contamination from activities at *Demiimgak-oodenaang* (Depot Harbour), oily residue buried from the 1950 oil spill in Parry Sound, and former waste sites on our Island. The women of Wasauksing are the caretakers of our *nibiish*, responsible for its protection. As such, they will play a key role as community leaders in supporting the implementation of strategies included in this ESG, to ensure the protection of this sacred resource for future generations.



4.3 Surface Water and Wetlands

Nibiish is the sustaining life force for our people, and the plants and *awakaanag* that we share our Island with. It is imperative that we treat it with care and respect to ensure that its quality is maintained for the next seven generations. Our citizens value our *nibiish* for the home that it provides to our *giigoon* (fish), the recreational opportunities that it provides to our community, and the life that it gives to all life forms at Wasauksing. *Mnidoo-zaaghiganing* (Three Mile Lake) is home to some of our most sacred areas, where we engage in traditional activities such as sweat lodges and feasting our *aanikoobijiganag* (ancestors). It is also a favourite swimming and fishing spot for our citizens. Our ESG for surface *nibiish* and wetlands provides strategies for protecting, and where applicable restoring, our surface *nibiish* quality and quantity, from the *nibiish* of *Mnidoo-gamii* to those of *Mnidoo-zaaghiganing* and all that run in between.

4.4 Drinking Water Management

We believe in a community where all citizens have equal access to a safe and reliable source of drinking *nibiish*. Although the source *nibiish* for our treatment plant comes from *Mnidoo-gamii*, we recognize that *nibiish* exists in a complex interconnected system including surface and groundwater sources. We are committed to preserving the health of the entire system by carefully managing both surface and groundwater sources. Our ESG for drinking *nibiish* provides strategies for the protection of source *nibiish* quality and quantity, proper maintenance and operation of drinking *nibiish* infrastructure including treatment systems, *nibiish* trucks, and cisterns; and effective emergency response. The implementation of these strategies will ensure that all citizens of Wasauksing, regardless of their source, receive equal services in the form of safe and clean drinking *nibiish*.

4.5 Wastewater Management

Whether it is the soil that acts as a filter or the microbes that break down organic matter, the earth has its own system for processing the wastewater we produce. Our community relies primarily on onsite site wastewater (OSWW) systems (i.e., septic systems) to manage our wastewater and to effectively mitigate associated risks to soil, *nibiish*, and wildlife. When we ensure that these systems are properly installed, maintained and routinely inspected, the wastewater we produce is recycled through natural processes, feeding important nutrient cycles throughout the environment. Our ESG for wastewater focuses on best practices for the management of OSWW systems, while empowering our citizens to take an active role through *nibiish* conservation and reducing household habits that adversely impact treatment systems (i.e., use of certain cleaning chemicals). The ESG also focuses on exploring alternative technologies that improve the quality of wastewater effluent even further, and on *nibiish* quality monitoring that will identify impacts such as elevated nutrient levels and the presence of pathogenic bacteria, such as E. coli. Together, we are committed to safely managing our



wastewater to protect our *nibiish* resources and the health of our citizens for seven generations and beyond.

4.6 Medicinal Plants Conservation

Our sacred and *mashkiki* (medicinal) plants help maintain the balance of mental, physical, emotional, and spiritual health and well-being in our community. Our most sacred *mashkiki* plants include *asemaa* (tobacco), *wiingashk* (sweetgrass), *giizhik* (cedar), and *mushkodaywushk* (sage). We are committed to ensuring that Wasauksing First Nation is a vibrant and healthy community, with access to all of our *mashkiki* plants for the next seven generations. Our citizens have expressed concerns about the destruction of habitat where our *mashkiki* are found, improper harvesting techniques that leave plant populations dwindling, the threat of invasive species, impacts from herbicide application, and a decreased presence of pollinators on the Island. The Medicinal Plants ESG provides strategies and guidance to help preserve and protect the *mashkiki* that we have been provided by the Creator.

4.7 Wildlife and Wildlife Habitat

The Creator has graciously sent wild *awakaanag* to our *akii* to supply us with food, fur, *mashkiki*, and other materials. We must be appreciative of these gifts, respectful of wild *awakaan* (animal) spirits, and take care of our shared home as our *aanikoobijiganag* have done before us. Our citizens have expressed concerns about the wild *awakaanag* that live on our Island. In particular, they are worried about declining wildlife populations (e.g., whip-poor-will, bumblebees, other pollinators, moose, turtles, and snakes), worsening *awakaan* health (e.g., *moozoog* (moose) contracting disease from *waawaashkeshi* (deer), overhunting, and the impacts of non-native invasive species on wildlife habitat. The wildlife and wildlife habitat ESG outlines our goals and strategies for protecting wildlife and their habitat to ensure that our successors will enjoy these benefits for seven generations to come.

4.8 Cultural Sites

We are committed to the preservation and protection of our cultural sites and archaeological resources for our both our present and future generations to celebrate and learn from. There is archaeological evidence on Wasauksing from our *aanikoobijiganag* as well as present-day cultural gatherings on the *akii*. The materials left behind by our *aanikoobijiganag* are sacred to the community and are non-renewable resources. While there are some cultural sites that we have a deep and intimate knowledge of, we are also aware that there are areas that have not been explored archaeologically within the territory. Additionally, the burial sites of our *aanikoobijiganag* are especially significant. As a result, the protection of archaeological resources and cultural sites is consequently of great significance.



Specific sites of importance that we have identified as needing protection and are the driver of this ESG are:

- ***Mnidoo-zaaghiganing***, including the ancient cedars and pine ***mitigoong*** (trees) that surround the ***zaaghigan*** (lake)
- Burial Sites
- Church Steps
- Historic Portage Routes, including the main bay portage in ***Mnidoo-zaaghiganing***
- Waswane “Wasoonie” Island
- ***Nishnaabe-oodenaang*** (Lower Village) site
- Medwayosh Sand Pit
- Historical ***akii*** of significance

There are some sites of cultural significance that are not currently located on Wasauksing’s surveyed ***akii***, but are sacred to our community, including the pow wow grounds and two hills that surround them, and the apple ***mitigoong*** at ***Demiimgak-oodenaang***. The guidance and strategies outlined in the ESG have been developed with all sites of cultural significance to Wasauksing in mind. As such, areas at ***Demiimgak-oodenaang*** will benefit indirectly from the implementation of these strategies for now, with opportunities for full application in the future when these ***akii*** are transferred.

4.9 Land Development

The development of ***akii*** is a key component of a healthy and thriving community. We are committed to supporting this growth and development in ways that respect the ***akii*** and ***nibiish*** and the rights of future generations. By creating a clear plan for managing how development occurs on Wasauksing ***akii***, we are clearly demonstrating our expectations for citizens and external proponents alike. The Land Development ESG provides an overarching framework that compliments our Land Use Plan and supports its implementation, while setting the stage for the development of an Environmental Assessment and permitting regime specific to our ***akii***.

4.10 Solid Waste Management

As Anishinaabe people, we have a deep connection to the ***akii*** and ***nibiish*** that sustain us. For much of our history, we relied on natural materials, sourced from the environment around us,



which could easily be disposed of by returning them to the earth and allowing natural processes to break these materials down. We recognize that a large part of the solid waste we generate today in our homes, businesses, and community buildings, cannot be managed in this way and require disposal at our waste transfer station, and subsequently, a landfill. However, significant proportions of this waste are comprised of materials that could be re-purposed and diverted from landfills, including recyclables and food waste. Our ESG for solid waste management addresses these challenges through best practices, programs and policies that seek to minimize waste, improve accessibility to disposal for all land users, and develop a long-term plan for reducing and managing solid waste in our community.

4.11 Chemical and Fuel Storage

To ensure healthy *akii* and *nibiish* for future generations, we are committed to ensuring all chemicals and fuels are safely handled, transported, and stored on Wasauksing *akii*. Unsafe and improper transportation, handling, and storage methods have the potential to create detrimental impacts to all of creation that inhabits our *akii*. We are committed to not only ensuring accidents and malfunctions do not occur but are also committed to transporting, handling and storing our fuels in a manner that demonstrates our commitment to being stewards for healthy *akii*, *nibiish*, wildlife, and citizens of Wasauksing.

When it comes to chemical and fuel handling and storage the main areas of interest for our community are: aboveground and underground storage tanks, including their decommissioning, the release of fuels and chemicals from previous accidents, management of historical oil disposal pits, the use of chemicals at the *nibiish* treatment plant, potential impacts from offsite storage facilities, and the community gas station.

Together, our ESG for chemical and fuel storage includes policies and programs focused on safe and effective management of existing chemical and fuel storage sites, safety and stewardship considerations for future sites, and how to respond to incidents in a manner that preserves the health, safety, and integrity of our *akii*, *nibiish*, wildlife, and people.

4.12 Contaminated Sites Management

Over the past century, Wasauksing has been impacted by a legacy of historical contamination of our *akii*, *nibiish*, and the surrounding areas due to activities out of our control. Environmental Site Assessments have been conducted at several of these sites including at *Demiingak-oodenaang* waste oil pits and residual oil in shoreline sediment from the 1950 oil spill in Parry Sound, and former waste sites, among others. The long-standing impacts of these sites on the environment and our people highlight the importance of our community asserting governance of our lands. The health of our citizens, and the natural environment that we are so closely connected to, relies on the responsible management of these existing contaminated sites, and the prevention and intervention of future potential contamination. We are committed to



reducing the risk of new contamination on our *akii* so that the next seven generations will not face issues and concerns that we have experienced in the past. We will also implement strategies so that we are able to respond to emergency spill events on our Island in a timely and safe manner to contain any unexpected incidents.

4.13 Resource Management

As Anishinaabe people, we have a profound relationship with our renewable and non-renewable resources, such as our forests, aggregate resources and maple syrup production. We acknowledge that we do not “use” our resources but rather have a relationship with the *akii* and our resources. This relationship gives us the ability to appropriately manage the resources on our *akii* recognizing that once our non-renewable resources are gone – they are gone. We are committed to ensuring any resource development on our *akii* is done with our consent and in accordance with our culture, traditions, customs and laws



5.0 Implementation Plan

Our EMP identifies many environmental issues and concerns throughout Wasauksing and recommends strategies that we should undertake to manage each issue. The strategies are community-based and encompass our interests and values while upholding our rights. This EMP is our guiding document and there is a lot of work that must be done in order to implement each strategy.

The purpose of this implementation plan is to provide a roadmap for how we will implement the strategies in the EMP. We have identified the priority actions (Table 1) that should be undertaken first and in sequence. Recommended Actions in Table 2 will be the next priority actions and focus on the specific strategies identified in each ESG. The implementation plan sets out the potential Land Laws, plans, policies, protocols, programs and other strategies that will help move our EMP from document to action. It is best used to help Wasauksing First Nation prioritize and delegate next steps.

The information in the implementation plan for priority actions (Table 1) includes:

- Step – the order in which the priority actions should be completed
- Action – a description of the priority action
- Type – identifies the type of action that is required
- Key Result(s) – the outcomes of implementing the action
- Cost – the relative estimated cost of the action
- Responsible Party – identifies the specific Wasauksing First Nation position or group that is(are) responsible for implement the strategy
- External Funding Sources – identifies potential external funding sources that could be leveraged to implement the recommended action

The following information in Table 2 - Recommended Actions includes:

- Strategy – the numbered Strategy from the specific ESG
- Type – identifies the type of action that is required
- Key Result(s) – the outcomes of implementing the action
- Cost – the relative estimated cost of the action



- Responsible Party – identifies the specific Wasauksing First Nation position or group that is(are) responsible for implement the strategy
- External Funding - – identifies potential external funding sources that could be leveraged to implement the recommended action
- Priority (Low, Moderate, High) – identifies the level of prioritization that should be given to the Strategy
- Timeline – identifies the year or range of years in which the Strategy should be implemented



Table 1. Priority Actions

Step	Action	Type	Key Result(s)	Cost	Responsible Party	External Funding Sources
1	Approve the EMP through a BCR, land law or community approval process	Approval	Community approved and/or ratified EMP	Moderate	Lands Manager / Council	Lands and Economic Development Services Program
2	Develop and roll-out data management procedures for the EMP to ensure the EMP data and documents are stored and organized	Protocol	Internal data management protocol	Low	Lands Manager	N/A
3	Provide hard copies of the EMP in the Lands Department Office	Communications	Physical copies of the EMP available to all citizens and non-citizens in central and accessible location	Low	Lands Manager	N/A
4	Provide online access to the EMP and communicate link to the community	Communications	Electronic copy of the EMP available to citizens and non-citizens in an easily accessible format	Low	Lands Manager	N/A
5	Develop communications materials to clearly communicate the purpose of the EMP and to explain each of the ESGs	Communications	Physical and electronic brochures summarizing the purpose and strategies contained in each ESG	Low	Lands Manager	N/A
6	Develop an environmental protection regime, including any associated Land Law(s), in accordance with requirements and responsibilities of the Framework Agreement on First Nations Land Management	Land Law	Approved environmental protection regime and Land Law(s). See Land Development ESG Strategy 2	Moderate	Lands Manager / Council	Lands and Economic Development Services Program
7	Develop an Environmental Assessment regime, including any associated Land Law(s), in accordance with the requirements and responsibilities of the Framework Agreement on First Nations Land Management	Land Law	Approved environmental assessment regime and Land Law(s). See Land Development ESG Strategy 1	Moderate	Lands Manager / Council	Lands and Economic Development Services Program
8	Develop an administrative process for citizens to propose changes to the EMP	Protocol	Written protocol outlining the process; Land Law(s) to implement the process; Communication materials; Infographics	Moderate	Lands Manager	Lands and Economic Development Services Program
9	Develop process to complete the regular review of the EMP, including - Who does the review? - What does the review include? - How is the community involved?	Protocol	A written process for regular review	Moderate	Lands Manager	Lands and Economic Development Services Program

Table 2. Recommended Actions

Strategy	Type	Key Result	Cost	Responsible Party	External Funding	Priority	Timeline
Air Quality and Emissions							
Strategy 1: Participate in regional air quality monitoring activities	Program	Completed annual review of MECP and ECCC reports; Collaboration with proponents and regulators	Low	Lands Manager	Negotiate funding with MECP, ECC and/ or proponent	High	Year 1 (As needed)
Strategy 2: Establish air quality oversight process for future developments at Wasauksing	Plan	Written best management practices and air quality standards for future developments	Low	Council	Ontario Trillium Foundation	High	Year 2
Strategy 3: Air quality outreach and education campaign	Program / Communications	Launch community outreach campaign aimed at educating citizens on air quality-related issues (indoor and outdoor) including smog, climate change, forest fire smoke, mold, etc.	Low	Lands Manager	Indigenous Services Canada's First Nations Waste Management Initiative Program	High	Year 2
Strategy 4: Designate and air quality champion	Employee Position	Champion hired to monitor Air Quality Health Index data	Low	Lands Manager	ECO Canada's Building Environmental Aboriginal Human Resources (BEAHR)	High	Year 2
Strategy 5: Establish baseline air quality	Study	Report on baseline air quality information to inform community decision-making processes	Moderate	Lands Manager	Proponent funding	High	Year 2 (As needed)
Strategy 6: Indoor Air Quality Program	Program	Increased knowledge and improved air quality in indoor environments	Moderate	Lands Manager	N/A	High	Year 3
Strategy 7: Roadway dust suppression plan	Plan	Implementation of the dust suppression plan on Wasauksing roads	Moderate	Director of Public Works / Lands Manager	Indigenous Services Canada's First Nations Waste Management Initiative Program	High	Year 3
Strategy 8: Partnerships with local floatplane operators	Communication / Relationship	Relationship developed with floatplane operators with negotiated time, frequency, and altitude for tour routes.	Low	Lands Manager	N/A	High	Year 3 (As needed)
Groundwater Management							
Strategy 1: Well inventory and inspection	Study	Detailed inventory of all wells on Wasauksing; understanding of possible pathways for groundwater	Moderate	Director of Public Works	Well Wise Testing Program	High	Year 2

Strategy	Type	Key Result	Cost	Responsible Party	External Funding	Priority	Timeline
		contamination and assessment of the integrity of our well-water supply					
Strategy 2: Decommissioning or conversion of unused wells	Program	Eliminate potential pathways for groundwater contamination	High	Director of Public Works	Recommend partnering with local health unit, municipalities and/or the province to develop well decommissioning program	Moderate	Year 2-5
Strategy 3: Baseline Groundwater Quality Assessment	Study	Baseline data to assist in assessing groundwater quality and quantity over time	High	Director of Public Works	N/A	High	Year 2
Strategy 4: Annual Well Testing and Assessment	Program	Well-owners collect well-water samples to test for contamination	Low	Director of Public Works	Recommend partnering with a local health unit (North Bay Parry Sound District Health Unit)	High	Year 2
Strategy 5: Groundwater vulnerability mapping	Study	Detailed GIS mapping of Wasauksing's hydrogeology, identifying potential areas where groundwater could be easily impacted by contaminants	Moderate	Lands Manager	Infrastructure Canada Clean Water and Wastewater Fund Ontario First Nations Technical Services Corporation Climate Change and Health Adaptation Program First Nation Adapt Program	High	Year 2
Strategy 6: Source Water Protection Plan	Plan	Plan is developed and implemented to prevent, mitigate and control potential sources of contamination to our water sources. See Strategy 1 in the Drinking Water ESG for full details.	High	Lands Manager	Infrastructure Canada Clean Water and Wastewater Fund Ontario First Nations Technical Services Corporation	High	Years 3-5

Strategy	Type	Key Result	Cost	Responsible Party	External Funding	Priority	Timeline
					Climate Change and Health Adaptation Program First Nation Adapt Program		
Strategy 7: Long- term monitoring of areas of concern	Program	Improved understanding of changes to our groundwater over time; increased capacity to monitor our groundwater resources	Low	Lands Manager	Potential to negotiate funding for this action with the Federal Government as part of FNLMA; or directly with proponents	High	Years 3-5
Surface Water and Wetlands							
Strategy 1: Surface water quality monitoring program	Program	Baselines established to assess changes in water quality that may affect the health of surface-water over time	Moderate	Council	EcoAction	High	Year 1
Strategy 2: Improving surface water runoff quality	Land Law	Reduction in phosphorous and nitrogen levels in runoff to minimize risks to human and ecological health	Low	Council	EcoAction Great Lakes Community Guardian Fund	High	Year 2
Strategy 3: Inventory and mapping of surface water bodies and wetlands	Study	Develop and inventory of wetlands and surface water features and a protection plan	Moderate	Lands Manager	EcoAction	High	Year 2
Strategy 4: Develop a stormwater management plan	Plan	Develop and implement a holistic and landscape-based stormwater management plan	High	Lands Manager	EcoAction	High	Year 2-3
Strategy 5: Implementation of a fish habitat assessment and monitoring program	Program	Program aids the monitoring of potential impacts from development on fish and fish habitat	Moderate	Council	EcoAction	High	Years 3-5
Strategy 6: Use of aquatic protection timing restrictions when working in proximity to fish habitat	Land Law	Implement time-of-year restrictions as established by the Ontario Ministry of Natural Resources and Forestry for in-water work.	Low to Moderate	Council	N/A	High	Year 3
Strategy 7: Create a Fisheries Management Plan for Three Mile Lake	Plan	Development of a Fisheries Management Plan for Three Mile Lake based on previous work conducted in 2014, to inform the creation of an applicable Land Law that will prohibit certain activities that pose risks to fish and fish habitat.	Moderate	Lands Manager	Regional Fisheries Conservation Partnerships Program	Moderate	Year 5

Strategy	Type	Key Result	Cost	Responsible Party	External Funding	Priority	Timeline
Strategy 8: Development of a responsible recreational boating awareness program	Program / Communications	Implementation of an awareness program for waste management, fuel storage and refueling practices to avoid introduction and spread of invasive species, proper onshore disposal of grey water and black water	Low	Council	N/A	Moderate	Years 3-5
Strategy 9: Spills response protocol	Plan	Includes an awareness campaign, signage and a response protocol	Low	Lands Manager	Great Lakes Community Guardian Fund	High	Years 5-10
Strategy 10: Develop an integrated watershed management plan	Plan	Protection of important water resources across the watershed	Moderate	Council	Great Lakes Community Guardian Fund EcoAction	High	Years 5-10
Strategy 11: Develop lower impact aquaculture practices and processes	Study / Program	Regular monitoring of aquaculture practices; research program to assess practices; evaluation of the current aquaculture operation and infrastructure	Low	Council	Great Lakes Community Guardian Fund EcoAction	Moderate	Years 5-10
Strategy 12: Develop a communication network	Communications	Network established with interested parties, including neighbouring communities, regulatory agencies, research institutions and industry representatives	Low	Council	N/A	High	Years 5-10
Drinking Water Management							
Strategy 1: Develop a Source Water Protection Plan	Plan	Plan is developed and implemented to prevent, mitigate and control potential sources of contamination to our water sources.	Moderate	Director of Public Works	Infrastructure Canada Clean Water and Wastewater Fund Climate Change and Health Adaptation Program First Nation Adapt Program Ontario First Nations Technical Services Corporation	Moderate	Year 5
Strategy 2: Develop Source Water Monitoring Program	Program	On-going monitoring of source water quality and quantity to provide early detection of issues (i.e., increased organics, exceedances of standards)	Moderate	Director of Public Works	Infrastructure Canada Clean Water and Wastewater Fund	Moderate	Year 5

Strategy	Type	Key Result	Cost	Responsible Party	External Funding	Priority	Timeline
		allowing for prompt responses to protect human health.			Climate Change and Health Adaptation Program First Nation Adapt Program Ontario First Nations Technical Services Corporation		
Strategy 3: Conduct a Sanitary Survey	Study	Comprehensive evaluation of drinking water systems and treatment processes conducted every 5 years.	Moderate	Director of Public Works	Infrastructure Canada Clean Water and Wastewater Fund	High	Year 2
Strategy 4: Define Operator Training and Certification Requirements	Plan / Policy	Document outlining career path for water operators at Wasauksing that can be used for capacity planning and recruitment.	Low	Director of Public Works	Ontario First Nations Technical Services Corporation	High	Year 1
Strategy 5: Develop a Drinking Water Monitoring Program	Program	Outline drinking water monitoring for pH, temperature, turbidity, chlorine residuals and other parameters including disinfection by-products. Note: this monitoring is already taking place. This strategy recommends development of a document summarizing the program and setting targets for reporting.	Low	Director of Public Works	Ontario First Nations Technical Services Corporation Partnership with the North Bay Parry Sound District Health Unit	Moderate	Years 1-3
Strategy 6: Establish Protocols for Water Cisterns, Tanks	Plan / Protocol	Development and implementation of clear protocols for managing water cisterns and tanks including scheduled maintenance, sampling/monitoring, and proper record-keeping.	Moderate	Director of Public Works	Ontario First Nations Technical Services Corporation	High	Years 2
Strategy 7: Maintain Records Management Systems	Protocol	Proper record-keeping and for all documents associated with community drinking water management.	Low	Director of Public Works	Infrastructure Canada Clean Water and Wastewater Fund	High	Year 3
Strategy 8: Develop Emergency Response Plans	Plan / Protocol(s)	Implementation of Emergency Response protocols that address extreme weather events (including natural disasters), system malfunctions, power outages, and human-caused impacts.	Moderate	Director of Public Works	Infrastructure Canada Clean Water and Wastewater Fund Climate Change and Health Adaptation Program	Moderate	Years 3-5



Strategy	Type	Key Result	Cost	Responsible Party	External Funding	Priority	Timeline
Strategy 9: Conduct a Tap Water Assessment	Program	Routine tap water quality results that provide key information for identifying issues at the endpoint of the distribution system. Can be included in Strategy 10.	Moderate	Director of Public Works	Partnership with the North Bay Parry Sound District Health Unit	Moderate	Years 1-3
Strategy 10: Develop a Quality Management System (QMS)		Implementation of operational plan including monitoring plan, and record-keeping and reporting requirements.	Moderate	Director of Public Works	Infrastructure Canada Clean Water and Wastewater Fund	Moderate	Year 5
Wastewater Management							
Strategy 1: Develop a Wastewater Management Plan	Plan	Wastewater Management Plan that identifies the long-term needs (20+ years) of the community and provides strategies for sustainably managing wastewater on the Island.	Moderate	Director of Public Works	Infrastructure Canada Clean Water and Wastewater Fund	High	Years 3-5
Strategy 2: Conduct Septic System Assessments	Program	Identification of high risk (i.e., failing, poorly located/designed, requiring maintenance) septic systems to be further evaluated.	Moderate	Director of Public Works	Infrastructure Canada Clean Water and Wastewater Fund Great Lakes Guardian Community Fund	Moderate	Years 1-2
Strategy 3: Create a Community Wastewater System Database	Database	Microsoft Access (or similar) database that contains key data about onsite wastewater systems present in the community.	Low	Lands Manager	N/A	Low	Year 2
Strategy 4: Define Design, Installation, and Inspection Requirements for New Onsite Systems	Plan / Policy	Clearly defined and well-communicated requirements for new onsite systems.	Low	Director of Public Works	N/A	High	Year 1
Strategy 5: Establish Monitoring Requirements for Wastewater Impacts on Water Quality	Program	List of chemical and biological parameters to be sampled for as part of surface and groundwater monitoring programs as well as key sampling locations to capture impacts from onsite wastewater systems.	Low	Director of Public Works	N/A	Moderate	Year 1
Strategy 6: Conduct a Cost-Benefit Analysis of Alternative Onsite Wastewater Systems	Study	Identification of feasible and sustainable alternative onsite wastewater systems that can be installed to provide more effective treatment than conventional septic systems.	Moderate	Director of Public Works	Infrastructure Canada Clean Water and Wastewater Fund	Moderate	Years 2-5

Strategy	Type	Key Result	Cost	Responsible Party	External Funding	Priority	Timeline
Strategy 7: Develop a Pharmaceuticals and Personal Care Products (PPCP) Management Strategy	Program	Increased use of the Health Centre's pharmaceutical disposal program; increased community awareness of PPCPs impacts to the environment; identification of alternative onsite wastewater systems that minimize releases of PPCPs to the environment.	Moderate	Lands Manager	EcoAction	Low	Year 3
Strategy 8: Launch a Household Water Conservation Initiative	Program	Reduced quantity of wastewater generated by the community, lowering demands on treatment systems (e.g., septic) and associated maintenance costs.	Low	Lands Manager	EcoAction TD Friends of the Environment Great Lakes Community Guardian Fund Climate Change and Health Adaptation Program	High	Year 1
Medicinal Plants							
Strategy 1: Sustainable Harvesting Education	Program	Greater participation of citizens in harvesting medicinal plants using traditional methods; reduced incidence of impacts due to improper harvesting.	Low	Lands Manager	N/A	High	Year 1
Strategy 2: Medicinal Plants Inventory	Study	Expansion of the existing Wasauksing Flora Species list including Anishinaabek, English and scientific names, photos, habitat characteristics, and harvesting techniques for each species.	Moderate	Lands Manager	Federal First Nations Guardians Initiative Climate Change and Health Adaptation Program	Moderate	Years 1-2
Strategy 3: Medicinal Plants Protection Plan	Plan	Greater abundance of medicinal plant species due to reduced incidence of impacts from development; establishment of protected areas and special conservation considerations.	Moderate	Lands Manager	Federal First Nations Guardians Initiative Climate Change and Health Adaptation Program	High	Years 3-5
Strategy 4: Restoration of Key Habitat Areas	Program	Increased abundance of target medicinal plant species on the Island.	Moderate to High	Lands Manager	Climate Change and Health Adaptation Program	Low	Years 5+
Strategy 5: Pollinator Promotion	Program / Communications	Increased community awareness of pollinator species and their role in the environment; development of	Low	Lands Manager	TD Friends of the Environment	Moderate	Years 1-3



Strategy	Type	Key Result	Cost	Responsible Party	External Funding	Priority	Timeline
		new policies or land laws that restrict pollinator-harming activities (i.e., use of pesticides).			Climate Change and Health Adaptation Program		
Wildlife and Wildlife Habitat							
Strategy 1: Wildlife and Wildlife Habitat Baseline Assessment	Study	Baseline data on wildlife and wildlife habitat stored in a database that can be used as a foundation for community stewardship and wildlife conservation strategies in this ESG.	Low to Moderate	Lands Manager	Ontario Trillium Foundation Climate Change and Health Adaptation Program TD Friends of the Environment	High	Year 1
Strategy 2: Wildlife and Wildlife Habitat Monitoring & Stewardship Program	Program	Implementation of a Wildlife and Wildlife Habitat Monitoring and Stewardship Program to maintain an understanding of the current state of wildlife and wildlife habitat at Wasauksing to inform other programs and initiatives.	Low to Moderate	Lands Manager	Ontario Trillium Foundation Climate Change and Health Adaptation Program TD Friends of the Environment	Moderate	Years 2-5
Strategy 3: Wildlife and Wildlife Habitat Protection – Best Management Practices Guide	Plan / Policy	Best Management Practices Guide including a community-specific wildlife protection protocol for proponents to ensure that design, construction, operation and decommissioning of projects are protective of wildlife and wildlife habitat.	Moderate	Lands Manager	Ontario Trillium Foundation	High	Years 1-3
Strategy 4: Species at Risk Protection and Recovery	Program / Study	Where possible, contribute to Wasauksing’s wildlife monitoring and stewardship activities (Strategy 3) and, where possible, Canada’s Recovery Strategies and Actions Plans, Ontario Recovery Strategies and Management Plans; Creation of species at risk division in Lands Department.	Moderate	Lands Manager	Ontario Species at Risk Stewardship Program Aboriginal Fund for Species at Risk (AFSAR)	High	Year 3
Strategy 5: Training, Internal Capacity Building, and Guardians Program	Program / Capacity Development	Establishment of community library with species at risk-related resources (e.g., identification field guides); successful use of citizen science tools by Wasauksing citizens; development of Wasauksing Guardians program.	Low to Moderate	Lands Manager	TD Friends of the Environment Federal First Nations Guardians Initiative	Moderate	Years 2-5



Strategy	Type	Key Result	Cost	Responsible Party	External Funding	Priority	Timeline
					Catherine Donnelly Foundation		
Strategy 6: Collaboration Network of Wildlife and Wildlife Habitat Experts	Communications / Capacity Development	Effective implementation of ESG strategies through collaboration with neighbouring communities, NGOs, academic institutions, and provincial and federal ministries/agencies.	Low	Lands Manager	N/A	Moderate	On-going
Strategy 7: On-the-Land Program for Elder-Youth Knowledge Sharing	Program / Capacity Development	Development and launch of On-the-Land mentorship program allowing Elders to teach youth about traditional practices and techniques for hunting, fishing, and harvesting medicinal or edible plants; Development of community app to allow youth to record learnings and ecological observations.	Low	Lands Manager	Ontario Trillium Foundation	High	Years 2-5
Strategy 8: Creating, Enhancing, and Maintaining Pollinator Habitat	Program	Maintenance and creation of key pollinator habitat.	Low	Lands Manager	Ontario Trillium Foundation	Low	Year 3
Strategy 9: Invasive Species Inventory, Monitoring & Control Program	Program	Completion of an invasive species inventory and the design and implementation of an Invasive Species Monitoring and Control Program to mitigate the effects of invasive species on ecological integrity. To be completed in collaboration with Strategies 2 and 5 .	Moderate	Lands Manager	Ontario Trillium Foundation Climate Change and Health Adaptation Program	Moderate	Years 2-5
Strategy 10: Prevention of and Patrols to Monitor Illegal Trespassing and Poaching	Program / Land Law	Enactment of applicable Land Laws setting restrictions and prohibited activities, penalties, etc.; Regular patrols by Wasauksing Guardians.	Low to Moderate	Council and Lands Manager	N/A	Moderate	Year 5+
Cultural Sites							
Strategy 1: Complete an Archaeological Assessment of Wasauksing Lands	Study	Stage 1: Desktop background study and property inspection to determine archaeological potential of a plot of land; Stage 2-4: If needed, a more detailed assessment to provide protection for archaeological resources.	High	Lands Manager	Proponent funding; or recommend negotiating with the Provincial Government to secure funding or partner with an academic institution	High	As Needed
Strategy 2: Create a Wasauksing First Nation cultural sites and archaeological resources protection policy	Policy / Land Law	A law and/or policy that set out clear expectations, rules and best management practices for regulating	Low	Lands Manager	N/A	Moderate	Years 3-5

Strategy	Type	Key Result	Cost	Responsible Party	External Funding	Priority	Timeline
		and protecting our cultural sites and archaeological resources					
Strategy 3: Train Wasauksing field staff on cultural sites and archaeological resources protection policy	Capacity Development	Staff will enhance their capability and ability to regulate and protect cultural heritage and archaeological resources through the policy	Moderate	Lands Manager	N/A	Moderate	Years 3 -5
Strategy 4: Conduct an inventory of cultural sites and heritage resources on Wasauksing lands	Study	Will improve the knowledge of our community's cultural sites and heritage resources for our decision-making process	Moderate	Lands and Resources Committee	Canada History Fund	High	Years 3-5
Strategy 5: Create an archaeological services coordinator role	Employee Position	Employee will provide oversight on all archaeological and cultural sites and activities, oversee training of staff and liaise with proponents	Moderate	Council	ECO Canada's Building Environmental Aboriginal Human Resources (BEAHR)	Moderate	Years 3-5
Strategy 6: Develop and implement the Wasauksing Cultural Heritage Training Program	Capacity Development	Training program for Wasauksing staff and a culturally sensitive awareness training for proponents	Moderate	Lands and Resources Committee	ECO Canada's Building Environmental Aboriginal Human Resources (BEAHR)	Moderate	Year 5
Strategy 7: Establish the Wasauksing Archaeological Resources Centre	Infrastructure	A physical space to celebrate and promote Wasauksing's heritage and culture within our community	High	Lands and Resources Committee	Canadian Museums Association Canada Cultural Spaces Fund	Moderate	Years 5-10
Land Development							
Strategy 1: Complete and implement an Environmental Assessment Law and permitting regime	Land Law	Enacted Land Laws will ensure a fair and transparent process that Wasauksing First Nation can use to respond to development requests and ensure environmental protection	Low	Council	N/A	High	Year 1
Strategy 2: Complete and implement an Environmental Protection Law	Land Law	Enacted Land Laws will ensure important environmental protections and provide mechanisms for enforcing regulations and policies	Low	Council	N/A	High	Year 1
Strategy 3: Update the Community Development Plan (2005) and the Development and Building Approval Process by Enacting a Land Law(s)	Plan	Will ensure that our updated Community Development Plan and Land-Use Agreement template align with the environmental assessment and permitting process in Strategy 1 .	Moderate	Lands Manager	N/A	High	Year 1-2

Strategy	Type	Key Result	Cost	Responsible Party	External Funding	Priority	Timeline
		New Development and Building Approval process should be enacted through a Land Law					
Strategy 4: Establish a list of generic environmental permitting conditions for different development types	Policy	List of conditions will provide consistency for Council and staff and provides assurances to proponents	Low	Lands Manager	Lands and Economic Development Services Program	High	Year 2
Strategy 5: Enhance administrative capacity and institutions to administer the environmental assessment and permitting regimes	Capacity Development	Capacity development will ensure that plans and permitting regimes will be implemented correctly, efficiently, and fairly	Moderate	Lands Manager	Share resources with other aligned First Nations to administer some aspects of environmental monitoring and assessment programs	High	Year 2
Strategy 6: Evaluate the efficiency and effectiveness of environmental and land-use permitting processes	Program	Program to review new and modified processes, add efficiencies and ensure implementation is working throughout this living document	Low	Lands Manager	N/A	High	Year 3
Strategy 7: Develop clear proponent and lessor guidance manuals for how to undertake appropriate land developments on our lands	Communications	Communication strategy and materials to make expectations for proponents clear and transparent	Low	Lands Manager	Lands and Economic Development Services Program	High	Years 3-5
Solid Waste Management							
Strategy 1: Develop a Waste Management Plan	Plan	Implementation of a Community Waste Management Plan (20 year)	Moderate	Lands Manager	ISC's First Nations Waste Management Initiative	High	Years 3-5
Strategy 2: Establish a Community-Specific Waste Management Regulatory Regime	Land Law(s)	Enactment of Lands Laws that outline the community's approach to managing solid waste and associated penalties for those engaging in prohibited activities (i.e., illegal dumping).	Moderate	Council	N/A	Moderate	Year 3
Strategy 3: Design and Implement a Communication Plan	Plan	Reduced incidence of improper disposal of wastes; greater waste diversion and reduction (as determined through regular audits).	Low	Lands Manager	ISC's First Nations Waste Management Initiative	Moderate	Year 2
Strategy 4: Conduct Waste Audits	Program	Waste audits conducted every 5 years that provide information that can be used to track progress for waste reduction and diversion targets.	Low to Moderate	Lands Manager	ISC's First Nations Waste Management Initiative	High	Year 3

Strategy	Type	Key Result	Cost	Responsible Party	External Funding	Priority	Timeline
Strategy 5: Deter Illegal Dumping	Program / Communications	Reduction in amount of litter observed in community.	Low	Lands Manager	ISC's First Nations Waste Management Initiative	Moderate	Years 1-3
Strategy 6: Community Composting Program	Program	Pilot project that successfully diverts community food waste from landfill disposal.	Moderate	Lands Manager	ISC's First Nations Waste Management Initiative	Low	Years 3-5
Strategy 7: Explore Options Relating to Hazardous Waste Disposal	Study	Report outlining recommendations for hazardous waste disposal options, including the preferred option. *Can be combined with development of Waste Management Plan (Strategy 6)	Moderate	Lands Manager	ISC's First Nations Waste Management Initiative	Moderate	Year 1
Strategy 8: Develop Local Partnerships	Communications	Multi-community agreement(s) that address waste management gaps and challenges. Should be explored as part of development of Waste Management Plan (Strategy 6).	Low	Council and Lands Manager	ISC's First Nations Waste Management Initiative	High	Years 1-5
Chemical and Fuel Storage							
Strategy 1: Develop partnerships and communication agreements with relevant agencies	Communications	Partnerships developed with the TSSA, MECP and ECCC will foster a constructive and collaborative approach to empower citizens	Low	Council	N/A	High	Year 2
Strategy 2: Create a fuel storage tank and facilities inventory on Wasauksing Lands	Study	Inventory will ensure community safety as all existing tanks will be identified and registered with MECP and ECCC	Low	Director of Public Works	ISC's Fuel Storage Tank System Priority Ranking Framework	Moderate	Years 3-5
Strategy 3: Ensure regulatory compliance of all future fuel systems on Wasauksing Lands	Protocol	Protocol for all new fuel systems will ensure safe and proper handling and storage of fuel on our lands going forwards	Low	Director of Public Works	ISC's Fuel Storage Tank System Priority Ranking Framework	High	Years 3-5
Strategy 4: Develop and implement a Wasauksing inspection and maintenance program	Program	Plan will ensure all fuel storage systems continue to comply with regulations and stay up to date on maintenance, reducing risk of spills or emergencies	Low	Director of Public Works	ISC's Fuel Storage Tank System Priority Ranking Framework	High	Years 3-5
Strategy 5: Develop effective fuel storage protocols for future developments	Protocol	Protocol will ensure safe and effective management of fuel storage associated with future developments.	Moderate	Director of Public Works	ISC's Fuel Storage Tank System Priority Ranking Framework	High	Years 3-5
Strategy 6: Create and comply with the fuel spill response and emergency action plan	Plan	Plan will ensure our community is prepared to respond in the event of a spill emergency	Low	Council	ISC's Emergency Management Assistance Program	High	Year 3

Strategy	Type	Key Result	Cost	Responsible Party	External Funding	Priority	Timeline
Strategy 7: Develop community fuel storage rules and responsibility	Protocol / Communications	Protocol and communication to community citizens will ensure awareness of strategies and safety regulations regarding chemical and fuel storage	Low	Council	N/A	Moderate	Year 4
Contaminated Sites Management							
Strategy 1: Identify suspect contaminated sites	Study	Will compile areas that have been identified as suspected contaminated sites by previous Phase 1 Environmental Site Assessments	Low	Lands Manager	ISC's Contaminated Sites Management Program	High	Year 1
Strategy 2: New Phase 1 Environmental Site Assessment	Study	Determine if additional intrusive investigations are required for an adequate assessment of environmental impacts or degradation	Moderate	Lands Manager	ISC's Contaminated Sites Management Program	High	Years 2
Strategy 3: Phase 2 Environmental Site Assessments	Study	If recommended in the Phase 1 Environment Site Assessment, project dependent	Moderate to High	Lands Manager	ISC's Contaminated Sites Management Program	High	Years 3+ (As needed)
Strategy 4: Human health and ecological risk assessments	Study	If recommended in a Phase 2 Environmental Site Assessment. Depicts the potential ways in which humans and wildlife could be impacted by the contaminated environment	Moderate to High	Lands Manager	ISC's Contaminated Sites Management Program	High	Years 3+ (As needed)
Strategy 5: Remediation of contaminated lands and waters	Program	Lands and waters remediated to meet the applicable standards and guidelines	High	Lands Manager	ISC's Contaminated Sites Management Program	Moderate	Years 5+ (As needed)
Strategy 6: Build capacity for contaminated sites management	Capacity Building	Citizens empowered as managers and stewards of the land	Low	Lands Manager	ECO Canada's Building Environmental Aboriginal Human Resources (BEAHR)	High	Year 3-5
Strategy 7: Long-term monitoring of areas of concern	Program	Improved understanding of contaminated sites and the impacts of contaminants on our environment	Low	Lands Manager	ISC's Contaminated Sites Management Program	Moderate	Years 5+
Strategy 8: Community emergency spill preparedness and response plan	Plan	Plan will ensure our community is prepared to respond in the event of a spill emergency	Low	Lands Manager	ISC's Emergency Management Assistance Program	Moderate	Year 5
Resource Management							



Strategy	Type	Key Result	Cost	Responsible Party	External Funding	Priority	Timeline
Strategy 1: Forest Management Planning	Plan	Forest Management Plan that will ensure that any timber extraction is done in accordance with our values and ensures the sustainability of our forests	Moderate	Lands Manager	Lands and Economic Development Services Program	High	Year 1
Strategy 2: Sugar Bush Management Planning	Plan	Plan that outlines our goals and objectives, inventories our resources and has an operating plan for a sustainable business	Moderate	Lands Manager	Community Opportunity Readiness Program	High	Year 1
Strategy 3: Resource-based permitting process	Protocol	Process to ensure a fair and transparent decision-making framework for resource-based projects, in accordance with our Land Use Plan	Moderate	Lands Manager	Lands and Economic Development Services Program	High	Year 2
Strategy 4: Consultation Protocol	Protocol	Consultation protocol for resource-based development on Wasauksing, and within our Traditional Territory, that ensures we are appropriately consulted and engaged on our terms for all projects on our lands	Moderate	Council	N/A	High	Year 2
Strategy 5: Environmental Monitoring Program	Program	A resource management component, or team, within our environmental monitoring/Guardians program with a focus on aggregates and forestry, including a Council authorized enforcement officer	High	Council	Federal First Nations Guardians Initiative Ontario Trillium Foundation Climate Change and Health Adaptation Plan TD Friends of the Environment	High	Year 3
Strategy 6: Resource regulations, policies, guideline and land law development	Protocol/Land Laws	Enacted Land Laws, regulations, policies, and guidelines specific to aggregate and forestry resource extraction based on industry best management practices	High	Council	Lands and Economic Development Services Program	High	Years 3-5
Strategy 7: Regulations and environmental standards compliance	Protocol	Land laws, regulations and environmental standards developed will be adhered to by proponents	Low	Council	N/A	High	Ongoing, as needed
Strategy 8: Capacity Building – Resource Management	Capacity Building	Wasauksing citizens and staff will be trained on various aspects of resource operations and their effects on the natural environment	Moderate	Lands Manager	ECO Canada's Building Environmental Aboriginal Human Resources (BEAHR)	Moderate	Years 3-5



Strategy	Type	Key Result	Cost	Responsible Party	External Funding	Priority	Timeline
Strategy 9: Pit and quarry rehabilitation	Program	Current and future pits and quarries will be rehabilitated based on case-by-case determinations of the most appropriate method	High	Lands Manager	<u>ISC's Contaminated Sites Management Program</u>	Moderate	Years 5+



6.0 Enforcement and Dispute Resolution

Our authority and jurisdiction to implement our Environmental Management Plan is upheld by the Framework Agreement on First Nations Land Management and our Individual Agreement with Canada with respect to our Land Code. Merely having these agreements in place, however, does not guarantee compliance. Enforcement refers to all the ways in which those affected by the environmental protection laws are encouraged to comply with them. Enforcement includes everything from education and awareness of the laws through to compelling observance of the law by imposing sanctions or punishments for those who breach those laws.

Although it is outside of the scope of this EMP to prescribe new environmental laws, it can identify Land Laws we want to develop and approaches to enforcement to support the implementation of the EMP. This section provides an overview on law making and enforcement, as well as some background information and considerations on these topics.

To implement this EMP, Wasauksing First Nation shall develop an enforcement and dispute resolution regime. Our intent is that Wasauksing First Nation will use this section as a reference when advancing conversations and decision-making around how we want to implement enforcement and dispute resolution processes within our community.

6.1 Foundations for Law-Making & Enforcement

6.1.1 Anishinaabe Guiding Principles

There is no word for law in Anishinaabemowin, but there is a word called “chi’inaakonigewin,” which means “a big decision” or “a god making a decision.” Harmful actions can have spiritual, as well as material, consequences.

Another word that resembles the concept of law is “kinwezhiwein,” which translates into “guide,” as in “a guiding principle.” Anishinaabe people believe that some laws come from the land, and should be learned by being on the *akii*, observing the interactions between the *awakaanag* (animals), *asiniig* (rocks), *noodin* (wind), *nibiish* (water), *bineshiinyag* (birds), plants and *mitigoong* (trees). Anishinaabek natural law ensures that these relationships, processes, roles and responsibilities are observed. This type of guiding principle is inspired by “Mnaamodzawin,” or “living a good life,” which is what traditional laws strive to achieve.

The concept of rights in Anishinaabe culture extends to non-human entities. For example, *nibiish* is understood in our worldview as a living being with rights and responsibilities. People often interfere with the rights of *nibiish* by contaminating and polluting *nibiish*, thus

committing an injustice to *nibiish*. *Nibiish* justice will come when people renew the covenant between people and *nibiish*.

Similarly, *awakaanag* may be killed for food but have the right to be treated with respect and not mistreated. Future generations have the right to have their interests in the *akii* and the teachings protected. The interdependence of human and *awakaan* communities is a core understanding: everything fits together and everything counts on everything else.

6.1.2 Framework Agreement on First Nation Land Management

Under the Framework Agreement on First Nation Land Management (“the Framework Agreement”), Wasauksing First Nation has the power to make environmental laws relating to our *akii*. Our laws must have the same environmental protection standards and punishments as those of the province, at a minimum, and certain federal laws that remain in-force under the Framework Agreement, which include the Fisheries Act, the Species at Risk Act, the Navigation Protection Act, the Migratory Birds Convention Act, and the Canadian Environmental Protection Act.

We have four options for the development of environmental laws:

1. Adopt provincial and/or (where applicable) federal laws as is;
2. Adopt applicable sections of provincial and/or (where applicable) federal laws as is;
3. Enhance provincial and/or (where applicable) federal laws to address areas where Wasauksing First Nation feels they are weak with respect to Wasauksing First Nation’s rights and interests; or
4. Develop entirely new laws.

When developing our environmental laws, we must consider how we want to enforce them. The community’s responsibility towards our environmental laws are directly tied to how we administer, promote and enforce them. This section summarizes our enforcement obligations under the Framework Agreement.

19.1 To enforce its land code and its First Nation laws, a First Nation will have the power to

(a) establish offences that are punishable on summary conviction;

(b) provide for fines, imprisonment, restitution, community service, and alternate means for achieving compliance; and



(c) establish comprehensive enforcement procedures consistent with federal law, including inspections, searches, seizures and compulsory sampling, testing and the production of information.

24.3 The First Nation environmental protection standards and punishments will have at least the same effect as those in the laws of the province in which the First Nation is situated.

6.1.3 Wasauksing First Nation Land Code

As stated in our Land Code, we have a profound relationship with the Land that is rooted in our respect for the spiritual value of the Earth and the Creator who gave us the responsibility to act as caregivers for the land. As part of this responsibility, our Land Code describes our power to make environmental protection laws and to enforce our Land Laws. This section summarizes our law making and enforcement jurisdiction, as stated in our Land Code.

Law-Making Powers (Section 7)

7.1 Council may, in accordance with this Land Code, make Land Laws respecting: (a) the development, conservation, protection, management, use and possession of Wasauksing First Nation Land; [...]

7.2 For greater certainty, Council may make Land Laws including, but not limited to [...] (c) environmental assessment and protection; [...] (e) enforcement of Wasauksing First Nation Land Laws; and (f) provision of services for the resolution, outside of the courts, of disputes in relation to Wasauksing First Nation Land.

Enforcement of Land Laws (Section 10)

10.1 To enforce its Land Code and its Land Laws, Wasauksing First Nation shall have the power to:

(a) establish offences that are punishable on summary conviction;

(b) provide for fines, imprisonment, restitution, community services, restorative justice, and alternate means for achieving compliance; and

(c) establish comprehensive enforcement procedures consistent with federal law, including inspections, searches, seizures and compulsory sampling, testing and the production of information.

Section 10.2 of the Land Code outlines the following options for prosecuting offences:

10.2 For the purpose of prosecuting offences, Wasauksing First Nation shall follow one or more of these options:



(a) Retain its own prosecutor;

(b) Enter into an agreement with the government of the province of Ontario to arrange for a provincial prosecutor; or

(c) make laws with respect to the appointment of justices of the peace.

6.1.4 Ontario Laws

Because our environmental protection standards and punishments must at least have the same effect as those in effect in Ontario, the relevant enforcement and punishment provisions of the Environmental Protection Act regulations are also included and linked below for reference.

Ontario Environmental Protection Act, R.S.O., 1990, c. E.19⁴, s. 182.1

(5) The amount of the penalty shall not exceed \$100,000 for each day or part of a day on which the contravention occurred or continued.

6.2 Foundations for Dispute Resolution

6.2.1 Wasauksing First Nation Land Code

Dispute Resolution (Part 8)

Part 8 of our Land Code outlines a dispute resolution process to ensure that all persons entitled to possess, reside upon, use or otherwise occupy our *akii* do so harmoniously. The purpose of our dispute resolution procedures in our Land Code is to enable the parties in a dispute to achieve a just, speedy, and inexpensive determination, taking into account the values which distinguish dispute resolution from litigation.

For matters of dispute regarding environmental protection issues, the Wasauksing First Nation Land Code lays out the following dispute resolution process:

42.1 The parties shall use best efforts to prevent disputes from arising and shall consider the use of dispute resolution processes at the earliest possible stage of any conflict. [...]

43.1 Wasauksing First Nation intends that a dispute in relation to Wasauksing First Nation Land, except as otherwise provided, may progress through the following stages provided for in this Part:

⁴ Ontario EP Law: Environmental Protection Act, R.S.O. 1990, c. E.19
<https://www.ontario.ca/laws/statute/90e19>

(a) a written notice of dispute must first be filed with Lands Staff

(b) within thirty (30) days of receipt of a written notice of dispute, Lands Staff will review the notice, conduct necessary research, meet with the party bringing forward the notice and if necessary, any other parties involved, in an attempt to resolve the dispute;

(c) if no resolution is obtained in the step (b) above, Lands Staff will refer the notice of dispute to the Lands and Resources Advisory Committee no later than the next regularly scheduled meeting of the Committee;

(d) the Lands and Resources Committee will review the notice of dispute, any additional information gathered by the Lands Staff, meet with parties involved, if necessary, and within sixty (60) days, make a recommendation to Council regarding a resolution to the dispute or referral to the Dispute Resolution Panel for final arbitration;

(e) Council will review the notice of dispute and recommendation from the Lands and Resources Committee at their next regularly scheduled meeting;

(f) if no resolution has been obtained and recommended from step (d) above, or if Council disagrees with the resolution recommendation from the Lands and Resources Committee, Council will forward the dispute to the Dispute Resolution Panel for final arbitration within ten (10) days of the Council meeting where the application was considered; and

(g) the Dispute Resolution Panel will then have sixty (60) days to make a decision on the application.

In accordance with Section 43.5, dispute resolution is not available for disputes in relation to prosecution or conviction of an offence under a Land Law or under criminal law.

Offences (Section 49)

Section 49 of the Wasauksing First Nation Land Code speaks to offences:

Application of the Criminal Code

49.1 Unless some other procedure is provided for by a Wasauksing First Nation Land Law, the summary conviction procedures of Part XXVII of the Criminal Code, as amended from time to time, apply to offences under this Land Code or under a First Nation Land Law.

Fines and Imprisonment



49.2 Any person who commits an offence under this Land Code or a Wasauksing First Nation Land Law is liable to a fine not to exceed \$5000 and to a term of imprisonment not to exceed six months or to both fine and imprisonment, provided however, that offences related to Wasauksing First Nation environmental protection laws may carry penalties consistent with similar environmental protection laws in force in Canada.

Penalties in Laws

49.3 A Wasauksing First Nation Land Law may provide for a penalty which is different than the penalties referred to in clause 49.1 and 49.2.

6.3 Strategies for Achieving Compliance with our EMP

Finding the best ways to encourage Wasauksing citizens to follow our EMP guidance and strategies is crucial to its' success. This section identifies a variety of resources and strategies that we could implement to encourage compliance with the vision, goals, guidance and strategy of this EMP.

6.3.1 Early Intervention

According to Anishinaabe Law, it is our responsibility as a society to recognize risk factors and engage in early intervention and support to prevent individuals from escalating harmful behaviours to our *akii, nibiish* and each other. Individuals from the community are sometimes needed to counsel or warn individuals who have begun to commit harmful actions.

Who should issue the warning?

- People in close relationships
- People with special sensitivity or awareness
- People with similar character or experience
- *Kaaykaayag* (Elders)⁵

⁵ Askew, H., & Borrows, L. (2012). *Accessing Justice and Reconciliation: Anishinaabek Legal Summary*. Retrieved from http://indigenousbar.ca/indigenoulaw/wp-content/uploads/2012/12/Anishinaabek_summary.pdf

As a community, it is our obligation to point out when someone is heading in the wrong direction to prevent harm. This allows us to be proactive before further enforcement and dispute resolution measures are required to correct the behaviour.

6.3.2 Education and Outreach

In Anishinaabe culture, individuals, to the greatest extent possible, are expected to make their own decisions, except when they adversely affect others. In traditional times, knowledge of stories and the guiding principles they portray played an important role in allowing people to conduct themselves in a harmonious way within the community, in the absence of coercive institutions.

Today, we must place an emphasis on teaching people the guiding principles, particularly when they are young. Fostering an awareness of our role as stewards of the *akii* instills a willingness to take care of it. Explaining the natural consequences of harmful actions to the *akii* and community instills a desire to act in a responsible and respectful way. If the laws are part of people's identity and way of life, the need to impose laws and enforcement will be limited or even eliminated.

Involving the community in the process of determining when a law is needed and what it should include is one of the best ways to ensure compliance. When people understand the importance of a law and have been part of its creation, they are often more invested in upholding that law, and encouraging those around them to do the same. Voluntary compliance reduces the need for enforcement measures and reduces the involvement of the courts.

Approaches and Tools for Community Involvement

Finding the best ways to encourage Wasauksing citizens to support the implementation of EMP is crucial to its success. The following tools and approaches are among the options to consider:

- Include the community throughout the process of law creation. Engage citizens in the formation of laws, including enforcement elements.
- Clearly explain the principles behind the laws to promote understanding and compliance.
- Use visual tools to explain the laws wherever possible.
- Explore the use of signage as a deterrent of undesirable behaviour (smile, you're on camera, for example). Consider Community-Based Social Marketing to modify behaviour.
- Consider the creation of visually oriented guide books or pamphlets that parents could use to help teach their children.

- Explore ways to include the guiding principles in pre-school and school curriculum.
- Consider creating awards or forms of recognition for people who demonstrate their commitment to protecting the *akii* and environment – for adults and children.
- Consider holding contests that raise awareness of environmental protection.

6.3.3 Enforcement Officers and Policing

The role of enforcement officers is to enforce the requirements of a First Nation’s environmental laws—from encouraging compliance to compelling it. The details of their responsibilities and powers must be outlined in the environmental laws themselves and be consistent between laws.

Enforcement Officer Responsibilities⁶

- carrying out inspections to verify compliance with environmental laws, decisions made under those laws, and any conditions specified in the decision statement, authorization or permit;
- issuing orders directing corrective measures where there is an alleged contravention of an environmental law, its accompanying regulations and the conditions in a decision statement, authorization or permit (e.g., verbal and written warnings, stop work orders, seizure of goods);
- taking other measures to compel compliance, such as issuing orders, directions and prohibitions;
- investigating suspected contraventions; and
- undertaking measures to compel compliance through court action, such as injunctions and prosecution.

Typical activities of enforcement officers include **monitoring** (environmental changes over time, compliance monitoring, etc.), **inspections** to verify compliance (e.g., food safety, work site inspections) and **investigations** of alleged contraventions of a law to gather evidence⁷.

⁶ Predie, J. (2018, December 5). *Enforcement Considerations for Developing Environmental Laws – Environmental Assessment, Protection and Solid Waste Management*. Lands Advisory Board Resource Centre Enforcement and Law Making Workshop – Eastern Region, Rama, ON.

⁷ Predie, J. (2018, December 5). *Enforcement Considerations for Developing Environmental Laws – Environmental Assessment, Protection and Solid Waste Management*. Lands Advisory Board Resource Centre Enforcement and Law Making Workshop – Eastern Region, Rama, ON.

What Actions Can Enforcement Officers Take? ⁸

- Issuing warnings, tickets, and orders
- Injunctions – issued through the courts
- Prosecutions – enforcement officers rely on lawyers to prosecute alleged offences in court

6.3.4 Anishinaabe Justice Systems

“Anishinaabe justice systems were designed to restore and maintain harmonious relationships within and external to the community through the practice Menobimadizen, living a good life.”⁹ This is not based on punishment. Although punishment is always an option available, there is a focus on teaching proper behaviour. This focus on behaviour means that non-punitive sanctions are necessary to maintain order and restore peace within the societies.

Anishinaabe justice systems, in general, focus on the offender not the offence. The purpose of the process is to try to determine why harm was done and how that harm can be repaired so that offenders are taught their behaviour is disruptive and unwelcome. This occurs in partnership with community norms and values. With a focus on behaviour, dispute resolution processes focus on ethical frameworks as the model for proper behaviour. There is no sense of evading responsibility for actions taken and this is why concepts such as guilt and innocence are alien to aboriginal culture.

6.3.5 Fines and Imprisonment

A person who commits an offence under the Land Code or a Wasauksing First Nation Land Law is liable to the following (unless otherwise specified in the applicable Land Law):

- A fine not to exceed \$5000;
- A term of imprisonment not to exceed six months;
- Both a fine and imprisonment, provided that offenses related to Wasauksing First Nation environmental protection laws may carry penalties consistent with similar environmental protection laws in force in Canada.

⁸ Predie (2018)

⁹ McGuire, P. D. (2008). *Restorative Dispute Resolution in Anishinaabe Communities – Restoring Conceptions of Relationships Based on Dodem*. Retrieved from http://fngovernance.org/ncfng_research/patricia_mcguire.pdf

6.3.6 Regional Justice of the Peace

Under the Framework Agreement (Section 19.3), Wasauksing First Nation may appoint a justice of the peace for the purpose of enforcement. One option to consider is to appoint a justice of the peace who would hear cases or disputes in communities within the region, including neighbouring Land Code First Nations.

As indicated by Section 19.7 of the Framework Agreement, Wasauksing First Nation and Canada may enter into agreements for the training, supervision and administrative support for justices of the peace. The shared cost between multiple Land Code First Nations may make this option more financially feasible to address enforcement and dispute resolution.

6.3.7 Traditional Court System

While a traditional court system is not expressly permitted for in the Framework Agreement, implementing this may be a long-term option for Wasauksing First Nation.¹⁰

When Wasauksing citizens fail to recognize community standards and choose not to act in compliance with established environmental laws, a group of respected people, or an individual, may be given authority to complete a process that restores balance to the community. This judicial body may be given the authority to monitor and enforce the EMP through the review of violations and passing judgement on appropriate punishments. This body, which could include *Kaaykaayag* in good standing, would function in a senate or legislative fashion, sitting in judgement of violations in a traditional fashion. Please note that a traditional court system is not expressly provided for in the Framework Agreement, but might become an option longer term.

6.3.8 Restorative Justice

The Gladue decision (*R. v. Gladue, 1998*) was precedent setting case based on Section 718.2 of the Criminal Code of Canada, which ruled that incarceration is to be used only as a last resort for all Canadian offenders, and in particular Indigenous offenders. Increasingly, restorative justice practices are becoming more common and are based on Indigenous cultures and practices.

"It is founded on the belief that criminal behaviour is primarily caused by the alienation of certain members from society at large. Although it is the responsibility of every individual to make positive choices for their life, regardless of personal circumstances. Restorative Justice principles are based on the understanding of compassion, that no one is an island, and that everyone is an equal member of society and has a contribution

¹⁰ Predie, J. (2018, December 5). *Enforcement Considerations for Developing Environmental Laws – Environmental Assessment, Protection and Solid Waste Management*. Lands Advisory Board Resource Centre Enforcement and Law Making Workshop – Eastern Region, Rama, ON.

to make to the greater good. Therefore, when a person becomes alienated or disconnected from that society, it is the responsibility of everyone in that society to bring the person back into a harmonious relationship with him/her "self", as well as with the rest of the community. This may mean that the society itself needs to take a long hard look at its own practices and systems which may be "contributing factors" to the person's alienation from it. The society may need to heal itself."

– Melanie Achtenberg¹¹

Example: Nipissing First Nation Justice Circles

With regards to their Fisheries Law:

"NFN will address the individuals who violated our moratorium by summoning them to our justice circles. Justice circles are a community-based restorative justice process which aim to hold people accountable for their actions, while integrating them back into the community in a positive way. Our members strongly recommended that NFN hold justice circles.

The circles include a cross-section of community members, including other fishermen, elders and youth, and are based in healing and education, instead of charges. We provide positive incentives to comply with our fisheries law, but those who choose not to do so can be faced with penalties that could include the loss of benefits provided by the fisheries department for a period of time, community service and other appropriate penalties, which are imposed by the membership, not by the band. In the past, the recommendations made by our justice circles were followed, and our repeat offender rates were low."

– Former Chief Marianna Couchie

For more information on their use of justice circles, see the [Nipissing First Nation Fisheries Law](#).

¹¹ Achtenberg, Melanie (2015). *Understanding Restorative Justice Practice within the Aboriginal Context*. Retrieved from: <https://www.csc-scc.gc.ca/research/forum/e121/e121j-eng.shtml>

7.0 Environmental Stewardship Guidelines

Environmental Stewardship Guidelines have been developed for each of the environmental issues identified by our community as being of concern. The following ESGs have been designed to be stand-alone documents that provide guidance in the assessment and management of our *akii* and *nibiish*.





Air Quality and Emissions

Environmental Stewardship Guidance

Contents

Our Stewardship Vision

Community Objectives

Stewardship Guidance and Strategies

Monitoring and Enforcement

Community Initiatives

Regulations and Best Practices

Glossary

Our Stewardship Vision

Clean air is fundamental to protecting and promoting healthy people, *akii* (lands), and *nibiish* (waters). The quality of our air has a direct impact on humans and our natural environment, and is a life-giving source for the *akii*, *nibiish*, and all living creatures on our Island.

We are concerned about the ways in which human activities can affect air quality, such as emissions from aircraft flying over our Island, air pollution from nearby cities and towns, smoke from more frequent forest fires, and the presence of mold in our homes. This ESG presents strategies to address some of these issues and help support our vision of maintaining clean, high air quality at Wasauksing for seven generations to come.

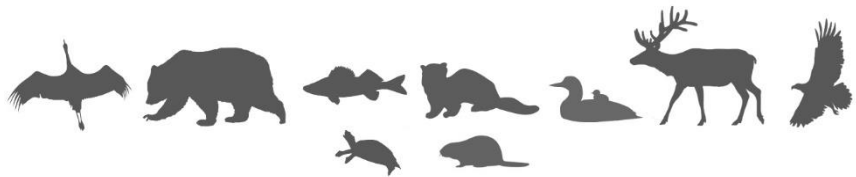
"I know that there have been laws put in place so that the air pollution is better controlled and monitored, and that's evident in our trees."

– Wasauksing Citizen





Community Objectives



We will work to implement strategies to protect the quality of our air to ensure that it can continue to be a life-giving source for the land, waters, and all living creatures for seven generations to come.

Short Term Objectives

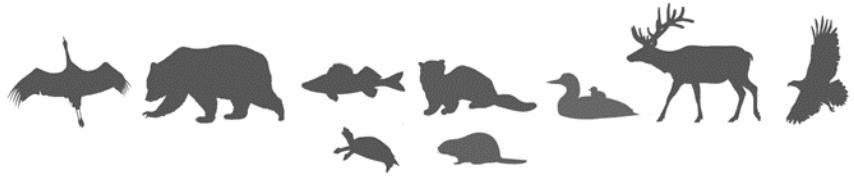
- Identify air pollution sources in our community and implement mitigation plans and control mechanisms.
- Establish collaborative partnerships to protect air quality, including partnerships with local industries in developing strategies to minimize the release of air contaminants.
- Educate citizens and generate awareness on air quality issues and how to mitigate human health impacts from exposure to poor air quality.

Long Term Objectives

- Measure and record baseline air quality on our Island to build on existing government data, and to identify and confirm any potential sources of air contamination
- Create and implement a process for managing air emissions from new developments at Wasauksing



Stewardship Guidance and Strategies



To meet our short and long-term objectives for promoting healthy air quality at Wasauksing, we use the following stewardship guidance and strategies that are built on regulations, guidelines, and best management practices.

Strategy 1: Participate in Regional Air Quality Monitoring Activities

Wasauksing First Nation will undertake an annual review of Ministry of Environment, Conservation and Parks (MECP), Environment and Climate Change Canada (ECCC), and regional or local air quality monitoring reports.

- MECP annual report:
<http://www.airqualityontario.com/press/publications.php>
- ECCC air quality indicators:
<https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/air-quality.html>

This annual review will include a regulatory compliance assessment and determining if mitigation plans are being followed adequately. Any issues that arise from our annual review will be addressed jointly with proponents doing air quality monitoring and regulators.

Strategy 2: Establish Air Quality Oversight Process for Future Developments at Wasauksing

To ensure air emissions from future developments at Wasauksing are properly managed and mitigated, Wasauksing First Nation will



develop Best Management Practice standards for diesel equipment emissions, odour emissions, and other air emissions that could be associated with future developments on our Island. These standards will be incorporated into environmental and/or land use permits we issue for development on our lands, as part of our Wasauksing Land Law(s). These permits will be developed by the Lands and Resources Committee and approved by Council. For more information, see the Land Development ESG chapter.

Strategy 3: Air Quality Outreach and Education Campaign

A key component to protecting and promoting healthy air quality is educating Wasauksing First Nation citizens on the various air quality related issues that may be present on the Island, both outdoors and indoors. This outreach and education campaign will include the impacts of smog, climate change, forest fire smoke, emissions, air pollutants from development, burning solid waste, household air quality, and particulate matter. This campaign will also integrate and explore Indigenous Knowledge for promoting healthy air quality at Wasauksing. The education and outreach program will promote strategies to reduce air pollution on the Island and educate citizens and youth about regional mitigation strategies.

Strategy 4: Designate an Air Quality Champion

Wasauksing First Nation will designate a contact person for air quality issues. The designated person will check Air Quality Health Index (AQHI) data daily and during potential air quality incidents, such as increased levels of smog, forest fire smoke, or excessive emissions.

Real-time AQHI data from Parry Sound and Sudbury can be found at the following website:

http://airqualityontario.com/aqhi/locations.php?text_only=1

This designated person will act as a “hotline” for local air quality issues and ensures that any potential issues are reported to MECP.





The designated contact person will be available at all times and has access to local, on-call emergency responders, if necessary. There is potential for this person to act as the air quality contact for both Wasauksing First Nation and Shawanaga First Nation, given their close proximity. This may be an employee of Public Works, or a volunteer.

Strategy 5: Establish Baseline Air Quality

The Wasauksing First Nation air quality champion will work alongside the Lands and Resources Committee to utilize data from MECP and ECCC to determine the air quality baseline on the Island. The air quality champion will use the following resources as starting points:

<http://airqualityontario.com/aqhi/search.php>

<https://pollution-waste.canada.ca/national-release-inventory/archives/index.cfm?lang=en>

Collecting baseline data will help evaluate the severity of air quality issues at Wasauksing. The data could alleviate concerns with perceived sources of contamination and identify new sources of air contamination that may be harmful.

Strategy 6: Indoor Air Quality Program

To ensure indoor air quality concerns are addressed, including mold in our houses, the Wasauksing First Nation air quality champion will work alongside the appropriate qualified persons to design and deliver an indoor air quality sampling program. The sampling program will include bi-annual sampling of community buildings and the option for citizens to also sample their household indoor air quality on an annual basis. Based on the findings from the sampling, the indoor air quality sampling team will develop an action plan on how to best address indoor air quality issues as they arise. The indoor air quality program will also include the option for citizens to have their wood stoves inspected by a qualified professional on an annual basis.



Strategy 7: Roadway Dust Suppression Plan

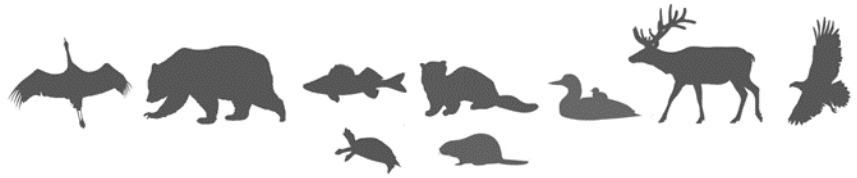
When not properly managed, the dust created from traffic on gravel roads in the summer months can result in particulate matter polluting the air that we breathe, with negative consequences for human health and our respiratory systems. The Director of Public Works and the Lands Manager will work collaboratively with a qualified contractor to develop and implement a plan to suppress road dust on the Island. The Plan will consider traffic frequency, climatic conditions, and road conditions to determine how often and what type of dust suppression method is most appropriate.

Strategy 8: Partnerships with Local Floatplane Operators

In order to effectively communicate our community's concerns over emissions and noise from local floatplane tours flying over our Island, a healthy and open relationship is required with the local tourist operating companies. By approaching these businesses with an understanding and cooperative approach, it may be possible to come to an agreement where tours only operate during certain hours, at a particular altitude, and/or only at an agreed upon frequency. In exchange for these companies altering their business practices, and as part of fostering a partnership, Wasauksing First Nation may be able to provide a service that would enhance the local float plane operator's tours, such as a history of the Island that incorporates Traditional Knowledge or story-telling to discuss the history, natural environment, and highlights of Wasauksing, and the people who live here.

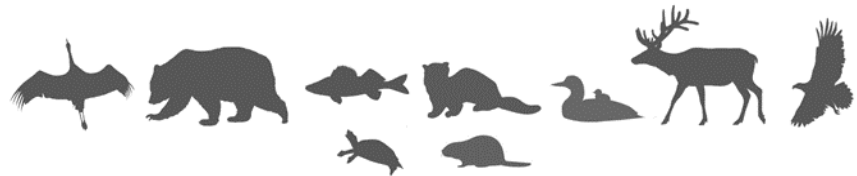


Monitoring and Enforcement



As Anishinaabe people and citizens of Wasauksing First Nation, we are responsible for helping to protect our lands, waters, and air from pollution. It is our responsibility to report anything we see that might affect our air quality, such as changes on the land, forest fires, smog, road dust, spills or other potentially harmful activities. Wasauksing First Nation will designate a contact person for air quality issues, who will be responsible for acting as a “hotline” for local air quality issues. The designated contact person will be available at all times and has access to local, on-call emergency responders, if necessary. In addition, Wasauksing First Nation will review MECP, ECCC and other regional and local air quality monitoring reports, as well as collect our own baseline data to confirm air quality on our Island.

Community Initiatives



The following initiatives can be championed by anyone in the community such as Wasauksing staff, educators, land users, youth, or anyone with a passion for caring for the land.

Plant Exchange and Information Session

Many indoor house plants have been shown to improve indoor air quality by reducing the concentrations of contaminants in the air. Community information sessions will be facilitated with the assistance of a qualified professional with training in horticulture, living walls, or remediation who can provide explanations on how the plants clean our air, which combination of plants are best to use based on the common contaminants in our homes (as determined by Strategy 6), and how to care for these plants. In addition to the information session, we will hold a community



plant exchange where our citizens can share houseplant clippings and seeds, trade plants, and/or acquire new species of plants for their home.

Air Quality Campaign

This campaign makes use of posters, information on the Wasauksing First Nation website and in community newsletters, and announcements during community meetings and events to raise awareness about indoor and outdoor air quality and strategies that individuals can use to protect their health and minimize their own personal emissions.

Regulations and Best Practices



Regulations for Protecting Air Quality

Environmental Protection Act – Ontario Regulation 419/05 Air Pollution — Local Air Quality (Province of Ontario). Ontario Regulation 419/05 (O. Reg. 419) regulates contaminants released to air by various sources, including industrial and commercial facilities, to limit exposure to substances that can affect human health and the environment. O. Reg. 419 specifies maximum concentration standards for a wide array of air pollutants based on different time (averaging) periods (1-hour, 8-hour, 24-hour). Any business or operation in Ontario who releases air contaminants of any kind must comply with this regulation by keeping air contaminant release below legal standards. Schedule 2 and 3 of O. Reg. 419 lay out the air quality standards in Ontario for provincially regulated air contaminants.

<https://www.ontario.ca/laws/regulation/050419>

<https://www.ontario.ca/laws/statute/90e19>

Canada-wide Air Quality Management System (AQMS) – Canadian Council of Ministers of the Environment (CCME). The Canadian





Council of Ministers of the Environment (CCME) implemented a Canada-wide Air Quality Management System (AQMS). AQMS is a comprehensive approach for reducing air pollution in Canada through a collaborative approach between the Federal government, Provincial government, industry and other stakeholders. The Provinces remain in control of implementing their own legislation around air quality but CCME helps to guide that legislation. Canadian Ambient Air Quality Standards (CAAQS) are the driver for air quality management across the country. Standards have been developed for sulphur dioxide and fine particulate matter (PM2.5) and ozone.

<http://www.ccme.ca/en/resources/air/aqms.html>

Canadian Environmental Protection Act (Government of Canada). The Canadian Environmental Protection Act (CEPA 1999) is the foundation of Canada's environmental legislation aimed at preventing pollution and protecting the environment and human health. The Act itself does not include specific air quality standards, but does specify control mechanisms to regulate the release of air contaminants by adhering to Provincial Standards and Federal guidelines (i.e., O. Reg. 419, CCME AQMS). <http://laws-lois.justice.gc.ca/eng/acts/c-15.31/>

Regulations for Air Quality Data

The following resources provide key information on air contaminant incident reporting and current and historical air quality data. Using these resources Wasauksing First Nation can report air quality issues and obtain the necessary support from MECP. Wasauksing First Nation can also check current air quality conditions and utilize historical data to form a baseline for air quality in the reserve.

Air Quality Health Index (AQHI) – (Environment and Climate Change Canada & Ontario Ministry of Environment, Conservation and Parks). The Air Quality Health Index or "AQHI" is a scale designed by the Federal and Provincial governments to help you understand what the air quality around you means to your health. It is a health protection tool that is designed to help you make decisions to protect your health by limiting short-term exposure





to air pollution and adjusting your activity levels during increased levels of air pollution. It also provides advice on how you can improve the quality of the air you breathe. This index pays particular attention to people who are sensitive to air pollution and provides them with advice on how to protect their health during air quality levels associated with low, moderate, high and very high health risks.

The Air Quality Health Index is a scale that lists a number from 1 to 10+ to indicate the level of health risk associated with air quality.

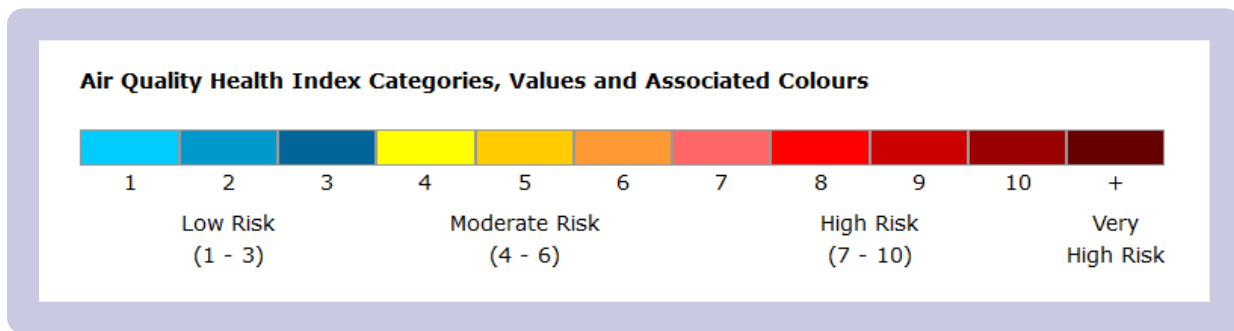


Figure 1. Air Quality Health Index Values

For Real-time AQHI Data from Parry Sound and Sudbury:

http://airqualityontario.com/aqhi/locations.php?text_only=1

For Historical AQHI Data:

<http://airqualityontario.com/aqhi/search.php>

The closest continuous ambient air monitoring stations to Wasauksing are as follows:

1. Parry Sound MECP Air Monitoring Station
Location: 7 Bay St., Parry Sound, Ontario
Pollutants Measured: Ozone (O₃), Particulate Matter (PM_{2.5}), Nitrogen Dioxide (NO₂)
2. Sudbury MECP Air Monitoring Station
Location: 155 Elm St. Sudbury, Ontario



Pollutants Measured: Sulphur Dioxide (SO₂), Ozone (O₃), Particulate Matter (PM_{2.5}), Nitrogen Dioxide (NO₂)

3. Dorset MECP Air Monitoring Stations
Location: 1026 Bellwood Acres Rd. Dorset, Ontario
Pollutants: Ozone (O₃), Particulate Matter (PM_{2.5})
4. North Bay MECP Air Monitoring Station
Location: Chippewa St W., Department of National Defense
Pollutants: Ozone (O₃), Particulate Matter (PM_{2.5}), Nitrogen Dioxide (NO₂)

National Air Pollution Surveillance Program (NAPS) (Environment and Climate Change Canada). The goal of the National Air Pollution Surveillance (NAPS) program is to provide accurate and long-term air quality data of a uniform standard across Canada. NAPS was established in 1969 to monitor and assess the quality of ambient (outdoor) air in the populated regions of Canada. NAPS is managed using a cooperative agreement among the provinces, territories and some municipal governments. NAPS collects data from 286 monitoring sites in 203 communities across Canada in every province and territory.

NAPS plays an important role in the monitoring and assessment of Canadian ambient air through research and providing information related to air quality data collection, trends, impacts and strategies. <https://www.canada.ca/en/environment-climate-change/services/air-pollution/monitoring-networks-data/national-air-pollution-program.html>

National Pollutant Release Inventory. The National Pollutant Release Inventory (NPRI) is Canada's legislated, publicly accessible inventory of pollutant releases (to air, water and land). The Government of Canada requires all polluters to report their pollution levels to the NPRI as a way to track facilities in Canada. The NPRI is a key resource for identifying pollution prevention priorities, supporting the assessment and risk management of chemicals, and air quality modelling, helping develop targeted



regulations for reducing releases of toxic substances and air pollutants, encouraging actions to reduce the release of pollutants into the environment, and improving public understanding.

In 2015, 7284 facilities reported to the NPRI on 343 listed substances (ECCC -NPRI, 2016).

<http://www.ec.gc.ca/inrpnpri/default.asp?lang=En&n=4A577BB9-1>

Best Management Practices

The most fundamental best practice in relation to air quality is that all activities on Wasauksing maintain compliance with applicable MECP and Environment and Climate Change Canada regulations, permits, authorizations, conditions, and agreements with respect to air quality management/protection.

The following technical documents will be used in conjunction with the applicable regulations and guidelines to implement strategies that limit air pollution at Wasauksing.

Air quality guideline for particulate matter, ozone, nitrogen dioxide and sulfur dioxide – World Health Organization (2005).

The World Health Organization (WHO) air quality guidelines are designed to offer guidance in reducing the health impacts of air pollution based on a review of the accumulated scientific evidence and guideline values for the most common air pollutants. These guidelines are applicable across all WHO regions and inform policymakers considering various options for air quality management in different parts of the world about the targets for air quality.

http://apps.who.int/iris/bitstream/10665/69477/1/WHO_SDE_PHE_OEH_06.02_eng.pdf

Controlling Dust on Construction Sites - New South Wales Environmental Protection Authority (2003). This best practice guide highlights methods for controlling dust (particulate matter) on construction sites. The guide outlines the impacts of dust exposure as well as control methods for construction companies to follow that will help to reduce particulate matter emissions from construction activities on and near the Island.





http://old.parracity.nsw.gov.au/_data/assets/pdf_file/0019/4294/NoDust_Booklet.pdf

Environmental Code of Practice for Residential Wood Burning Appliances – CCME (2012). The Code of Practice for Residential Wood Burning Appliances was developed by CCME to help reduce air pollution associated with burning wood for residential heating. The goal of the Code is to provide readers with tools and information to reduce air pollution associated with wood burning. http://www.ccme.ca/files/Resources/air/wood_burning/pn_1479_wood_burning_code_eng.pdf

Ontario Ambient Air Quality Criteria – Ontario Ministry of Environment, Conservation, and Parks (2012). This document provides a list of all air contaminants regulated in Ontario including their maximum allowable concentrations, averaging times and the type of exposure risk (i.e., health, odour, particulate, etc.). <http://www.airqualityontario.com/downloads/AmbientAirQualityCriteria.pdf>

Control Strategies to Achieve Air Pollution Reduction - United States Environmental Protection Agency (2016). This website provides links to various methods that can be used to control or limit air pollution associated with various activities. A control strategy related to air quality is a set of specific techniques and measures identified and implemented to achieve reductions in air pollution to attain an air quality standard or goal. <https://www.epa.gov/air-quality-management-process/control-strategies-achieve-air-pollution-reduction>.

Improve Indoor Air Quality – Health Canada (2018). This website provides a list of strategies that can be employed to improve the indoor air quality in your home and provides recommended exposure limits for the most common indoor air pollutants. The site also provides a number of infographics about mould, indoor air quality, and carbon monoxide that can be shared with the community and used at education and outreach events. <https://www.canada.ca/en/health-canada/services/air-quality/improve-indoor-air-quality.html>





Avoid Wood Smoke – Health Canada (2012). This website details the health risks of wood smoke, as well as tips for minimizing the environmental and human health risks associated with burning wood in your home. <https://www.canada.ca/en/health-canada/services/air-quality/indoor-air-contaminants/avoid-wood-smoke.html>

Smog – Ottawa Public Health. This website describes what smog is, how to help reduce smog, and the health risks that can arise from smog exposure. It details how to protect populations that are more vulnerable to the effects of smog, such as children and seniors. <http://www.ottawapublichealth.ca/en/public-health-topics/smog.aspx#Children-and-smog>

Glossary



Contaminants

Particles, liquids or gases in the air which have harmful chemical properties that affect our health. Examples of airborne contaminants include sulfur oxides, nitrogen oxides, carbon monoxide, volatile organic compounds (VOCs) and particulate matter.

Emissions

Contaminants that are released or discharged into the ambient air from any source (e.g., vehicle idling, aircraft, industrial activities).

Fine Particulate Matter (PM_{2.5})

A mixture of solid particles and liquid droplets in the air which are 2.5 microns or less in diameter. These can penetrate the respiratory system further than other larger particles and subsequently present numerous health threats.



Idling

The operation of the engine of a vehicle while the vehicle is not in motion. Idling is bad for both the environment, as it is an unnecessary source of carbon monoxide emissions, and your pocketbook, as it is a waste of gas and money.

Smog

A combination of smoke and other particulates such as ozone, hydrocarbons, nitrogen oxides which may result in a murky brown haze in the air that causes adverse health effects.



Groundwater Management

Environmental Stewardship Guidance

Contents

Our Stewardship Vision

Community Objectives

Stewardship Guidance and Strategies

Monitoring and Enforcement

Community Initiatives

Regulations and Best Practices

Glossary

Our Stewardship Vision

All *nibiish* (water) is sacred and connected. The *nibiish* that flows under the ground and out of springs is connected to *zübiwan* (streams/rivers) and *zaaghiganan* (lakes). Groundwater feeds important ecological areas on the Island, including wetlands where *mashkiki* (medicinal) plants grow. Protecting groundwater is important for the health of our surface water resources, the ecosystems on the Island, and our community health.

Historically, groundwater has been an important resource for Wasauksing. It has also been impacted in the past, and it is important to our community that it be protected for future generations. At Wasauksing, our women are the keepers of our water. As such, they have responsibility to be leaders in our community, supporting this vision through stewardship of our groundwater, and all water.

Our stewardship vision is to protect the groundwater as a resource for the next seven generations. This includes the following:

- Short and long-term groundwater protection strategies;
- Engaging the community in groundwater stewardship activities; and
- Monitoring the groundwater over time so current and future generations can be informed about its quality and the success of protection strategies over the long-term.

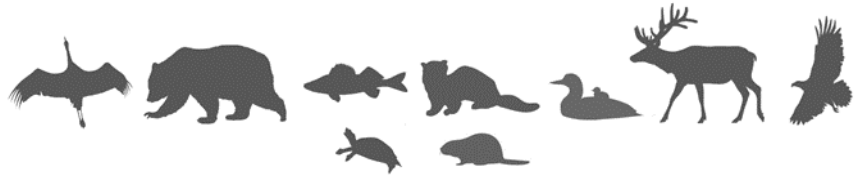
"It's happening everywhere that our water system is depleting, and I think we need to focus on protecting our waterways more."

– Wasauksing Citizen





Community Objectives



We will work to implement strategies that protect groundwater resources for all citizens of Wasauksing for seven generations.

Short-Term Objectives

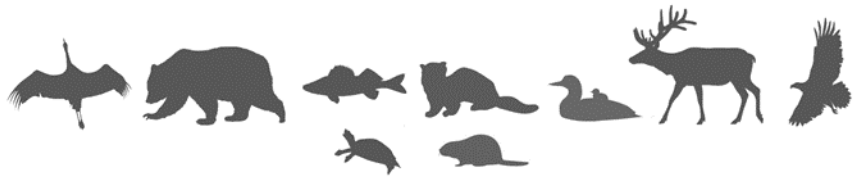
- Take an inventory of all wells and natural springs on the Island and inspect them for integrity
- Decommission wells that are no longer in use, or convert them into monitoring wells
- Establish a baseline groundwater quality assessment
- Adopt an annual water well testing and inspection program for all groundwater wells on the Island

Long-Term Objectives

- Complete a groundwater vulnerability mapping study
- Develop a source water protection plan
- Develop a long-term groundwater monitoring program in areas near contamination sources



Stewardship Guidance and Strategies



To meet our short and long-term objectives for the protection of groundwater on the Island, we use the following guidelines and strategies that are built on regulations, guidelines, and best management practices. We will protect our groundwater by integrating regulations, guidelines, and best management practices into our Environmental Protection Law.

Strategy 1: Well and Natural Spring Inventory and Inspection

We will complete a comprehensive inventory and inspection of all wells and natural springs on the Island. This information will provide locations and conditions of existing groundwater sources, which can be included in future groundwater monitoring programs.

Our Elders will lead the inventory of our natural springs, providing a key opportunity for our youth and other citizens to learn about traditional methods for caring for our sacred springs. This may be included as a part of annual Water Walk (see Water Celebration Events in Community Initiatives).

A well inventory includes the identification of all wells on our lands, an inspection of wellhead integrity, and pumping tests that provide important information about the capacity of the aquifer to supply groundwater. Information from the well inventory can be stored in a community well database, including information obtained from the Ontario Well Records.

The locations of well records from MECP are displayed in Map 1 and 2 below:



The Wasauksing well inventory will be completed in the following steps:

1. Reviewing past environmental reports to identify the locations of monitoring wells on the Island and details relating to the construction of each (i.e., installation date, location/GPS coordinates, well depth, screen depth, static water level, protective casing, etc.). This information should be combined with the well data available in the MECP wells database prior to surveying residents in Step 2 to avoid duplicating efforts.
2. Surveying all Wasauksing citizens to gather information about the locations of wells on their properties and elsewhere on the Island. Other information gathered through surveys includes well depth, installation date, known water quality issues, depth to water, and installation method.
3. Well inspections are carried out by a licensed well contractor to determine the integrity of the well, whether it needs to be decommissioned or could be converted into a monitoring well, and to confirm information gathered during the survey, such as depth to water and location coordinates.
4. A licensed well contractor is hired to conduct pumping tests on wells to determine their capacity. For wells that do not have records, the licensed well contractor will inspect the well and complete and file a new water well record with the province.

Support with the well inventory can be obtained from

Wells Help Desk

Environmental Monitoring and Reporting Branch
Ministry of the Environment, Conservation, and Parks

125 Resources Road
Toronto, ON, M9P 3V6





1-888-396-WELL (9355)
wellshelpdesk@ontario.ca

The Ontario Well Record database can be accessed at
<https://www.ontario.ca/environment-and-energy/map-well-records>

A list of licensed well contractors can be found at
<https://www.ontario.ca/page/find-licenced-well-contractors>

Strategy 2: Decommissioning or Conversion of Unused Wells

A licenced well contractor will be hired to properly decommission unused wells or convert them into monitoring wells where possible. The largest expense associated with the installation of new monitoring wells is usually the drilling. Therefore, as we work to expand our monitoring well network, we aim to take advantage of the cost savings associated with retrofitting new monitoring wells into existing unused drinking water wells. An added advantage of this approach is that retrofitted monitoring wells are installed at greater depths than the majority of our previously installed monitoring wells, which provides us with important new information about groundwater quality in the fractured bedrock. We will ensure contractors file the necessary paperwork with the Province subsequent to each decommissioning and new monitoring well installation.

A list of licensed well contractors can be found at
<https://www.ontario.ca/page/find-licenced-well-contractors>

Strategy 3: Baseline Groundwater Quality Assessment

A baseline groundwater quality assessment is important for determining the current quality of groundwater resources on the Island. Baseline values can be used as a point of comparison in the future if new contamination issues arise and to assess the groundwater treatment requirements for any future use.





A professional geoscientist should be hired to conduct a baseline groundwater quality assessment by sampling for relevant water quality parameters in our monitoring wells (basic indicators of groundwater quality, contaminants that are threats to groundwater quality, contaminants that are a signal of past contamination) and drinking water wells once every quarter over the course of a year.

Strategy 4: Annual Well Testing and Inspection

Annual water quality testing is necessary for wells that are still in use or are not being decommissioned to ensure that the wells are safe. More frequent water quality testing is preferred (e.g., every quarter). Free testing for bacterial contamination is available through Ontario Public Health. Water samples are collected by the well owner. The nearest public health unit is located in Parry Sound, Ontario.

North Bay Parry Sound District Health Unit

70 Joseph Street, Suite 302, Parry Sound Mall
Parry Sound, ON, P2A 2G5
(705) 746-5801
Toll-free: 1-800-563-2808

Information about the Ontario Public Health water testing can be found at

<https://www.publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/Water-Testing-SubmitASample.aspx>

To test for other contaminants, Rural Well Testing Kits can be obtained from the Ontario Ground Water Association's Well Wise Water Testing Program. The Well Wise test kits can test for the 40 most common impurities in well water. The Ontario Ground Water Association's recommendations for well testing include the following:

Shallow wells that tap into sand and gravel water supplies are more vulnerable to contaminants that come from surface activities. The water quality and quantity can change over time





and can be impacted by nearby land uses. Bacteria, nitrate and sodium are the most common impurities that come from human activities at the land surface that can impact well water. Other contaminants from surface activities that have been detected less frequently include pesticides and Volatile Organic Compounds.

Properly constructed deeper drilled wells are usually more isolated from surface contaminants but should still be monitored regularly to pick up any changes that could indicate a problem at the well. For deep bedrock wells, the water supply can have higher levels of dissolved minerals. Some natural impurities that have been observed in well water sampled in local areas in Ontario are hardness (CaCO₃) Iron, Manganese, Sulphur, Fluoride, Boron, Uranium, and Arsenic. Well water should be tested for metals and minerals to determine what is in the water naturally. Water testing can also help inform you if you are considering water treatment. It is best to know what concentrations of the different minerals you are dealing with prior to attempting to treat the problem.

Some impurities are picked up by water as it passes through household plumbing. The presence of these impurities may indicate corrosion of the pipes or another component of the distribution system. This is more of a concern if water is acidic. Some water treatment by-products may impact the corrosion of pipes. Keep an eye on the pH of your water and test for lead, cadmium and zinc.

In general, tests of well water have to be very specific. It is not possible to do one water test or test one well and determine what is in other wells in that area. A neighbouring well may not be tapping into the same water bearing layer or there may be specific things at the well head that influence the water quality.

More information can be found at

http://www.ogwa.ca/Resources/Documents/water_testing_article.pdf

To obtain a Rural Well Testing Kit to test for the most common 40 water impurities, contact





Well Wise Water Testing Program

Ontario Ground Water Association
48 Front Street East, Strathroy, ON N7G 1Y6
Tel: (519) 245-7194
Email: admin@ogwa.ca
Website: ogwa.ca/Well-Wise-Testing/

The Ontario Ground Water Association helps to determine which test kits are best suited to our wells. Wells located close to gas stations, fuel storage sites, landfills, or industrial sites may require additional testing for solvents and fuels.

Strategy 5: Groundwater Vulnerability Mapping

Groundwater vulnerability mapping is an important component of groundwater management programs. Vulnerability mapping is an inexpensive way to identify areas where the groundwater could be easily impacted by contaminants from the surface, and areas that need more investigation to confirm how vulnerable they are.

Groundwater vulnerability mapping takes into account several factors, such as the depth to groundwater, the amount of surface water and precipitation that is recharged to the aquifer, the type of aquifer, the thickness and type of soil, the topography of the land surface, the important ecological zone above the aquifer that is partially saturated with water (called the vadose zone), and the ability of the aquifer to transmit water.

A hydrogeologist or water resources consultant will be hired to develop a groundwater vulnerability map for the Island. This map is used to inform our Source Water Protection Plan and Land Use Plan. The information used for the vulnerability map inputs is gathered from both hydrogeological datasets and interviews with citizens. We should ensure that this consultant trains and involves our staff in their work, so that we develop capacity to do or be involved in doing this type of work in future.



Strategy 6: Source Water Protection Plan

Wasauksing is committed to implementing a multi-barrier approach to drinking water protection to ensure our citizens can access clean, safe, and reliable drinking water for generations to come.

The multi-barrier approach refers to the idea that while no single barrier can fully eliminate risks to drinking water quality, by establishing several barriers throughout the system from source to tap, we can effectively mitigate risks, and maintain a safe supply of drinking water for residents (Health Canada, 2013).

Source water protection is the first step of the multi-barrier approach. While surface water is the primary drinking water source for our community, Wasauksing is committed to protecting both surface water and groundwater resources through our source water protection plan.

Our source water protection plan is based on best practices, including:

- Ontario's source water protection planning approach, which is based on watersheds and natural groundwater flow divides;
- Training, guidance, and materials provided by the Ontario First Nations Technical Services Corporation (OFNTSC) for source water protection for First Nations; and
- Experiences and lessons learned from other First Nations communities that have put together source water protection plans in their jurisdictions.

A water resources consultant is hired to work with Wasauksing to develop our source water protection plan, which includes:

- A source water protection approach that aligns with community values;





- An inventory of threats to surface water and groundwater originating from both on and off the Island;
- Ranked priorities and a risk assessment;
- Plan development, implementation, and monitoring; and
- Community engagement activities to enhance community relationships with water, improve water protection on the Island, and celebrate our water protection successes.

The Wasauksing source water protection plan protects groundwater by considering the unique environment and history of the Island. Existing contaminant sources and potential future threats to groundwater are identified, and our groundwater vulnerability map (Strategy 5) is used to inform groundwater protection measures, including Wellhead Protection Areas (WHPAs) and the establishment of other Vulnerable Groundwater Protection Zones (VGPZs). Land use activities that have the potential to impact groundwater resources are restricted or prohibited, particularly in identified WHPAs and VGPZs.

More information on Ontario's approach to source water protection can be found here:

<https://conservationontario.ca/conservation-authorities/source-water-protection/source-protection-plans-and-resources/>

Information on the OFNTSC Source Water Protection Training can be found here:

<http://ofntsc.org/wp-content/uploads/2018/09/SourceWaterTraining-H2OSymposium-20180515.pdf>

For more information on source water protection and the multi-barrier approach, see the Drinking Water ESG.





Strategy 7: Long-term Monitoring of Areas of Concern

A long-term groundwater monitoring program will be carried out in areas of concern and/or areas of potential concern on the Island to determine the concentrations of contaminants in the groundwater over time. The purpose of the long-term monitoring program is to improve our understanding of changes to groundwater quality over time and to guide future land use activities. Information from the Baseline Groundwater Quality Assessment (Strategy 3) and the Groundwater Vulnerability Mapping (Strategy 5) is used to inform the long-term monitoring program. For example, at a given location, the types of contaminants that are sampled for and the number of sampling events a year are determined based on:

- The contaminants that have been identified as an issue near that location in the baseline study;
- The degree of vulnerability of the aquifer in that area; and
- Community concerns and the cultural and ecological importance of the groundwater (e.g., does it recharge an important lake or stream nearby?).

A professional hydrogeologist or water resources consultant will be hired to work with our community to set up the long-term monitoring program on the Island. The hired consultant will coordinate with us to ensure the monitoring program aligns with

- The Baseline Groundwater Quality Assessment (Strategy 3);
- Groundwater Vulnerability Mapping (Strategy 5) of the Island; and
- Community priorities for the protection of groundwater resources.





To increase capacity, the Lands and Resources Committee will seek out funding to train and hire Wasauksing citizens to carry out groundwater monitoring activities. Alternatively, a water resources consultant may be hired to conduct groundwater sampling in areas of concern and/or areas of potential concern. The types of contaminants that are sampled for, the sampling locations, and the frequency of sampling will be adjusted over time based on the results of the monitoring program.

Monitoring and Enforcement

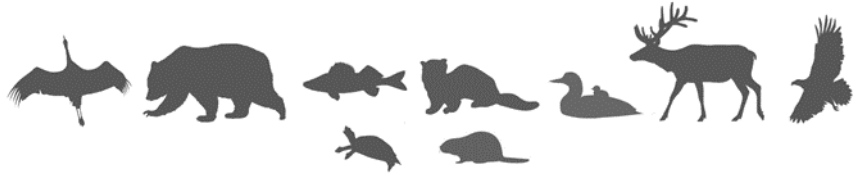


A trained and licensed well contractor will be hired to conduct well inspections, decommissions, and conversions to monitoring wells. A professional hydrogeologist or water resources consultant will be hired to carry out groundwater vulnerability mapping, and to work with Wasauksing to develop our source water protection plan and long-term groundwater monitoring program. Private well owners can carry out yearly or quarterly groundwater testing of their own wells, and Lands and Resources staff will be trained to carry out groundwater testing on wells owned and operated by Wasauksing.

Any groundwater issues identified during testing and inspection should be reported to the Lands and Resources Committee and to Chief and Council. It is the responsibility of every clan to protect our lands and waters. We are all responsible to report any activities that could result in harmful impacts to the surface waters and groundwater of the Island.



Community Initiatives



Groundwater is important to the health of our ecosystems and our community. The quality and quantity of our groundwater has an impact on the quality and quantity of the lakes and streams on and around the Island, which in turn impacts many plants and animals that we share the land with. Groundwater can be vulnerable to contaminants traveling from the surface to the water table, so it is important that all citizens are aware of activities that could cause harmful impacts to the groundwater and how we can help to protect it. The following initiatives can be championed by anyone in the community such as Wasauksing staff, educators, land users, youth, or anyone with a passion for caring for the land. Our community initiatives will be focused on groundwater awareness and education to support citizens as we work to collectively protect groundwater resources on the Island.

Groundwater Education Sessions

Groundwater education sessions will be held to provide citizens with information about groundwater flow, the connection between groundwater and the other elements of the water cycle, and groundwater contamination risks. These education sessions provide information on the groundwater protection initiatives that are taking place on the Island, and practical ways that citizens can participate in protecting this important resource. Groundwater education sessions will be carried out by setting up booths at our community events or held as their own events. Posters, pictures, videos, and other visuals will be used to enhance our communication of groundwater information.

Water Celebration Events

Water celebration events will be held to engage our citizens in groundwater and surface water awareness and protection. The purpose of community water events will be to celebrate water and all it provides to us, and to strengthen our relationships with water



in all its forms. We protect what we love, which is why celebrating water is important to our community.

Water celebration events will be planned for a single day (e.g., World Water Day), multiple days (e.g., Water Festivals), or will “piggy-back” onto existing community events. Several elements will be included in water celebration events, such as ceremony, community feasts, traditional dancing, educational booths and information sessions, or water activities out on the land. We hold annual Water Walks, which provide an opportunity to connect citizens of all ages, from Elders to youth. As part of these walks, Elders and other knowledge holders will teach traditional methods for maintaining the Island’s natural springs. The Lands and Resources Committee will seek funding to support water celebration events.

Community Cleanup Days

Community cleanup days provide citizens with hands-on opportunities to participate in groundwater protection. Wasauksing citizens are invited to learn more about groundwater protection activities and participate in cleaning up garbage on the Island. Annual cleanup days are a great opportunity for citizens of all ages to act as groundwater stewards.

Groundwater Education at School

Our children will learn about the important role that groundwater plays in supporting ecosystems at an early age through groundwater education initiatives in school. Hands-on activities, projects, and games give children and youth the opportunity to learn about the role of groundwater in the water cycle, the importance of groundwater protection, and actions they can take at home and out in the community to protect this important resource.

Resources for Community Initiatives

The Groundwater Foundation: The Groundwater Foundation offers a wide variety of activities, games, and resources for Educators and others to share information about groundwater. It also provides





useful information for running community and school events related to groundwater protection and conservation.

<http://www.groundwater.org/kids/>

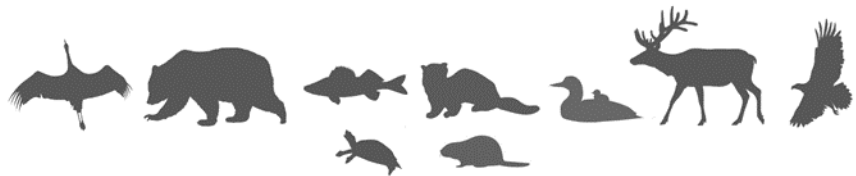
The National Groundwater Association: The National Groundwater Association's website contains a host of useful information and groundwater fact sheets that can be used as educational tools and handouts for specific groundwater issues (e.g., specific contaminants like arsenic and bacteria, well information, groundwater protection, etc.). While the National Groundwater Association is American, the information provided is still relevant and useful.

<https://www.ngwa.org/what-is-groundwater/Information-sheets>

Northern Voices, Northern Waters: NWT Water Stewardship Strategy: The Northwest Territories Water Stewardship website provides examples of communication, engagement, and outreach activities being held with communities, in schools, and with Indigenous youth to encourage water protection and stewardship.

<https://www.nwtwaterstewardship.ca/commoutreach>

Regulations and Best Practices



Federal Legislation

Canada Water Act, 2006: The Act provides a framework for collaboration between the federal, provincial, and territorial governments on matters related to the management of water resources in Canada. This includes the research, planning, and implementation of programs relating to the conservation, development, and use of water resources.

Canadian Environmental Protection Act, 1999: The purpose of this Act is to support sustainable development through the protection of the environment and pollution prevention. This Act outlines



processes to assess risks to the environment and human health posed by contaminants. It also regulates the release of toxic substances to the environment, provides tools to manage pollution and wastes, and describes enforcement and compliance measures.

Provincial Legislation

The province of Ontario regulates groundwater by mandating monitoring, compliance, and enforcement for source water protection, drinking water, water takings, environmental assessments, water conservation, contaminated sites, and climate change. The Ministry of the Environment, Conservation and Parks (MECP) also works with other ministries and agencies on a number of other water-related issues.

Ontario Environmental Protection Act, 1990 (MECP): This Act is Ontario's primary legislation for pollution control. The Act regulates the release of contaminants that are known to cause or are likely to cause adverse effects on the environment. The Act sets limits on the amounts of contaminants that can be released to the environment, requires reporting and cleanup of spills, and has the authority to make polluters liable for cleanup. This Act is associated with the Records of Site Condition (O. Reg. 153/04) regulation.

Records of Site Condition (O. Reg. 153/04), 2004 (MECP): This regulation sets standards that contaminated groundwater has to meet before land development can occur. Groundwater cleanup, also called remediation, often has to meet the water quality standards outlined in the Records of Site Condition regulation. This regulation includes water quality standards for potable and non-potable groundwater for a variety of land uses, including agricultural, residential/parklands/institutional, and commercial/industrial/community.

Ontario Water Resources Act, 1990 (MECP): This Act regulates several activities affecting surface water and groundwater, including sewage disposal; the release of pollutants that can affect water quality; well construction, operation, and decommissioning;





the approval, construction, and operation of water works; and Permits to Take Water.

Permits to Take Water Program (MECP): This permitting program requires that water withdrawals from surface water or groundwater sources that are more than 50,000 L/day must apply for a Permit to Take Water (PTTW). Annual reporting on the amount of water taken, and the water source is required under this program. Permits are not required for household use, livestock watering or fire fighting, but are required for a number of other uses such as dewatering, water supply, industrial, irrigation, and remediation.

Nutrient Management Act, 2002 (OMAFRA/MECP): The purpose of this Act is to reduce the impacts of some agricultural activities on water quality and the environment. The Act outlines best practices for nutrient (e.g., manure) management, storage, and application to farmlands with the goal of reducing the likelihood that nutrients will enter groundwater and surface water.

Clean Water Act, 2006 (MECP): This Act protects current and future drinking water sources by requiring that municipalities carry out source water protection planning in coordination with local Conservation Authorities and a range of stakeholders.

Guidelines and Best Practices

Water Supply Wells: Requirements and Best Practices, 2015 (MECP): This manual provides a clear overview of the Wells Regulation, O. Reg. 903, which was amended under the Ontario Water Resources Act R.R.O. 1990. The manual also provides recommendations and best practices for constructing wells in a way that goes above and beyond the Wells Regulation to better protect the environment.

<https://www.ontario.ca/document/water-supply-wells-requirements-and-best-practices>

Well Licencing, 2017 (MECP): In Ontario, a contractor requires training and a well license to construct, extend, or alter a well, or



to install equipment that is connected to a well. There are five classes of well licenses:

- Class 1: well drilling
- Class 2: well digging and boring
- Class 3: other well construction
- Class 4: pump installation
- Class 5: monitoring, sampling, testing, and non-powered construction

More information can be found here:

<https://www.ontario.ca/page/well-contractor-licence>

Wells Regulation – Well Abandonment: How to Plug and Seal a Well. Technical Bulletin, 2011 (MECP): This bulletin summarizes information needed to properly abandon or decommission a well so it won't act as a pathway for contaminants to travel quickly to the aquifer below.

<https://dr6j45jk9xcmk.cloudfront.net/documents/2473/wellabandonmenttb-en.pdf>

Ontario Groundwater Association: This association is a not-for-profit organization that is dedicated to protecting and promoting groundwater in Ontario. The OGA's website contains useful groundwater management resources.

<http://www.ogwa.ca/Resources-Links>

Well Aware, 2011: This booklet provides information about groundwater basics; well construction, upgrading, decommissioning, and maintenance; how to care for a well and test for contamination; water quality; and other useful topics.

http://www.ogwa.ca/Resources/Documents/WA_Booklet_2011_FIN_AL_July_2011.pdf

Ontario Well Records, 2019 (MECP): This database contains records for all wells registered with the province of Ontario. Water well records should be created whenever a well is installed and



updated when a well is decommissioned. Licensed well contractors are required to create or adjust well records when they are hired to install or decommission wells. Several Wasauksing wells are registered in the database (see Figure 1).

<https://www.ontario.ca/environment-and-energy/map-well-records>

Federal Approach to Contaminated Sites: Steps for Addressing a Site, 2012: This manual provides steps to identify, test, and classify contaminated sites, as well as steps to manage risks, clean up (remediate), and monitor contaminated sites.

<https://www.canada.ca/en/environment-climate-change/services/federal-contaminated-sites/federal-approach/steps-addressing-site.html>

Federal Contaminated Sites Action Plan Advisory Bulletin, 2016: How, when and why do I decommission a groundwater monitoring well?:

https://www.canada.ca/content/dam/eccc/migration/fcs-scf/45E03CCF-169C-4E11-838A-44D3D7915900/FAB_How-20to-20decommission-20a-20monitoring-20well_EN_21-Apr-2016.pdf

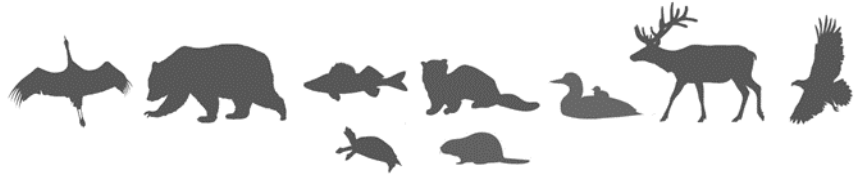
Provincial Water Quality Objectives (PWQO), 1994 (MECP): The PWQOs are science-based criteria and limits of acceptable contaminant concentrations that can be released to surface water without harming any forms of aquatic life (including various stages of aquatic life cycles) for an indefinite length of exposure. The PWQO's for the protection of recreational water use are based on aesthetic and public health considerations. Given that groundwater and surface water resources are connected, PWQOs can act as useful guidelines for groundwater limits as well.

<https://www.ontario.ca/page/water-management-policies-guidelines-provincial-water-quality-objectives>





Glossary



Aquifer

An underground layer of sand, gravel, or fractured rock that stores water in the pore spaces around sand and gravel particles or in the fractures between blocks of bedrock. Wells are installed in aquifers to withdraw water from these geological formations.

Baseline Assessment

An assessment of initial conditions, or a “baseline”, against which future conditions can be compared. A baseline groundwater assessment is important for understanding if water quality is improving or worsening in the future.

Contaminant

A biological, physical, chemical, or radiological substance that can negatively impact living organisms by polluting water, soil, or air quality. A contaminant is a toxic or polluting substance that is not usually present in the natural environment.

Corrosion

The deterioration of a material (e.g., metal) due to a reaction with its environment.

Decommission

The permanent and proper dismantling of a well so it can no longer be operated, cannot act as a pathway for contamination from surface to depth, and is decontaminated for environmental and safety reasons.



Groundwater Flow Divide

A high point in the water table that acts as a boundary between two groundwater basins. Groundwater on either side of the divide flows away from it.

Groundwater Well

A structure installed by digging, boring, driving, or drilling in the ground to reach groundwater in an aquifer below. Groundwater wells must be installed properly to make sure the groundwater supply is protected from contamination.

Hydrogeology

The study of groundwater and its interactions with geologic materials (e.g., bedrock, sand, gravel, and soil).

Impurities

Solids that are suspended or dissolved in water, such as iron, manganese, sodium chloride, sulfates, calcium bicarbonate, silt, hydroxide, and other substances. These substances and particles can cause hardness, alkalinity, turbidity, colour, and odor in groundwater.

Infiltration

Water soaking into the land surface and moving down into the groundwater below.

Monitoring Well

A well that is used to sample groundwater quality or measure its elevation. Generally, monitoring wells are not continuously pumped like drinking water supply wells and are often small in diameter (e.g., two inches).

Multi-barrier Approach

A system of tools, processes, and procedures that collectively work together to reduce or prevent the contamination of drinking water from its source to tap.



pH

A scale from 0 to 14 that measures the acidity or alkalinity of water. A pH less than 7 is considered acidic, and a pH greater than 7 is considered basic. In Canada, the recommended pH of drinking water ranges from 6.5 to 8.5.

Precipitation

Water condensation in any form falling from the sky, including rain, sleet, hail, and snow

Pumping Test

A field experiment to estimate the hydraulic properties of a well or an aquifer, such as how much water a well can yield. Water is pumped at a controlled rate and the drop in water level is measured over a short period of time, such as 48 hours.

Recharge

The replenishing of water into an aquifer from the infiltration of surface water or precipitation.

Risk Assessment

A systematic process to evaluate the risks associated with an activity.

Topography

The shape, slope, and relief of the land surface.

Vadose Zone

The unsaturated zone that exists between the land surface and the groundwater table in which pores between sand, soil, and gravel particles or fractures between bedrock blocks can contain air or water.



Volatile Organic Compounds (VOCs)

Chemicals containing one or more carbon atoms that can easily become vapours or gases. They can be human-made or naturally occurring and can cause adverse health effects.

Vulnerable Groundwater Protection Zone

Zones that have been identified as areas where the groundwater can easily be contaminated from the surface. Most source water protection plans (e.g., Ontario's approach) only protect groundwater if it is a source of drinking water. However, our community wishes to protect other vulnerable areas where groundwater is important because of its contribution to ecosystems and culturally important surface water sources.

Watershed

A drainage basin or catchment area that channels surface water and precipitation towards itself. Surface water and precipitation flow away from a watershed's edges (which are also called watershed divides).

Water Table

The level below which the subsurface is saturated with groundwater. The water table is also called the groundwater table or the phreatic surface.

Wellhead

The visible part of the well that is located above ground surface. Protecting wellheads is an important component of groundwater protection.

Wellhead Protection Area

An area around the wellhead, both above and below the surface, where land use is regulated to prevent the contamination of the well. There are several methods that can be used to determine how large this area should be.



Well Integrity

The degree to which a well has been designed and installed properly so it is secure from contamination.



Surface Water and Wetlands

Environmental Stewardship Guidance

Contents

Our Stewardship Vision

Community Objectives

Stewardship Guidance and Strategies

Monitoring and Enforcement

Community Initiatives

Regulations and Best Practices

Glossary

Our Stewardship Vision

We believe that *nibiish* (water) sustains us spiritually and physically, and must be treated with care and respect. Our health and well-being are tied directly to the health of the *nibiish*.

Healthy waters are the home to strong *giigoon* (fish) populations, which are an important and valued resource to our community, both historically and through to present day. We value *nibiish* for the recreational opportunities it provides, including activities such as swimming and canoeing.

Wetlands play a key role in the *nibiish* cycle, maintaining balance and quality. They are home to many wildlife species, including several species at risk and species of cultural importance to our community. They provide habitat for valued *mashkiki* (medicinal) plants. We are committed to protecting and, if needed, restoring surface *nibiish* quality and quantity at Wasauksing—including all wetlands. We will identify and manage sources of pollution to our water. We are committed to healing the water, as it, in turn, heals us.

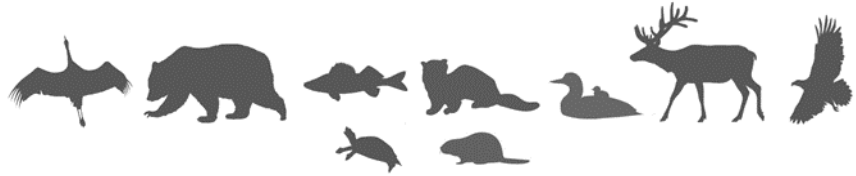
"I worry that we're polluting our water. Are we making it more difficult for the wild fish? It's their natural habitat—are we ruining that?"

– Wasauksing Citizen





Community Objectives



We will work to implement strategies to protect wetland and surface water resources for seven generations to come.

Short-Term Objectives

- Develop a plan to protect recreational uses of surface water.
- Complete fishery and aquatic habitat assessments and classifications throughout Wasauksing based on habitat features and fish communities, and develop monitoring plans for fish and other aquatic species (e.g., invertebrate species that can be used as indicators of water quality and potential invasive species like rusty crayfish).
- Develop a plan to maintain the current productivity and where possible enhancement of our fishery resources and fish habitat quality.
- Assess the impacts of beaver dams on small watercourses and fish habitat within Wasauksing lands. Develop a program to determine whether beavers are having impacts on fish habitats and whether management activities are needed for these impacts.
- Consider the possibility of developing a hatchery program to enhance local native fish populations, such as Walleye.
- Develop a plan to assess and monitor the impacts of the local aquaculture operation on the aquatic ecosystem and native fish species.



- Reducing impacts from septic systems, inventorying the state of septic systems and other onsite wastewater treatment systems and upgrading these, where possible, to reduce water quality impacts (e.g., algal blooms).
- Examine the potential and risk for further pollution impacts to the community and to the local and surrounding aquatic ecosystem via spills and other inputs (i.e., potential impacts from Depot Harbour, gas stations, marinas etc.) and develop strategies, emergency response plans and mitigation measures to minimize these risks.
- Build on previous wetland mapping and evaluation work and continue to inventory, classify and map wetlands within Wasauksing, taking special note of those that provide habitat for Species at Risk (SAR), and protect and manage these wetlands sustainably into the future. Ultimately, we will map and evaluate all wetlands within Wasauksing lands.
- Continue to identify wetlands that are culturally significant and a source of medicinal plants and protect and manage these so that they continue to provide these plant species for our use. Our wetlands contain medicinal plants of importance to citizens.
- Develop a monitoring program to keep track of fluctuations in surface water levels resulting from various stressors including climate change.
- Develop and implement a surface water monitoring program to monitor water quality for changes and trends that may impact community and aquatic ecosystem health.
- Aim to maintain existing high-quality surface water runoff and improve poor quality surface water runoff



prior to entering natural watercourses and waterbodies within our lands.

- Develop and implement a plan to reduce phosphorus and sedimentation from entering surface water sources.
- Adopt responsible boating practices and develop a program to educate boaters on the use of these practices, that can be implemented by our Beach Patrol.

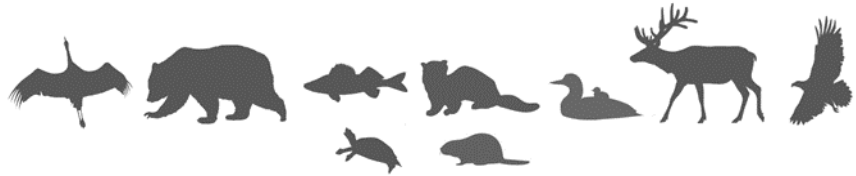
Long-Term Objectives

- Keep a clean, sustainable source of water and a healthy aquatic ecosystem for future generations.
- Continue to study and protect Three Mile Lake given its cultural significance to our people and diverse fish populations.
- Maintain the ban on motorized boats on Three Mile Lake.
- Create a fisheries management plan for Three Mile Lake.
- Update the “Three Mile Lake Habitat Assessment 2014” every five years to monitor changes to the aquatic ecosystem.
- Adopt the use of integrated watershed management plans with a holistic watershed view.
- Establish good relationships with other water resource managers and nearby communities to share water and aquatic habitat management information.
- Allowing for continued and increased citizen involvement in fishery and aquatic habitat management activities.





Stewardship Guidance and Strategies



To meet our short and long-term objectives for maintaining the health and integrity of surface water systems in our community, we will use the following stewardship guidance and strategies that are built on regulations, guidelines and best management practices.

Strategy 1: Surface Water Quality Monitoring Program

Surface water quality monitoring data is collected for many reasons, looking at a variety of water quality parameters and often does not have mandated requirements by any existing legislation, with the exception of drinking water intakes. We will design our surface water quality monitoring program to be aligned with community needs and uses including the determination of locations, frequency, chemical parameters to sample, and results analysis.

We will design our baseline water quality monitoring program so that it will characterize baseline conditions of our most important bodies of water, including Three Mile Lake and its tributaries, and the nearshore waters of Georgian Bay, as well as establishing water quality monitoring stations within each of the 10 individual watersheds identified within Wasauksing Island lands. The intent of the program is to assess baseline conditions in waters that are used for recreation, fishing and drinking water, so that we can monitor changes to surface water quality and detect trends. The design will follow guidelines and protocol manuals developed by the Canadian Council of Ministers of the Environment (CCME) (2015 and 2011). Parameters will include basic chemistry (dissolved oxygen, pH, turbidity, conductivity, suspended sediments), nutrients, metals, chlorides (salts), microcystin (blue-green algae toxin), bacteria (total coliforms and *E. coli*), and any



other contaminants of concern. We will compare the results of the water quality data to both the provincial objectives and federal water quality guidelines using the most conservative measures.

Key considerations for our program will include the following:

- Spot sampling for basic water quality parameters at a minimum of 6 times a year, spread throughout the year (during non-ice periods), including high flow events and low flow periods to ensure statistical relevance (see Provincial Water Quality Objectives (PWQO) Program for guidance).
- We will send water samples to a laboratory for analysis of key parameters of interest, where laboratory analysis is required for a parameter. If capacity exists, we will analyze samples at the water treatment plant. Refer to the Drinking Water Management ESG for guidance on using accredited laboratories for additional testing.
- We will seek additional guidance on design and implementation from water quality experts, including major parameters of interest to focus on monitoring, location, timing, frequency of sampling and sampling methods.
- Our long-term water quality monitoring program will apply the results of the baseline assessment to focus the sampling and analysis of parameters of interest. This program is intended for the long-term, to assess changes in water quality that may affect the health of the surface water resources, residents and the aquatic environment. We will be able to compare the results to the baseline assessment and water quality thresholds to detect exceedances of provincial or federal guidelines, and to analyse for trends over time.

The program will support monitoring aquatic life such as benthic macroinvertebrates and fish, whose communities and abundances are influenced by water quality, and parameters or thresholds to



ensure aquatic integrity (i.e., dissolved oxygen targets). The program will consider the Great Lakes Water Quality Agreement. This includes considering how this program could support programs and measures laid out in the Great Lakes Water Quality Agreement, including programs for pollution abatement, conservation, enforcement, aquatic invasive species detection and control, and monitoring.

Strategy 2: Improving Surface Water Runoff Quality

Phosphorus and nitrogen are nutrients required for the growth of plant matter; however, too much of these nutrients in aquatic systems becomes a water quality concern, as it leads to over-enrichment of aquatic ecosystems (eutrophication) and algae blooms, or vegetation overgrowth that chokes waterways. Blue-green algae blooms are of concern, as they release toxins into the water that pose a risk to human and ecological health. Locally, this has recently become an issue in Sturgeon Bay, located south of Wasauksing lands in Georgian Bay. Best management practices (BMPs) can reduce nutrient loading into surface water systems from aquaculture operations and septic systems (potentially exploring non-conventional septic options) (see Wastewater Management ESG) and help to address soil erosion as a source of nutrient enrichment.

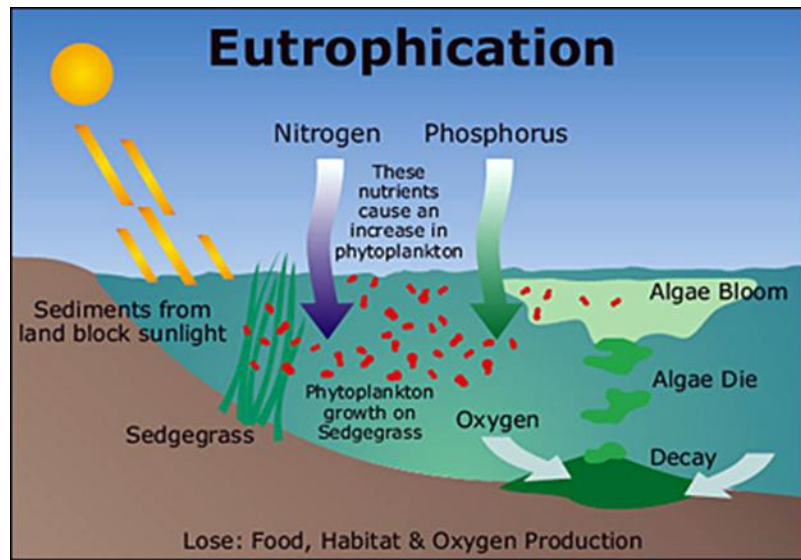


Figure 1. Illustration of eutrophication process (Utah Department of Environmental Quality, 2019).

In communities like Wasauksing First Nation, stormwater runoff can introduce nutrients into surface waters. Reducing sediment load in runoff is important for reducing nutrients, as they can bind to soil particles readily. Methods of slowing or capturing runoff and removing sediment such as grassed swales, bioretention ponds, and buffer strips, are important practices that can reduce excess release of nutrients into natural waterbodies. We will adopt BMPs for reducing phosphorus and nitrogen inputs into the river to limit the potential for algal blooms and eutrophication of waterbodies, which will include regular inspection of septic tanks for leaks.

Construction sites can be sources of nutrients due to erosion of unvegetated soil running off the site, especially during high precipitation events. We will implement Erosion and Sediment Control best management practices (BMPs) for construction projects on Wasauksing lands to manage sediment transport into watercourses and wetlands. These BMPs could be included in an Environmental Assessment Law.

With respect to point sources, septic systems and any planned wastewater treatment plants will need to incorporate effective



nutrient removal (see the Wastewater Management ESG for more information).

To improve and protect runoff quality, we will require 30–120 m buffer strips of riparian (streamside) vegetation (depending on slope, and size and sensitivity of the waterbody), and will restrict development directly adjacent to or within wetlands and waterbodies. This includes restricting soil and nutrients from entering waterways by having restrictions on the clearing of riparian areas to reduce erosion and sedimentation and to provide a filter for runoff. We will also develop policies to require no-development buffer zones and to maintain vegetative cover.

Winter maintenance of roads often includes the use of road salt to melt ice on roads. However, excessive use of salt is causing an emerging water quality and drinking water quality concern in Canada as chloride (salt) concentrations increase in natural waterways due to the overuse of this product. Although the problem is more severe in urban areas, management of the impacts of road salts should also be considered in rural settings.

We will develop a road salt management plan and winter maintenance plan to reduce the use of road salt in sensitive areas, such as water crossings. Our facility operators will be trained in the Smart About Salt educational program, and education and outreach information will be provided to private landowners. We will work to adopt Smart About Salt practices for all facilities, including roads, parking lots, private and public paved areas. We will encourage, and where possible, require others to adopt these same practices where their actions may affect our waterways.

Strategy 3: Inventory and Mapping of Surface Water Bodies and Wetlands

Our lands contain abundant wetlands and surface water features. We have identified 10 different watersheds within our lands, some of which contain ecologically and culturally important aquatic and wetland habitats. We have also completed wetland evaluation work on some of the major wetlands within our lands. We will work to build upon the existing information and mapping already



compiled and develop a full inventory of these features on Wasauksing lands. Our inventory will include completing a desktop analysis to locate and map all surface water bodies and wetlands on our lands, then performing a field verification of the locations and boundaries, and classifying waterbodies and wetlands based on type, size, importance of aquatic habitat or species present. This can be done in collaboration with the Toronto Zoo Turtle Island Conservation Program or with other available wetland experts. Some of the tasks to be completed include the following:

- Complete the inventory and mapping of all wetlands and waterbodies on Wasauksing lands;
- Classify all wetlands present, based on the wetland types presented in the Ontario Wetland Evaluation System, but also with an eye towards the habitat these wetlands provide to SAR (see guidance under Regulations and Best Practices below); and
- Develop a protection plan for wetlands that maintains the current amount of wetland cover on the landscape and provides buffers adjacent to wetlands where development is restricted. Because the full extent of wetlands has not yet been mapped within Wasauksing lands, any proposed development will be required to determine the presence and boundaries of wetlands that may be impacted by that development. Different buffer sizes may be applied to a given wetland in proximity to a development based on the results of these studies. We will apply a minimum no-go buffer of 30 m to wetlands where no development is allowed, but we may modify this buffer zone based on the sensitivity of the wetland. Chosen buffers will be consistent with the Wasauksing First Nation Land Use Plan.



Strategy 4: Develop a Stormwater Management Plan

Stormwater management is the process of dealing with runoff from developed or built areas and other infrastructure like roads, which can vary in magnitude and impact to local waterbodies. The focus of stormwater management practice has shifted in recent years from strictly conveying water away from developments as quickly as possible, to a more holistic and landscape-based approach using methods that incorporate natural process of water capture and conveyance (i.e., green infrastructure as opposed to grey infrastructure) called low impact development (LID). Stormwater management practices prior to the development of LID aimed to collect stormwater as quickly as possible and convey it off-site into a storm drain system that would eventually lead to a treatment plant or a surface water body. LID approaches try to mimic natural landscapes by slowing down the runoff, infiltrating it on-site and/or allowing it to filter sediment through vegetation or stormwater management ponds to provide cleaning function prior to it reaching a natural waterbody. Many jurisdictions now use a combination of engineered and LID approaches in dealing with stormwater management.

Our stormwater management approach will be appropriate to the scale of developments occurring within our lands and the risks imposed on our infrastructure, and will also consider the impacts of climate change (and the potential resulting change in precipitation patterns and intensity) on our lands. The plan will protect the quality of surface water resources upon which we rely, and prevent unhealthy amounts of nutrients such as phosphorus or nitrogen as well as sediments and metals from entering the aquatic environment.

We will vegetate all drainage ditches along roadsides to allow for filtration of runoff. For future developments, we will use innovative approaches inspired by natural processes (i.e., LIDs) to manage stormwater, where practical. We will implement water quality protection initiatives such as buffer strips, grassed swales and others on any developments adjacent to waterbodies to help



protect water quality and reduce impacts of runoff to our waterways. Other EMP initiatives will include the following:

- Scheduling maintenance checks to ensure that all roadside ditches are well vegetated.
- Using or requiring best management practices for reducing phosphorus and nitrogen inputs to water to reduce the potential for algal blooms by using grassed ditches and riparian buffers along our water courses.
- Placing restrictions on septic tank discharge and conducting regular periodic inspections and requiring mandatory pump-outs (for septic systems).



Figure 2. The impacts of development on runoff processes (Centre for Watershed Protection, 1999).

Strategy 5: Implementation of a Fish Habitat Assessment and Monitoring Program

We will assess fish habitat and fish species diversity using accepted assessment protocols, which can include guidance documents like the Evaluation, Classification and Management of Headwaters Drainage Features Guidelines document, the Ontario Stream Assessment Protocol for running water systems and the



Broad Scale Monitoring Program for lake systems, as well as fish community sampling protocols. Our assessment will provide a baseline of existing aquatic ecology and habitat conditions, which will be used to monitor trends and potential impacts from development. Using broad-scale survey techniques, environmental monitors will assess the surface waterbodies for presence of fish species of most importance to citizens. The monitors will assess fish for abundance, size and overall health. Should surface water and/or sediment monitoring results indicate potential risks to human health, we would initiate a fish tissue sampling program. Any such fish sampling programs can be developed in collaboration with, or advice from, the Anishinaabek of Ontario Fisheries Resource Centre (AOFRC) and/or other third-party consultants or advisors. We will also assess other environmental factors that could be potentially impacting fish habitat and populations, like the density of beaver dams within the 10 watersheds on Wasauksing lands and the impacts they may be having on watercourses and fish habitat.

Strategy 6: Use of Aquatic Protection Timing Restrictions When Working in Proximity to Fish Habitat

We will refer to the provincial timing restriction windows for any in-water development works. The Ontario Ministry of Natural Resources and Forestry has a set of time-of-year restrictions for in-water work in Ontario, such as construction or maintenance of infrastructure. We will also consult Elders and other knowledge holders in the development of Wasauksing-specific timing windows for such works, using the MNRF restrictions as a starting point and minimum standard.

Timing restrictions have been developed to protect the most sensitive life-stages of fishes, such as egg development, the juvenile stage and spawning periods that would be negatively impacted by potential water quality or habitat disturbances brought about by construction or other development activities. We will follow and implement these timing restrictions when considering or permitting construction or other in-water near-



water works on our lands. Timing restrictions should be required as a condition of development implemented through the permitting process as outlined in our Environmental Assessment Law and Development and Buildings Approval Process.

Strategy 7: Create a Fisheries Management Plan for Three Mile Lake

The aquatic habitat in Three Mile Lake was assessed and summarized in a report in 2014. The information in this report can form the basis of a Fisheries Management Plan for Three Mile Lake that will include specific guidelines for protecting fish and their habitat. For instance, the study indicated that smallmouth bass populations may benefit from stricter avoidance of fishing during the spawning period for this fish. Therefore, in the Fisheries Management Plan for Three Mile Lake, certain activities will be prohibited during the critical life stages of sensitive species.

Strategy 8: Development of a Responsible Recreational Boating Awareness Program

The program will include recreational boating waste management, fuel storage and refueling practices, cleaning of boats to avoid introduction and spread of invasive aquatic species, proper on-shore disposal of grey water and black water (sewage) from boats which have washroom facilities, and operation of boats in surface waters of our lands (including wake management to reduce shoreline erosion). This program will also include an awareness campaign, signage for wake speed limits and areas where re-fueling is restricted. We will carry out spot checks of docked boats to ensure that there are no fuel spills or waste leaks coming from the vessels. We will continue our beach patrol system and employ staff dedicated to patrolling and ensuring the proper maintenance of our beaches and shorelines, as well as making sure that proper permits are purchased for land use and fishing activities within Wasauksing lands and waters.



Strategy 9: Spills Response Protocol

We will report spills and other releases of contaminants to lands adjacent to and into surface water bodies immediately to the Lands and Resources Committee, Council and the MECP Spills Action Centre (416-325-3000, 1-800-268-6060 (toll-free), or 1-855-889-5775 (TTY)). Our spills awareness campaign will include signage for spills reporting, and education on proper disposal of fuel, contaminants and chemicals (see the Wastewater and Chemical and Fuel Storage ESGs for more information). Spills reporting, containment, and clean up will be included as requirements in our Environmental Protection law.

Strategy 10: Develop an Integrated Watershed Management Plan

Integrated Watershed Management Planning (IWMP) is the process of managing human activities and natural resources on a watershed basis. This approach allows for the protection of important water resources, while addressing critical issues, such as the current and future impacts of development and climate change. Adopting the concept of IWMP is a recommendation of the Great Lakes Protection Act. Wasauksing's IWMP, or an IWMP that we produce in collaboration with other watershed partners, will consider impacts of land use change and development on our water resources in the watershed through these steps:

- Developing an integrated watershed management (IWM) plan.
- Developing a Land Use Plan that includes certain prohibitions for developing in floodplains and other natural hazard areas, and for other watershed-altering activities such as logging, mining, or road building.
- Developing policies for waterfront planning and marinas for the protection of shorelines.

An IWMP is a great way to engage neighbouring communities, jurisdictions and environmental groups who have an interest in



protecting watershed processes within our wider traditional territory.



Figure 3. Basic Integrated Watershed Management Process (Nottawasaga Valley Conservation Authority, 2019).

Strategy 11: Develop Lower Impact Aquaculture Practices and Processes

We will work to reduce the negative impacts that nearby aquaculture operations have on the local aquatic environment and fishery resource. We will work toward improving communications with the owner/operators of the aquaculture facilities to achieve this strategy.

We will consider things like the feasibility of using land-based aquaculture operations, and the market potential for diversifying by using locally native species like walleye. We will look to participate in research programs with the aim of reducing environmental impacts. We will look at ways of managing waste and using feeding strategies that will contribute less organic pollution to our waters. We will employ a regular monitoring program of water quality in proximity to the aquaculture operation. We will evaluate the current aquaculture operation infrastructure and employ methods to prevent future escapes of farmed fish into Georgian Bay.

If there are new aquaculture leases available in the future, we will work to include conditions in the lease agreements that require lower impact practices and processes. This will be outlined in our Environmental Protection Law.



Strategy 12: Develop a Communications Network

We will develop a communications network to foster a collaborative working relationship to share water and sediment quality data between Wasauksing First Nation and other interested parties, such as:

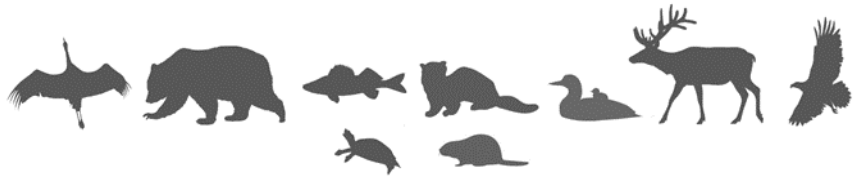
- Neighboring communities (including Shawanaga First Nation, Magnetawan First Nation, Britt, Byng Inlet, and Parry Sound).
- Regulatory agencies (including Ministry of Environment, Conservation and Parks, Department of Fisheries and Oceans, Environment and Climate Change Canada, Ministry of Natural Resources and Forestry).
- Research institutions (including Anishinaabek of Ontario Fisheries Resource Centre, Adopt-A-Pond Wetland Conservation Programme - Toronto Zoo).
- Representatives from Industry.

In partnering with these organizations, we intend to participate in developing a network of monitoring locations within the watershed and to share information such as:

- Ideas for community-based educational outreach programs, for surface water protection.
- Establishing collaborative partnerships with neighboring communities and groups, to protect our surface water resources.



Monitoring and Enforcement



As citizens of Wasauksing First Nation, we are responsible for helping to protect our lands and waters – including wetlands. It is our responsibility to report anything we see that might affect the quality of our surface water and the integrity of wetland habitat, such as changes on the land, spills or potentially harmful activities. It is also our responsibility to harvest only what we need to feed our families, to do so in a right way and to teach our children to respect the gifts of the Creator in the Anishinaabe tradition.

Monitoring and Enforcement

The Lands and Resources Committee is responsible for ensuring that surface water quality monitoring and aquatic habitat assessment strategies are effectively implemented. Trained community environmental monitors are responsible for conducting the on-the-ground monitoring activities laid out in the strategies above, with assistance from staff resource managers, biologists or external experts.

If the environmental monitors encounter activities that do not comply with our policies or if they identify a surface water issue, they must immediately report to the Lands and Resources Committee, who informs Chief and Council as appropriate.

If we choose to employ an environmental officer responsible for investigating and acting on any reports of suspected environmental violations taking place on our lands, including those associated with natural resource development activities. Wasauksing will consider the development of Land Laws such as an Environmental Assessment law and an Environmental Protection law. This officer will be responsible for enforcing our laws.

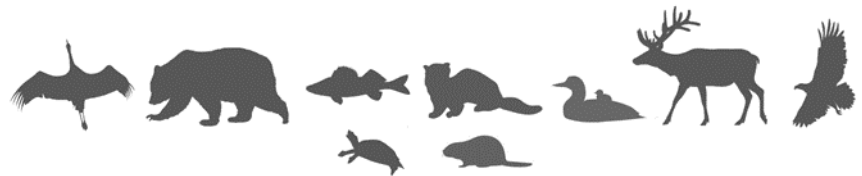


We will continue our beach patrol program and employ dedicated staff that will patrol our beaches and shorelines to ensure the proper maintenance and appropriate use of our lands and waters.

Responsible Boating

Wasauksing First Nation staff and volunteers are responsible for carrying out and monitoring the responsible recreational boating program. If they encounter a fuel or waste spill or any unsafe boating practices that threaten the water, they will immediately report it to the Lands Department, who will inform Council.

Community Initiatives



The following initiatives can be championed by anyone in the community such as Wasauksing staff, educators, land users, youth, or anyone with a passion for caring for the land.

Creative Water Resource Workshops and Activities for Children and Youth

Students will be led in hands-on activities to explore the importance of water in the community, to identify the ways we all use and rely on water, and to develop a personal philosophy and action plan for water protection. Workshops can include the following:

- Talks and water ceremonies led by local Elders
- Mapping of locations of water use
- Photography activities that document the ways water is used and why its valued, and more



Shoreline Cleanups

The Great Canadian Shoreline cleanup is an event jointly sponsored by the World Wildlife Fund and Oceanwise. Wasauksing First Nation could participate in this event directly or complete a similar activity independently. Shoreline cleanups consist of citizens gathering accumulated trash from the shores of waterbodies through a collective volunteer effort. The cleanups will be organized by the Lands and Resources Committee or by the community School. School groups will take part in the cleanups alongside other citizens. Cleanup days will culminate in a celebratory meal for those who participated. Guidance for coordinating the cleanups is provided through the Great Canadian Shoreline Cleanup website. This initiative has involved hundreds of thousands of volunteers cleaning up more than a million kilograms of garbage from Canada's shorelines.

Shoreline Plantings and Invasive Species Weed Pulls

Community volunteers will be provided opportunities to take part in the planting of native vegetation along shoreline areas that have been exposed and/or degraded, as a result of human activities or invasive plant species infestations. Shoreline areas close to roads are prioritized for plantings. New native vegetation creates buffers around lakes, ponds and streams, helping to reduce erosion, runoff, and the entry of contaminants into surface waters. The removal of invasive species from riparian and wetland habitats helps these native plant communities flourish and provides better habitat for native wildlife species. The Lands Department will develop Best Management Practices (BMPs) for removal of invasive species, and for selecting and planting native plant species in shoreline areas.

Water Conservation Campaign

This campaign aims to raise community awareness about the importance of conserving water, and to provide useful tips and tools to use water efficiently. The campaign will include rebates on and installation of low flow showerheads, low flow toilets, rain



barrels, and other water efficient fixtures and appliances. The campaign will also include using posters to raise awareness and making information available on the Wasauksing First Nation website. Children and youth will be involved through a water conservation poster competition, by designing posters that share and encourage various ways of conserving water.

Clean Boating Awareness Sessions

Each spring, at the onset of boating season, the Lands and Resources Committee will facilitate a session on clean boating practices, which can be delivered and monitored by dedicated beach patrol staff. Boat owners and those who use boats on a regular basis are invited to attend. School groups may also attend. Participants learn about how they can protect surface water through proper cleaning of boats, repair and maintenance, waste disposal methods, management of hazardous waste, and fuel spill prevention. Spill cleanup will also be covered, along with information about sensitive areas and how to preserve coastal environments.

Participation in Sacred Water Walks

Wasauksing citizens could participate in water walks of varying scales. Citizens would walk sections of shorelines within Wasauksing Lands and elsewhere in the Great Lakes. These events could be publicized and used to raise both awareness and funds for important community water initiatives.

Resources for Community Initiatives

Water First Education Programs: Water First is a not-for-profit organization that brings a variety of training and education opportunities to First Nation communities. Their education programs for school groups allow students to learn about water science while completing hands-on activities such as water sampling, tree plantings, and drone flights above watersheds. The organization offers youth the opportunity to complete a baseline water quality study for their community and offers young people with an interest in water plant operation the opportunity to



complete an internship to develop their skills.

<http://waterfirst.ngo/programs/water-first/>

Hands-On Water Education Activities from Southwest Florida Water Management District: Though from the United States, this webpage provides links to many useful interactive activities for school children and youth to learn about watersheds, wetlands, the hydrologic cycle, household water use, and more.

<https://www.swfwmd.state.fl.us/education/activities/>

The Great Canadian Shoreline Cleanup: The Great Canadian Shoreline Cleanup is a national conservation program that provides Canadians the opportunity to take action in their communities wherever water meets land, one bit of trash at a time. It was created through a conservation partnership between the World Wildlife Fund (WWF) and Ocean Wise. Following each cleanup event, collected garbage is quantified and can be compared to other cleanup events, highlighting the difference volunteers are making and providing a sense of competition. While individuals can use tools available on the website to host a cleanup event themselves, communities have the opportunity to take on a leadership role and become designated “Clean Shoreline Communities.” This initiative will be integrated with Community Clean-Up events to address litter along our shorelines.

<https://www.shorelinecleanup.ca/>

Youth for Water (Y4W): Youth for Water (Y4W) is a youth-driven water protection and conservation program created by Green Communities Canada.

The Youth for Water program focuses on bridging traditional Indigenous knowledge and culture with Western science and environmental issues to deliver a project that provides young Indigenous adults (ages 18-25) with an opportunity to learn about water issues and become involved in water protection and conservation.

This program is still in the early stages, but would provide excellent skills development, job-shadowing and mentorship opportunities for our young adults relating to wastewater



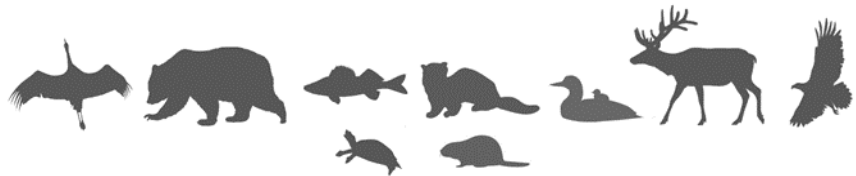


management. It has previously worked with young adults from Hiawatha, Whitefish River, and Curve Lake First Nations.

Youth adults interested in starting a water project in their own community are encouraged to reach out to Alix Taylor (ataylor@greencommunitiescanada.org) or Hattie Edwards (hedwards@greencommunitiescanada.org).
<http://greencommunitiescanada.org/youth-for-water/>

Think Before You Flush: Think Before You Flush is a public awareness campaign aimed at educating people about the problems certain products cause for wastewater treatment systems and aquatic ecosystems when flushed down the toilet or poured down the drain. The website provides information about products that should not be flushed down toilets or poured down drains. It also provides ideas for ways to raise awareness about the issue, including school-based projects. Links are provided for infographics and informational posters that can be printed and posted in bathrooms around the community.
<http://thinkbeforeyouflush.org/>

Regulations and Best Practices



The following Acts and Regulations are intended to protect our surface water resources from adverse impacts due to both natural and anthropogenic sources.

Federal Legislation

Canada Water Act, 1985 (Environment and Climate Change Canada): This Act serves to provide for the management of the water resources of Canada, including research and the planning and implementation of programs relating to the conservation, development and utilization of water resources. In addition, the Act has provisions for formal consultation and agreements with



the provinces.

<https://laws-lois.justice.gc.ca/eng/acts/c-11/FullText.html>

Canadian Environmental Protection Act, 1999 (Environment and Climate Change Canada): This Act protects the environment, including land, air and water, through pollution prevention and protects human health in order to contribute to sustainable development. This Act assesses the risks associated with contaminants in the environment, regulates the releases of contaminants to the environment, and details required enforcement and compliance.

<https://laws-lois.justice.gc.ca/eng/acts/c-15.31/>

Fisheries Act, 1985 (Department of Fisheries and Oceans):* The Act contains key provisions on conservation and protection of fish habitat essential to sustaining freshwater and marine fish species. Under Section 35(1) of the Fisheries Act, it is prohibited that any activity cause “serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery” unless the work, undertaking or activity is prescribed or authorized by the Minister under Section 35(2) a. An activity that causes serious harm is something that causes

- death of fish;
- permanent alteration of fish habitat; or
- destruction of fish habitat.

This includes many types of activities from building structures in or near waterbodies, releasing effluent into waterbodies, depositing deleterious substances into water frequented by fish, to diverting water away from watercourses. The following are examples of activities on our lands that could potentially result in serious harm to fish:

- Road crossings
- Wastewater treatment plants



- Industrial developments (e.g., mines, pulp and paper mills, hydroelectric dams)
- Golf courses or other commercial developments
- Housing developments
- Gas stations and other fuel storage facilities.

<https://laws-lois.justice.gc.ca/eng/acts/f-14/>

**Note that the Fisheries Act is currently under review at the time of this EMP's development.*

Species at Risk Act, 2002 (Environment and Climate Change Canada): The Act lists native species that have been recognized as dwindling in population and being, in varying degrees, at risk of extinction in Canada. Some notable aquatic species to which this applies in Ontario include the lake sturgeon and the black redhorse sucker. Unless authorized by the responsible Minister, sections 32 and 33 of the *Species At Risk Act* prohibit

- the killing, harming, harassment, possession, capturing or taking of a species listed as extirpated, endangered or threatened; and
- the damage or destruction of a residence including any part of the critical habitat for listed species.

<https://laws-lois.justice.gc.ca/eng/acts/s-15.3/>

Federal Policy on Wetland Conservation (1987): The policy details the agreement signed by the Government of Canada, as part of the Ramsar Convention, for the protection of wetlands and development of a federal policy. The Ramsar Convention is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

<http://nawcc.wetlandnetwork.ca/Federal%20Policy%20on%20Wetland%20Conservation.pdf>



Canada Shipping Act, 2001 (Transport Canada): The objectives of this Act are to protect the health and well-being of individuals, including the crews of vessels, who participate in marine transportation and commerce; promote safety in marine transportation and recreational boating; protect the marine environment from damage due to navigation and shipping activities; develop a regulatory scheme that encourages viable, effective and economical marine transportation and commerce; promote an efficient marine transportation system; develop a regulatory scheme that encourages the viable, effective and economical use of Canadian waters by recreational boaters; ensure that Canada can meet its international obligations under bilateral and multilateral agreements with respect to navigation and shipping; encourage the harmonization of marine practices; and establish an effective inspection and enforcement program.
<https://laws-lois.justice.gc.ca/eng/acts/c-10.15/>

Navigation Protection Act, 2012 (formerly Navigable Waters Protection Act, 1985) (Transport Canada):* The primary purpose of the Navigation Protection Act is to balance the public right to navigate with the need to construct works (e.g., bridges and dams). The Act has a reference list of 'navigable waters' which include Canada's busiest waterways, and what type of works are permitted on these waterways. There is also a decision-making process under the Act to address impacts to navigability in unlisted waterways.
<https://laws-lois.justice.gc.ca/eng/acts/N-22/>

**Note that the Canadian Navigable Waters Act is currently under review at the time of this EMP's development.*

Provincial Legislation

There are two main provincial ministries that protect and conserve surface water natural resources, including the Ministry of Environment, Conservation and Parks (MOECP) and the Ministry of Natural Resources and Forestry (MNRF). Other government agencies also consider water resources in land use planning, (the Ministry of Municipal Affairs and Housing (MAH)), and agriculture (Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)).



Ministry of the Environment Conservation and Parks (MOECP):

In relation to the protection and conservation of surface water resources, the MOECP has a mandate for monitoring, compliance and enforcement of drinking water, wastewater, water takings, Great Lakes protection, environmental assessments, water conservation and efficiency, water quality protection, drainage, stormwater management, contaminated sites, climate change and works with other ministries and agencies with many water related topics.

<https://www.ontario.ca/page/ministry-environment-conservation-parks>

Ontario Water Resources Act, 1990: The purpose of this Act is to provide for the conservation, protection and management of Ontario's waters and for their efficient and sustainable use, in order to promote Ontario's long-term environmental, social and economic well-being. This Act regulates, amongst others: water takings through Permits to Take Water, sewage disposal for sewage works (i.e., wastewater treatment plants) and operation of facilities for water works (i.e., drinking water treatment plants).

<https://www.ontario.ca/laws/statute/90o40>

Ontario Environmental Protection Act, 1990: This Act is the primary pollution control legislation in Ontario. It prohibits contaminants from being released into the environment that can cause adverse effects, provides limits on releases to the environment, governs spill clean-up, and often requires the polluter to be responsible mitigating and remediating spills.

<https://www.ontario.ca/laws/statute/90e19>

Great Lakes Protection Act, 2015: The purpose of this Act is to protect the Great Lakes and basin from pollution, habitat loss and threats such as invasive species.

<https://www.ontario.ca/laws/statute/15g24>

Clean Water Act, 2006: The purpose of this Act is to protect existing and future sources of drinking water and mandates the use of source water protection planning.

<https://www.ontario.ca/laws/statute/06c22>



Pesticides Act, 1990: This Act requires a license and training to sell and use pesticides as well as who can apply, and what type of pesticides can be applied, in Ontario.

<https://www.ontario.ca/laws/statute/90p11>

Ministry of Natural Resources and Forestry (MNRF): The MNRF has the mandate to manage all of Ontario's natural resources, such as fisheries, wildlife, mineral resources, forests, and water, including promoting economic opportunities in resource sales and outdoor recreation opportunities. MNRF administers acts and regulations related to managing and recovering species listed under Ontario's Endangered Species Act, mining, invasive species, aggregates, dams and reservoirs, amongst others.

The MNRF is also responsible for determining the provincial significance of natural features including wetlands.

<https://www.ontario.ca/page/ministry-natural-resources-and-forestry>

Conservation Authorities Act (1997): This Act allows for the creation of a Conservation Authority, whose jurisdictional boundaries are based on natural watersheds. The purpose of a conservation authority is to deliver a local resource management program at the watershed scale for both provincial and municipal interests. Conservation Authorities focus on natural resource management, resource stewardship and protecting people, property, and communities from water-related natural hazards (e.g., flooding, drought, erosion). They also play a role in wetland protection through development regulations.

<https://www.ontario.ca/laws/statute/90c27>

Lakes and Rivers Improvement Act (LRIA), 1990: The Act outlines the management, protection, preservation and use of the waters of the lakes and rivers of Ontario and the land under them. The LRIA provides the MNRF with the legislative authority to regulate the design, construction, operation, maintenance and safety of dams in Ontario. Under Section 14 or 16 of the Regulation 454/96, the following may require Approval from the Minister:

- Dams



- Water crossings – bridges, culverts and causeways
- River channels – includes river channelization, diversion or blockage
- Dredging within a waterbody
- Buried pipelines and cables – installing cables and pipelines where they will hold back, forward or divert water
- Municipal and other drains

<https://www.ontario.ca/laws/statute/90l03>

For additional information see the Lakes and River Improvement Act, Administrative Guide (MNR, 2011), which provides an overview of the LRIA, its application and how to get ministry approval to construct, alter, improve or repair water control infrastructure.

<https://dr6j45jk9xcmk.cloudfront.net/documents/2705/stdprod-088408.pdf>

Invasive Species Act, 2015 (MNR): This Act provides government with the authority to engage in control and eradication of invasive species. It also contains provisions for the containment and prevention of spread of invasive species. The most pertinent function of the Invasive Species Act is to prevent individuals from maintaining possession or transporting certain invasive species. Some examples of problematic aquatic invasive species in Ontario include Asian carp, rusty crayfish, sea lamprey and the zebra mussel.

<https://www.ontario.ca/laws/statute/s15022>

Guidelines and Best Practices

Provincial Policy Statement (PPS) (MAH): The PPS is the statement of the government's policies on land use planning including protection of water resources, fish habitat and wetlands. It applies province-wide and provides clear policy direction on land use planning to promote strong communities, a strong economy, and



a clean and healthy environment. Municipalities use this to support Official Plans and land use planning decisions.

<http://www.mah.gov.on.ca/page10679.aspx>

Drainage Act, 1990 (OMAFRA): The Drainage Act is intended to help agricultural landowners remove excess water off their properties by channelizing flow to drains or ditches. Landowners can petition the municipality to construct drains in an area requiring drainage, then responsibility to maintain these drains is shared by the landowner and municipality. These drains often become fish habitat.

<https://www.ontario.ca/laws/statute/90d17>

Surface Water Quality Monitoring Programs

Guidance Manual for Optimizing Water Quality Monitoring Program Design (CCME, 2015): This document provides step-by-step methodology for designing a program to monitor for water quality.

http://www.ccme.ca/files/Resources/water/water_quality/Guidance%20Manual%20for%20Optimizing%20Water%20Quality%20Monitoring%20Program%20Design_1.0_e.pdf

Protocols Manual for Water Quality Sampling In Canada (CCME, 2011): This manual details proper sampling techniques to employ for a water quality monitoring program.

http://www.ccme.ca/files/Resources/water/water_quality/protocols_document_e_final_101.pdf

Analysis of Water Quality Data

Once water quality data has been collected, the results can be compared to the following guidelines and objectives. The provincial and federal governments publish values that are often used to as the benchmark to assess water quality based on protection of human and aquatic species health.

Provincial Water Quality Objectives (PWQO), 1994 (MOECC): The PWQOs are numerical and narrative criteria which serve as chemical and physical indicators representing a satisfactory level



for surface waters (i.e., lakes and rivers) and, where it discharges to the surface, the ground water of the Province. The PWQO are set at a level of water quality which is protective of all forms of aquatic life and all aspects of the aquatic life cycles during indefinite exposure to the water. The objectives for protection of recreational water uses are based on public health and aesthetic considerations.

<https://www.ontario.ca/page/water-management-policies-guidelines-provincial-water-quality-objectives#section-2>

Canadian Environmental Quality Guidelines (CEQG) by Canadian Council of Ministers of the Environment (CCME): The water quality guidelines (CEQG) are science-based thresholds of many water quality parameters, designed to protect the quality of aquatic and terrestrial ecosystems. The CCME produces information sheets related to a variety of water quality parameters (i.e., phosphorus, nitrogen, ammonia, turbidity, suspended sediments, etc.) and makes recommendations (guidelines) for limits of this parameter for the protection of aquatic life, recreational water quality sediment quality and others.

<http://ceqg-rcqe.ccme.ca/download/en/221>

<https://www.canada.ca/content/dam/canada/healthcanada/migration/healthy-canadians/publications/healthy-livingvie-saine/water-recreational-recreative-eau/alt/pdf/waterrecreational-recreative-eau-eng.pdf>

<http://ceqg-rcqe.ccme.ca/download/en/226>

http://www.ccme.ca/en/resources/canadian_environmental_quality_guidelines/index.html

Water Quality Index (CCME, 1999): This index approach can be used to evaluate a group of water quality data into one value (from 0-100) to make it easier to communicate results to the Wasauksing First Nation citizens and the general public.

[http://www.ccme.ca/files/Resources/calculators/WQI%20Technical%20Report%20\(en\).pdf](http://www.ccme.ca/files/Resources/calculators/WQI%20Technical%20Report%20(en).pdf)

<http://www.mae.gov.nl.ca/waterres/quality/background/cwqi.html>





Great Lakes Water Quality Agreement: A joint agreement with Canada and USA for the protection of the Great Lakes: The Agreement provides a framework for identifying binational priorities and implementing actions that improve water quality. The agreement includes commitments, objectives and actions to address environmental issues affecting the Lakes. This Agreement is a good resource for Wasauksing First Nation because it outlines the responsibilities and commitments the federal and provincial governments have made to address water issues in Lake Huron and its watershed.

<https://www.canada.ca/en/environment-climate-change/services/great-lakes-protection/canada-united-states-water-quality-agreement.html>

Road Salt

Smart About Salt: Smart About Salt is an initiative of the not-for-profit organization, The Smart About Salt Council, which aims to protect freshwater resources by improving winter salting practices of individuals, communities, and industry. Their website provides information about proper winter salting techniques, including posters and postcards that can be used for community Smart About Salt initiatives.

<http://www.smartaboutsalt.com/>

Syntheses of Best Practices - Road Salt Management (2013): This document provides a compilation of best management plans on salt management for winter road maintenance by the Transport Association of Canada.

<https://www.tac-atc.ca/sites/tac-atc.ca/files/site/doc/resources/roadsalt-1.pdf>

Code of Practice: The Environmental Management of Road Salts: Environment Canada has several publications including a code of practice and best management practices for road salt.

<http://www.ec.gc.ca/sels-salts/default.asp?lang=En&n=F37B47CE->

1



Sediment and Phosphorus

Best Management Practices: A Phosphorus Primer OMAFRA (2011): A detailed book on phosphorus that is useful for rural landowners and farmers.

<http://www.omafra.gov.on.ca/english/environment/bmp/phos.htm>

Erosion and Sediment Controls

Buffer Strips Best Management Practices (OMAFRA, 2004): The use of natural vegetation along creek banks is a best management practice that helps to prevent agricultural and other types of runoff with their associated nutrients from entering streams.

<http://www.omafra.gov.on.ca/english/environment/bmp/buffer.htm>

Other agricultural BMP's can be found here:

<http://www.omafra.gov.on.ca/english/environment/bmp/series.htm#5>

Environmental Guide for Erosion and Sediment Control During Construction of Highway Projects, Ministry of Transportation (2015): A guide with best management practices for sediment and erosion control.

[http://www.raqsb.mto.gov.on.ca/techpubs/eps.nsf/0/7ff7c9fa7def430f85257f5b00510665/\\$FILE/MTO%20Erosion%20and%20Sediment%20Control%20Guide%202015%20Final%20ACC.pdf](http://www.raqsb.mto.gov.on.ca/techpubs/eps.nsf/0/7ff7c9fa7def430f85257f5b00510665/$FILE/MTO%20Erosion%20and%20Sediment%20Control%20Guide%202015%20Final%20ACC.pdf)

Surface Water Quantity Programs

Permits to Take Water Program (MOECP): The MOECP requires anyone taking over 50,000L/day from natural water bodies (surface or groundwater) to apply for a Permit to Take Water (PTTW). The program also requires reporting on an annual basis on the amount of water taken, from what source and how much is taken on a daily basis. Water taken for uses from industrial, irrigation, water supply, dewatering, remediation and others are required over the limit, but domestic household use, for livestock watering and firefighting are exempt.

<https://www.ontario.ca/page/permits-take-water>





Environmental Flow Requirements in the Grand River Watershed: Environmental flows describe the quantity, timing, and quality of water flows required to sustain freshwater ecosystems and the human livelihoods and well-being that depend on these ecosystems. Environmental flow needs assessments can be used to determine how much water needs to remain in the stream year-round and how to balance human and ecological needs. This report example report details the process for determining environmental flow requirements in the Grand River watershed of southern Ontario.

https://www.grandriver.ca/en/our-watershed/resources/Documents/WMP/Water_WMP_Report_EFlows.pdf

Water Conservation and Efficiency Strategies: The City of Guelph has a very comprehensive strategy and has done a literature review on best practices.

<https://guelph.ca/plans-and-strategies/water-efficiency-strategy/>

Great Lakes-St. Lawrence Sustainable Water Resources Agreement: Ontario also uses the Great Lakes-St. Lawrence Sustainable Water Resources Agreement to help with water conservation and efficiency.

<https://www.ontario.ca/document/great-lakes-st-lawrence-river-basin-sustainable-water-resources-agreement>

An Analysis of Canadian and Other Water Conservation Practices and Initiatives Issues, Opportunities and Suggested Directions. CCME, 2006: A report that documents relevant strategies and actions that Canadian governments, communities, businesses and households can pursue to ensure that water is used in an efficient, productive and sustainable manner.

http://www.ccme.ca/files/Resources/water/water_conservation/kinkead_fnl_rpt_2005_04_2.1_web.pdf

Stormwater Management

Policy Review of Municipal Stormwater Management in the Light of Climate Change, (MOECC 2016): This document provides the key findings of the review conducted to determine if there is a



need for a new policy, Act or regulation to deal with municipal stormwater management systems in Ontario municipalities in light of climate change.

<https://www.ontario.ca/page/policy-review-municipal-stormwater-management-light-climate-change>

Stormwater Management Planning and Design Manual, Ontario Ministry of the Environment, 2003. This manual provides technical and procedural guidance for the planning, design, and review of stormwater management practices.

<https://www.ontario.ca/document/stormwater-management-planning-and-design-manual-0>

Low Impact Development Stormwater Management Planning and Design Guidelines, 2011: Low impact development is an alternate method of dealing with storm water on-site and often with 'soft' infrastructure (grassed swales, green roofs) as opposed to hard infrastructure (pipes and sewers) that take it to a centralized treatment system. The guide was developed to provide engineers, ecologists and planners with up-to-date information and direction on landscape-based stormwater management planning and low impact development stormwater management practices, and thereby help ensure the continued health of the streams, rivers, lakes, fisheries and terrestrial habitats.

<https://cvc.ca/low-impact-development/low-impact-development-support/stormwater-management-lid-guidance-documents/low-impact-development-stormwater-management-planning-and-design-guide/>

Innovative Stormwater Management Practices (Toronto and Region Conservation Authority): This website is a database of new and emerging methods for stormwater management using low impact development techniques.

<http://www.iswm.ca/>

Stormwater Fees: Some municipalities have realized the cost of dealing with urban stormwater far exceeds the current rate structure of water and wastewater billing and have included a third fee to promote on-site management of stormwater instead of conveying it through the municipal sewer network.





<https://media.assets.eco.on.ca/web/2016/11/Urban-Stormwater-Fees.pdf>

Stormwater Management and Watercourse Impacts: The Need for a Water Balance Approach (2006): Understanding the need to consider that the receiver of stormwater management facilities is the natural environment and how to plan to balance the needs of stormwater management and natural waterways.

https://sustainabletechnologies.ca/app/uploads/2013/01/ABL-Water-Bal-Report_NOV-28-06-FINAL.pdf

Aquatic Ecosystems

Information and best practices for assessing and protecting fish and fish habitat can be found in several places, including the following:

- Fish Habitat Referral Protocol for Ontario (DFO/MNR/CO, 2009)
- Environmental Guide for Fish and Fish Habitat (MTO, 2009)
- In-Water Work Timing Window Guidelines (MNR, 2009)
- Standards and Best Practices for In-Stream Works (BC, 2004)

Ontario Stream Assessment Protocol: This protocol document details several methods for assessing both the living and non-living components of Ontario's aquatic habitats.

<https://trca.ca/app/uploads/2018/02/osap-master-version-10-july1-accessibility-compliant.pdf>

Evaluation, Classification and Management of Headwaters Drainage Features Guidelines: This document provides protocols for assessing smaller headwater aquatic habitat features in southern Ontario.

<https://cvc.ca/wp-content/uploads/2014/02/HDFA-final.pdf>



Broad Scale Monitoring Program: This monitoring program is involved in the implementation of the MNRF's Ecological Framework for Fisheries Management. It involves sampling over a broad geographical scale, whereby standardized information is collected from a representative number of lakes in each of Ontario's 20 Fisheries Management Zones. The program is designed to describe the distribution, amount and diversity of fish species in Ontario, estimate the current state and trends in fish populations, identify stressors on fish populations and provide reporting on the state of Ontario's fish resources.

<https://www.ontario.ca/page/broad-scale-monitoring-program>

Ontario Invading Species Awareness Program: Information, guides and best practices related to the management of invasive species to prevent sale and spread of these species.

<http://www.invadingspecies.com/>

How Much Habitat Is Enough? 3rd Ed. Environment Canada's Canadian Wildlife Service, 2013: The technical bulletin provides numerous wetland, riparian, forest and grassland habitat guidelines, and the associated rationales for maintaining a certain size of habitat for the protection and sustainability of native species.

<https://www.ec.gc.ca/nature/default.asp?lang=En&n=E33B007C-1>

Lampricides and Facts about Stream Treatments, Factsheet 4a, Great Lakes Fishery Commission: This factsheet provides information regarding the use of lampricides within waterbodies, as well as an evaluation of any potential environmental and health effects.

http://www.glfsc.org/pubs/FACT_4a.pdf

Eating Ontario Fish 2017-2018: The Guide to Eating Ontario Fish provides easy-to-use information to help choose fish caught from Ontario lakes and rivers to minimize exposure to toxins. Consumption advice in the guide is based on guidelines provided by Health Canada. This guideline is updated annually.

<https://www.ontario.ca/page/eating-ontario-fish-2017-18>





Guide to Eating Ontario Fish: advisory database: This online database provides waterbody specific information with regards to recommended consumption for fish in Ontario.

<https://www.ontario.ca/data/guide-eating-ontario-fish-advisory-database>

Working Near Water: Considerations for Fish and Fish Habitat. Department of Fisheries and Oceans, 2002: A reference and manual for protecting fish habitat, mitigation and spills prevention and response.

<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>

In-Water Work Timing Window Guidelines (MNR, 2013). These guidelines set out when construction or other in-water activities are restricted to protect sensitive fish species life stages.

<https://dr6j45jk9xcmk.cloudfront.net/documents/2579/stdprod-109170.pdf>

Wetlands

The MNRF is the provincial agency responsible for wetland conservation, including the classification of wetlands and designating provincially significant wetlands (PSWs). Wetlands also get protection through Official (Municipal) Plans, which can put policies related to development in PSW's or other wetlands deemed important by the municipality.

Ontario Wetland Evaluation System (OWES) (MNRF 2014): The Ontario Wetland Evaluation System (OWES) provides a means of ranking the relative importance of different wetlands, based on a numerical ranking of wetland values or functions. These functions are grouped into 4 categories: Biological, Social, Hydrological, and Special Features.

<https://dr6j45jk9xcmk.cloudfront.net/documents/2685/stdprod-103924.pdf>

<https://www.ontario.ca/page/wetlands-evaluation>

Great Lakes Wetlands Conservation Action Plan (GLWCAP): This is a cooperative program that involves federal and provincial governments and non-government organizations in efforts to



establish a comprehensive wetlands conservation program for Ontario wetlands within the Great Lakes basin. The Action Plan's goal is to create, reclaim, rehabilitate and protect wetland habitat in the Great Lakes basin.

<http://glwcap.ca/>

Development, Interference with Wetlands and Alterations to Shorelines and Watercourses (2006): Under the Conservation Authorities Act, conservation authorities created policies and regulations in their jurisdictions for regulating development that would alter wetlands, shorelines and watercourses.

<https://www.ontario.ca/laws/regulation/040097>

MTO's Environmental Standards and Practices User Guide, 2014: This guide includes information on wetland protection and mitigation during the design and construction of roads and highways.

[http://www.raqsb.mto.gov.on.ca/techpubs/eps.nsf/0/53c492c283098598852572b300578e1f/\\$FILE/EPRs%20Apr%202014%20Final%20PDF%20Accessible%20Version%2028%2010%2014.pdf](http://www.raqsb.mto.gov.on.ca/techpubs/eps.nsf/0/53c492c283098598852572b300578e1f/$FILE/EPRs%20Apr%202014%20Final%20PDF%20Accessible%20Version%2028%2010%2014.pdf)

Integrated Watershed Management

Wasauksing First Nation lands occur on an island near the eastern shores of Georgian Bay. Wasauksing First Nation has control over current land uses that can impact the quality of waters that drain off the island. However, activities occur outside of Wasauksing Lands that could negatively impact the quality of water draining into Georgian Bay near Wasauksing Lands. In addition, historical impacts continue to impact Wasauksing First Nation water resources. Integrated Watershed Management (IWM) is an approach to environmental management at the watershed level that Wasauksing First Nation may wish to pursue with adjacent municipalities, landowners, and the province in order to ensure better use and protection of surface water resources surrounding Wasauksing FN jurisdiction.

Summary of Integrated Watershed Management Approaches Across Canada (CCME, 2016): A document outlining how IWM has been done across Canada.





http://www.ccme.ca/files/Resources/water/water_conservation/Summary%20of%20Integrated%20Watershed%20Management%20Approaches%20Across%20Canada%20PN%201559.pdf

Integrated Watershed Management (ECCC): The federal government's suggestions for IWM including Primary Strategies for IWM in Canada including governance, instruments and tools, science and technology, monitoring and assessment and some lessons learned.

<http://www.ec.gc.ca/eau-water/default.asp?lang=en&n=13D23813-1&pedisable=true>

Marina and Waterfront Development and Boating

Safe Boating Guide – Transport Canada, 2014: This guide discusses best practices for fuel storage and handling around waterways.

<http://www.tc.gc.ca/media/documents/marinesafety/TP-511e.pdf>

National Management Measures Guidance to Control Nonpoint Source Pollution from Marinas and Recreational Boating, United States Environmental Protection Agency, 2001: This guidance document provides management measures that may be used to reduce non-point source pollution from marinas and recreational boating activities.

<https://nepis.epa.gov/Exe/ZyNET.exe/20004KEK.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2000+Thru+2005&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C00thru05%5Ctxt%5C00000004%5C20004KEK.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>

Graywater Discharges from Vessels (USEPA, 2011): This American regulation for discharges of greywater describes general effluent



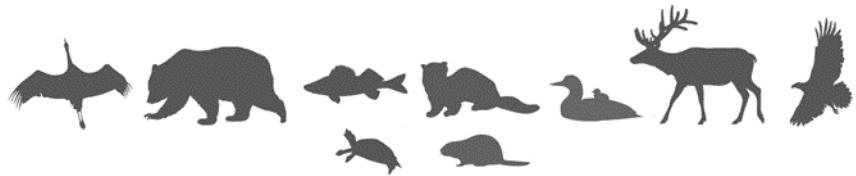
limitations.

https://www3.epa.gov/npdes/pubs/vgp_graywater.pdf

Water Quality: Boating and Marine Activities: Solutions, Resources and Links: A website from the BC government discussing water quality with respect to boating.

http://www.env.gov.bc.ca/wat/wq/nps/NPS_Pollution/boating/Boating_Main.htm

Glossary



Algal Blooms

The excessive growth of one or more species of algae (e.g., cyanobacteria) which can reduce water clarity, change the colour of a waterbody, affect nutrient levels, deplete oxygen levels or produce toxins. Climate change can also accelerate the expansion of algal blooms.

Benthics (Benthic Organisms)

Bottom-dwelling aquatic invertebrates (e.g., worms, crabs, tunicates) that are used to monitor the ecological condition of lakes, streams, and wetlands.

Bioretention

The process in which contaminants and sedimentation are removed from stormwater and temporarily stored, treated and infiltrated physically, chemically or biologically in a basin or pond.

Effluent

The liquid waste or sewage discharged into a waterbody.



Eutrophication

A process in which deposits of excess nutrients cause an algal bloom or reduced oxygen through plant overgrowth in an aquatic ecosystem.

Grey Infrastructure

Use of human engineered infrastructure like pipes and wastewater treatment plants to treat and convey stormwater and waste water. Generally designed to collect stormwater as quickly as possible and convey it off-site.

Greywater

The relatively clean wastewater from baths, sinks, washing machines, and other household appliances.

Green Infrastructure

Using natural features or engineered features whose designs are based on natural features (like LIDs) to treat stormwater.

Low Impact Development (LID)

Stormwater management approaches that mimic natural landscapes by slowing down the runoff, infiltrating it on-site and/or allowing it to filter sediment through vegetation or specially designed stormwater management ponds to clean it prior to it reaching natural waterbodies.

Sedimentation

The process in which soil or particulate matter is carried from its point of origin by either natural forces or human activity and is deposited elsewhere on land or in water. This can lead to increased turbidity and sediment build up, and negatively influence aquatic nutrient cycling.

Soil Erosion

The detachment and movement of soil particles by natural physical forces, primarily by wind and water (e.g., rainfall, flowing water, currents and waves). Soil erosion can cause negative



environmental effects including but not limited to the spread of pesticides to waterways, loss of soil nutrients, roadway and shoreline damage.

Stormwater

The rainwater, snowmelt, or other water that runs off our roofs, driveways, and roads and flows into rivers, waterways or storm sewers, rather than soaking into the ground.

Tributary

A freshwater stream that feeds into a larger stream or river.

Turbidity

The cloudiness of a fluid caused by suspended solids. The measure of turbidity is an important test used to determine water quality.

Watershed

An area of land that catches precipitation (e.g., rain, snow) and drains or seeps into a particular body of water (e.g., marsh, creek, stream, river, lake, groundwater). Watersheds can be open (e.g., water eventually drains into the ocean) or closed (e.g., water can only leave the system through evaporation or ground seepage) and come in diverse shapes, sizes, and locations.



Drinking Water Management

Environmental Stewardship Guidance

Contents

Our Stewardship Vision

Community Objectives

Stewardship Guidance and Strategies

Monitoring and Enforcement

Community Initiatives

Regulations and Best Practices

Glossary

"Before we entered into the Treaties, every body of water in our region—you could drink out of. Every puddle—you could drink out of."

– Wasauksing Citizen

Our Stewardship Vision

Although our citizens primarily obtain their drinking *nibiish* (water) from the community-run treatment and distribution system, some still rely on private wells. For this reason, our focus is on the protection of all sources of drinking *nibiish*, not only the primary source for the community. We also have many natural springs that are sacred to our community and were once viable sources of drinking *nibiish*. Whether it is surface *nibiish* in *Mnidoo-gamii* (Georgian Bay) or the groundwater that feeds our sacred springs, we will implement strategies aimed at preserving our *nibiish* for future generations, while providing equitable access to safe and reliable drinking *nibiish* to all our citizens.

At Wasauksing, we employ the multi-barrier approach to ensure the best protections for our drinking *nibiish*. The multi-barrier approach refers to the idea that while no single barrier can fully eliminate risks to drinking *nibiish* quality, by establishing several barriers throughout the system from source to tap, we can effectively mitigate risks, and maintain a safe supply of drinking *nibiish* for consumers (Health Canada, 2013). In this way, when one barrier fails, the others can maintain the integrity of the system, making it less vulnerable to becoming further compromised.



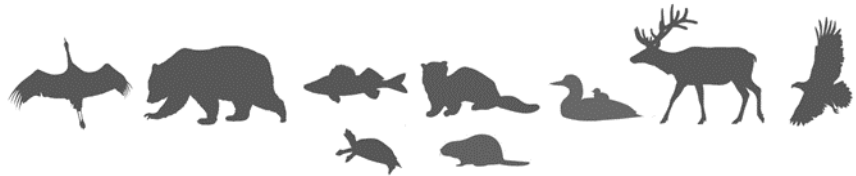


Main components of the multi-barrier approach include the following:

- Selection of the best source (e.g., *zaaghigan* [lake], *ziibi* [river], aquifer)
- Prevention of source contamination
- Effective water treatment
- Maintenance of water quality throughout the distribution system

Our citizens rely on a variety of sources for drinking *nibiish* including the communal treated *nibiish* system (direct connection or cisterns) and private wells. Aspects of the multi-barrier approach support the protection of all *nibiish*, regardless of source, recognizing the interconnectedness of our *nibiish* resources and its sacred role in our community.

Community Objectives



We will work to implement strategies that support the following community objectives to ensure that we have safe drinking water for generations to come.

Short-Term Objectives

- Implement mitigation measures aimed at protecting all water resources at the source
- Establish procedures for monitoring, inspecting, and maintaining cisterns and water trucks according to best practices
- Foster stewardship through community engagement for water protection and conservation



Long-Term Objectives

- Provide a reliable and high-quality source of drinking water to all citizens of Wasauksing
- Ensure water treatment operations are maintained, monitored, and optimized to maintain a high quality of treated water
- Provide learning opportunities to youth and resources for exploring water operator career paths

Stewardship Guidance and Strategies



To meet our short and long-term objectives, we will implement the following strategies.

Strategy 1: Develop a Source Water Protection Plan

Source water protection is a foundational component of the multi-barrier approach to drinking water management. It ensures that water, both groundwater and surface water, is protected for the health of humans and ecosystems as well as preserving this important resource for future generations.

At Wasauksing, we have always valued water as a sacred gift from the Creator. As such, our community's traditional values and teachings will be central to our approach for developing a Source Water Protection Plan (SWPP). We will ensure that Wasauksing Elders and youth, in particular, have a prominent role in the development of this SWPP to integrate our history and traditions with the perspectives of the next generation.



Common examples of pollution sources that may impact source water are illustrated below in Figure 1.

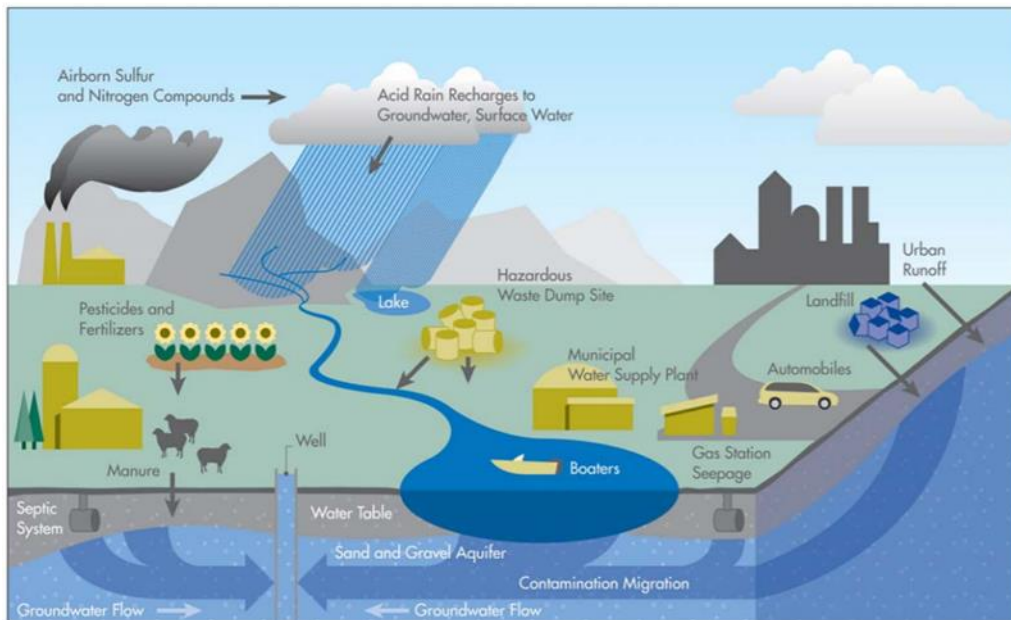


Figure 1. Human Activities Affecting Source Water (Source: Pollution Probe, 2004)

SWPPs are designed and adopted by communities as a management strategy to minimize the impacts that human activity and natural events may have on water resources. These plans are typically developed on a watershed-basis and include assessments of the sources of water and actions to deal with the assessment results.

Pollution Probe and the Ontario government recommend considering the following nine steps when developing an SWPP:

1. Involve stakeholders – from development to implementation
2. Define the source protection area
3. Identify potential threats
4. Define goals, objectives and targets



5. Map the area
6. Rank the threats and identify vulnerable areas
7. Create and implement a source protection plan (using information from above steps)
8. Establish regular monitoring and reporting practices
9. Obtain funding

You can learn more about these steps here:

<http://www.pollutionprobe.org/publications/the-source-water-protection-primer/>

Ontario's approach can be adapted to suit First Nation priorities. The stages outlined in the Medicine Wheel below (Figure 2) are based on traditional teachings and lessons learned from several First Nation communities and practitioners in Ontario.



Figure 2. Stages of Source Water Protection Planning (Medicine Wheel Teachings from Joanne Keeshig)



The following steps can be taken to develop a SWPP:

Stage 1: Eastern Direction

The process begins in the Eastern direction with the development of a water protection program structure that aligns with community values. Steps include:

1. Identify Water Committee program leader(s).
2. Build a Water Committee that consists of citizens from all walks of life: Elders; youth; Council members; and other citizens that have a passion for or work with water.
3. Identify the program's vision, goals, and a structure that works with the current assets of the community.
4. Identify roles and responsibilities. This can include the roles and responsibilities of each department, committee member, the political leadership, families, individuals, and the community at large.
5. Identify what the community is already doing that relates to water protection, mark it down as part of the implementation phase of the plan, and celebrate it through a community event.

Stage 2: Southern Direction

Conduct a community inventory, including documenting activities on and off reserve that may be impacting water quality and quantity. Communication with the community through education and outreach is critical to this stage, both to collect information and to inform citizens about how their actions and the actions of others might affect water quality or quantity. Steps can include the following:

1. Identify the main concerns and threats to water from the perspectives of a variety of citizens and departments.



2. Obtain files or reports that contain technical data on water quality and quantity and on the nature and locations of potential contaminant sources on reserve.
3. Identify where citizens actually get their drinking water. Some people may be collecting water at springs, while others may be using wells that are not properly identified in consultant reports.
4. Obtain reports about the local watershed(s) and the traditional territory from off-reserve sources, such as Conservation Authorities.
5. Collect Indigenous Knowledge about water sources and how they have changed; vulnerable areas on the reserve; the locations of important medicinal plants; and other sites that should be protected through the water protection program.
6. Combine technical and traditional or local knowledge in written and/or mapping format.

Stage 3: Western Direction

Determine which contaminants pose the most risk to the community and set priorities about which risks will be addressed first. The following steps are included in this stage:

1. Conduct a risk assessment, set priorities based on the precautionary principle to “do no harm” and “plan seven generations ahead”, or use a combination of these approaches.
2. If the committee decides to conduct a risk assessment, the risks of each identified threat should be determined. It is important to engage someone with knowledge of hydrogeological processes in this step.
3. Prioritize which threats will be dealt with first using information about the risk of each threat, available



funding, upcoming opportunities, and community preferences.

4. Identify which organizations should or could be contacted to deal with contaminant threats originating from off-reserve. Engage with Council and Tribal Councils to obtain approvals and request that they engage with certain off-reserve entities.

Stage 4: Northern Direction

The water protection plan is finalized in this stage and implementation and monitoring begins. The finalized water protection plan provides the community with a guide to make decisions that are respectful of the lands and waters on the reserve and in the traditional territory, and supports the community's physical, spiritual, and cultural relationships to water. The plan's implementation also creates opportunities for citizens to engage in water stewardship. The following steps can be included in this stage:

1. Flesh out the priorities developed in the previous stage into a finalized implementation plan including milestones, dates, and outcomes.
2. Identify external funding opportunities and apply for grants.
3. Identify "shovel-ready" projects that can be ready to begin as soon as funding is available.
4. Engage experts to address data gaps through hydrological, hydrogeological, and/or ecological studies.
5. Divide tasks among participating departments and make internal funding decisions.
6. Determine long-term strategies for water protection by building partnerships with off-reserve organizations



and obtaining Chief and Council/Tribal Council approvals.

7. Monitor the results of the implemented program, including water quality and quantity, and track the desired outcomes of the program, such as cleanup activities; upgraded infrastructure; eliminated sources of vulnerability (e.g., decommissioned abandoned wells); educational/school programs; and completed community outreach activities.
8. Revisit and evaluate the plan based on the monitoring results. Do goals need adjusting? Are new milestones or outcomes required?
9. Provincial watershed source water protection plans are reviewed by external experts, such as academics and consultants. It is a good idea for communities to have an expert review their finalized plans.

The Ontario First Nations Technical Services Corporation (ONFTSC) offers training and support to First Nations communities looking to develop a SWPP.

Vulnerabilities Assessment

An important piece of develop the SWPP will be to complete a vulnerabilities assessment as part of identifying potential threats to source water. A vulnerabilities assessment involves the review of historical reports that assess the quality and quantity of source water in the community. Reports for review will include Phase I, II and III Environmental Site Assessments, Aquaculture reports for the fishery at Depot Harbour, and others.

We will then complete a gap analysis to identify what additional information needs to be collected. This analysis will ensure effective treatment and management of the source water and identify any potential sources that may have been overlooked in previous assessments. With this information, a comprehensive assessment of vulnerabilities may be conducted to characterize



source water hazards and inform water treatment and monitoring program development to mitigate these risks.

The vulnerabilities assessment is conducted every five years or more frequently if major changes to source water or infrastructure occur.

Strategy 2: Develop a Source Water Monitoring Program

As a key component of the Source Water Protection Plan (SWPP), we will develop comprehensive monitoring program that effectively detects contamination early, so that appropriate action can be taken to protect the health of our citizens and the ecosystems that rely on these resources. This program would monitor both the quality and quantity of water at Wasauksing including surface water (e.g., Georgian Bay, Three Mile Lake) and groundwater (e.g., springs, private wells).

A baseline chemical analysis will be important to provide reference points for typical or “normal” conditions. The results of the baseline assessment will allow us to focus our drinking water monitoring program on those parameters listed in the “Guidelines for Canadian Drinking Water Quality” and/or “Ontario Drinking Water Standards” on our reserve lands. The baseline assessment is to be conducted every five years, unless conditions change and impacts to the drinking water source are predicted or are occurring. The baseline assessment may be conducted in consultation with the Health Canada Environmental Health Officer. The assessment would include information collected during development of the Source Water Protection Program (i.e., vulnerabilities assessment) as well as the sanitary survey (see Strategy 3).

Monitoring of chemical contaminants for surface water sources will be conducted, at a minimum, annually in the spring when risk of contamination is highest due to runoff. Ideally, we will strive to sample for these parameters twice annually, spring and fall. Groundwater sources will be sampled annually in mid to late spring.



Our current Environmental Health Officer is

George Korzeniecki

Environmental Health Officer
Government of Canada
58 Dalhousie Street, PO Box 42
Brantford, Ontario
Telephone: 705-689-0289
Fax: 705-689-0439

Strategy 3: Conduct a Sanitary Survey

A sanitary survey will allow for the assessment of the effectiveness of plant operations in providing safe drinking water to our citizens. It will include an assessment of water quality from the intake at Georgian Bay, through treatment and to tap water in homes and community buildings, as well as a review of records related to the water treatment plant, including maintenance, repairs and operations. A sanitary survey is completed every five years or more frequently if major changes to source water or infrastructure occur.

The following components of a sanitary survey, as outlined by Health Canada (2013), will be completed as part of this initiative.

Table 1. Elements of a Sanitary Survey

Element		Description
1	System plans	To characterize the capability of the overall system and identify areas requiring improvement and/or collective actions (intake, filters, pumps, etc.)
2	Monitoring, reporting and data verification	Review paperwork and plans to verify and report compliance with applicable requirements
3	System management and operation	Review paperwork and plans to demonstrate that maintenance and operations can maintain compliance (e.g., cross connection control, emergency plan, operations and maintenance plan, personnel training)



Element		Description
4	Treatment systems	Evaluate treatment processes (e.g., chemical addition, filtration), facilities, components, and techniques)
5	Distribution system	Evaluate its adequacy, reliability and safety
6	Finished water storage	

Strategy 4: Define Operator Training and Certification Requirements

Drinking water operators at Wasauksing must have the required training and certifications as prescribed in the Ontario Safe Drinking Water Act, 2002, to ensure that they qualified to perform duties associated with their roles. Our system serves less than 101 private residences currently; therefore, it is classified as a limited surface water system or small municipal residential system. Given that we use surface water as our source, there are added complexities involved in treatment and our system itself has several components. As a result, we require a Class 2 Operator to fill the role as the overall responsible operator on site. We also have an Operator-in-Training, however, the duties that this individual can take on are limited until they become fully licensed. Specific details pertaining to roles and responsibilities of water operators are contained in Ontario Regulation 128/04: Certification of Drinking Water System Operators and Water Quality Analysts.

We will clearly define the training and certification requirements for our drinking water operators to communicate both internally and externally the high standards of drinking water management in our community. Making this information easily accessible will also ensure that our youth have the resources to explore this career path further, building internal capacity for our community and empowering our young people to pursue training opportunities in technical areas.

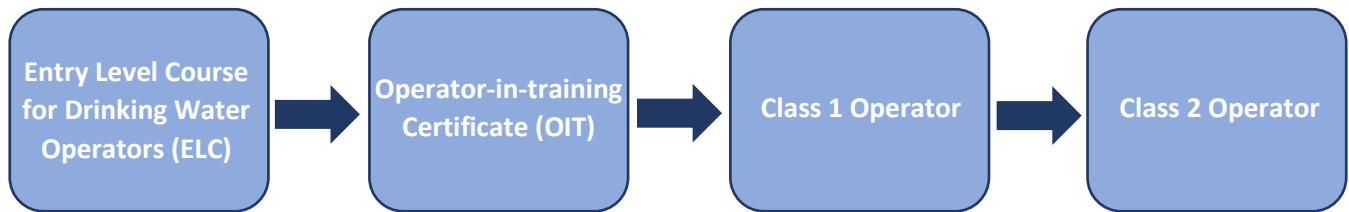


Figure 3. Certification Process for Wasauksing Drinking Water Operators

Entry Level Course for Drinking Water Operators (ELC)

The Ontario First Nations Technical Services Corporation (OFNTSC), Keewaytinook Okimakanak/Northern Chiefs Council (KO) and the Walkerton Clean Water Centre (WCWC) have partnered to develop and deliver drinking water training that meets the specific needs of First Nations communities and their operators.

This course is offered in various locations around Ontario, including Sudbury, with reimbursement provided for travel, meals and accommodations. The course is open to existing operators in First Nations communities as well as any other community members who have an interest in becoming a drinking water operator.

Course dates, registration forms and other information is available on the WCWC website at <https://wcwc.ca/first-nations-zone/>

License and Certification Upgrades

Regardless of certification level or class, the following is required:

- Proof of grade 12 or equivalent (if not previously submitted);
- Successful completion (70% or higher) of the relevant exam; and
- Operational experience gained under a valid certificate/license.



Basic requirements specific to each certification level are provided below.

Operator-in-training (OIT)

Those individuals who complete the ELC will be required to obtain an Operator-in-training (OIT) Certificate for the areas of water treatment and water distribution and supply. Certification as an OIT involves the following main steps:

- Pass OIT examination
- Apply for certificate(s)

For full process details, go to <https://owwco.ca/getting-your-certificate-or-licence-for-the-first-time/#1440173026174-7949f31c-20bb>

Class 1 Operator

The ELC and OIT certificate are a prerequisite for obtaining a Class 1 license. Requirements to upgrade to a Class 1 Operator certificate include the following:

- Completion of the ELC.
- 1-year operational experience*

*The regulation states that OITs must obtain the 1-year experience requirements working in a treatment plant under the supervision of a fully operational operator (Classes 1-4).

Class 2 Operator

Wasauksing is currently required to have a Class 2 head operator. Requirements to upgrade to a Class 2 Operator certificate include:

- 3-years of operational experience*

*Up to 50% of operational experience can be substituted with Continuing Education Units (CEUs).





Further information pertaining to certificate/license upgrades can be found at <https://owwco.ca/upgrades/#1440097772576-7aec4c04-4951>

Strategy 5: Develop a Drinking Water Monitoring Program

Our community's drinking water treatment plant, installed in 2012, draws water from Georgian Bay which undergoes comprehensive treatment including granulated activated carbon filtration, slow sand filtration, ultraviolet disinfection, and chlorination.

Continuous monitoring occurs for temperature, pH, turbidity, and chlorine residual. Measurements relating to chlorine residuals inform the automated dosing system for re-chlorination following the initial contact time, to ensure that an adequate chlorine residual is maintained throughout the distribution system to prevent the re-activation of microbiological organisms.

Further advantages to continuous monitoring of chlorine residuals include the following:

- It can limit the growth of biofilm within the distribution system and its associated taste and odour problems.
- A rapid drop in chlorine residual may provide an immediate indication of treatment process malfunction or a break in the integrity of the distribution system.

(Health Canada, 2016)

Drinking water monitoring activities are conducted according to the requirements of the Ontario Safe Drinking Water Act, 2002, summarized in the following table. Monitoring reports are provided to the Environmental Health Officer on a regular basis.



Table 2. Application of Schedules for Small Municipal Residential Systems (Ontario Regulation 170/03 – Drinking Water Systems, Safe Drinking Water Act, 2002)

Treatment	Operational Checks, Sampling and Testing	Adverse Test Results and Other Problems	Reports	Chemical Testing Parameters
Schedule 1 Schedule 3	Schedule 6 Schedule 7 Schedule 11 Schedule 13 Schedule 15.1	Schedule 16 Schedule 18 Schedule 19	Schedule 22	Schedule 23 Schedule 24

Continuous Monitoring

Continuous monitoring equipment is checked and calibrated, at minimum, on a monthly basis. All sampling and testing must adhere to the prescribed frequency and record the date, time, sampling location and result of every test for the parameter.

Wells and Cisterns

Monitoring of wells and cisterns including applicable sampling for pH, turbidity, total coliforms, and E. coli should occur throughout the year with a focus on high risk seasons (i.e., first frost, spring freshet). Further details pertaining to cistern management are provided in Strategy 6. This sampling plan can be developed in consultation with the Environmental Health Officer.

Disinfection By-products (DBP)

If sampling results routinely exceed standards for disinfection by-products (i.e., trihalomethanes), in consultation with our Environmental Health Officer, we will look at options for optimizing treatment processes through bench and pilot scale testing to ensure that our system is preventing the creation of these compounds to the fullest extent possible. This and other appropriate responses would be included in the Quality Management System (see Strategy 10). Emerging research suggests that many DBPs are probable carcinogens. With this in mind, we are committed to taking a proactive approach to



managing these risks to ensure we are protecting the health of our citizens.

Strategy 6: Establish Protocols for Water Cisterns, Tanks

Some of our citizens are not connected to the community's drinking water system and instead, rely on cisterns that are filled by our Public Works staff a few times a week. To ensure that these citizens have equal access to a high standard of drinking water, we are committed to implementing key mitigation measures to prevent the risk of haulage water becoming contaminated. Key mitigation measures include the following:

- Ensuring the use of an approved water source
- Ensuring the design of the hauling tank and associated equipment (hoses, piping, pumps, lubricants, etc.) is non-toxic, easy-to-clean, and protective from contamination
- Ensuring proper cleaning and disinfection of tanks/equipment
- Ensuring tanks/equipment are protected from cross-contamination
- Maintaining a free chlorine residual in the hauled water
- Conducting water tests and record-keeping

We will establish operational protocols based on Canadian Standards Association (CSA) B126 Series-13 – Water Cisterns Standard, which addresses many of these mitigation measures including tank design, materials, and cleaning and disinfection procedures. The CSA B126 Standard applies to both permanent drinking water tanks (i.e., cistern at a residence) and mobile tanks, which generally refer to water trucks for haulage purposes.



Cistern Water Quality Monitoring

We will develop a year-round monitoring program (including sampling) for wells and cisterns to ensure that everyone in our community has equal access to a safe and reliable source of drinking water. Water will be analyzed for pH, turbidity, total coliforms, and E. coli. Cisterns are nearly impossible to restore once they have been contaminated. For this reason, cistern sampling will be accompanied by a brief inspection to verify that there are no visible defects (i.e., lids popping off due to frost) and that if defects are present, prompt action will be taken.

Strategy 7: Maintain Records Management Systems

Our records management protocol will include the following:

- Manufacturer's operating procedures and manuals
- All monitoring/analytical data collected as part of the drinking water assessment and monitoring programs
- All communications with internal and external parties related to drinking water risks
- All recorded chlorine residual data results
- All physiochemical monitoring results including pH, temperature, peak flow, disinfectant contact time and concentration, etc.
- Any modifications made to the treatment facility
- Records of service problems/performance
- Incident reports
- Maintenance reports
- Assessment reports
- Material Safety and Data Sheets



- Auditor's reports
- Corrective actions
- Training Records including resulting certificates and/or accreditations

Records will be filed in duplicate at the treatment plant and Wasauksing administration office.

Strategy 8: Develop Emergency Response Plans

Our emergency response protocol will address extreme and/or unpredicted weather events, natural disasters, impacts of human activities, system malfunctions, and power outages. If water contamination is suspected, either a boil water advisory or a drinking water avoidance advisory will be issued (Table 3).

Our drinking water system uses a Supervisory Control and Data Acquisition (SCADA) system to manage operations including intake, treatment, and distribution. This technology allows our operators to control plant processes remotely and receive real-time data. Operators are automatically notified by the system in the case of dosing issues, sudden changes in pressure or flow, etc. which may indicate system contamination or mechanical failures.

We follow Ontario provincial regulations as they pertain to drinking water systems. In the event of adverse drinking water test results, the following steps are taken, in accordance with Ontario Regulation 170/03 – Drinking Water Systems:

- Provide oral notice to Spills Action Centre (SAC) at 1-800-268-6060 or 416-325-3000 and the Environmental Health Officer
- Provide written notice to SAC and the Environmental Health Officer within 24 hours of the oral notice. SAC's fax number is 1-800-268-6061 or 416-325-3011. Alternatively, an email may be sent to AWQI.Reporting@ontario.ca



- Provide written notice to SAC and the Environmental Health Officer within 7 days after the issue has been resolved, summarizing the action taken and the results achieved. SAC's fax number is 1-800-268-6061 or 416-325-3011. Alternatively, an email may be sent to AWQI.Reporting@ontario.ca

The licensed laboratory that determines an adverse result is also required to follow this reporting process.

Table 3. Drinking Water Advisories (Health Canada, 2013)

Information About Drinking Water Advisories	
Drinking Water Advisories	<ul style="list-style-type: none"> • Drinking water advisories are public announcements to advise the public of an identified or expected risk to their water supply. • Boil water advisories are related to possible or confirmed microbiological contamination of drinking water (including possible failures in the treatment or distribution system). • Drinking water avoidance advisories are related to the chemical or radiological quality of the water, when the contaminant of concern may not be removed or inactivated by boiling. • Decisions concerning drinking water advisories are generally made at the provincial/territorial or local level, using a risk management/risk assessment approach based upon site-specific knowledge and conditions. Boil water advisories are used much more commonly than drinking water avoidance advisories.
Boil Water Advisories	<ul style="list-style-type: none"> • Boil water advisories are generally issued as a result of a possible or confirmed microbiological contamination. They can be issued either as a precaution against or in response to a waterborne disease outbreak.



Information About Drinking Water Advisories

	<ul style="list-style-type: none">• A number of factors may prompt further investigation or form the basis for issuing a boil water advisory. These include operational conditions such as local maintenance or emergency repairs in the distribution system; equipment malfunction during treatment or distribution; inadequate disinfection or disinfectant residuals; or situations where operation of the system would compromise public health. They also include water quality conditions such as significant deterioration in the microbiological quality or turbidity of the source water; sudden unexpected changes in water quality; unacceptable microbiological quality of treated water; unacceptable turbidity or particle counts of treated water; or where epidemiological evidence indicates that the drinking water is or may be responsible for an outbreak of illness (Health Canada, 2009a).
Drinking Water Avoidance Advisories	<ul style="list-style-type: none">• Drinking water avoidance advisories are typically issued in emergency situations (e.g., chemical spill) to advise the public that they should avoid using their tap water, either completely or for specified uses.• Drinking water avoidance advisories would typically be issued following a catastrophic event such as a natural disaster or as a result of accidental or deliberate action, where the drinking water or its source may or has become heavily contaminated (usually by chemicals) and its use could pose a significant public health risk. These advisories are not intended to address short-term minor exceedances over existing MACs. Drinking water avoidance advisories rarely, if ever, require a cessation of supply, as the water will most likely be suitable for domestic purposes, such as flushing toilets and washing clothes, and necessary for essential services such as firefighting.



Information About Drinking Water Advisories

Two Types of Drinking Water Avoidance Advisories

1. Where the contaminant is only of concern through ingestion, a "do not consume" advisory tells the public to avoid using the water for drinking; preparing food, beverages, or ice cubes; washing fruits and vegetables; dishwashing; and personal hygiene (such as brushing teeth);
2. Where dermal or inhalation exposure to the contaminant could affect the skin, eyes, and/or nose, a "do not use" advisory tells the public to avoid the water for any domestic purpose, including all uses identified for a "do not consume" advisory and activities such as showering and bathing.

Strategy 9: Conduct a Tap Water Assessment

Routine monitoring of tap water quality provides vital information pertaining to the endpoint of our distribution system – the water quality at the point where our citizens consume it. We regularly conduct tap water sampling at the community daycare and elementary school. Residents may have tap water assessed on request.

This program includes the assessment of lead concentrations in drinking water, due to leaching from indoor pipes and plumbing. The analytical results are compared to the more conservative of the Canadian Drinking Water Quality Guidelines and the Ontario Drinking Water Standards. Should exceedances be observed, an Emergency Response Plan will be implemented and the Environmental Health Officer, as well as Council, will be notified immediately.

The program is to be designed and carried out in collaboration with the Environmental Health Officer. New buildings, within the



community, are required to meet the National Plumbing Code of Canada standards.

Strategy 10: Develop a Quality Management System (QMS)

Our QMS will include both operational and compliance monitoring. Our operational monitoring program will be conducted during demanding conditions (i.e., weather events, increased demand on supply etc.) and is intended to assess the effectiveness of treatment processes. Compliance monitoring assesses the quality of drinking water distributed to the community.

We will develop and implement an operational plan. The intent of the plan is to assess the treatment facility's ability to provide safe drinking water to citizens, as well as identify areas requiring upgrades/improvements and outline any implementation strategies to manage/mitigate identified issues or shortcomings. The operational plan includes a detailed monitoring plan, reporting requirements and record-keeping strategies and is intended to compile information, plans and strategies from initiatives 1 through 9, as previously described. The plan will be developed in consultation with the system designer, plant staff, as well as the Environmental Health Officer and will be updated continuously (as applicable) to address new technologies, operating procedures and risks.

We use laboratories accredited by either the Canadian Association for Laboratory Accreditation (CALA) or the Standards Council of Canada (SCC), for drinking water analyses.

Our audit committee is responsible for reviewing all records and evaluating proper operations and compliance. This is considered to be a collaborative process between the auditor (appointed by Council), Environmental Health Officer, and the plant operator. Recommendations for improvements are made during the audit, with appropriate timelines for accommodation outlined, and follow-up conducted to ensure recommendations have been addressed.



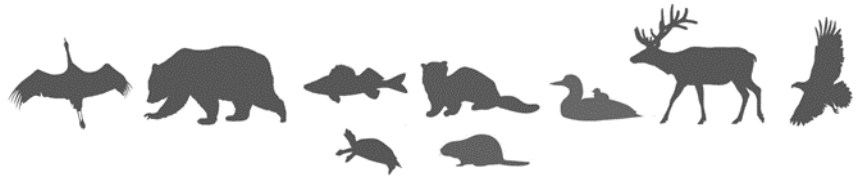
The following table outlines the audit process, as suggested by Health Canada (2013), that we have adopted.

Table 4. Steps of the Audit Process

Steps of the Audit Process		
1	Planning	The objective of the pre-audit planning is to define the scope of the audit and identify specific activities to be conducted as part of the audit. The pre-audit file review should generate a list of items to be verified, and a list of questions or lines of inquiry. Activities may include a combination of interviews with managers or operational personnel and a review of documents such as engineering studies, monitoring records, policies or procedures.
2	Conducting the audit or verification	This process should be collaborative, transparent and non-adversarial, explain the scope and goals, provide an opportunity to raise questions and concerns, and allow reasonable flexibility in terms of timelines. It should follow the established scope and lines of inquiry to verify that observed operational activities and procedures are consistent with written policies and procedures, and identify inconsistencies as a deficiency. These should be brought to the attention of the appropriate personnel, together with a discussion of suggested corrective measures, prior to writing the final report.
3	Final reporting	The final report should include the timelines of the process, the scope, verification goals and lines of inquiry, the names and titles of participants, the findings of the process, as well as recommended corrective measures and timelines to address identified deficiencies.



Monitoring and Enforcement



Our drinking water operators are the front-line staff responsible for keeping our drinking water safe. This individual is the eyes and ears on the ground, responsible for monitoring the day to day operations of the system and is required to take the first crucial steps in the case of an emergency to protect community health (i.e., reporting adverse test results and notifying the Environmental Health Officer).

Wasauksing Council, the Public Works department, and other relevant staff are responsible for ensuring operators have the support they need to carry out duties with a high degree of quality. Council and Public Works are also responsible for evaluating operational and compliance monitoring and ensuring that the strategies contained in this ESG are fully implemented to the extent possible.

We will continue to monitor the quality of source water and drinking water in our distribution system according to the requirements set out in the Ontario Safe Drinking Water Act (2002).

Annual monitoring will be conducted for potable water wells in use by Wasauksing citizens for temperature, pH, turbidity, conductivity, and dissolved oxygen, with sampling for total coliforms and E. coli as well as chemical parameters such as metals, petroleum hydrocarbons and volatile organic compounds. Shallow (less than 50 feet or 15 metres) wells (e.g., dug wells) should be monitored and sampled more often (i.e., seasonally) to account for increased vulnerability to contaminants. Static water levels should be recorded each time a well is accessed.

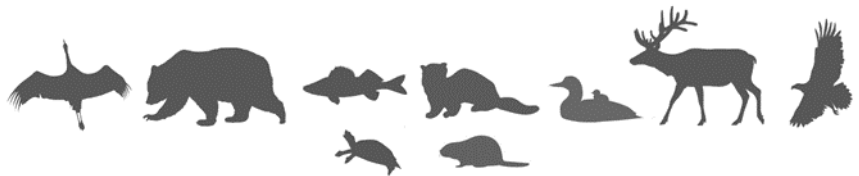
On an annual basis, cisterns will be inspected for defects and monitored for pH and turbidity. Sampling will be included for total coliforms and E. coli, and chemical parameters such as metals. If concerns are identified, more frequent monitoring may be



required. Cisterns and water trucks design, installation, and maintenance, including disinfection procedures, will be conducted in accordance with CSA Standard B126 Series-13.

All monitoring and sampling results will be compared to the Ontario Drinking Water Quality Standards (O. Reg. 169/03), under the *Ontario Safe Drinking Water Act, 2002*.

Community Initiatives



We will use community events, workshops, and awareness campaigns to empower all of our citizens to get involved in protecting the sources of our drinking water and maintaining these resources for the next seven generations and beyond.

The following initiatives can be championed by anyone in the community such as Wasauksing staff, educators, land users, youth, or anyone with a passion for caring for the land.

Community Focus Groups – Source Water Protection Plan

We will hold community focus groups for citizens of all ages to discuss concerns relating to the water quality and quantity, whether groundwater or the main source of our drinking water in Georgian Bay. The community will play a key role in each phase of the development of a Source Water Protection Plan, including participating in committee roles, identifying threats to our water (i.e., abandoned wells), and helping to define the community values that will be at the heart of the Plan.

Creative Water Resource Workshops and Activities for Youth and Children

Students will be led in hands-on activities to explore the importance of water in the community as part of Water Week, to



identify the ways we all use and rely on water, and to develop a personal philosophy and action plan for water protection.

Workshops can include:

- Talks and water ceremonies led by local Elders,
- Mapping of locations of water use,
- Photography activities that document the ways water is used and why its valued, and more.

Water Careers Events

We may offer tours of the water treatment plant and have open discussions with our water operators and summer students to talk about career paths and areas of interest participants. We will invite a series of water industry representatives to come and speak to youth, as well as interested citizens, about employment opportunities in water and wastewater. Invitees may include individuals from the Ontario First Nations Technical Services Corporation (OFNTSC), First Nation Land Management Resource Centre, the Ontario Clean Water Agency (OCWA), the Walkerton Clean Water Centre (WCWC), the Public Health Authority, and various non-profit organizations, among others.

Water Week

A week-long community campaign to recognize and celebrate the importance of water in the community. Water week includes community workshops, educational talks, information booths, ceremonies, games and activities for youth, a community feast, art, music and more. Wasauksing's elementary school is involved through classroom activities leading up to water week, involving students in various water related activities, such as: writing poetry and essays about water, making art pieces about water, and doing water-related research. Since high school students and other elementary students attend school outside of the community, it would be of interest to involve those schools during the week as well.



Resources

Children's Water Education Council (CWEC): The Children's Water Education Council (CWEC) is a charitable organization comprised of water and educational professionals committed to promoting community-based environmental education. CWEC facilitates unique water-based programs designed for children that are hands-on and interactive. They provide in-class presentations on water careers and help communities to start their own Groundwater Festivals, offering hands-on activities, discussions, demonstrations, displays and exhibits that will challenge students to consider the importance of groundwater to them as individuals and to society at large.

http://www.cwec.ca/Festivals_HowToStart

Safe Drinking Water Foundation Educational School Kits for Water Testing: The Safe Drinking Water Foundation provides various kits for teachers to use in their classrooms. Some kits provide students with the knowledge and tools to conduct their own drinking water tests, and to compare the results of their tests with Canadian drinking water standards. Other kits help students learn about water pollution, aquatic biology, drinking water treatment, water-borne illnesses, and more. Educational kits can be ordered for a fee through the website, or the Foundation can be contacted about the possibility of receiving sponsored kits.

<https://www.safewater.org/school-programs-overview/>

Ontario Drinking Water Stewardship Program Outreach and Education Toolkit: The goal of the Ontario Drinking Water Stewardship Program is to enable landowners and citizens to help protect drinking water sources. This website provides links to a number of resources that can be used to raise awareness and inspire stewardship related to water quantity and quality issues, private wells, septic systems, runoff, and more.

<http://conservationontario.ca/uncategorised/140-source-protection-program-outreach-toolkitOntario>

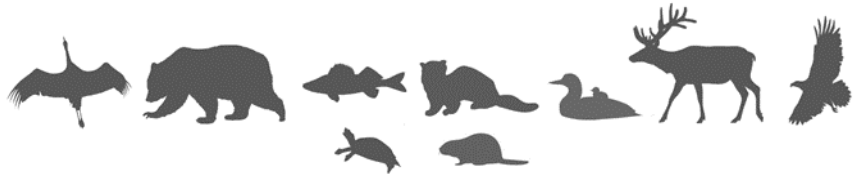
EcoSchools' Water Awareness and Action Campaign Kit: This toolkit provides guidance on how to run a water awareness campaign within a school. It includes ideas for campaign design,



communications, and school-wide activities, as well as lesson plans for the classroom.

<https://www.ontarioecoschools.org/>

Regulations and Best Practices



We follow the most stringent of Ontario or federal legislation and employ relevant best practices to ensure the most reliable and quality drinking water possible for our citizens.

Drinking Water Protection

Ontario First Nations Technical Services Corporation (OFNTSC) (Source Water Protection Programs): The OFNTSC was established in 1995, mandated by the Ontario First Nations Chiefs-in-Assembly to provide advisory level technical services to Ontario's Tribal Councils, Large First Nations, and Unaffiliated First Nations in a wide array of areas including training and operations and maintenance for water and wastewater systems.

The OFNTSC has previously held workshops for developing a Source Water Protection Plan for First Nations communities. The future offering of this and other courses is dependant on funding.
<http://ofntsc.org/>

First Nations On-Reserve Source Water Protection Plan Guide and Template, Aboriginal Affairs and Northern Development, 2014. This guide is designed to provide step-by-step guidance to First Nations as they develop their source water protection plans
<https://www.aadnc-aandc.gc.ca/eng/1398369474357/1398369572276>

Clean Water Act, 2006. The purpose of this Act is to protect existing and future sources of drinking water in Ontario.
<https://www.ontario.ca/laws/statute/06c22>



Ontario Water Resources Act, 1990. The purpose of this Act is to provide for the conservation, protection and management of Ontario's waters and for their efficient and sustainable use, in order to promote Ontario's long-term environmental, social and economic well-being.

<https://www.ontario.ca/laws/statute/90o40>

Canada Water Act, 1985. The purpose of the Act is to provide for the management of the water resources of Canada, including research, and the planning and implementation of programs related to the conservation, development and utilization of water resources.

<https://laws-lois.justice.gc.ca/eng/acts/c-11/page-1.html>

Drinking Water Quality

Ontario Safe Drinking Water Act, 2002. The purposes of this Act are to recognize that the people of Ontario are entitled to expect their drinking water to be safe, and to provide for the protection of human health and the prevention of drinking water health hazards through the control and regulation of drinking water systems and drinking water testing. The Act also describes reporting requirements, operational standard of care requirements, approvals process, permitting, licensing, as well as compliance and enforcement.

Ontario laboratories licensed to conduct analyses on drinking water samples: This list provides the contact information for Ontario laboratories able to perform analyses on submitted samples of drinking water.

<https://www.ontario.ca/laws/statute/02s32>

Ontario Drinking Water Quality Standards, Ministry of Environment and Climate Change (January 2017 – e-laws currency date). The primary purpose of the Ontario Drinking Water Standards, Objectives and Guidelines is the provision of safe drinking water to those living in Ontario. The standards address disease-causing organisms, toxic chemicals and radioactive substances, as well as aesthetic parameters.

www.ontario.ca/laws/regulation/030169





Guidelines for Canadian Drinking Water Quality Summary Table, Prepared by the Federal-Provincial-Territorial Committee on Drinking Water of the Federal-Provincial-Territorial Committee on Health and the Environment February 2017. Using scientifically sound and up-to-date data and information, the drinking water guidelines are intended to provide protection to those consuming drinking water, and account for health effects, aesthetic effects, and operational considerations.

https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/ewh-semt/alt_formats/pdf/pubs/water-eau/sum_guide-res_recom/sum_guide-res_recom-eng.pdf

Guidance for Providing Safe Drinking Water in Areas of Federal Jurisdiction Version 2, Health Canada, 2013. The purpose of this document is to give clear, consistent guidance on how to implement the Guidelines for Canadian Drinking Water Quality.

<https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-providing-safe-drinking-water-areas-federal-jurisdiction-version-2/page-6-guidance-providing-safe-drinking-water-areas-federal-jurisdiction-version-2.html>

From Source to Tap: Guidance on the Multi-Barrier Approach to Safe Drinking Water, 2004. Canadian Council of Ministers of the Environment. This reference document provides guidance to drinking water system owners and operators on how to apply the concept of the multi-barrier approach to safe drinking water in Canada.

https://www.ccme.ca/files/Resources/water/source_tap/mba_guidance_doc_e.pdf

Our current Environmental Health Officer is

George Korzeniecki

Environmental Health Officer

Government of Canada

58 Dalhousie Street, PO Box 42

Brantford, Ontario

Telephone: 705-689-0289

Fax: 705-689-0439





Community Drinking Water Supply

Safe Drinking Water and Fluoride Monitoring Protocol. Minister of Health and Long-Term Care, 2018. The purpose of this protocol is to provide direction to boards of health on the components of the Safe Water Program for the prevention and reduction of water-borne illness related to drinking water.

[http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/protocols_guidelines/Safe Water Fluoride Protocol_2018_en.pdf](http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/protocols_guidelines/Safe_Water_Fluoride_Protocol_2018_en.pdf)

Maintenance Management Plan for Drinking Water and Wastewater Systems in First Nations Communities Guide and Template Aboriginal Affairs and Northern Development Canada, 2014. The purpose of this document is to provide guidance on the development of Maintenance Management Plans and to propose a series of templates that First Nations can readily use to create their own community-based plans.

<https://www.aadnc-aandc.gc.ca/eng/1398350727577/1398350921495>

Safe Drinking Water for First Nations Act, 2013. The Act lays out the areas that federal regulations could address, including: the quality of drinking water; the training and certification of water and wastewater system operators; the treatment of water and wastewater; the monitoring, testing, sampling and reporting; and, the protection of sources of drinking water located on reserve.

<https://www.aadnc-aandc.gc.ca/eng/1330528512623/1330528554327>

Protocol for Centralised Drinking Water Systems in First Nations Communities Standards for Design, Construction, Operation, Maintenance, and Monitoring of Centralised Drinking Water Systems, Indian and Northern Affairs Canada, 2010. The protocol contains standards for the design, construction, operation, maintenance, and monitoring of centralised drinking water systems in First Nations communities.

<https://www.aadnc-aandc.gc.ca/eng/1100100034998/1100100035000>





Small Drinking Water Systems (SDWS) Risk Assessment Guideline, 2018. Safe Water Program, Drinking Water Protocol, Environmental Health Branch Public Health Division Ministry of Health and Long-Term Care. The purpose of this document is to provide guidance to boards of health and, in particular, to public health inspectors in developing and issuing directives to owners of small drinking water supply systems.

[http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/protocols_guidelines/Small Drinking Water Systems Risk Assessment Guideline 2018 en.pdf](http://www.health.gov.on.ca/en/pro/programs/publichealth/oph_standards/docs/protocols_guidelines/Small_Drinking_Water_Systems_Risk_Assessment_Guideline_2018_en.pdf)

Ministry of Environment and Climate Change, Drinking Water Management Division, The Indigenous Drinking Water Projects Office. The office provides in-kind technical and engineering support for on-reserve drinking water and wastewater systems. <https://www.ontario.ca/page/working-first-nations-improve-drinking-water>

National Plumbing Code of Canada. The code sets out technical provisions for the design and installation of new plumbing systems, and applies to the extension, alteration, renewal and repair of existing plumbing systems.

https://www.nrc-cnrc.gc.ca/eng/publications/codes_centre/2015_national_plumbing_code.html

Glossary



Coliforms

A large group of bacteria species that occur in the environment, mainly soils, surface water and human or animal fecal waste. Most coliforms are harmless to humans, but they are often used as “indicator organisms” as their presence in a water sample indicates that a recent contamination pathway exists between a source of bacteria and a water supply.



Chlorine Residual

The amount of chlorine (in various forms) present in drinking water after a prescribed contact time for disinfection. Maintenance of a chlorine residual is important to demonstrate that raw water has been adequately treated to kill or inactivate bacteria, viruses, etc. and to prevent re-growth of these microorganisms in the distribution system.

Disinfection By-Products (DBP)

Compounds that form following the reaction of a chlorinated disinfectant with natural organic matter in water. DBPs are considered harmful to human health, highlighting the importance of minimizing their creation to drinking water treatment systems.

Maximum Acceptable Concentration (MAC)

The highest concentration of a chemical or toxin allowed by law in a water sample.

Source Water

Surface water (streams, rivers or lakes) or ground water (aquifers) that serves as a source of drinking water.

Standard Operating Procedures (SOP)

A procedure specific to an operation that describes the activities necessary to complete tasks in accordance with industry regulations, laws, and individual business standards.

Turbidity

The cloudiness of a fluid caused by suspended solids. The measure of turbidity is an important test used to determine water quality. In the context of drinking water treatment, elevated levels of turbidity may result in failure to adequately disinfect source water as suspended particulate matter can shield harmful bacteria from being fully inactivated by chlorine.



Wastewater Management

Environmental Stewardship Guidance

Contents

- Our Stewardship Vision**
- Community Objectives**
- Stewardship Guidance and Strategies**
- Monitoring and Enforcement**
- Community Initiatives**
- Regulations and Best Practices**
- Glossary**

Our Stewardship Vision

Nibiish (water) is central to the well-being of our community. As such, we recognize that we all have a responsibility to protect it for seven generations and beyond. Wastewater, when properly managed, is expected to have a minimal impact on the environment as effluent is filtered through soil and other materials, and processed by microbes, before returning to the groundwater and subsequently, to our surface *nibiish*.

At Wasauksing, we primarily manage our wastewater with onsite systems. Onsite wastewater (OSWW) systems refer to a wide array of treatment and discharge options that manage wastewater at the same location that it is produced. The most common example of an onsite system is a septic system; however, alternative/non-conventional systems (i.e., biofilter systems) are increasingly used in order to manage wastewater in challenging site conditions and to improve the overall quality of effluent released to the environment.

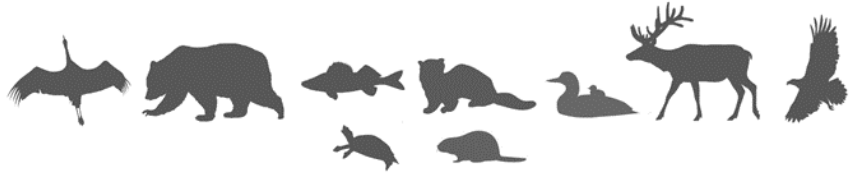
"The water flows not only within our First Nation lands, but it flows everywhere, and I think we all have to work together when it comes to issues with the water."

– Wasauksing Citizen





Community Objectives



We will work to implement strategies that support the following short and long-term objectives to safely manage wastewater.

Short-Term Objectives

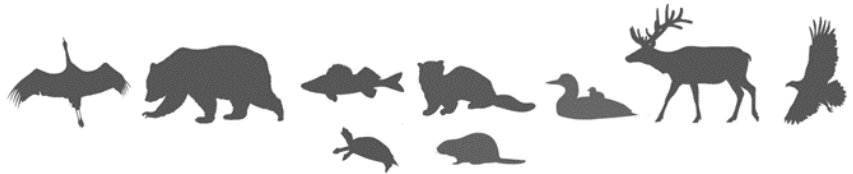
- Perform septic system screening assessments to develop a preliminary inventory of septic systems on the Island
- Develop a central database to store information pertaining to wastewater systems
- Establish mechanisms and develop protocols to improve onsite wastewater system oversight, including compliance and maintenance (e.g., monitoring, inspections), and the development of an Environmental Protection Law
- Ensure community education and outreach are central to our management of wastewater

Long-Term Objectives

- Develop a long-term plan to manage wastewater in our community
- Build capacity by providing training and employment opportunities to youth in wastewater management
- Evaluate the application and effectiveness of alternative onsite systems at Wasauksing



Stewardship Guidance and Strategies



To meet our short and long-term objectives, we will implement the following strategies.

Strategy 1: Develop a Wastewater Management Plan

We will develop a Wastewater Management Plan to establish a long-term vision for how we will manage wastewater, from collection to treatment to subsequent discharge of effluent to the environment. Protection of the environment will be central to this plan, ensuring that we optimize treatment processes and mitigate environmental impacts to soil and water, and by extension, to all living things.

Our plan will address the differing wastewater management needs of the following areas at Wasauksing:

- Main community;
- Rural residences;
- Leased cottage lots;
- Campgrounds; and
- Short-term overnight sites.

For each area, we will create a plan to meet the needs of our community, using the following process, as adapted from the Province of Manitoba's Guide to Developing a Wastewater Management Plan (included in the Resources section):



1. Describe the Current Situation (Context)

- Sources of wastewater – Identify locations of residences, businesses, community buildings, etc. on maps; especially those with particularly high wastewater production rates or requiring special wastewater treatment.
- Estimated volume of wastewater – Volume can be estimated using population data, number of residential units and people per household, average volume of wastewater produced per person or per residence, etc.
- Describe any water demand management programs currently in place that may reduce volume produced – i.e., composting toilets, low flow toilets, showerheads, etc.
- Describe the type(s) of wastewater management systems currently used to manage/treat wastewater
- Outline costs associated with current system(s) and financing details
- Describe how well current systems address current needs
- Evaluate how well current systems address current needs

2. Projected Needs and Considerations (short and long-term needs for next 25 years)

- Describe anticipated growth rate and pattern of land use in area
- Estimate how much wastewater is anticipated and how it will affect current systems – based





on current volumes and the anticipated growth rate data and pattern of land use.

3. Mapping

- Identify where current wastewater systems exist and where new systems are planned
- Identify areas that should be avoided due to topography, environmental concerns, etc.
- Wastewater Management Requirements and Costs
- Describe wastewater treatment options, system requirements and costs associated with long-term management
- Based on the approach selected, describe the improvements necessary and the associated costs

4. Implementation and Financing

- Describe where and when wastewater systems are expected and how they will be financed
- Ensure that implementation and financing considerations are consistent with the Wasauksing Land Use Plan
- Describe the short and long-term projected costs, including maintenance, repairs and renewals, and how these costs will be recovered (if applicable)
- Identify policy guidance to include in the development plan (i.e., Wasauksing Land Use Plan)





Strategy 2: Conduct Septic System Assessments

A septic system assessment can be used as a screening tool to identify old and/or failing septic systems that require a full inspection by Health Canada. Data collection would primarily consist of interviews with residents and business owners, as well as other observations including photos.

- *Contact info (resident, owner)* – name, phone number, email
- *Location* – Address, GPS coordinates (UTM – NAD 83)
- *Year of installation*
- *Design details* – System capacity, size of bed, etc.
- *Maintenance* – Date of last maintenance, any inspections and associated results
- *Proximity to sensitive receptors* – Shorelines, surface water bodies, drinking water wells
- *Additional comments/ observations* - Reports of sewage backups, pooling water on leaching bed, odours, etc.

This information will allow us to establish a snapshot of the types of wastewater systems and conditions of each at Wasauksing. Collection of this information may be conducted by summer students, with appropriate training. This information may be used to inform the development of Wasauksing's Wastewater Management Plan (see Strategy 1).

For a comprehensive inspection, a licensed inspector (i.e., from Health Canada) would need to be retained.



Strategy 3: Create a Community Wastewater System Database

Using the information collected during the Septic System Assessments (Strategy 2), we will create a database of OSWW systems located on Wasauksing lands. This database may include some or all the categories described previously in Table 1.

The database will be created using Microsoft Access to allow for simple queries and use by multiple users, as well as the ability to filter by system type, age, capacity, etc. Use of this software also ensures that the database operates seamlessly with other common Microsoft programs, such as Word and Excel. This database will also serve as a valuable tool for compliance processes, allowing us to generate inspection lists based on the date of last inspection or other criteria.

As new systems are installed, we will obtain installation information from development applications and update the database as needed. The applicant may be required to provide additional information upon request.

Strategy 4: Define Design, Installation, and Inspection Requirements for New Onsite Systems

With proper design, installation, and routine maintenance, septic systems and other OSWW systems are effective at processing effluent and minimizing impacts to the receiving environment.



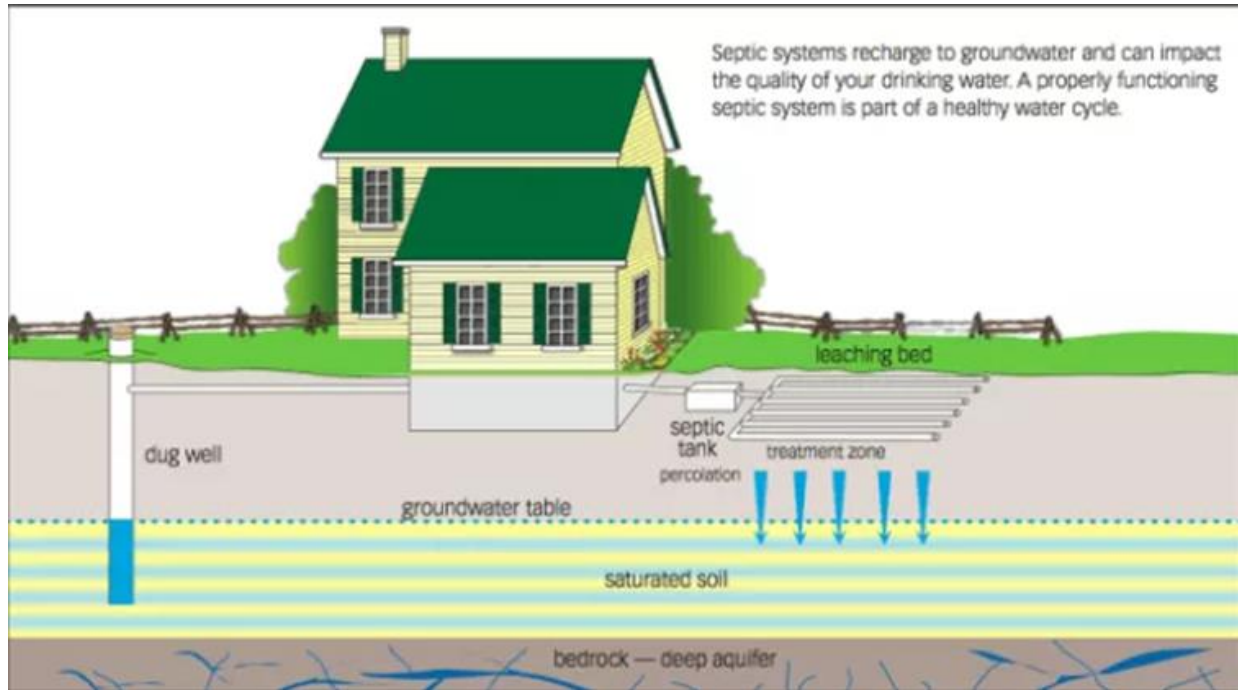


Figure 1. Typical septic system for a home that relies on a private well for drinking water (Groundstone, 2019).

We require that any new OSWW treatment systems be designed and installed according to the standards set out in Section 8 of the Ontario Building Code (OBC), for systems with a design daily sewage flow of less than 10,000 litres, or the Ontario Water Resources Act, for systems with design flows exceeding 10,000 litres. This requirement will be enforced through a Land Law that describes the building standards for Wasauksing.

Key aspects of the OBC can be referenced in the Wasauksing First Nation Land Use Plan 2019, including basic design standards and setbacks/clearance distances. The OBC should be consulted for full context and requirements.

Septic systems shall be maintained according to established best practices adopted by the Canada Mortgage and Housing Corporation (CMHC) and the Ontario Ministry of Agriculture and Rural Affairs (OMAFRA). These reference documents are provided in the Resources section of this ESG. At a minimum, owners shall have septic tanks pumped out and inspected by a licensed



professional every 3 to 5 years or when 1/3 of the tank volume is filled with solids.

We will require that all new OSWW systems are installed by a licensed contractor and proper documentation provided to Wasauksing First Nation. Health Canada will be retained as needed to conduct inspections on new and existing OSWW systems.

Strategy 5: Establish Monitoring Requirements for Wastewater Impacts on Water Quality

The most common contaminants that indicate failing OSWW systems include elevated nutrients such as nitrogen and phosphorus, particularly following major rainfall events, as well as pathogens (e.g., *E. coli*) and total coliforms. Wastewater also impacts receiving waters by adding organics. Microbes require additional oxygen to consume these compounds, resulting in a depletion of the oxygen supply in surface waters. This can have serious effects on aquatic life, highlighting the importance of safely managing our wastewater, especially in close proximity to surface water and/or drinking water wells.

We will work to ensure that our surface and groundwater monitoring programs include sampling for wastewater impacts. Samples will be analyzed for nutrients (nitrogen and phosphorus), total coliforms, and pathogens (e.g., *E. coli*), turbidity and biological oxygen demand – an indication of organic loading from wastewater discharges. This monitoring is especially important as a component of our Source Water Monitoring Program to ensure that the source of our community's drinking water is protected from wastewater contamination.

Our sampling for wastewater impacts will largely be event-driven as contaminated runoff and seepage will often coincide with precipitation events.



Strategy 6: Conduct a Cost-Benefit Analysis of Alternative Onsite Wastewater Systems

We are committed to continually exploring new technologies that improve our community's wastewater effluent quality, thus minimizing associated impacts on the receiving environment. We plan to undertake a cost-benefit analysis of alternative OSWW systems to evaluate the feasibility and suitability of these options for Wasauksing lands. Any alternative OSWW systems that pass the cost-benefit analysis may be considered for small-scale pilot projects prior to any significant investments being made.

Alternative OSWW systems can often provide better removal of nutrients such as phosphorus and nitrogen, while reducing the overall footprint of the system. For this reason, many of these systems are ideal for small lot sizes or property constraints due to proximity to surface water or challenging topography.

The following is a list of common alternative OSWW systems, which we may evaluate for future application on our lands (this list is not exhaustive):

- Biofilter
- Aerobic Treatment Unit
- Recirculating Sand Filter System
- Mound System
- Constructed Wetland System
- Cluster/ Community System

We will also look at the use of composting toilets to reduce water consumption, thereby minimizing the demand on OSWW systems.

Additionally, we will evaluate the appropriateness of these systems on our lands depending on the site conditions (i.e., topography, depth to water table, available space).





Strategy 7: Develop a Pharmaceuticals and Personal Care Products (PPCP) Management Strategy

Pharmaceuticals and Personal Care Products (PPCPs) are a group of emerging contaminants of concern, which are commonly found in medications, personal hygiene and cleaning products. Common examples include medications for pain, depression, and colds; birth control pills; caffeine; hair products; cleaning supplies and pesticides. Most of the current research focuses on antibiotic and hormone drugs, highlighting concerns relating to the prevalence of antibiotic resistant bacteria and hormonal changes in fish and humans, including the feminization of male fish and a trend of low sperm counts in men (National Environmental Services Centre, 2007).

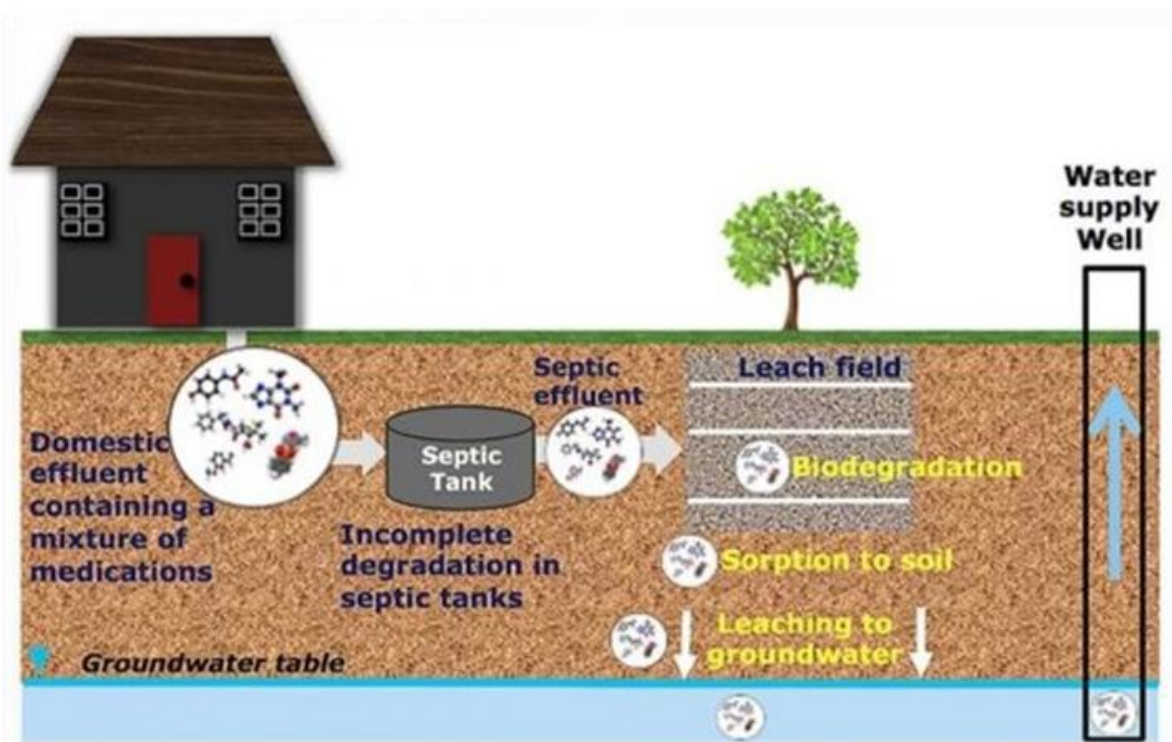


Figure 2. PPCPs entering groundwater via domestic wastewater in a conventional septic system (Penn State, 2018).



We will create a PPCP Management Strategy, as part of our broader Wastewater Management Plan, to reduce the release of these harmful substances to the environment and mitigate associated risks. Our multi-faceted approach will include a combination of community initiatives and best management practices for OSWW systems.

PPCP Community Awareness Campaign

Despite a lack of robust studies available on the impacts of PPCPs in the environment, early evidence suggests that the toxicity of these compounds, particularly on aquatic life, is significant, even at very low amounts. We recognize that monitoring PPCPs in the environment is very costly due to the specialized nature of analysis, and often fails to provide actionable data as mixtures are complex and can vary considerably from one location to the next. For these reasons, our approach to managing these contaminants is preventative in nature, focusing on reducing the quantity of these compounds at the source. We will develop a PPCP Awareness Campaign aimed at informing our citizens about the sources of PPCPs and potential pathways for these harmful substances to enter the environment. We will focus on PPCPs released through human excrement, while emphasizing the importance of proper disposal of unused or expired medications.

Pharmaceutical Drop-off Location

Citizens are able to dispose of their unused pharmaceuticals (prescription and over-the-counter medications) by dropping them off at the Wasauksing Health Centre. This initiative reduces the volume of pharmaceutical compounds released to the environment through improper disposal methods – i.e., placing items in household garbage or flushing them down the toilet.

Alternative Wastewater Systems

As described in greater detail in Strategy 5, we are committed to exploring alternative OSWW systems that improve effluent quality. This includes identifying alternative systems that provide improved PPCP removal.





Strategy 8: Launch a Household Water Conservation Initiative

Conserving water in homes reduces demand on septic systems, effectively minimizing impacts on the environment. The less water we use, the less wastewater we produce. Water conservation is also useful for reducing maintenance costs for septic systems and holding tanks, as tanks require pumping less frequently. Reducing household water use also reduces demands and costs for drinking water treatment systems.

We will encourage Wasauksing citizens to consider the use of low flow plumbing fixtures such as showerheads and toilets, as well as the use of composting toilets, where appropriate.

Monitoring and Enforcement



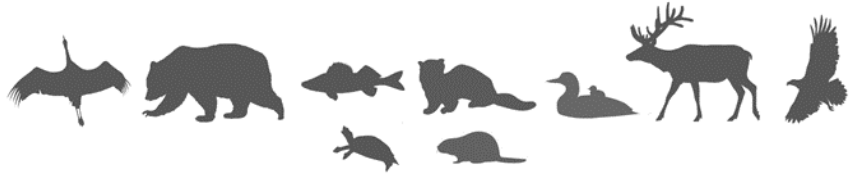
As citizens of Wasauksing, each one of us is responsible for doing our part to protect our lands and waters from the impacts of wastewater. We are committed to reporting any concerns relating to septic and wastewater to the Wasauksing Administration Office.

Wastewater management on our lands falls under provincial regulations and must undergo regular inspections. We work closely with Health Canada, the Ontario Ministry of Environment, Conservation and Parks (MECP); and Indigenous Services Canada (ISC) to monitor wastewater on our lands, as well as to enforce provincial and federal standards.

Our staff participate in monitoring and enforcement processes by liaising with government agencies to obtain inspection results and receive information and training from government personnel.



Community Initiatives



While much of wastewater management is focused around the design and technology aspects of treatment systems, we recognize the power people have in mitigating impacts through small changes in daily routines and habits.

We as citizens have the power to control much of what enters our wastewater systems and consequently, what substances make their way into the broader environment.

We can:

- Improve our knowledge of these substances and how wastewater systems work;
- Reduce the amount of wastewater we produce through water-saving strategies at home; and
- Ensure that nothing is disposed of improperly by flushing (e.g., medications).

We acknowledge that we all have an equal responsibility to minimize our impact on the lands and waters and are committed to working together to carry out community initiatives that make a difference.

The following initiatives can be championed by anyone in the community such as Wasauksing staff, educators, land users, youth, or anyone with a passion for caring for the land.

Wastewater Community Information Sessions

These sessions involve giving information about what wastewater is, where it comes from and some ways to reduce the wastewater within our households. During these sessions, we will share some



of the initiatives being undertaken relating to wastewater management (i.e., septic system assessments, database, pilot projects for alternative onsite wastewater systems) and hear comments and feedback from citizens.

Household Water Conservation Initiative

This initiative will take the form of an awareness campaign aimed at encouraging citizens and business owners to reduce the amount of wastewater they produce through water conservation strategies. We may promote the use of water-saving plumbing fixtures such as low flow toilets and showerheads or behavioural changes such as taking shorter showers, turning off the water when brushing teeth, and avoiding doing laundry until there is a full load.

Youth Engagement Sessions

At Wasauksing, we recognize the importance of our youth as future leaders in our community. We strive to empower youth to play an active role in all aspects of environmental stewardship including reducing the impacts of wastewater. We will create events and activities aimed at engaging our youth in learning about wastewater and all the ways that they can get involved to manage its impacts on the environment.

Water and Wastewater Youth Opportunities

We are committed to creating volunteer and summer employment opportunities for our youth in the areas of water and wastewater to build capacity within our community, but also to provide youth with transferable skills that will prepare them for future careers in a variety of fields. Technical skills for water and wastewater are in high demand, especially with the rise of climate change related issues. Youth opportunities relating specifically to wastewater may include summer employment assisting with basic septic assessments (see Strategy 2 and 3 above) and data entry, and conducting monitoring activities as part of Wasauksing's future Source Water Protection Plan.





Water Conservation Art and Research Projects

A fun way to get elementary-aged students involved in wastewater initiatives is to hold annual art contests. For example, we may have children of all ages participate in creating posters to promote water conservation in the community. As the future of Wasauksing, older students may do research projects to support these initiatives as well, allowing them to play leadership roles in shaping the future they would like to see for their community.

Resources for Community Initiatives

Water First Internship: This internship program, offered by the not-for-profit organization Water First, provides training and capacity development for young First Nation people interested in water treatment plant operation. Interns are trained in monitoring water quality from both the community water distribution system, and from traditional water sources on the land.

<http://waterfirst.ngo/programs/water-first/>

Youth for Water (Y4W): Youth for Water (Y4W) is a youth-driven water protection and conservation program created by Green Communities Canada.

The Youth for Water program focuses on bridging traditional Indigenous knowledge and culture with Western science and environmental issues to deliver a project that provides young Indigenous adults (ages 18-25) with an opportunity to learn about water issues and become involved in water protection and conservation.

This program is still in the early stages, but would provide excellent skills development, job-shadowing and mentorship opportunities for our young adults relating to wastewater management. It has previously worked with young adults from Hiawatha, Whitefish River, and Curve Lake First Nations.

Youth adults interested in starting a water project in their own community are encouraged to reach out to Alix Taylor





(ataylor@greencommunitiescanada.org) or Hattie Edwards (hedwards@greencommunitiescanada.org).

<http://greencommunitiescanada.org/youth-for-water/>

Think Before You Flush: Think Before You Flush is a public awareness campaign aimed at educating people about the problems certain products cause for wastewater treatment systems and aquatic ecosystems when flushed down the toilet or poured down the drain. The website provides information about products that should not be flushed down toilets or poured down drains. It also provides ideas for ways to raise awareness about the issue, including school-based projects. Links are provided for infographics and informational posters that can be printed and posted in bathrooms around the community.

<http://thinkbeforeyouflush.org/>

Educating and Engaging the Public on Wastewater Treatment: Tools & Tips. Handbook on Wastewater Management for Local Representatives: This handbook is authored by the Environmental Finance Centre at Syracuse University. The handbook provides practical advice and guidance for raising community awareness about wastewater management and engaging the public in stewardship activities related to wastewater management. Existing organizations and programs that can be used as additional resources are provided.

<http://efc.syr.edu/wp-content/uploads/2015/03/Chapter5-web.pdf>

Regulations and Best Practices



This section provides an overview of applicable federal and provincial regulations and guidelines as well as industry best practices and other helpful resources that relate to wastewater management. Wasauksing First Nation employs the more stringent of federal and provincial regulations, guidelines and standards, in the interim while Land Laws are in development.





Federal Legislation

Canadian Environmental Protection Act (CEPA), 1999. This Act is intended to provide protection of both human and ecological health, associated with the risks posed by the release of harmful pollutants to the environment. The CEPA stipulates that the release of wastewater effluents cannot pose unacceptable risks to human and ecosystem health as well as fishery resources. It lists toxic substances of concern and the associated discharge limits. It also details discharge bans associated with certain chemical releases into the environment. The CEPA also outlines the requirements for obtaining an Environmental Compliance Approval (ECA), which is required for any onsite wastewater treatment systems (including septic) that has a design capacity greater than 10,000 L/day.

<https://laws-lois.justice.gc.ca/eng/acts/C-15.31/index.html>

First Nations Water and Wastewater Action Plan – Indigenous and Northern Affairs Canada: The First Nations Water and Wastewater Action Plan (FNWWAP) was introduced in 2008. FNWWAP provides funding for water and wastewater treatment facility construction and renovation, operation and maintenance of facilities, training of operators and related public health activities on-reserve. It should be noted that the FNWWAP includes funding options for small wastewater facilities, which includes septic systems.

Key components of FNWWAP include the following:

- Investments in infrastructure projects to address water and wastewater needs and to maintain existing systems;
- Investments in the on-going operations and maintenance of water and wastewater systems;
- Funding for the hands-on training of treatment plant operators, to increase the number of certified water treatment system operators;



- Water quality monitoring in accordance with the Guidelines for Canadian Drinking Water Quality (GCDWQ);
- Support for water and wastewater-related public health activities in First Nation communities on reserve; and
- Funding for third-party water and wastewater systems operation under the Safe Water Operations Program, when required.

<http://www.aadnc-aandc.gc.ca/eng/1313426171775/1313426357946>

Federal Regulations Applicable to Wastewater Treatment Plants

The following regulations may be consulted for future application when/if Wasauksing introduces an operational wastewater treatment plant. These regulations are generally not applicable to onsite wastewater systems.

Fisheries Act, 1985. The Wastewater Systems Effluent Regulation under the Fisheries Act came into force in June 29, 2012 and sets national effluent quality standards that are achievable through secondary wastewater treatment. The Regulations apply to owners and operators of wastewater systems that collect, or are designed to collect, 100 cubic metres or more of influent per day and/or thant discharge to surface water. This regulation requires wastewater system owners or operators to monitor, record information and submit reports on effluent quality and quantity. The Regulations specify the type of sample to be collected and minimum sampling frequencies, based on the type and size of wastewater system. Systems that deposit larger annual average daily volumes of effluent are required to monitor more frequently than those with smaller volumes. Owners or operators of wastewater systems may be required to install, maintain and calibrate monitoring equipment.

<http://laws-lois.justice.gc.ca/eng/regulations/SOR-2012-139/index.html>





Strategy for the Management of Municipal Wastewater Effluent – Canadian Council of Ministers of the Environment (CCME): The Canadian Council of Ministers of the Environment (CCME) has developed a Canada-wide Strategy for the Management of Municipal Wastewater Effluent. The Strategy describes the collective agreement reached by the 14 ministers of the environment in Canada to ensure that wastewater facility owners will have regulatory clarity in managing municipal wastewater effluent under a harmonized framework that is protective of human health and the environment. The Strategy requires that all facilities achieve minimum National Performance Standards and develop and manage site-specific Effluent Discharge Objectives. The National Performance Standards address pollutants common to most wastewater discharges. The site-specific Effluent Discharge Objectives will address specific substances that are of concern to a discharge or environment. This strategy document provides regulatory clarity in managing municipal wastewater effluent under a harmonized framework, which is protective of human health and the environment. The strategy requires that all facilities achieve minimum National Performance Standards and develop and manage site-specific Effluent Discharge Objectives. http://www.ccme.ca/files/Resources/municipal_wastewater_effluent/cda_wide_strategy_mwwe_final_e.pdf

Model Sewer Use Bylaw – CCME: This is a guidance document provides a model for a “Sewer Use Bylaw” for Wasauksing First Nation to develop their own bylaw. This Model Sewer Use Bylaw has not been developed to meet the specific needs of Wasauksing but is a foundation for the development of a bylaw. This Model Bylaw is a tool to assist communities in implementing source-controls for contaminants discharged to community sewer systems. The bylaw aims to regulate what can be received by the wastewater treatment facility. It is also called source control and can prevent hazardous wastes from being discharged into the wastewater system (i.e., prohibiting dumping toxic waste into the sewer systems). Many of these by-laws aim to prevent clogging of municipal infrastructure from ‘flushable wipes’ and other non-biodegradable materials (paper towels, condoms, floss, hair) as well as oil/grease, hazardous wastes, medications and





pharmaceuticals from going through the wastewater treatment system. More importantly, the bylaw can also apply to industrial and commercial users who may in future, if such users lease Wasauksing lands, discharge hazardous materials into the sewer which may have negative effects on the wastewater treatment plant and the river.

www.ccme.ca/files/Resources/municipal_wastewater_effluent/pn_14_21_model_sewer_use_bylaw_guidance_doc_e.pdf

Review of Municipal Effluent Chlorination / Dichlorination Principles, Technologies and Practices – Environment Canada:

The report includes a comprehensive review of the current state-of-the-art methods for chlorine-based disinfection, residual chlorine control, dichlorination chemicals and procedures, and the related chlorination and dichlorination equipment used in the wastewater treatment.

<https://www.ec.gc.ca/eu-ww/default.asp?lang=En&n=71E71A86-1>

Guidance Manual for Sewage Treatment Plant Process Audits – Environment Canada:

A reference document for agencies, municipalities, consultants, planners, organizations, and individuals responsible for the assessment, optimization, and upgrading of municipal sewage treatment plants. It focuses on technical methodologies that have been used to examine and assess full scale plants. Conventional and modified activated sludge facilities are covered in detail.

<https://www.ec.gc.ca/eu-ww/default.asp?lang=En&n=2C8A77FE-1>

Provincial Legislation

Ontario Environmental Protection Act –Ministry of Environment and Climate Change (MOECC): The Act outlines the provincial requirements needed for approval to operate and discharge effluent into the environment.

<https://www.ontario.ca/laws/statute/90e19>

Ontario Water Resources Act (OWRA), 1990: This act regulates the operation of wastewater treatment facilities in Ontario. This legislation classifies facilities (Class I-IV) based on several criteria (volume, infrastructure, capacity) and requires facilities to have an



Environmental Compliance Approval (ECA, previously called Certificate of Approval) for releases into the environment (i.e., to discharge effluent).

In terms of onsite sewage treatment systems, the OWRA only applies to large systems that exceed 10,000 L/day in capacity. Private residential-sized systems would be subject to the Ontario Building Code regulations.

<https://www.ontario.ca/laws/statute/90o40>

Ontario Building Code – Ministry of Municipal Affairs and Housing (MAH): The Ontario Building Code regulates septic systems design and installation as well as other types of onsite sewage treatment systems.

<http://www.mah.gov.on.ca/Page7393.aspx>

Sewage Self Assessment – Ministry of the Environment, Conservation and Parks (MECP): The MECP has a useful tool for assessing a facility's compliance with Ontario environmental legislation related to private, commercial, or industrial sewage. This assessment also directs individuals to the applicable legislation and standards depending on septic system size and other design characteristics.

<https://www.ontario.ca/page/sewage-self-assessment>

Design Guidelines for Sewage Works, MOECC (2008): This is a collection of the engineering design criteria for sewage works, based on generally accepted good engineering practices in Ontario.

https://www.grandriver.ca/en/ourwatershed/resources/Documents/Water_Wastewater_Optimization_MOEDesign.pdf.

Guidelines and Best Practices

Province of Manitoba's Guide to Developing a Waste Management Plan: This guide is referenced in Strategy 1 of this ESG. It provides a detailed guide for developing a Waste Management Plan that may assist Wasauksing First Nation staff in this process.

<https://www.gov.mb.ca/mr/plups/pdf/wwg.pdf>





Waterloo Biofilter – Onsite Wastewater Treatment: Waterloo Biofilter specializes in innovative onsite wastewater treatment systems, including options that accommodate shallow groundwater and bedrock conditions.

<https://waterloo-biofilter.com/>

Premier Tech Aqua - Ecoflo Biofilter: Premier Tech Aqua manufactures passive (no energy required) onsite wastewater treatment systems that utilize natural organic materials for filtration (Ecoflo).

<https://www.ecoflobiofilter.com/waste-water-septic-tanks/green-technology>

Your Septic System - Canada Mortgage and Housing Corporation (CMHC): The Canada Mortgage and Housing Corporation (CMHC) has developed an educational document to inform homeowners about how septic systems work, best management practices including regular maintenance, and direction to additional resources as well as an FAQ section.

http://publications.gc.ca/collections/collection_2011/schl-cmhc/nh18-24/NH18-24-34-2008-eng.pdf

Septic Smart! Program –Ontario Ministry of Agriculture and Rural Affairs (OMAFRA). OMAFRA has designed the Septic Smart! Program to assist Ontario residents in the maintenance and management of their septic tanks systems. The program features an information guide for septic tank owners as well as a series of video guides for septic owners to help better understand and maintain their septic system.

http://www.omafra.gov.on.ca/english/environment/facts/sep_smart.htm

Water Quality: Septic Systems – North Dakota State University: These documents provide Best Management Practices for residential septic systems, including tips for septic systems in areas with high water table conditions.

<https://www.ag.ndsu.edu/waterquality/septic-systems>

How to Care for Your Septic System – United States Environmental Protection Agency: This website describes best management





practices for maintaining septic systems on your property. It may be utilized by Wasauksing citizens to help care for their residential septic systems. The website focuses on four key areas for maintaining septic systems:

1. Inspect and Pump Frequently
2. Use Water Efficiently
3. Properly Dispose of Waste
4. Maintain Your Drainfield

<https://www.epa.gov/septic/how-care-your-septic-system>

Glossary



Bacteria

Microscopic living organisms usually consisting of a single cell. Bacteria can aid in pollution control by consuming or breaking down organic matter in sewage and or other water pollutants. Some bacteria may also cause human, animal and plant health problems. Bacteria are predominantly found in the intestines and feces of humans and animals. The presence of coliform bacteria in water indicates the contamination of water by raw or partially treated sewage.

Bacteria are commonly referred to based on their oxygen requirements when discussing wastewater processing. Aerobic bacteria refer to those microbes that thrive in an oxygen-rich environment (i.e., leaching bed). Alternatively, anaerobic bacteria thrive in environments devoid of oxygen (i.e., septic tank).

Contaminant

Anything found in water (including microorganisms, minerals, chemicals, radionuclides, etc.) that may be harmful to human health or the environment.



Effluent

Refers to wastewater that has been treated.

Holding Tank

A holding tank is essentially a septic tank without a discharge outlet connecting to a leaching bed. Wastewater is stored in the tank until it is pumped out by a contractor.

Leaching Bed

A series of trenches or a bed lined with gravel or coarse sand and buried one to three feet below the ground surface. Perforated pipes or drain tiles run through the trenches to distribute the wastewater.

Synonyms: septic bed, drainfield, sub-surface disposal field, soil absorption system, weeping bed, tile bed, conventional bed

Onsite Wastewater System

Onsite wastewater (OSWW) systems refer to a wide array of treatment and discharge options that manage wastewater at the same location that it was produced. The most common example of an onsite system is a septic system.

Organic Loading

The loading of a wastewater treatment facility in terms of the strength of incoming wastewater, usually expressed as the five-day biochemical oxygen demand of the wastewater. In facultative wastewater treatment lagoons, the organic loading determines the size of the primary cell needed to treat incoming wastewater.

Pathogen

A living organism that has the potential to promote diseases within water. Pathogens can include bacteria, viruses, protozoa, and other small organisms that can cause disease or illness to its host.



Pharmaceuticals

Refers to medicinal drugs, either over-the-counter or prescription. These substances are pertinent to wastewater treatment as they are released to wastewater through urination and improper disposal of expired or unused medications. Even in very low concentrations, pharmaceuticals can have harmful effects on aquatic life.

Pharmaceuticals and Personal Care Products (PPCP)

Pharmaceuticals and Personal Care Products (PPCP) refer to, “a group of compounds found in common household products such as medications, cosmetics and cleaning agents” (Ontario Rural Wastewater Centre [ORWC], 2010).

Runoff

The term runoff refers to: (1) That part of the precipitation, snow melt, or irrigation water that appears in uncontrolled surface streams, rivers, drains or sewers. Runoff may be classified according to speed of appearance after rainfall or melting snow as direct runoff or base runoff, and according to source as surface runoff, storm interflow, or ground-water runoff. (2) The total discharge described in (1), above, during a specified period of time. (3) Also defined as the depth to which a drainage area would be covered if all of the runoff for a given period of time were uniformly distributed over it.

Septic System

An onsite wastewater treatment system that utilizes a septic tank, where solids are settled out and broken down by anaerobic bacteria (bacteria that thrive in environments devoid of oxygen), and a leaching bed, where partially clarified wastewater is distributed and treated by soil absorption and aerobic bacteria (bacteria that thrive in oxygen-rich environments) breaking down organics.



Septic Tank

A tank used to detain domestic wastes to allow the settling of solids prior to distribution to a leach field for soil absorption. Septic tanks are used when a sewer line is not available to carry them to a treatment plant. A settling tank in which settled sludge is in immediate contact with sewage flowing through the tank, and wherein solids are decomposed by anaerobic bacterial action. Tanks can be single or multi-chamber, depending on design.

Wastewater

The composite of water and water-carried wastes from residential, commercial, industrial or institutional premises or any other source.

Wastewater Facility

Any works for the collection or treatment and release of wastewater or any part of such works. Includes engineered wetlands and those with natural elements considered as design components.

Wastewater Sludge

Solid material recovered from the wastewater treatment process.

Wastewater Treatment Plant

Any structure or thing used for the physical, chemical, biological or radiological treatment of wastewater, and includes sludge treatment, wastewater sludge storage and disposal facilities.

Water Quality

The term used to describe the chemical, physical, and biological characteristics of water, usually in respect to its suitability for a particular purpose.



Medicinal Plants Conservation

Environmental Stewardship Guidance

Contents

Our Stewardship Vision

Community Objectives

**Stewardship Guidance
and Strategies**

**Monitoring and
Enforcement**

Community Initiatives

**Regulations and Best
Practices**

Glossary

Our Stewardship Vision

As proud Anishinaabe people, we are committed to protecting the cultural and environmental features of our **akii** (lands) and **nibiish** (waters) and ensuring that Wasauksing is a vibrant and healthy community for the next seven generations. An integral part of this commitment is the protection and availability of our sacred and **mashkiki** (medicinal) plants to help maintain the balance of mental, physical, emotional, and spiritual health and well-being in our community.

The intent of this ESG is to outline strategies that will ensure that the sacred and **mashkiki** plants on our Island are protected from habitat destruction, improper harvesting, and invasive species. We are committed to helping preserve, protect, and enhance the heritage of our **aanikoobijiganag** (ancestors) by respecting and conserving the **mashkiki** (medicines) that the Creator has placed on our **akii** as a gift for our people.

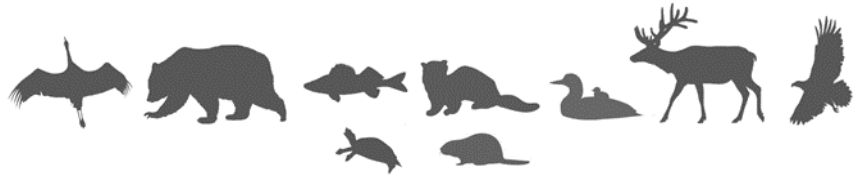
*"It's all over Parry Island,
the traditional medicines
we used to use, and we
still do."*

– Wasauksing Citizen





Community Objectives



We will work to implement strategies that will protect and conserve medicinal plants at Wasauksing to ensure these critical resources are healthy and available for the next seven generations.

Short-Term Objectives

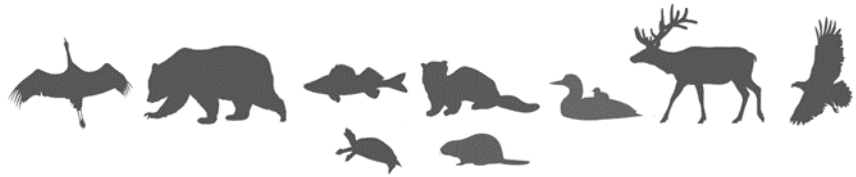
- Educate citizens about sustainable harvesting practices

Long-Term Objectives

- Develop and implement a Medicinal Plant Protection Plan
- Restore and maintain key habitat areas for medicinal plants
- Ensure long-term conservation of medicinal plant resources
- Increase pollinator presence at Wasauksing



Stewardship Guidance and Strategies



To meet our short and long-term objectives for the protection of groundwater on the Island, we use the following guidelines and strategies that are built on regulations, guidelines, and best management practices.

Strategy 1: Sustainable Harvesting Education

Many medicinal plants have specific harvesting techniques that allow the plant to continue to flourish and replenish itself once certain parts have been carefully harvested. If not harvested correctly, however, the plant's population may suffer and result in decreased abundance, or the altogether local disappearance of the medicine.

To ensure that traditional medicines are not overharvested and are collected in a manner that is respectful and sustainable, educational harvesting workshops will be held within our community. Community Elders, knowledge keepers, and healers will lead sessions open to the entire community, as well as special sessions at Wasauksing Kinomaugewgamik for youth, that will demonstrate the identification of medicinal plants traditionally used at Wasauksing, what type of habitat they are found in, and the proper and respectful way to harvest each type of plant in a manner that will ensure that it will also be available for the next seven generations. The sessions will be a mix of "in class" storytelling and presentations, as well as learning on the land. If applicable, the sessions may also be supplemented by guest speakers with a relevant professional background, such as biologists, botanists, and ecologists.



Strategy 2: Medicinal Plants Inventory

There are many medicinal and sacred plants that are used and valued by our community. In order to determine which plants, if any, require special protection measures (Strategy 3) or habitat restoration activities (Strategy 4), an inventory is used to document all medicinal plants that are used by our citizens and Elders. This inventory will build on the existing Wasauksing Flora Species List, and should be developed collaboratively between citizens, Elders, and a retained professional botanist or taxonomist, so that each plant identified can be referenced by its common English name(s), Anishinaabek name, and scientific name, for ease of cross-referencing. In addition, each entry in the inventory list should include information about associated habitat, proper harvesting techniques, and photos of each plant to assist with future identification. Information about medicinal plants should be collected from citizens and Elders through traditional knowledge interviews and verified through ground truthing.

In order for the Lands and Resources Committee to be able to identify areas that should be protected from development, or where special conservation considerations are necessary, the information contained in the inventory should be accompanied by a digital map that outlines where each of the identified medicinal plants are found on the Island. This map should be created using GIS mapping techniques.

The medicinal plants inventory database and map should be updated on an on-going basis as new information is shared by citizens and should be stored in an electronic database system that is saved to multiple locations to ensure the information will be preserved. This database and accompanying map will be for internal use by the Lands and Resources Committee only and will be held in strict confidence to ensure that this sacred knowledge remains protected and respected.



Strategy 3: Medicinal Plants Protection Plan

Developed collaboratively between traditional ecological knowledge holders, qualified biologists, and ecologists, a Medicinal Plants Protection Plan outlines appropriate buffer areas and mitigation measures for plants of concern, as well as areas on the Island that may warrant extra protective measures to ensure that our medicines are available for seven generations to come. Our Medicinal Plants Protection Plan should be consulted prior to and during consultation events with proponents, right-of-way maintenance activities, during land use planning activities, and in the preparation of forest management plans.

Areas that contain significant populations of medicinal and sacred plants can be designated as 'Culturally & Environmentally Significant Areas' in our Land Use Plan.

This initiative will help ensure relevant regulations and best management practices are considered prior to changes in land use, to ensure that the plants valued by our community experience the least possible impact. Where impacts are unavoidable because a development project or land use is deemed necessary in a proposed location, a Medicinal Plants Protection Plan will provide guidance for minimizing and mitigating impacts. Protocols associated with the protection plan will also provide direction for protecting relevant species-at-risk and plants that may become threatened by activities on the Island and beyond, and to avoid the introduction of invasive species that might impact habitat and abundance of our medicinal plants.

The medicinal plants protection plan will include a stand-alone Integrated Pest Management (IPM) plan that provides strategies for managing pests and weeds with minimal and reduced application of chemical pesticides (Figure 1). The reduction of pesticide use on the Island will help ensure that our medicinal plants remain safe for consumption, and that pollinators can flourish.

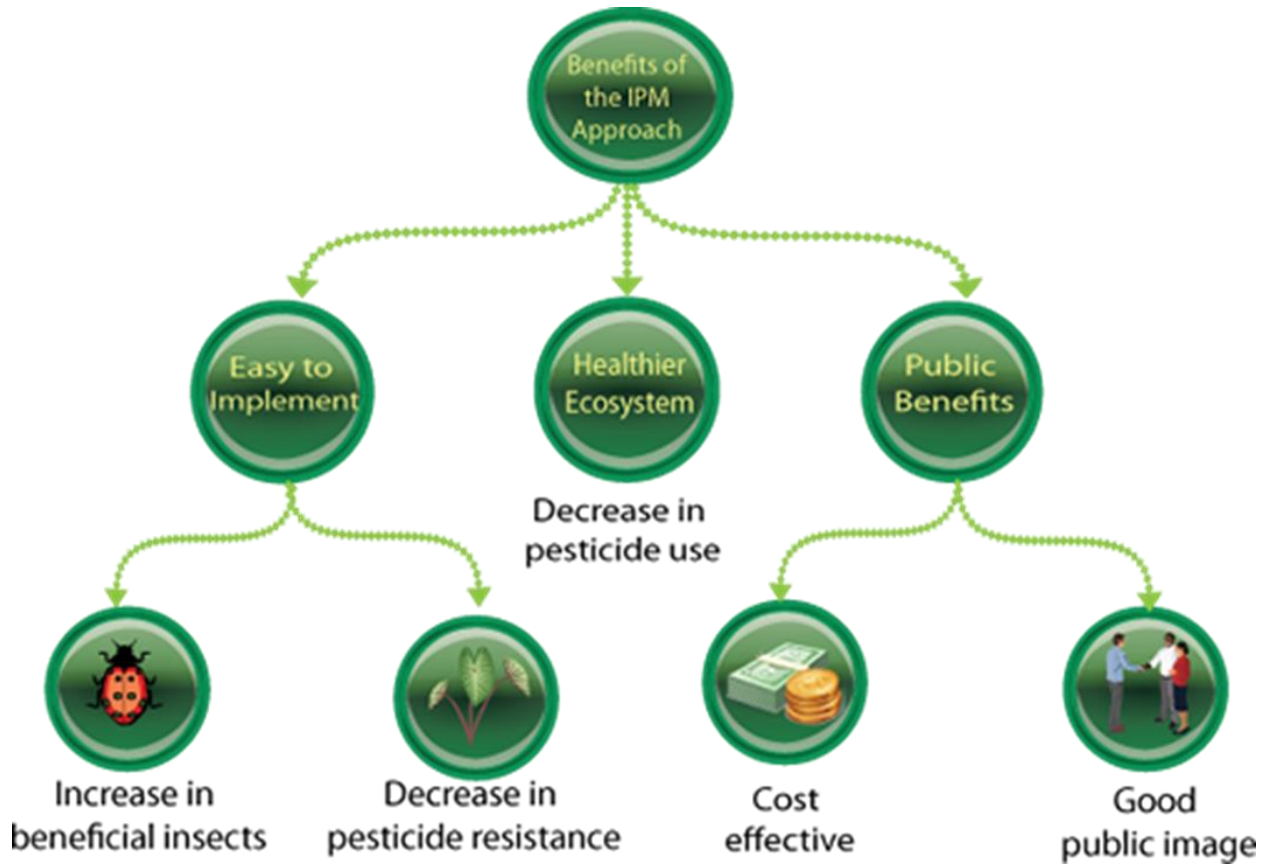


Figure 1. Benefits of Integrated Pest Management (Source: https://springtimeirrigation.com/services/additional/integrated_pest_management/)

In addition to consulting the appropriate protocols laid out in the protection plan, the Medicinal Plants Protection plan strategy will also include a sweep for significant plant species in proposed project areas prior to any developments or land use changes occurring. Prior to road rights-of-way being cleared of overgrown vegetation, community harvesters will be formally notified of the anticipated date and time and given the opportunity to harvest sweetgrass from these areas for cultural and traditional purposes. A Medicinal Plants Protection Plan helps ensure that the areas in which our medicines grow are protected, and our traditional resources are preserved for future generations.



Strategy 4: Restoration of Key Habitat Areas

Elders and traditional ecological knowledge holders will identify areas where medicinal plants were once in abundance and harvested by our ancestors but are now in decline or altogether absent. Working collaboratively with ecologists, traditional ecological knowledge holders will determine which of those areas are suitable for restoration activities and develop a site and species-specific plan to revitalize the at-risk plant population. For example, areas that are deemed suitable for wild rice cultivation may be seeded, protected from wildlife or people that may harm the early stages of restoration efforts, and managed for competing species. In some cases, some minor landscape adjustments may be necessary, or new areas on the Island identified as suitable alternative habitat. In all cases, ongoing monitoring will be necessary for multiple years to ensure that the key habitat areas have been successfully restored and established.

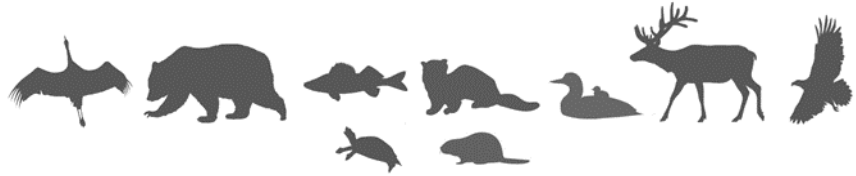
Strategy 5: Pollinator Promotion

Pollinators, such as bees, wasps, butterflies, and moths, are critical for the reproduction of many plants, including our medicines. Citizens and Elders have recently noticed a decrease in the number of bees on our Island, which eventually could lead to detrimental effects to the abundance of our medicinal plants. A pollinators promotion strategy could involve a combination of several different initiatives, including the creation of nesting habitat, restrictions on pesticide use on the Island, education about the importance of pollinators, and the creation of pollinator friendly gardens. By protecting our pollinators and helping to foster their populations on the Island, we are also helping to promote the growth and availability of our medicinal plants for seven generations to come.





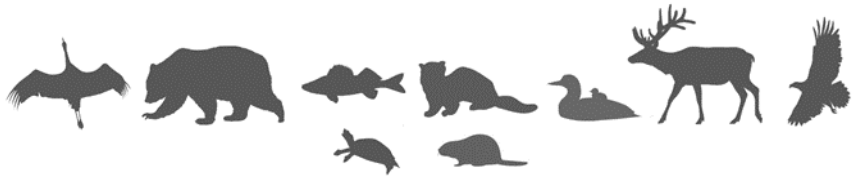
Monitoring and Enforcement



As Anishinaabe people, we are all responsible for protecting our lands and waters and showing respect to the plants and animals that flourish there. It is our responsibility to report anything that might affect the health and abundance of medicinal plants on our Island, and our community's responsibility to action against those risks. Such threats may include incompatible land uses, inappropriate applications of chemical pesticides, improper and overharvesting, the presence of invasive species, destruction of habitat and potentially harmful activities, and threats to native pollinators. It is our responsibility to share teachings about our sacred and medicinal plants, their uses, and proper harvesting techniques to our youth so that they can continue to respect and enjoy these gifts for seven generations, as our ancestors have before us.

Areas that provide habitat for culturally important species that are not mapped or designated as 'Culturally & Environmentally Significant Areas' in our Land Use Plan, which would provide the area protection from the impacts of development, can be protected through the requirements for development under our Land Laws, and the Development and Building Approval Process outlined in Section 5.1 of our Land Use Plan.

Community Initiatives



The following initiatives can be championed by anyone in the community such as Wasauksing staff, educators, land users, youth, or anyone with a passion for caring for the land.



Medicine Walks

We will have annual medicine walks where Elders and other knowledgeable citizens will lead youth and citizens of all ages through areas where medicinal plants grow, demonstrating proper identification, traditional harvesting techniques, and discussing uses.

Invasive Species Reporting

Posters and informational materials will be distributed to citizens to assist them in recognizing and identifying invasive species that may pose a threat to our Island. A reporting system will be established with the Lands and Resources Committee, whereby citizens can report incidences and locations of invasive species observations. The Lands and Resources Committee can report findings of invasive species to the Invading Species Hotline at 1-800-563-7711.

Bumble Bee Watch

Citizens are encouraged to participate in this citizen science initiative, which helps researchers determine the status and conservation of bees in North America. When a bee is spotted in nature, a sighting can be logged on the organization's website by submitting a photo of the bee and its location, along with an identification of your species.

<https://www.bumblebeewatch.org/>

Community Initiative Resources

Invasive Plant Fact Sheets & Postcards (Ontario Invasive Plant Council): This website provides a series of post cards, fact sheets, and posters to promote public education on the invasive plants found in Ontario.

<https://www.ontarioinvasiveplants.ca/resources/fact-sheets/>

Pollinator Live – A Distance Learning Adventure: This website provides many educational resources on the health and importance of pollinators. The site includes school activities,

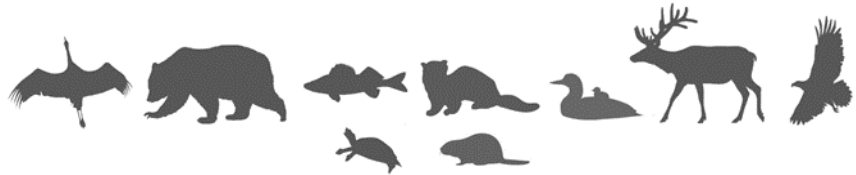




Regulations and Best Practices

webcasts and webinars, and online educational resources.

<https://pollinatorlive.pwnet.org/index.php>



Federal Regulations

Natural Health Products Regulations, 2003: These regulations control natural health products in Canada, which includes the use of any plants or plant materials for homeopathic or traditional medicine practices. This includes intending to use natural health products for the diagnosis, treatment, mitigation, or prevention of a disease or symptoms in humans. These regulations apply to activities such as the sale, manufacture, packaging, storage, and distribution of natural health products.

<https://laws-lois.justice.gc.ca/eng/regulations/SOR-2003-196/page-1.html>

Food and Drugs Act, 1985: This act controls food and drugs in Canada, including any substances that are manufactured, sold, or represented for use in the diagnosis, treatment, mitigation, or prevention of a disease or symptoms in humans.

<https://laws-lois.justice.gc.ca/eng/acts/f-27/page-1.html>

Plant Protection Act, 1990: This act aims to prevent the spread, importation, and exportation of pests to protect plant life in Canada. The Act is primarily focused on agricultural and forestry sectors; however, it may also apply to any action that involves the movement, growth, culturing, production or movement of anything that could be a pest, be infested with a pest, or could constitute an obstacle to controlling a pest.

<https://laws-lois.justice.gc.ca/eng/acts/p-14.8/page-1.html>

Species at Risk Act, 2002: This Act is intended to protect endangered species and the habitats they depend on, ideally



enabling the recovery of species at risk (SAR) to the extent that they are no longer at risk. At minimum, the Act aims to prevent SAR from becoming extinct or extirpated. The Act allows for the listing of new SAR through a recommendation and assessment process involving the Minister of the Environment, Governor in Council, the Committee on the Status of Endangered Wildlife in Canada, and Ministers responsible for particular species. The recovery of SAR is promoted by the Act through mandatory development of recovery strategies and action plans for all species assessed as at risk.

<http://laws-lois.justice.gc.ca/eng/acts/s-15.3/>

Provincial Acts

Ontario Endangered Species Act, 2007 (MNR): This Act provides for the protection of species classified as endangered or threatened, as well as protection of those species' habitats. The Act also allows for the assessment and classification of new species through an independent body that bases its assessment on western science and Aboriginal Traditional Knowledge. This body classifies each species deemed at risk in 1 of 4 categories or levels of at-risk status. The creation of recovery strategies and plans is covered by the Act, as are tools aimed at reducing the impacts of human activities on endangered species, promoting protection, and enabling recovery.

<https://www.ontario.ca/laws/statute/07e06>

Invasive Species Act, 2015 (MNR): This Act aims to prevent the introduction and spread of invasive species in Ontario. The main focus is on preventing introduction, since that is the least costly and most effective approach in the long run. The Act allows for the classification of invasive species as either prohibited or restricted and enables the creation of regulations to be applied to those species. Prohibitions are laid out in the Act that apply to prohibited species. Activities that are regulated under the Act include moving of firewood, boating, and animal and plant purchase and trade.

<https://www.ontario.ca/laws/statute/15i22>

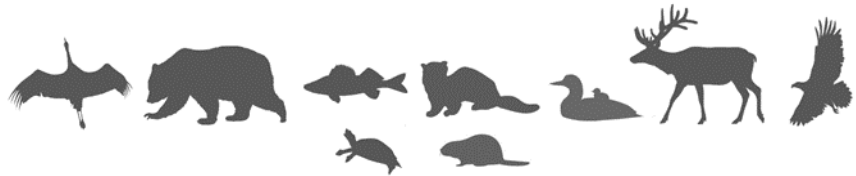


Best Practices

Best Management Practices, (Ontario Invasive Plant Council): This website provides a series of more than 15 best management practices for different invasive plants in Ontario. Each document includes details on how to identify and properly manage the invasive species and promotes the use of integrated pest management to achieve control over the invasive plants.

<https://www.ontarioinvasiveplants.ca/resources/best-management-practices/>

Glossary



Buffer Area

An area that is next to a protected zone and has restrictions on the resource use that can occur, with the goal of helping enhance conservation of the protected area.

Geographical Information System (GIS)

Geographic Information System (GIS) is a computer system used to capture, store, manipulate, and analyze geographical and spatial data.

Ground Truthing

The act of confirming and validating information through direct observations on the ground, rather than relying solely on the interpretation of remotely obtained data.

Integrated Pest Management

A program used to manage pests that is based on prevention, monitoring, and control in order to eliminate the use of pesticides. This is accomplished by integrating a variety of techniques and methods, including cultural, biological, and structural strategies to control pests.



Invasive Species

A plant, fungus, or animal species that is not native to a specific location and which has the tendency to spread to a degree believed to cause damage to the environment, human economy, or human health.

Mitigation Measure

An action that is implemented with the intent of lessening the intensity of an adverse effect.

Pollinator

An animal or insect that transfers pollen from one part of a plant to another, to facilitate the plant's reproductive processes.

Right-of-Way

The strip of land that is on either side of a linear development, such as a road, pipeline, or transmission line.

Species at Risk (SAR)

A naturally occurring plant or animal in danger of extinction or of disappearing from the province or country. Terms such as special concern, threatened, endangered, extirpated, and extinct can describe the range of conditions and potential outcomes for species at risk.



Wildlife and Wildlife Habitat

Environmental Stewardship Guidance

Contents

Our Stewardship Vision

Community Objectives

**Stewardship Guidance
and Strategies**

**Monitoring and
Enforcement**

Community Initiatives

**Regulations and Best
Practices**

Glossary

*"We have always
understood when we
could fish and when we
could hunt without
disturbing the natural
course of nature."*

– Wasauksing Citizen

Our Stewardship Vision

As proud Anishinaabe people, we are committed to protecting the cultural and environmental features of our **akii** (lands) and **nibiish** (waters), and ensuring that Wasauksing is a vibrant and healthy community for seven generations to come. We are caregivers of the **akii**. We respect the gifts of the Creator and are committed to the protection of wildlife and wildlife habitat. We have a deep, spiritual connection to the **awakaanag** (animals), **giigoon** (fish), **bineshiinyag** (birds) and plants. From the Lake Trout and Northern Pike that use our **nibiish** for spawning and feeding, to the Moose and Osprey that reside on, and feed from, our **akii**, we must protect the health of all species.

Climate change, development and pollution can adversely impact wildlife. We outline strategies that will ensure that the wildlife that live with us on Wasauksing are protected from habitat destruction, improper harvesting, the spread or introduction of invasive species, among many other potential threats. We are committed to preserving, protecting and enhancing the legacy of our **aanikoobijiganag** (ancestors) by respecting and protecting the wildlife species that the Creator has placed on this Island as a gift.





Community Objectives



We will work to develop and implement strategies that protect and conserve the wildlife and wildlife habitat on our Island for seven generations to come.

Short-Term Objectives

- Conduct a wildlife baseline assessment, including species at risk and culturally valued species, on Wasauksing, braiding western science and Indigenous knowledge-based approaches
- Invest in key wildlife and wildlife habitat-related resources (e.g., field guides, protocols, manuals, books, etc.) and gear (e.g., binoculars, digital cameras, handheld GPS units, chest waders, first aid kits, measuring tape, etc.) to facilitate ongoing community-based monitoring activities
- To protect wildlife and wildlife habitat by enacting our Land Use Plan and Environmental Assessment Law.
- Train citizens on the use of citizen science tools and programs (e.g., eBird, Ontario Reptile and Amphibian Atlas, iNaturalist, etc.)
- Organize and run a community “bioblitz” to engage citizens in the inventory and conservation of wildlife species on Wasauksing
- Network with various organizations, including governmental ministry and agency representatives, non-government organizations, academic institutions, industry and neighbouring communities to establish and maintain collaborative working relationships



- Continue to participate in the protection and recovery of species at risk (e.g., Little Brown Bat, Small-footed Bat) by applying for funding programs (e.g., SARSF, AFSAR, etc.)
- Partner community Elders with youth to establish an on-the-land mentorship program focused on sharing traditional ecological knowledge
- Develop educational materials to prevent the spread and introduction of invasive species in Ontario and on Wasauksing

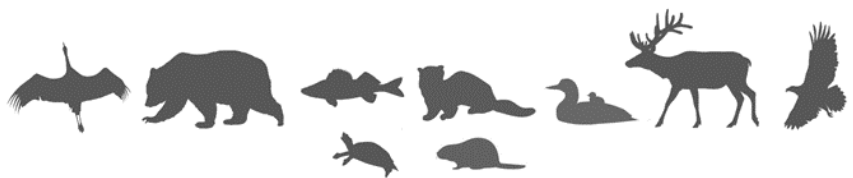
Long-Term Objectives

- Develop a monitoring program for wildlife and wildlife habitat, focusing on culturally valued species (e.g., Osprey, Moose, etc.) and species at risk (e.g., bald eagles, little brown bats, eastern whip-poor-will, etc.) on Wasauksing, braiding western science and Indigenous knowledge-based approaches
- Inventorying and mapping of existing invasive species infestations or problem areas and developing an invasive species management plan
- Develop a program for community land users to confidentially report important ecological observations (e.g., moose sightings, diseased plants) using a customized web or mobile-based app (e.g., TrailMark)
- Implement stewardships initiatives (e.g., installation of anti-wildlife poaching signage, community bat walks, etc.), stemming from ongoing wildlife and wildlife habitat monitoring
- Establish a Species at Risk division of our Lands Department, responsible for overseeing wildlife and wildlife habitat monitoring (e.g., bat acoustic monitoring) and stewardship activities (e.g., evening bat walks)



- Develop a Wasauksing Guardians program responsible for undertaking wildlife and wildlife habitat monitoring, stewardship activities, and anti-wildlife poaching patrols
- Establish or maintain partnerships (e.g., Toronto Zoo) with interested collaborators to share wildlife monitoring resources, share wildlife and wildlife habitat-related datasets (where appropriate) and co-develop wildlife protection initiatives
- Establish, restore, and maintain key habitat areas for native pollinator-friendly plant species
- Develop and implement a series of Best Management Practices (BMPs) for development adjacent to wildlife habitat, including recommended buffer widths, restricted timing periods, vegetation management, and other mitigation measures to be taken. The mitigation hierarchy (avoid, minimize, restore, offset, in order of preference) is to be considered when development may cause impacts to wildlife habitat

Stewardship Guidance and Strategies



To meet our short and long-term objectives for the protection of wildlife and wildlife habitat on the Island, we use the following guidelines and strategies that are built on regulations, guidelines, and best management practices.



Strategy 1: Wildlife and Wildlife Habitat Baseline Assessment

Completing a baseline assessment of wildlife species and their habitat on Wasauksing is an essential starting point for all of the community stewardship and wildlife conservation strategies outlined in this ESG. In order to monitor and protect these valued resources, we must first create a foundational wildlife and wildlife habitat database. The information collected and stored in this database will help inform land use planning, natural resource development decision-making, and wildlife and wildlife habitat management and stewardship initiatives. The baseline information will also provide a reference point for ongoing monitoring and will help us assess whether future activities are having positive or negative impacts on wildlife and their habitat.

To streamline this baseline assessment, we will focus on inventorying culturally valued species and species-at-risk (SAR), and areas that have medium to high development potential. We will engage with citizens (i.e., Elders) and external partners (e.g., MNRF, Toronto Zoo Turtle Island Conservation) to help identify culturally valued species and species at risk that are known or have high potential to occur on our lands, and to determine priority species and ecosystems for inclusion in our baseline assessment. Based on this engagement and background research, we will then develop a framework for data collection and management, which will outline: the types of data collected, standardized and replicable inventory and targeted surveying protocols, mapping requirements, field data collection sheets and gear, data storage and management protocols, a central database, a quality assurance and control process, and summary reporting. This will be used as a reference manual for baseline assessment inventories and monitoring programs moving forward but will be subject to change based on changing community priorities, funding sources or ecological conditions.

All data collected (e.g., survey results, maps, engagement session/focus group notes, reports, etc.) will be stored in digital and/or hard copy format in our Lands Department, and available to citizens for review as requested where appropriate. Data may



also be shared and/or integrated with relevant provincial or federal datasets where appropriate.

Strategy 2: Wildlife and Wildlife Habitat Monitoring & Stewardship Program

Upon the completion of our wildlife and wildlife habitat baseline assessment, we will develop an ongoing program for monitoring and stewarding wildlife and wildlife habitat on Wasauksing. This program will be carried out with the purpose of maintaining an understanding of the current state of wildlife and wildlife habitat on our lands, identifying and responding to changes, and guiding our stewardship activities. We will also monitor any development activities to ensure our best management practices (Strategy 3) are being followed.

The species and habitats that were identified as priorities during scoping for the baseline assessment (Strategy 1) will be carried forward into this program, though additional engagement with community land users and other partners (Strategy 6) may be undertaken on an as-needed basis. We will complete population and distribution surveys, ecosystem health monitoring, wildlife mortality surveys, targeted species at risk surveys, and other survey types as our community priorities evolve and we gain more in-depth knowledge about the ecology of Wasauksing Island. We will conduct research on relevant indicator species and their disturbance thresholds and will monitor key locations to determine when changes are occurring in the ecosystem.

As we notice negative trends in wildlife populations or ecosystem health, we will implement appropriate mitigation and stewardship initiatives. For example, citizens have noticed that important reptile (e.g., turtle, snake) habitat is being fragmented by housing developments, and that they are being killed by vehicles on roads throughout our lands and more broadly, Ontario. We would use the results of our wildlife mortality surveys to determine reptile crossing hotspots and install educational signage to raise community awareness about the ecological processes behind these mortalities or implement speed restrictions at these locations.





We will compile an annual report of our monitoring and stewardship activities and present results to interested citizens. Feedback received during presentations will be used to adapt our wildlife and wildlife habitat monitoring protocol and stewardship actions.

Strategy 3: Wildlife and Wildlife Habitat Protection – Best Management Practices Guide

We are also in the process of developing a community Land Use Plan and exploring opportunities for natural resource extraction (e.g., aggregate mining, sugar bush expansion, etc.) and development (e.g., housing, etc.). We must establish guidelines to ensure that we pursue these social and economic opportunities in a way that adheres to our land use plan zoning, is environmentally sustainable, aligned with our Strategic Plan, and importantly, protective of wildlife and their critical habitat. These best management practices will be integrated into our Environmental Assessment Law. We will complete an extensive literature review of existing best management practice guidelines for various types of development projects (e.g., road building, housing development, aggregate mining, etc.) with an emphasis on those that are specific to our region and determine which protective measures are most appropriate for implementation on Wasauksing lands for our wildlife. Using this information, we will create a community-specific wildlife protection protocol for developers, providing rules and direction to help ensure that the design, construction, operation and decommissioning of projects are carried out in a way that minimizes harm to our terrestrial ecosystems and the wildlife that inhabit them. This protocol will also provide guidance on mitigating and offsetting or compensating for projects that will inevitably harm wildlife or their habitat but offer significant social or economic benefits to our community. We will complete this protocol with the support of biologists, ecologists, neighbouring communities, and our community knowledge keepers.



Our best practices for project design and construction will prioritize avoidance of rare vegetation communities and sensitive wildlife features, such as dens, nesting sites, hibernacula / overwintering areas, birthing or yarding grounds, feeding hotspots, and key wildlife movement corridors among others. Where impacts to sensitive areas are unavoidable, buffer zones and setback distances will be implemented. We will also require developers or project proponents to adhere to strict regulations regarding vehicle traffic (e.g., speed limits, road signage, etc.), noise emissions, waste and pollutant management, and equipment cleaning. Mitigation infrastructure (e.g., wildlife exclusion fencing, flagged sites, temporary culverts, etc.) must be regularly monitored and maintained to the highest standard. The creation and implementation of adaptive management plans, follow-up monitoring programs, and restoration or reclamation are also necessary components of any project or development occurring on our Island. If projects are predicted to have impacts on a particular species or habitat, we will require proponents to create species, taxa, or habitat-specific plans (e.g., breeding bird management plan, breeding amphibian management plan, etc.). As the foremost experts on our Island lands and resources, our Wasauksing Guardian team members (Strategy 2 and Strategy 5) will receive first right of refusal for undertaking all of the above activities.

All of the aforementioned wildlife mitigation plans and documents will be filed with our Lands Department on an as needed basis and made available to our citizens, where appropriate. Plans and findings may also be shared and/or integrated with relevant provincial or federal datasets where appropriate.

Strategy 4: Species at Risk Protection and Recovery

The protection of species at risk living on our Island has been identified as a priority by citizens. In particular, citizens have expressed concern that bats, whip-poor-will, bumblebees and other pollinators species are declining locally.





In the short-term, we will participate in the protection and recovery of species at risk on Wasauksing by applying for project funding under Ontario's Species at Risk Stewardship Fund (SARSF) or Canada's Aboriginal Fund for Species at Risk (AFSAR) where appropriate. Where possible, we will use these programs to develop additions to the Government of Canada's Recovery Strategies and Action Plans, the Government of Ontario's Recovery Strategies and Management Plans, and our own wildlife monitoring and stewardship activities (Strategy 3). We will also incorporate our traditional ecological knowledge and awareness of the local ecological context for incorporation into these projects. We will prioritize the continuation of our bat inventory and monitoring program and partnership with the Toronto Zoo's Native Bat Conservation Program. Specifically, we will continue to conduct traditional knowledge interviews with our land users to determine potential new hibernacula or roost locations. We will then conduct monitoring (e.g., passive acoustic monitoring, roost emergence counts, other noel techniques) in these locations. We will also continue to engage the wider community in these efforts by resuming evening bat walks and conducting information sessions on our bat SAR.

In the long-term, we hope to establish a Species at Risk division of our Lands Department to ensure that the protection of species is an ongoing priority in our community. We will hire at least one staff member on a permanent, full-time basis and hire seasonal summer students through government youth employment strategy wage subsidies. Species at Risk staff will be responsible for working with Wasauksing Guardians to undertake wildlife and wildlife habitat monitoring (Strategy 3), conducting targeted species at risk surveys, designing species at risk stewardship initiatives, staying up to date on the status of species at risk and the latest literature and publications, and engaging the community.

Strategy 5: Training, Internal Capacity Building, and Guardians Program

We wish to empower our citizens to identify, care for, and assist us with the protection of wildlife and terrestrial ecosystems that



occur on our Island. To support the learning of those citizens who are most passionate, we will invest in key wildlife and species at risk-related resources for a central community library. Specifically, we will look to purchase or download and print identification field guides (birds, reptiles and amphibians, mammals, plants, tracking, etc.), wildlife research and monitoring techniques textbooks, wildlife habitat atlases of Ontario, Species at Risk Recovery Strategies, Management Plans, and Action Plans, and other important publications.

We will also teach and encourage our citizens to use citizen science tools (e.g., Apple and Android field identification and reporting apps) such as eBird, the Ontario Reptile and Amphibian Atlas, and iNaturalist to identify and document wild fauna and flora while out on the land. In particular, we will create a private Wasauksing-specific project on iNaturalist and hold an annual 'bioblitz' to engage citizens in the inventory and conservation of our wildlife species.

We will also build our internal capacity with regards to environmental monitoring skillsets and establish a Wasauksing Guardians program. Ideally, our Guardians will participate in various skills and knowledge development program, focused on western science, traditional ecological knowledge transfer, and community knowledge. With this combination of western and traditional knowledge and skillsets, our people are ideally suited for environmental management and protection work. We can help facilitate and encourage citizens to pursue training and capacity building programs, including the following:

- Species at Risk (SAR) research and monitoring training
- Habitat restoration and rehabilitation training
- Invasive species research and monitoring training
- Geographic Information Systems (GIS) and mapping skills development
- Ontario Wetland Evaluation System (through OMNRF)



- Ecological Land Classification training and certification (through OMNRF)
- Ontario stream assessment protocol training and certification (through OMNRF, DFO, MOECC)

Our Guardians program will have, at a minimum, one member who is appointed by Council and given the authority of an enforcement officer. This person(s) will have the authority and responsibility of enforcing our Environmental Assessment Law, Environmental Protection Law and any other Land Laws we enact.

We will apply for relevant sources of provincial and federal funding to support this capacity building strategy and meet with other First Nations with existing Guardians program to provide mentorship and guidance.

Once trained, Guardians will assist staff in our Lands Department with the various monitoring and stewardship activities outlined in these strategies (e.g., wildlife and wildlife habitat monitoring and stewardship, invasive species monitoring, poaching patrols, etc.)

Strategy 6: Collaboration Network of Wildlife and Wildlife Habitat Experts

In the short-term, we will network with other organizations, including government ministry and agency representatives, non-government organization, academic institutions, industry, neighbouring communities, among others to foster collaborative working relationships in pursuit of the various ESG strategies outlined here. Potential collaborators that we would like to have in our network include:

Provincial Ministries

- Ministry of Environment, Conservation and Parks (MECP)
- Ministry of Natural Resources and Forestry (MNRF)



Federal Ministries/Agencies

- Environment and Climate Change Canada (ECCC), including the Canadian Wildlife Service
- Department of Fisheries and Oceans (DFO)
- Parks Canada (PC), including Georgian Bay Islands National Park

Academic Institutions

- Laurentian University
- Cambrian College
- College Boreal

Neighbouring Communities

- Shawanaga First Nation
- Magnetawan First Nation
- Town of Parry Sound

Non-Government or Other Organizations

- Anishinabek/Ontario Fisheries Research Centre
- Toronto Zoo (Adopt-A-Pond Program, Turtle Island Conservation, Native Bat Conservation Program, Protecting Pollinators)
- Ontario Nature
- Georgian Bay Biosphere Reserve (local Ontario Nature Network affiliate)
- Friends of the Massassauga Park (local Ontario Nature Network affiliate)



- Parry Sound Nature Club (local Ontario Nature Network affiliate)
- Georgian Bay Forever

In the long-term, we will look to establish partnerships with interested collaborators to share wildlife monitoring resources, share wildlife and wildlife habitat-related datasets (where appropriate), and co-develop wildlife protection initiatives to enhance our internal capacity and improve ESG strategy outcomes.

Strategy 7: On-the-Land Program for Elder-Youth Knowledge Sharing

Citizens of Wasauksing have identified Elder-youth mentorship and knowledge transmission as a key strategy for ensuring that Wasauksing culture and knowledge of wildlife thrives for generations to come. At the same time, many citizens have noticed that the populations of traditionally harvested species (e.g., moose) are declining due to a number of potential reasons, including competition and disease transmission from deer, overharvesting, and road mortality. To address concerns, we will partner Elders with youth to establish an on-the-land mentorship program. Spending time out on the land together hunting, fishing, and gathering of medicinal or edible plants will be encouraged throughout the year.

This on-the-land mentorship program will allow Elders to teach youth about practices and techniques for harvesting traditional important species (e.g., moose). Simultaneously, we will ask youth to document their learnings and important ecological observations (e.g., a calving area, a deer road mortality, etc.) on existing citizen science apps or a private, Wasauksing-specific community data collection app. The customized, Wasauksing Indigenous Knowledge and Environmental Monitoring app will be developed with assistance from software providers such as TrailMark Systems Inc or Community Knowledge Keeper and will provide an innovative and practical way for us to document valuable community knowledge.



Strategy 8: Creating, Enhancing, and Maintaining Pollinator Habitat

This strategy mirrors strategies within our Medicinal Plant Conservation ESG. Pollinators, such as bees, wasps, butterflies, and moths, are critical for the reproduction of many plants, including our medicines and those that contribute to habitat or foods for the wildlife species we value and live amongst. Citizens and Elders have recently noticed a decrease in the number of bees on our Island, which eventually could lead to detrimental effects on the abundance of plants that are our eaten by wildlife or used as important habitat components. A pollinators promotion strategy could involve a combination of several different initiatives, including the creation of artificial bee nesting habitat, restrictions on pesticide use on the Island, education about the importance of pollinators, protection of areas where native, pollinator-friendly plants occur, the creation of new gardens populated by native pollinator-friendly plant species, or the enhancement of existing spaces (e.g., hydro corridors, planters at residences, offices, or commercial buildings, etc.). By protecting our pollinators and helping to foster their populations on the Island, we are also helping other wildlife species and their habitat to thrive for seven generations to come.

Strategy 9: Invasive Species Inventory, Monitoring & Control Program

Citizens have expressed concern regarding the occurrence of invasive species (e.g., *Phragmites australis* subsp. *australis*, Asian long-horned beetle, etc.) on Wasauksing lands. This strategy will be completed in collaboration with our ongoing wildlife and wildlife habitat monitoring and stewardship program (Strategy 2) and will rely not only on our Wasauksing Guardians program, but participation of our wider community and land users (Strategy 5). We will primarily document invasive species occurrence opportunistically while completing other monitoring and stewardship initiatives and encourage citizens to report sightings using citizen science tools (e.g., Early Detection and Distribution Mapping System Ontario) and to the Lands Department. If and



when invasive species locations are reported, our Wasauksing Guardians team will travel to these locations and document abundance. We will determine thresholds at which these invasive species will cause serious harm to ecological integrity and return to their locations periodically to take measurements and monitor spread. We will compare our measurements with known thresholds to determine next steps (e.g., removal, containment, etc.). Where necessary, we will team with the Ontario Invasive Plant Council, Ontario Invading Species Awareness Program, and local interest groups within our collaboration network (Strategy 6) to assist with invasive species containment or removal.

We will also ensure that any development activities occurring on our lands, particularly those that require the use of heavy machinery/equipment or external construction crews, are completed in compliance with our standards for invasive species prevention. All contractors must take the necessary steps to prevent the unintentional introduction of invasive species by completing routine equipment inspections and cleaning protocols. They will also be required to ensure employees inspect and clean personal gear, report on where equipment has been sourced from, and review maps of known invasive species locations on our lands

Strategy 10: Prevention of and Patrols to Monitor Illegal Trespassing and Poaching

The protection of Wasauksing lands, including our wildlife and resources, has been identified as a priority by citizens. In particular, citizens have expressed concern about people accessing the Island by boat or skidoo and trespassing and poaching on our lands without our consent. We will enact a Land Law to address trespassing and poaching on our lands.

We will implement a program to prevent and respond to illegal trespassing and poaching on our lands through the installation of signage and implementation of regular patrols. First, we will take an inventory of key outsider access hotspots on the Island through landscape/terrain assessments and engagement with citizens. We will then create signs and install them at these locations to notify outsiders that these are lands that belong to and are monitored



by Wasauksing citizens and Guardians, and that trespassing, hunting or fishing, and illegal wildlife capture are not tolerated and will be reported if observed.

We will also enlist our Wasauksing Guardians to complete regular patrols of the Island and these known access hotspots. These patrols will be completed either by boat or land, depending on the season and access constraints. Citizens and land users will be encouraged to report incidences of trespassing to the Guardians team or community leadership (e.g., First Nation staff, Council) for further action.

Monitoring and Enforcement



As citizens of Wasauksing First Nation and as proud Anishinaabe people, we are all responsible for protecting our lands and waters and showing respect for the wildlife species with whom we share our home.

Our Lands Department is responsible for ensuring that wildlife and wildlife habitat monitoring strategies are effectively implemented. Trained Wasauksing Guardians are responsible for conducting the on-the-ground monitoring and stewardship activities laid out in the strategies above.

Our Guardians program will have, at a minimum, one member who is appointed by Council and given the authority of an enforcement officer. This person(s) will have the authority and responsibility of enforcing our Environmental Assessment Law, Environmental Protection Law and any other Land Laws we enact.

If the Wasauksing Guardians encounter activities that do not comply with our Land Law(s), policies and strategies, they must immediately report the non-compliance to the Lands Department, who informs Council as appropriate. In addition to this, Wasauksing Guardians will be responsible for carrying out



investigations and acting on any reports of suspected environmental violations taking place on our lands (e.g., trespassing, wildlife poaching, lack of compliance with invasive species spread prevention, etc.), which will be enforced under a Land Law. A lead Guardian will be assigned to oversee all of these measures and to provide a link between citizens, the Guardians team, and community leadership (e.g., First Nation staff, Council).

The safety of, and support for our Guardians team is paramount. When necessary, Wasauksing Guardians will contact the Ontario Ministry of Natural Resources and Forestry about any illegal activities related to wildlife and plant species that we cannot enforce independently or are in violation with provincial or federal laws as well as our community's own. Examples of such issues include the following:

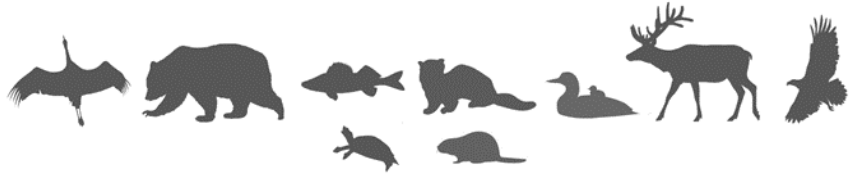
- Illegal removal of wildlife from its natural habitat or poaching
- The illegal sale of species at risk, wildlife or animal parts
- Illegal feeding of wildlife
- Fishing or hunting during spawning or birthing seasons
- Exceedance of fish and game bag limits
- Unlawful night hunting or shooting from a roadway
- Dumping waste on crown land
- Illegally removing sand, gravel or wood from public lands
- Having fires in restricted fire zones or without a permit
- Illegal activities in provincial parks and protected areas

The Ministry of Natural Resources and Forestry TIPS line is 1-877-847-7667.





Community Initiatives



The following initiatives can be championed by anyone in the community such as Wasauksing staff, Guardians, educators, land users, youth, or anyone with a passion for caring for the land.

Traditional Ecological Knowledge (TEK) Gathering and Wildlife Priority Development Sessions

These sessions will be completed as part of our Wildlife and Wildlife Habitat Baseline Assessment (Strategy 1). We will hold several workshops prior to the launch of our baseline assessment to identify culturally valued species and species at risk that are known or have high potential to occur on our lands in order to determine priority species and ecosystems for inclusion in our baseline assessment. This would involve a mapping and a field component to identify areas of importance and cataloguing of important species. Areas of importance for plant harvest, hunting, trapping, cultural and spiritual sites, etc. will be noted and mapped. Elders and Traditional Knowledge keepers will provide input about valuable resources (i.e., wild rice, medicinal plants, etc.). Guided nature trails which incorporates western science information and traditional knowledge on signs within that trail. We will prioritize the attendance of those who know our community the best (e.g., Elders, experienced land users, biologists or naturalists), but will invite the wider community to submit suggestions.

Annual Community BioBlitz & Workshops

Each summer, we will organize a community BioBlitz to encourage our community as a whole to learn about the biodiversity of our natural lands and get involved with our Wildlife and Wildlife Habitat Monitoring and Stewardship Program (Strategy 2). Before the annual BioBlitz, we will hold workshops to provide the



community with information about our monitoring and stewardship efforts and teach interested people how to collect data through citizen science apps (e.g., iNaturalist, eBird, etc.). We hope that these sessions will unite Elders, youth, adults of all levels of wildlife knowledge and experience and that data collected will be cataloged in our database.

On-the-Land Youth-Elder Knowledge Transmission Sessions

The series of workshops and sessions would involve Elders, youth and other knowledge holders (Traditional Ecological Knowledge (TEK) experts, land users, etc.). These sessions will be organized as part of our On-the-Land Program for Elder-Youth Knowledge Sharing (Strategy 7) and will be centered around partnering interested youth and Elders in the practice of cultural activities (e.g., hunting, fishing, plant gathering). These sessions will mainly take place out on the land but may include home-based sessions where Elder-youth pairs prepare hides or cook hunted foods. The program will run on an annual basis, with new Elder-youth pairs established once per year. Elders will also run classroom sessions or after-school sessions to generate interest in the program and emphasis on the protection of their traditional lands that also encompass wildlife. These sessions will help our youth grow into environmental stewards, and help our Elders ensure their knowledge and skills are passed down for generations to come.

Species at Risk (SAR) Information Sessions & Stewardship Events

Information sessions will provide information to citizens about species-at-risk (SAR) occurring on our traditional lands and how citizens can be actively involved in SAR protection and recovery efforts. There will be training on species identification (including handing out cheat sheets), ecology and habitat needs, population trends, threats and the importance of species protection, and monitoring programs. The sessions may be carried out by trained biologists within our network (Strategy 6) and community knowledge holders and/or Elders and could include activities on the land such as an evening bat walk. We will encourage citizens



of all ages to participate. Getting the wider community interested and involved will help provide Wasauksing Guardians and our SAR division of the Lands Department with additional support in their SAR protection and recovery efforts.

Invasive Species Awareness Workshops

These sessions would use information from a wide variety of sources including Traditional Ecological Knowledge (TEK), and other known experts as well as information from our inventory of wildlife habitat. Workshops will include aspects of invasive species identification, occurrence reporting, and management options. Workshops will aid in determining which invasive species are present and potential issues within our lands. The workshops will educate people on community-based information for invasive species that are within their traditional territories, and issues that are present, as well as the mechanisms of spreading of these species. If invasive species are identified on our lands, we will also organize group sessions focused on mechanical or manual removal and spread prevention. This will help support our Invasive Species Inventory and Monitoring Program (Strategy 9).

Regulations and Best Practices



There is considerable federal and provincial legislation aimed at preventing, mitigating, and compensating for impacts to wildlife and wildlife habitat. Although it is the federal legislation that continues to apply on our lands, we intend to uphold, if not exceed, the protective standards outlined in both the applicable federal and provincial legislation. In addition to this, many provincial and federal jurisdictions, as well as environmental non-government organizations, have developed best management practices or guidelines for conducting development and construction work in proximity to natural features and stewardship resources. We have listed and summarized a selection of these



below that can be used as references for developing and implementing mitigations on our lands.

Federal Legislation

Species at Risk Act (2002): The purpose of this Act is to

- prevent wildlife species from becoming extinct or extirpated (e.g., locally extinct);
- plan for and facilitate the recovery of endangered or threatened species; and
- prevent other species (e.g., special concern, non-SAR) from becoming threatened or endangered.

The Act generally achieves these purposes by requiring the timely identification and protection of species at risk and their critical habitat (e.g., the habitat a species needs to survive and recover). First, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assesses the status of a species and provides a recommendation to the federal Cabinet. If accepted by Cabinet, a "Recovery Strategy", including the identification of critical habitat, is then prepared for all species listed as threatened or endangered. Once the recovery strategy has been completed, an "Action Plan" outlining the planning management actions is prepared. The Act only applies to federal lands and falls under the jurisdiction of three federal ministries or agencies including the Department of Fisheries and Oceans (DFO), Environmental and Climate Change Canada (ECCC) and Parks Canada (PC).

<https://laws-lois.justice.gc.ca/eng/acts/s-15.3/>

Migratory Birds Convention Act (1994): The purpose of this Act is to protect migratory birds, as well as their nests and eggs anywhere they are found in Canada, including its ocean waters, and to prohibit the dumping of substances harmful to birds in waters or areas frequented by them. Currently, 92 Migratory Bird Sanctuaries have been established to provide refuge for migratory bird species under this Act. The Migratory Bird Sanctuary Regulations also fall under this Act and prescribe rules and prohibitions regarding the taking, injury, or destruction of



migratory birds, or their nests/eggs within these sanctuaries.

<https://laws-lois.justice.gc.ca/eng/acts/m-7.01/>

Fisheries Act (2012):* This Act is the main federal law governing fisheries in Canada, by providing for the management and control of fisheries, the conservation and protection of fish, the protection of fish habitat and prevention of pollution. Previously, it included regulations preventing the harmful alteration, damage, or destruction of fish habitat (HADD) and the pollution of waters frequented by fish, however these were slackened or removed in 2012.

<https://laws-lois.justice.gc.ca/eng/acts/f-14/>

**It should be noted that a review of this Act is underway at the time of this EMP's development. Proposed amendments to this Act are currently outlined in federal Bill C-68.*

Canadian Environmental Assessment Act (2012):* The main purpose of this Act is to provide guidelines and process for undertaking federal Environmental Assessments (EA), which are used to determine whether proposed projects are likely to result in significant adverse environmental effects. Specifically, impacts of proposed projects on wildlife, wildlife habitat, species at risk (SAR) and Indigenous traditional use of natural resources (e.g., wildlife for hunting) are regularly assessed through the EA process.

<https://laws-lois.justice.gc.ca/eng/acts/c-15.21/>

**It should be noted that a review of this Act is underway at the time of this EMP's development. Proposed amendments to this Act are currently outlined in federal Bill C-69.*

Canadian Environmental Protection Act (1999): The purpose of this Act is to prevent pollution and protect Canadian ecosystems and human health. The overall goal of this Act is to contribute to sustainable development, in other words, development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. This Act sets out processes to assess the risk to environment and human health posed by substances in commerce, imposes timeframes for managing toxic substances, provides a wide range of tools to



manage toxic substances, and ensures the most harmful substances are phased out or not released into the environment in measurable quantities. Toxic substances and pollutants have the potential to adversely impact wildlife and their habitat, subsequently this legislation plays an important role.

<https://laws-lois.justice.gc.ca/eng/acts/c-15.31/>

Canada Wildlife Act (2010): The focus of this Act is conservation, allowing for the creation of wildlife areas that are designated for habitat preservation along with wildlife conservation, interpretation, and research. These wildlife areas are specifically aimed at the protection of migratory birds and species at risk. The Act includes Wildlife Area Regulations, which prohibit all human activities that may negatively impact wildlife and their habitats. These Regulations allow for permits to be issued in order to permit certain human activities within wildlife areas and allow for some recreational activities to be undertaken without a permit. Permitted activities include bird watching, photography, hiking, and canoeing.

<https://laws-lois.justice.gc.ca/eng/acts/W-9/>

The Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (1996): The purpose of this Act is to protect plant and animal species from overexploitation caused by poaching and illegal trade. It also aims to protect ecosystems from the potential negative impacts of exotic invasive species.

<http://laws-lois.justice.gc.ca/eng/acts/W-8.5/>

Environmental Enforcement Act (2012): This Act lays out the enforcement mechanisms, fine systems, and sentencing stipulations related to environmental laws. Information is provided regarding the categories of environmental offences and the fines associated with them. The Act also provides a toolkit to enforcement officers, which includes guidance for compliance orders and a public registry of corporations that have committed offences under federal environmental legislation.

<https://www.ec.gc.ca/alef-ewe/default.asp?lang=En&n=2aafd90b-1=>



Provincial Legislation

Endangered Species Act (2007):* The purpose of this Act is similar to that of the federal Species at Risk Act (2000) and overall aims to protect and conserve species at risk, but in Ontario. In general, this Act prohibits the killing, harming, or harassment of threatened and endangered species, as well as destruction to their habitat. First, the Act allows for the assessment and classification of new species through the Committee on the Status of Species at Risk in Ontario (COSSARO), which bases its assessment on western science and Aboriginal Traditional Knowledge (ATK). Species classified as threatened automatically receive protection under the Act, as well as protections to their critical habitat. "Recovery Strategies" are then prepared for species classified as threatened or endangered, whereas "Management Plans" are prepared for species of special concern. After receiving these documents, the Ministry of Environment, Conservation and Parks (MECP) has 9 months to consider the advice and recommendations and to prepare a Government Response Statement outlining the actions they will take to ensure species protection and conservation. If companies or people wish to undertake activities that will harm listed species or their critical habitat, they must apply for a permit under this Act.

<https://www.ontario.ca/laws/statute/07e06>

**It should be noted that a tenth-year review of the Endangered Species Act is being undertaken at the time of this EMP's development. Proposed amendments to this Act are currently outlined in Schedule 5 of Ontario Bill 108.*

Fish and Wildlife Conservation Act (1997): The main purpose of this Act is to manage fish and game species in the province of Ontario through a series of broad protections. There are several regulations under this Act that provide specific rules about hunting and harvest of game and wildlife (e.g., bag limits), hunting season dates, reporting requirements, restrictions on firearms and other gear types, and restrictions on keeping wildlife in captivity among others. Wildlife species protected by this Act may also be protected through other legislation including the Endangered Species Act (2007), Species at Risk Act (2000) or Migratory Birds



Convention Act (1994).

<https://www.ontario.ca/laws/statute/97f41>

Invasive Species Act (2015): The purpose of this Act is to prevent and control the spread of invasive species in Ontario. Under this Act, there are two classes of invasive species (e.g., prohibited and restricted) and it is illegal to import, possess, deposit, release, transport, breed or grow, buy, sell, lease or trade them within Ontario. Prohibited species can include fish (e.g., Asian carp, snakeheads, stone moroko, etc.), aquatic invertebrates (e.g., golden mussel, killer shrimp, common yabby), and plants (e.g., Brazilian elodea, European water chestnut, hydrilla, etc.) and restricted species can include dog-strangling vine, Japanese knotweed, and *Phragmites australis* subsp. *australis* (European common reed) among others. There are a few exceptions to these regulations with regards to accidental catch and encounter when fishing and boating.

<https://www.ontario.ca/laws/statute/s15022>

*Environmental Assessment Act (1990)**: This Act lays out a process for assessing the environmental impacts of proposed projects that fall under provincial jurisdiction. The Act applies to the projects of provincial ministries and agencies, municipalities, and public bodies such as conservation authorities. The types of projects that would likely fall under this Act include public roads and highways, waste management projects, resource management projects, flood protection projects, and water and wastewater related projects. The Act does not apply to the projects of private firms and companies.

<https://www.ontario.ca/laws/statute/90e18>

**Last amended in 2010*

Policy, Best Management Practices & Guidelines

Significant Wildlife Habitat Technical Guide (Ministry of Natural Resources and Forestry): This is a detailed technical manual that provides information on the identification, description, and prioritization of significant wildlife habitat in Ontario, to assist with



their protection as Natural Heritage features under the Provincial Policy Statement (PPS). While it is intended as a guiding document for the municipal planning process, it can serve as a good resource manual for the general identification of important wildlife habitat for any biologist, ecologist or environmental planner.

<https://docs.ontario.ca/documents/3620/significant-wildlife-habitat-technical-guide.pdf>

Significant Wildlife Habitat Mitigation Support Tool (Ministry of Natural Resources and Forestry): This document supports the Significant Wildlife Habitat Technical Guide. It provides information on the functions of significant wildlife habitats, potential impacts of development activities on them, and outlines possibilities for mitigation. While it is intended as a guiding document for the municipal planning process, it can serve as a good resource manual for any biologist, ecologist or environmental planner looking to verify predictions made by proponents regarding the impacts of proposed developments on significant wildlife habitat.

<https://docs.ontario.ca/documents/4773/mnr-swhmist-accessible-2015-03-10.pdf>

Ontario Wetland Evaluation System (OWES) Northern Manual (Ministry of Natural Resources and Forestry): This manual outlines the Ministry of Natural Resources and Forestry's provincial wetland evaluation system protocol. The Ontario Wetland Evaluation System was created to aid in identifying those wetlands that have value (e.g., biological, social, hydrological, etc.) at a provincial scale for consideration under the provincial planning process. While it is intended as a guiding document for certified wetland evaluators to categorize wetlands accordingly, it can serve as a good resource for any biologist, ecologist or environmental planner to better understand and characterize wetlands of importance to themselves, their communities, and the wildlife with whom they coexist.

<https://files.ontario.ca/environment-and-energy/parks-and-protected-areas/ontario-wetland-evaluation-system-northern-manual-2014.pdf>



Ecological Land Classification (ELC) Manual (Ministry of Natural Resources and Forestry): Ontario's Ecological Land Classification system exists to delineate natural regions from one another based on ecological factors such as bedrock, climate (e.g., temperature, precipitation), physiography (e.g., soils, slope, aspect), vegetation. It enables ecologists and environmental planners in Ontario to organize ecological land information into logical integrated units to make decisions regarding land-use planning and environmental monitoring. It can be an important supporting tool to assist with the identification and delineation of wildlife habitat and is subsequently useful for biologists and ecologists looking to protect lands of importance to themselves, their communities, and wildlife. Unfortunately, the Ecological Land Classification Manual is currently under review and therefore not available online; old versions may be obtained by contacting Land Information Ontario (LIO) at 705-755-1878 or the Ecological Land Classification Program at 705-946-7478. The link below provides an introduction to the ELC.

<https://www.ontario.ca/page/introduction-ecological-land-classification-systems>

Natural Heritage Reference Manual (Ministry of Natural Resources and Forestry): This document's main purpose is to provide guidance for implementing the natural heritage policies of the Provincial Policy Statement. However, it contains useful information and methodology for any jurisdiction that is concerned with identifying a wide range of significant natural heritage features.

<https://www.ontario.ca/document/natural-heritage-reference-manual>

Best Management Practices Series (Ontario Invasive Plant Council):

The Ontario Invasive Plant Council has produced a series of best management practice guides for more than 15 of Ontario's invasive plant species (e.g., buckthorn, purple loosestrife, invasive Phragmites), which may threaten wildlife and their significant habitat. These documents provide detailed information on the history and origins of the plants, identification guides, and instructions on how to properly treat, remove, or manage the growth of these invasive plants.





<https://www.ontarioinvasiveplants.ca/resources/best-management-practices/>

Creating an Invasive Plant Management Strategy – A Framework for Ontario Municipalities. (Invasive Species Centre and Ontario Invasive Plant Council): This manual provides guidance on how to develop an invasive plant management strategy. Information is provided related to invasive plant inventories, early detection, relevant governance and policies, prevention methods, community education and more.

https://www.ontarioinvasiveplants.ca/wp-content/uploads/2016/07/PlantManagementStrategy_2015_March_172015_D3_PRINTFINAL.pdf

Clean Equipment Protocol for Industry: Inspecting and cleaning equipment for the purposes of invasive species prevention (Ontario Invasive Plant Council): Invasive plants present an increasingly common environmental and economic threat to Ontario. This guide provides an overview of how invasive species are commonly transported by vehicles (e.g., ATVs, cars and trucks, motorbikes, etc.) and/or construction equipment and details the steps that can be taken to prevent the unintentional introduction or spread of invasive species due to vehicle and equipment use. While this guiding document is intended for industry representatives, it is a useful tool for anyone concerned about the potential environmental impacts of development work within their community, or anyone wishing to promote health ecosystems and wildlife habitat by educating themselves on invasive species prevention and management.

https://www.ontarioinvasiveplants.ca/wp-content/uploads/2016/07/Clean-Equipment-Protocol_June2016_D3_WEB-1.pdf

Categorizing and Protecting Habitat under the Endangered Species Act (Ministry of Natural Resources and Forestry): This policy focuses on the implementation of subsection 10(1) of the provincial Endangered Species Act, which states that “No person shall damage or destroy the habitat of a species that is listed on the Species at Risk in Ontario [SARO] list as an endangered or threatened species”. It defines key terms and principles, describes



habitat characterization categories and references legal requirements to protect critical habitat under the ESA.

https://files.ontario.ca/environment-and-energy/species-at-risk/stdprod_085648.pdf

A Guide to Road Ecology in Ontario (Ontario Road Ecology Group): This guide is a resource for citizens, government and non-government agencies, and other environmental practitioners that raises awareness about the threats of roads to biodiversity in Ontario, highlights the latest findings in road ecology research, and provides solutions for mitigating threats.

https://www.rom.on.ca/sites/default/files/imce/oreg_final.pdf

Migratory Birds Convention Act: A Best Management Practice for Pipelines (Canadian Energy Pipeline Association): This document was prepared by Stantec Consulting Ltd. To develop best management practice guidelines to manage potential interactions of the construction and operation of oil and gas transmission pipeline facilities occurring within potential migratory bird nesting areas and to support compliance with the Migratory Birds Convention Act (1994). While it is specific to oil and gas transmission infrastructure, it contains useful information on how to avoid, minimize, and mitigate the impacts of development activities on migratory birds.

<https://www.cepa.com/wp-content/uploads/2014/01/Migratory-Birds-Sept-26-2013-for-Publication.pdf>

General Nesting Periods of Migratory Birds (Canadian Wildlife Service): This online resource provides detailed information on nesting zones and periods for all migratory birds in Canada protected by the Migratory Birds Convention Act. It should be consulted if a person or community wishes to undertake any activities that may lead to the harm, harassment, or destruction of migratory birds or their nests.

<https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods.html>

Avoidance Guidelines (Environment and Climate Change Canada): These online guidelines outline some of the main compliance



requirements of the Migratory Birds Convention Act and the Migratory Birds Regulations. Advice is provided for avoiding and mitigating impacts on migratory birds, their nests and their eggs. Guidance includes what to do if a migratory bird nest is encountered, what the risk factors for migratory birds are, what some of the main nesting periods are, how to determine the presence of nests, the ways in which breeding colonies may be disturbed, ways to minimize impacts during maintenance of human built structures, how to protect birds that depend on exposed soil banks, considerations for water-level regulation, and much more.

Although the guidelines state that buffer zones and setback distances for protecting migratory birds depends on the exact species of bird, the level of disturbance, and the landscape, an overview of general buffer and setback protocols is provided. Guidelines specific to avoiding disturbance of seabirds and waterbirds are also provided. Details are provided for how to reduce disturbance while on land, on water, and in the air. General nesting periods of migratory birds in Canada are also provided, along with a map of nesting zones in Canada and nesting calendars for specific regions.

<https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/guidelines.html>

The Nesting Phenology of Birds in Canada (Canadian Wildlife Service): This document presents a national consistent and unified description of bird nesting phenology across the different provinces and territories of Canada. It outlines species-specific predictions regarding the timing, intensity and general location of nesting of over 311 bird species. The information outlined in this extensive study and report provides an overview of when and how birds are nesting with the purpose of implementing effective nest and egg protection measures, under the Migratory Birds Convention Act and Migratory Bird Regulations.

http://publications.gc.ca/collections/collection_2018/eccc/CW66-569-2017-eng.pdf

Protocol for Wildlife Protection during Construction (City of Ottawa): This document details best practices for protecting



wildlife during construction projects. It provides valuable information about the timing of certain construction-related activities. It discusses the serious negative impacts that can be caused by site clearing and provides guidance for minimizing those impacts, including inspecting the site before clearing, “pre-stressing” the site to flush out wildlife, timing the clearing to avoid sensitive timing windows for various species, compensating for lost habitat, and more. This guide provides a table that lists specific habitat types, the species that may be found there, the sensitive times for those habitats, and recommendations for reducing impacts of construction within those habitat types. The guide also provides guidance for site management and maintenance, encounters with wildlife, wildlife-proofing buildings, and more.

https://documents.ottawa.ca/sites/default/files/documents/construction_en.pdf

The Marsh Monitoring Program. Training Kit and Instructions for Surveying Marsh Birds, Amphibians and their Habitats. (Bird Studies Canada in cooperation with Environment Canada and the U.S. Environmental Protection Agency): This training kit, which provides detailed information and templates for surveying marsh birds and amphibians can be attained by registering to participate in the Marsh Monitoring Program.

volunteer@birdscanada.org

Technical Guide for Enhancing, Managing and Restoring Pollinator Habitat Along Ontario’s Utility Lands (Pollinator Partnership Canada): This guide was developed to provide those responsible for maintaining utility corridors, wind and solar farms in Ontario with the most current science, tools, and resources they need to support pollinators. It details steps that can be taken to restore natural vegetation and habitats, maintain habitats using methods that minimize disturbance and harm to pollinators, and enhance habitats using methods that promote pollinator richness and diversity.

<https://pollinator.org/assets/generalFiles/LandManagerGuide.Ontario.Corridor.FINAL.PDF>



Referrals Software: An Analysis of Options (Ecotrust Canada): This document provides detailed an up-to-date information on the wide selection of software tools currently available to First Nations in Canada. It is written with specific reference to the referrals process in the province of British Columbia, the process by which the Provincial and Federal Crowns have a legal Duty to Consult and accommodate First Nations groups when development activities occur in their traditional territories. Despite this context, the software types (e.g., Trailmark Systems, Community Knowledge Keeper, etc.) analyzed in this guiding document can also be used for traditional land use and occupancy mapping, and environmental monitoring data collection and management among other uses. Subsequently, this guide can be used to help fulfill this EMP's long-term objectives.

<http://ecotrust.ca/wp-content/uploads/2017/08/WorkshopReport.pdf>

Bear Wise Program (Ministry of Natural Resources and Forestry): This online resource provides individuals with general information about black bears in Ontario (e.g., eating habits, diet, distribution), information on how to react when encountering them, preventing conflicts in residential areas (e.g., identifying and removing attractants), and avoiding bear interactions in bear country.

<https://www.ontario.ca/page/prevent-bear-encounters-bear-wise>

Web or Mobile-Based Software Tools and Applications (Apps)

eBird: eBird is the world's largest biodiversity-related citizen science project, with more than 100 million bird sightings contributed each year by birders around the world. This program documents bird distribution, abundance, habitat use, and trends by collecting checklist data through a simple scientific framework. Sightings can be reported and viewed by Android or Apple based apps or online.

<https://ebird.org/home>

Ontario Reptile and Amphibian Atlas (ORRA) (Ontario Nature): The Ontario Reptile and Amphibian Atlas is a citizen-science project that tracks the distribution and spatial trends of reptiles and



amphibians across the province. This program provides detailed information on species identification and quizzes, range maps, status and legal protection and includes a platform for reporting sightings. Sightings can be reported and viewed by Android or Apple based apps, online forms, email or snail mail.

<https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas/>

iNaturalist: iNaturalist is one of the world's most popular nature apps, which helps individuals or groups to identify the plants and animals around them and connect with a community of over 750,000 scientists and naturalists. You can create "projects" on iNaturalist for the purpose of a community bioblitz, independent research or inventorying projects, which allow you to pool your observations with others; these can be private or made available for the wider public. Sightings can be reported and viewed by Android or Apple based apps or online.

<https://www.inaturalist.org/>

Early Detection and Distribution Mapping System Ontario (Early Detection Rapid Response Network Ontario): This is a digital tool used to report and track invasive species across the province of Ontario, without the need for technical or GIS expertise. Sightings can be reported and viewed by Android or Apple based apps or online.

<https://edrrontario.ca/report-a-sighting/>

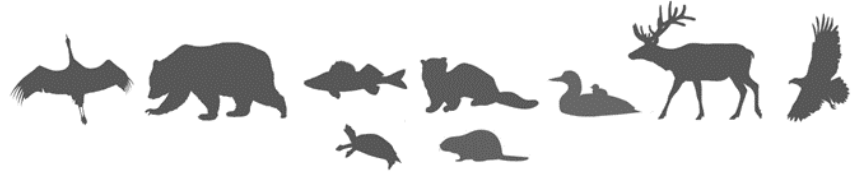
Trailmark Systems: Trailmark Systems Inc. is just one example of a company that provides software to create a customized Indigenous Knowledge, Land Use Mapping, and Environmental Monitoring database. By subscribing to the Trailmark App, communities can create their own map-based interview records, collect data in the field, develop and deploy custom surveys, engage with citizens, run database queries, and archive all



Glossary

materials.

<https://trailmarkapp.com/#>



Baseline Assessment

The establishment and evaluation of a point of reference in which to provide a comparison for future measurements, assessments, and predictions.

Cumulative Effects

Changes to the environment that are caused by an action that has been impacted by other past, present and future human actions.

Forest Management

An approach to forestry that considers administrative, economic, legal, and social aspects, as well as scientific and technical aspects of a forest. It may also include silviculture, protection, and forest regulation.

Habitat Fragmentation

The process by which habitat loss results in the division of large, continuous tracts of land into smaller more isolated patches.

Citizen Science

The collection and analysis of data relating to the natural world by members of the general public, typically as part of a collaborative project with western scientists or traditional ecological knowledge holders.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC)

An independent advisory panel to the Minister of Environment and Climate Change (ECCC) that meets twice a year to assess the



status of wildlife species at risk of extinction and consider them for listing under the federal *Species at Risk Act (2002)*.

Committee on the Status of Species at Risk in Ontario (COSSARO)

An independent committee of up to 12 experts that considers which plant and animal species in Ontario should be listed as at risk under the provincial *Endangered Species Act (2007)*.

Invasive Species

A plant, fungus, or animal species that is not native to a specific location and which has the tendency to spread to a degree believed to cause damage to the environment, human economy, or human health.

Phenology

The study of cyclic and season natural phenomena, especially in relation to climate and plant and animal life.

Pollution

The presence or introduction into the environment of a substance or thing that has harmful or poisonous effects

Provincially Significant Wetland (PSW)

Wetlands identified by the province of Ontario as being the most valuable, according to criteria outlined by the Ontario Wetland Evaluation System (OWES).

Road Ecology

The study of the interaction between road networks and the natural environment. It is an emerging science that examines and addresses the effects of roads on wildlife and investigates how roads influence ecological processes.



Species at Risk (SAR)

A naturally occurring plant or animal in danger of extinction or of disappearing from the province or country. Terms such as special concern, threatened, endangered, extirpated, and extinct can describe the range of conditions and potential outcomes for species at risk.

Traditional Ecological Knowledge (TEK)

A cumulative body of knowledge, practice, and belief evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment

Western Science

The approach to understanding scientific phenomena through a Eurocentric approach to scientific methodology and thought.

White-Nose Syndrome

A fungal disease that has caused high mortality rates in several species of communally hibernating bat species in North America. The fungal agent responsible for the disease is believed to have originated from Europe and was first detected in North America in 2006.



Cultural Sites

Environmental Stewardship Guidance

Contents

Our Stewardship Vision

Community Objectives

**Stewardship Guidance
and Strategies**

**Monitoring and
Enforcement**

Community Initiatives

**Regulations and Best
Practices**

Glossary

Our Stewardship Vision

We are committed to the preservation and protection of our cultural sites and archaeological resources for present and future generations to celebrate and learn from. There is archaeological evidence of our *aanikoobijiganag* (ancestors) on Wasauksing *akii* (lands), as well as present-day cultural ceremonies on the *akii* that our members continue to practice. The traces of our *aanikoobijiganag* are sacred to our community and are non-renewable resources that need protecting.

The protection of archaeological resources and cultural sites, especially the protection of our *aanikoobijiganag* burial sites, is therefore a priority for our community, as reflected in this ESG. These areas, as well as other cultural sites, have the potential to be affected by any form of *akii* disturbances, changes, or development, such as bridge construction, road building, excavation, marina development, and natural resource development.

"To me, the whole place is spiritual, because our whole culture is based on the land and the environment."

– Wasauksing Citizen



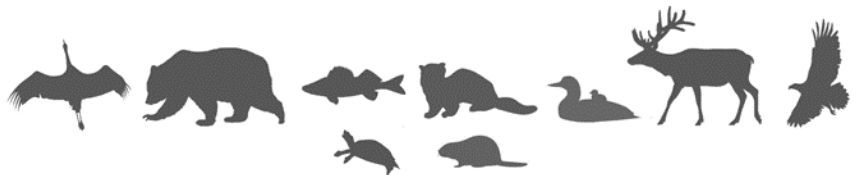


We have identified the following specific sites of importance as needing protection:

- ***Mnidoo-zaaghiganing*** (Three Mile Lake), including the ancient cedars and pine trees that surround the ***zaaghigan*** (lake)
- Burial Sites
- Historic Portage Routes, including the main bay portage to ***Mnidoo-zaaghiganing*** (Three Mile Lake)
- Church steps
- Waswane “Wasoonie” Island
- ***Nishnaabe-oodenaang*** (Historic Lower Village Site)
- Legacy lands
- Medwayash Sand Pit
- Historical lands of significance

In addition to the above sites are two additional cultural sites that are not part of WFN-managed lands but are adjacent to our lands and would benefit from the guidance and strategies in this ESG. These sites include the pow wow grounds, including the two hills that surround the grounds, and the apple trees at ***Demiingak-oodenaang*** (Depot Harbour).

Community Objectives



We will work to implement strategies and provide guidance that will enable the effective protection of cultural sites and archaeological resources now and for future generations.



Short-Term Objectives

- Creating Wasauksing-specific legislation to protect archaeological resources and cultural sites from land development, resource development, and other activities on the Island
- Developing an inventory of all known cultural sites and resources within Wasauksing's territory, with a particular focus on ancestral burial sites, and designating the areas as 'Culturally & Environmentally Significant Areas' in our Land Use Plan
- Developing collaborative partnerships to protect our archaeological and cultural heritage resources
- Integrating archaeological services and protection of cultural sites into roles within the Lands and Resources Committee
- Training field staff, for example, the Beach Patrol on "chance find" archaeological procedures
- Developing a relationship with an archaeologist holding a professional license who can represent Wasauksing's rights and interests to Ontario and who has training capabilities to train our own future archaeological staff
- Create a cultural sites and archaeological resources protection policy that includes guidelines for how any and all archaeological activities will be carried out on lands managed by Wasauksing

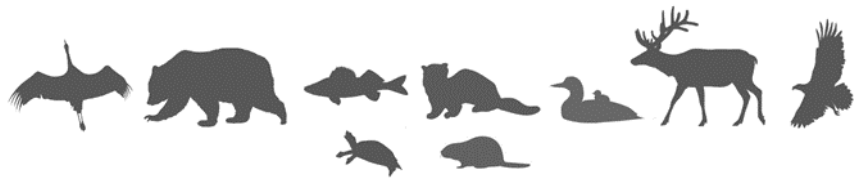
Long-Term Objectives

- Design and implement a Wasauksing-specific archaeological services training program
- Work in partnership with the relevant parties to conduct archaeological assessments at Depot Harbour



- Create an archaeological services unit as a branch of the Lands and Resources Committee that includes a roster of trained archaeological monitors
- Establish a designated location to act as the Archaeological Resources Centre to store all artifacts from Wasauksing lands
- Develop exhibits to display artifacts at the Archaeological Resources Centre to promote education and training of citizens
- Repatriate artifacts to Wasauksing First Nation, for storage and/or display at the Archaeological Resources Centre
- Develop Wasauksing-specific culturally sensitive educational materials related to archaeology and cultural sites
- Require all proponents and developers to complete the Wasauksing archaeology and cultural heritage training prior to being issued any approvals or work permits on our lands
- Ultimately, lead all archaeological and cultural heritage assessment and preservation work on Wasauksing managed lands

Stewardship Guidance and Strategies



To meet our short term and long-term objectives to protect and preserve cultural sites and archaeological resources for future generations, we will implement the following strategies.



Strategy 1: Complete an Archaeological Assessment of Wasauksing Lands

An archaeological assessment is used to gather an understanding of the archaeological potential of a land area prior to development or other anthropogenic changes occurring on that land. The archaeological assessment will be completed as a component of the Environmental Assessment that must occur prior to development and will be included in our Environmental Assessment Law. Our archaeological assessment will consist of 4 stages; the results of the stage 1 assessment of Wasauksing's lands will determine if Stage 2-4 (more detailed) assessments would be required for the protection of cultural sites and archaeological resources on the island. The archaeological assessment of our lands will determine the following:

- The location of any cultural sites on lands being developed
- The degree of the cultural heritage value of any archaeological resources found
- The most appropriate strategies for conserving and protecting areas of cultural significance prior to land development taking place
- The most appropriate mitigation methods of development impacts where required or warranted

The archaeological assessment of our lands will consist of the following stages:

Stage 1: Desktop Background Study and Property Inspection

In Stage 1 of the assessment, the archaeological potential of the land parcel being assessed is determined. This potential is determined by reviewing of geographic, land use, and historical data pertaining to the land parcel and surrounding area. Upon the completion of the background study, which is primarily a desk-top research exercise, an inspection of the land parcel is conducted by



the archaeologist conducting the assessment. During an inspection, the current condition of the land is assessed. Following the completion of stage 1, if areas of archaeological potential are identified, the assessment would advance to Stage 2.

Stage 2: Property Assessment

In Stage 2 of the archaeological assessment, a field survey of the land parcel is conducted to identify and locate any archaeological or cultural heritage resources on the land. The method for assessing the property is determined on its current state and use of that land parcel. More specifically the following methods are applied:

- Ploughed Field: Surveying the land by foot and examining the surface for artifacts.
- Forests, overgrown pastures or areas that cannot be ploughed: Parallel rows of small holes called test pits are dug all the way down to sterile subsoil at consistent intervals and the soil is sifted to search for artifacts.
- If resources of cultural heritage value are located during this stage, the assessment would move to Stage 3.

Stage 3: Site-Specific Assessment

In Stage 3 of the archaeological assessment, all sites of cultural heritage value identified in the assessment thus far undergo a site-specific assessment. In this stage, the size and cultural heritage value of the site is evaluated and when necessary recommendations for stage 4 mitigation strategies are made. This Stage of the assessment includes additional desktop research and fieldwork. In terms of fieldwork, the standard practice at this stage is to expand from test pits to test units. Test units are 1 m by 1 m squares across the site where cultural heritage potential has been identified. Depending on the results of this stage, the assessment may move into Stage 4 of the assessment.



Stage 4: Mitigation of Development Impacts

In Stage 4 of the archaeological assessment, conservation and mitigation strategies are developed and implemented for the long-term protection of areas of cultural heritage value within our lands. These long-term protection plans are put in place to ensure valuable heritage resources are protected while still allowing for development and land use changes to occur, where appropriate.

Long-term Avoidance and Protection Strategy

Following Stages 1 through 4 of the archaeological assessment, a long-term avoidance and protection strategy will be developed to ensure protection measures are put in place for areas of cultural significance within our lands. This protection strategy could involve developing zoning amendments and proposed restrictions that prevent areas of cultural significance from being damaged by future development and land use changes. The Ontario Heritage Tool-Kit provides guidance on what measures this protection plan/ strategy could include. These designations and protection strategies will also be developed under and tailored for the Wasauksing Land Code.

Excavation (if applicable)

If archaeological resources are identified during the Wasauksing assessment that cannot be protected in situ (in place), then excavation of the site is required. During excavation, the artifact(s) are documented through maps, drawings, measurement, and photographing. Subsequently for artifacts found outside of the community, it is held in trust by the province of Ontario and for artifacts found on Wasauksing lands it would be held in a location advised by the Lands and Resources Committee and decided upon by Chief and Council (unless stated otherwise in Wasauksing's Archaeology Guidelines – see Strategy 2).

Report to the Wasauksing Lands Manager

Upon the completion of the archaeological assessment, a report will be held by the Wasauksing Lands Manager and Lands and Resources Committee to document that the assessment has



occurred and verify that all of the guidelines have been properly fulfilled in the conduct of the assessment.

Strategy 2: Create a Wasauksing First Nation Cultural Sites and Archaeological Resources Protection Policy

The Wasauksing First Nation Cultural Sites and Archaeological Resources Protection Policy would set out applicable guidelines and best management practices that would enhance our capability and ability to regulate and protect the cultural sites and archaeological resources on our lands. This policy will include guidelines that will inform how proponents, municipalities, and other stakeholders engage with us on archaeological matters within our lands, as well as inform our own internal decision making around development and land use changes. Our policy will include enhanced standards and guidelines directed towards the conduct of Archaeologists on our lands. This includes establishing a Chance Find Protocol in instances where an archaeological find is unearthed on our lands.

Strategy 3: Train Wasauksing Field Staff on the Cultural Sites and Archaeological Resources Protection Policy

Ensuring our field staff are trained and knowledgeable of the Cultural Sites and Archaeological Resources Protection Policy is a key initial step to ensuring the policy is implemented in a practical manner. This training will be delivered to any active field staff including but not limited to environmental monitors, public works staff, and members of the Beach Patrol. The training will provide a general overview of the policy with a more detailed focus paid to learning and understanding applicable field protocols such as the Chance Find Protocol.





Strategy 4: Conduct an Inventory of Cultural Sites and Heritage Resources on Wasauksing Lands

A key priority for our citizens when it comes to cultural sites preservation and protection is the development of a more detailed inventory of all of the sites, with a particular interest in an inventory of ancestral burial sites. The sites that are identified will be designated as Culturally & Environmentally Significant Areas in our Land Use Plan. The development of this inventory will be led by the Lands and Resources Committee, in partnership with an archaeologist, holding a professional license, of our choosing. This inventory includes all applicable assessment reports and accompanying data such as maps, aerial photographs, and site surveys. Indigenous Knowledge, Land Use, and Occupancy map biography interviews that focus on cultural sites will be incorporated into the development of the inventory. A duplicate back-up of the records inventory will be securely stored by the Lands Manager and Lands and Resources Committee. This inventory is reviewed and updated on an annual basis and any new data is added to both sets of stored data.

Strategy 5: Create an Archaeological Services Coordinator Role

The Archaeological Services Coordinator is a role that would be embedded in the Lands and Resources Committee through an existing staff person's mandate and would provide oversight on all archaeological and cultural heritage sites and activities on Wasauksing lands. This includes maintaining a roster of field staff who are trained in Wasauksing's archaeological field protocols and being the party responsible for the storing and maintaining of the cultural sites inventory. Lastly, this role would involve liaising with proponents, developers, and other stakeholders and ensuring they are abiding by Wasauksing's archaeological policies and protocols when carrying out works on Wasauksing Lands.



Strategy 6: Develop and implement the Wasauksing Cultural Heritage Training Program

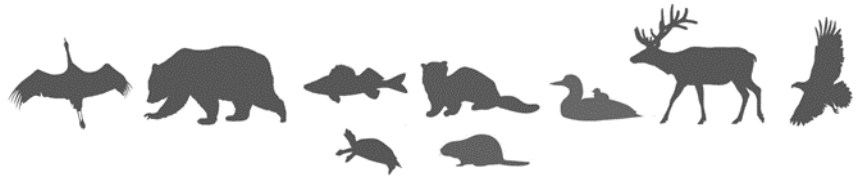
The Wasauksing Cultural Heritage Training Program would exist to fulfill two purposes. Firstly, the program would provide comprehensive training to Wasauksing field staff, such as monitors, guardians, and the Beach Patrol supervisors developed in partnership with a licensed archaeologist. This would enable us to develop a roster of trained field staff able to effectively participate in archaeological activities happening on our lands and ultimately protect our cultural sites and artifacts. The second purpose of the training program is to provide culturally sensitive awareness training to proponents, developers, construction crews, contractors, and other applicable groups prior to the commencement of any projects or developments that will disturb our lands and in turn may disturb our cultural sites and resources. Training of these external crews will be a mandatory component prior to permits or approvals for larger scale developments being issued on Wasauksing lands.

Strategy 7: Establish the Wasauksing Archaeological Resources Centre

The Wasauksing First Nation Archaeological Resources Centre would be created as a space to house our repatriated artifacts. The space would be a place for citizens to come to learn and celebrate our cultural heritage. The centre would run programs and tours open to citizens and work with local schools to educate our youth about our cultural heritage and history of occupation on our lands. This centre would be led by our Archaeological Resources Coordinator through the Lands and Resources Committee. The Centre would also serve as the location for training programs to be conducted as outlined in Strategy 6.



Monitoring and Enforcement



Monitoring and Enforcement

Together, we as citizens of Wasauksing First Nation are responsible for helping to protect our lands and waters, which are closely connected to our irreplaceable cultural sites and heritage resources. It is our responsibility to report anything we see that might affect these significant areas or resources, such as changes on the land, spills or potentially harmful activities. If citizens see any activity that may be threatening to our cultural heritage resources, please contact the Lands Manager until the Archaeological Resources Coordinator has been identified.

Field Monitoring Program

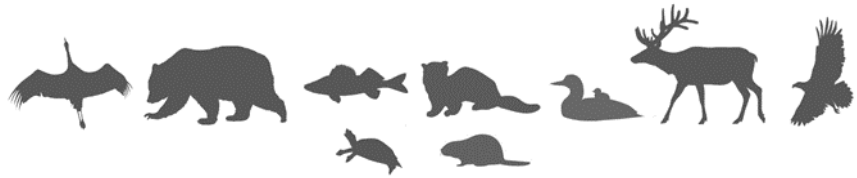
Once the program is established and training is delivered to applicable field staff, cultural heritage guardians and monitors and the Archaeological Services coordinator, under the guidance of an archaeologist holding a professional license, will be responsible for carrying out the cultural heritage and archaeological resources monitoring programs. Should they identify an issue with cultural heritage, archaeological resources or areas of cultural significance they will immediately inform the Archaeological Resources branch of the Lands and Resources Committee as well as the Lands Manager.

Enforcement

Enforcement of the cultural sites and heritage resources protection policy and associated guidelines under the Environmental Assessment law will be the responsibility of the Lands and Resources Committee, and subsequently the Archaeological Services Unit.



Community Initiatives



The following initiatives can be championed by anyone in the community such as Wasauksing staff, educators, land users, youth, or anyone with a passion for upholding our cultural heritage.

Youth Cultural Heritage Learning Circles

A series of workshop sessions that would be tailored for different age groups/grades to explain and understand the areas of cultural significance. The workshops and activities are run by knowledge keepers, Elders from each clan, and professional designated persons (i.e., outside resources such as MTCS). These workshops will aim to provide students with interesting information about their own cultural heritage, and enhance their interest in archaeology, cultural teachings, and areas of cultural significance. Ideally this will inspire young people to ask our Elders more questions and to continue learning about how to maintain and protect our cultural heritage.

Cultural Heritage Resource Stewardship Monitoring Program

Volunteers will take shifts traveling to and checking in on cultural heritage sites, reporting the state of the site to the Lands and Resources Committee. Volunteers record any observed changes, or potential threats to the conservation of the site. Volunteers may be land users who are already traveling near the site and are willing to check in on the site. Some volunteers may travel to sites for the sole purpose of monitoring and reporting. All volunteers receive training on how to record and report on the state of cultural heritage sites.

Cultural Site Reporting Program

This reporting system will enable Wasauksing citizens to report observations of cultural heritage sites to our Lands Department,



ideally accompanied by a GPS point. Through community participation, sites that were not previously identified or mapped can be pinpointed on our cultural heritage map. In cases where observers were not able to record a GPS point, someone may be sent out to the general location with a GPS to find the site and record its exact location.

Cultural Site Visits and Celebrations

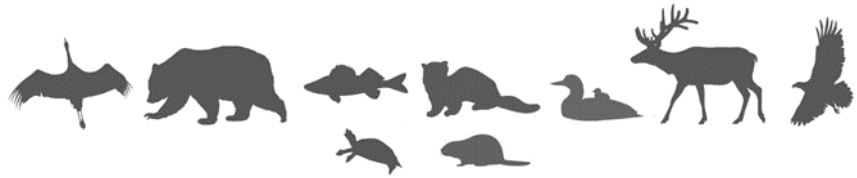
These events will involve citizens traveling together to our cultural sites, to pay respects to the site and celebrate its importance. Elders share their memories and stories associated with these sites, passing the knowledge down to younger generations. Citizens learn about the history of the site, and celebrate its importance through ceremony, music and shared food. These events will help citizens learn more about and develop deeper connections with our important cultural sites, ideally enhancing their desire and commitment to protect them.

Volunteer Program at the Future Wasauksing Archaeological Resources Centre

High school students can gain volunteer hours by assisting with duties at our Archaeological Resources Centre. This includes working on displays, developing and running programs for children, and conducting research related to archaeology and our cultural heritage (including interviews with Elders). Through learning about our cultural heritage, these student volunteers will ideally begin gaining the knowledge needed to make informed decisions about managing and protecting areas of cultural significance in the future.



Regulations and Best Practices



The following laws, regulations, and best practices could be applied to provide protection and oversight to cultural sites on Wasauksing lands.

Acts and Regulations

Canadian Environmental Assessment Act (2012): The purpose of this act is to protect components of the environment that are within the legislative authority of the Government of Canada from significant effects caused by a designated project under the act. In addition, the act also aims to promote communication and cooperation with Indigenous peoples regarding environmental assessment. In terms of cultural heritage protection, section 5(1)c and 5(2)b seek to ensure environmental effects that impact areas of cultural significance are accounted and subsequently mitigated in the project planning process. <https://laws-lois.justice.gc.ca/eng/acts/c-15.21/>

Prescribed Information for the Description of a Designated Project Regulations under the Canadian Environmental Assessment Act (2012): The purpose of this regulation is to prescribe what information is required for designated projects requiring an environmental assessment under CEAA 2012. In regards to areas of cultural heritage and archaeological significance the regulations require a description of changes to the environment – including information on the effects to Indigenous Peoples through any changes and effects to “health and socioeconomic conditions, physical and cultural heritage, the current use of lands and resources for traditional purposes or on any structure, site or thing that is of historical, archaeological, paleontological or architectural significance” as outlined in Article 19 of the regulation. <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2012-148/index.html>



Cultural Property Import and Exports Act (2014): The purpose of this act is to enforce provisions regarding the import and export of cultural property, including cultural heritage artifacts within Canada. Within the act, cultural property is defined as “movable or immovable property of great importance to the cultural heritage of every people, such as monuments of architecture, art or history, whether religious or secular; archaeological sites; groups of buildings which, as a whole, are of historical or artistic interest; works of art; manuscripts, books, and other objects of artistic, historical or archaeological interest; as well as scientific collections and important collections of books or archives or of reproductions of the property defined above.” In addition, the act also includes provisions regarding the import and export of cultural heritage artifacts recovered on Canadian soil as a means of preserving the national heritage in Canada. <https://laws-lois.justice.gc.ca/eng/acts/c-51/>

Parks Canada Agency Act (1998): The purpose of this act is to provide legislative guidance to the Parks Canada Agency, the agency responsible for providing oversight to National Parks, National Historic sites, and related heritage areas and areas of historic significance. With regard to cultural heritage and archaeology, the act deems it to be of the national interest to protect areas of cultural heritage within national parks, national historic sites, national marine conservation areas and related heritage areas. In addition, the act seeks “to commemorate places, people and events of national historic significance, including Canada’s rich and ongoing aboriginal traditions.” This includes the development of heritage protection programs in these areas. <https://laws-lois.justice.gc.ca/eng/acts/p-0.4/index.html>

National Historic Parks General Regulations under the Parks Canada Agency Act (2018): The purpose of this regulation is to set out guidance around the control and management of National Historic Parks in Canada. In terms of cultural heritage and sites the regulations stipulate that no cultural heritage resources and sites within a national park shall be disturbed, removed, damaged, or destroyed in any manner. <https://laws-lois.justice.gc.ca/eng/regulations/SOR-82-263/index.html>





Museums Act (1990): The purpose of this act is to provide legislative guidance and oversight on the establishment of museums in Canada, including the role of museums in protecting and promoting “the heritage of Canada and all its peoples throughout Canada and abroad and in contributing to the collective memory and sense of identity of all Canadians.” The act also states the importance of protecting artifacts of cultural significance to share with present and future generations.

<https://laws-lois.justice.gc.ca/eng/acts/m-13.4/index.html>

Ontario Heritage Act (1990): The purpose of this act is to provide legislative direction to the Ministry of Tourism, Culture, and Sport regarding the policies, programs, and priorities for the conservation, protection, and preservation of the heritage of Ontario as the lead provincial regulator role over cultural heritage resources in the province of Ontario. In addition, the Ontario Heritage Act also governs the general practice of archaeology in the province of Ontario and with that prescribes a legal framework and accompanying guidelines for the licensing of archaeologists in the province. In 2005, the act was amended to assign additional powers to the province and municipalities that enable them to delay or stop the demolition of heritage sites and expand the province’s ability to identify and designate sites of provincial heritage significance. <https://www.ontario.ca/laws/statute/90o18>

Applicable regulations under the Ontario Heritage Act include but are not limited to the following:

- [O. Reg. 11/06 Marine Archaeological Sites](#)
- [O. Reg. 9/06 Criteria for Determining Cultural Heritage Value or Interest](#)
- [O. Reg 8/06 Licenses under Part VI of the Act – excluding Marine Archaeological Sites](#)
- [O. Reg. 170/04 Definitions](#)
- [R.R.O 1990, Reg. 880 Historic Sites](#)
- [R.R.O 1990, Reg. 877 Grants for Museums](#)



- R.R.O 1990, Reg. 875 Archaeological Sites

Ontario Environmental Assessment Act (1990): The purpose of this act is to provide guidance regarding the processes, procedures, and guidelines required in the carrying out of provincial environmental assessments in Ontario. The act sets the direction of protecting the environment as a top priority in carrying out environmental assessments in the province of Ontario. In the act included in the definition of the environment are: “the social, economic, and cultural conditions that influence the life of humans or a community” and “any building, structure, machine, or other device or thing made by humans.” The environmental assessment process in Ontario includes identifying environmental impact mitigation and management measures including cultural heritage resources. <https://www.ontario.ca/laws/statute/90e18>

Applicable regulations under the Ontario Environmental Assessment Act include but are not limited to the following:

- O. Reg 231/08 Transit Projects and Metrolinx Undertakings
- O. Reg 101/07 Waste Management Projects
- O. Reg 116/01 Electricity Projects
- O. Reg 444/94 Exemption – Ministry of Transportation – MTO-63
- R.R.O. 1990, Reg. 334 General Regulations

Funeral, Burial, and Cremation Services Act (2002): The purpose of this act related to cultural heritage is to protect human burials—both marked and unmarked. Through the act marked burials are granted protection as heritage resources. Burials uncovered at archaeological sites are constituted as “unregistered cemeteries” that require further investigation to determine the extent of internments and either register the location as a cemetery or remove the remains for reinternment in a licensed cemetery. This purpose was previously met through a statute called the Cemeteries Act. The Funeral, Burial, and Cremation Services Act



replaced the function of the Cemeteries Act in July of 2012.

<https://www.ontario.ca/laws/statute/02f33>

Applicable regulations under this act include but are not limited to the following:

- [O. Reg 306/16 Code of Ethics](#)
- [O. Reg 30/11 General Regulations](#)

Aggregate Resources Act (1990). The purpose of this act is to minimize negative environmental effects of aggregate operations while also promoting proper management and reclamation of land where aggregate resources have been excavated. With regard to cultural heritage resources, this act has a process to address archaeological concerns at aggregate excavation sites—specifically, it is included in the matters to be considered by the Minister in determining whether a license should be either issued or refused by the Minister and/ or Board.

<https://www.ontario.ca/laws/statute/90a08>

The regulation under this act is O. Reg 244/97 General.

Planning Act (1990). The purpose of the Planning Act is to set out the land use planning system in the province of Ontario. The act specifically defines how the land use planning system works, who makes decisions, how to resolve disputes and seek public input, and the roles of the province and municipalities in planning administration. With regard to cultural heritage and archaeology, the act also sets out to provide guidance on “the conservation of features of significant architectural, cultural, historical, archaeological or scientific interests.” In addition, section 3.3 of the Act prohibits any use of land including the erecting, locating, or using any buildings or structures at the “site of a significant archaeological resource.” The Act also stipulates that prior to any housing or land developments proceeding an archaeological assessment must be conducted to determine the archaeological potential and put in place appropriate mitigation measures to ensure cultural heritage resources are protected prior to a land



development approval being granted.

<https://www.ontario.ca/laws/statute/90p13>

Provincial Policy Statement under the Planning Act (2014): The Provincial Policy Statement is the policy document that accompanies the Planning Act and serves to provide directions to applicable authorities under the Planning Act. The statement is issued under section 3 of the Planning Act and it provides direction regarding the protection of natural heritage, water, agricultural, mineral, and cultural heritage and archaeological resources. The Provincial Policy Statement defines cultural heritage and archaeological resources are “artifacts, archaeological sites, and marine archaeological sites.” The most recent Provincial Policy Statement was released in 2014 and has 5 statements related to cultural heritage and archaeological resources. The statement can be accessed at:

<http://www.mah.gov.on.ca/Page10679.aspx>

The policy statements related to cultural heritage and archaeological resources are as follows:

- 2.6.1 Significant built heritage resources and significant cultural heritage landscapes shall be conserved.
- 2.6.2 Development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved.
- 2.6.3 Planning authorities shall not permit development and site alteration on adjacent lands to protected heritage property except where the proposed development and site alteration has been evaluated and it has been demonstrated that the heritage attributes of the protected heritage property will be conserved.
- 2.6.4 Planning authorities should consider and promote archaeological management plans and cultural plans in



conserving cultural heritage and archaeological resources.

- 2.6.5 Planning authorities shall consider the interests of Aboriginal communities in conserving cultural heritage and archaeological resources.

Heritage Resources in the Land Use Planning Process Cultural Heritage and Archaeology Policies of the Ontario Provincial Policy Statement (2006). This toolkit serves as a guidance document to accompany the cultural heritage policies under the Provincial Policy Statement. The guide is organized into a series of information sheets that provide details and interpretation to key areas of interest in the Provincial Policy Statement pertaining to cultural heritage and archaeological resources. There are five information sheets in total in the guide on the following topics: built heritage resources, cultural heritage landscapes, archaeological resources and areas of archaeological potential, adjacent lands and protected heritage property, and heritage impact assessments and conservations plans.

Best Management Practices

Engaging Aboriginal Communities in Archaeology: A Draft Technical Bulletin for Consultant Archaeologists in Ontario (2011): This technical bulletin provides guidance to consultant archaeologists on engaging Indigenous communities in conducting archaeology. It is a document that provides supplemental information and direction connected to the MTCS Standards and Guidelines for Consultant Archaeologists. The bulletin provides a broad overview of standards and guidelines for engaging Indigenous communities in archaeology including who to engage and when to engage them in the process, the reporting and communication process with Indigenous communities and the Ministry, as well as other roles and responsibilities in the archaeological assessment process.

<http://www.mtc.gov.on.ca/en/publications/AbEngageBulletin.pdf>

Conducting Archaeology within the Traditional Territory of the Saugeen Ojibway Nation: Process and Standard for Approval



Authorities, Development Proponents, and Consultant Archaeologists (June 2011). As part of lands and resource stewardship Saugeen Ojibway Nation (SON) has developed their own archaeological guidelines that identify regulations for conducting archaeological fieldwork within SON Traditional Territory that go above and beyond the requirements set out by MTCS. Specifically, SON has three requirements for conducting archaeology within their territory that expand outside of the MTCS requirements. Those three requirements are: approval authorities, development proponents, and consultant archaeologists must engage with SON at all stages of a development project and archaeological assessment, SON must be involved in all decision-making activities related to the application of an archaeological condition, fieldwork strategies, and evaluation of assessment reports, and SON monitors must accompany consultant archaeologists in all field activities (i.e., Stages 2 through 4 of an archaeological assessment). <http://saugeenojibwaynation.ca/wp-content/uploads/2013/09/SON-Archaeology-Standards-and-Guidelines.pdf>

Curve Lake First Nation Archaeological Protocol (September 2016). As part of Curve Lake First Nation's efforts to protect cultural sites, remains, and artifacts of their ancestors. Curve Lake has produced this protocol to outline the roles, responsibilities, and requirements of Curve Lake First Nation, the Crown, Government Agencies, Proponents, and Archaeologists when Archaeological and Cultural Heritage Resources are found or known to be located in Curve Lake First Nation and their Traditional Michi Saagig Territory. <https://www.curvelakefirstnation.ca/download/curve-lake-first-nation-archaeological-protocol/>

Guidance Manuals

Ministry of Tourism, Culture, and Sport (MTCS) Standards and Guidelines for Consultant Archaeologists (2011). The purpose of these Standards and Guidelines is to "set out basic technical, process, and reporting requirements for conducting archaeological fieldwork" as well as providing "guidance or advice on good practice beyond the requirements of the standards." Specifically, the guidelines and standards identify how to carry out





all 4 stages of a full archaeological assessment, appropriate ways to engage Indigenous peoples in archaeological fieldwork, the role of the Ministry of Tourism, Culture, and Sport, health and safety during archaeological fieldwork, the process for documenting and reporting archaeological artifacts, and the process for reporting the uncovering of human remains.

http://www.mtc.gov.on.ca/en/publications/SG_2010.pdf

Ministry of Tourism, Culture, and Sport (MTCS) A Guide to Cultural Heritage Resources in the Land Use Planning Process (October 2017). This guidebook provides information and assistance to communities and individuals engaged in land use planning in the province of Ontario. More specifically, the guide provides clarity regarding the cultural heritage measures set out in the 2014 Provincial Policy Statement (PPS). The guide identifies methods and approaches to the management of cultural heritage and archaeological resources and how to apply cultural heritage policies.

http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2017/013-0914_MTCS.pdf

Glossary



Archaeological Assessment

For a defined project area or property, a survey undertaken by a licensed archaeologist within those areas determined to have archaeological potential in order to identify archaeological sites, followed by evaluation of their cultural heritage value or interest, and determination of their characteristics. Based on this information, recommendations are made regarding the need for mitigation of impacts and the appropriate means for mitigating those impacts.



Archaeological and Cultural Heritage Resources

Consists of culturally significant items, artifacts, and sites as identified by Wasauksing First Nation (for example: burial sites, sacred sites). In the context of the MTCS Standards and Guidelines for Consultant Archaeologists, objects, materials, and physical features identified by licensed archaeologists during a Stage 2 archaeological assessments as possibly possessing cultural heritage value or interest. Analysis using the criteria set out in the Standards and Guidelines determines whether those objects, materials, and physical features meet the definition of an archaeological site under the Ontario Heritage Act and whether Stage 3 archaeological assessment is required. In various planning and development contexts, the term may refer to any or all of archaeological potential, artifacts, and archaeological sites.

Archaeological Management Plan

A document that provides an inventory of archaeological sites, develops a municipality or region-specific mechanism for determining archaeological potential, and maps archaeological potential for the region. It will also state the region/ municipality's policies and processes for the management of archaeological resources. It may also include a summary of the region / municipality/ community's cultural history, means for promoting and educating the community about archaeological conservation, local strategies for storing and curating archaeological materials, and other issues related to conservation of archaeological resources within the community.

Archaeological Potential

The likelihood that a site contains archaeological heritage resources.

Artifacts

Objects or items of cultural or historical interest and importance that were left behind by Wasauksing First Nation ancestors.



Archaeological Site

Any property or site that contains an artifact or any other physical evidence of past human use or activity that is of cultural value, interest, or significance as defined under Ontario Heritage Act Regulation 70/04.

Archaeological Survey

The process followed in order to make initial identifications of archaeological sites. This may consist of pedestrian survey of ploughed fields, test pitting, the use of mechanical equipment in specific deeply buried or urbanized situations or remote sensing. Survey is a part of the overall archaeological assessment process.

Available and Relevant Information

Any information or source of information that a licensed archaeologist should normally and reasonably be aware of in terms of its availability for a given area of the Province and that is demonstrably of use in analysis and interpretation for a given project.

Avoidance

The process by which alterations to an archaeological site are prevented during the short-term time period during which development activities are undertaken.

Burial Site

Sites where deceased Wasauksing citizens and ancestors are ritually buried, sometimes with objects, into the ground, including mound burials, individual burials, and/or partial remains.

Construction Monitoring

An archaeological consultant or monitor's task of observing the excavation of fill at a construction site to see if archaeological resources are exposed.



Consultant Archaeologist

Defined in Ontario regulation as “an archaeologist who enters into an agreement with a client to carry out or supervise archaeological fieldwork on behalf of the client, produce reports for or on behalf of the client and provide technical advice to the client.” In Ontario, these people are also required to hold a valid professional archaeological license issued by the Ministry of Tourism, Culture, and Sport.

Cultural Heritage Value or Interest

For the purposes of the Ontario Heritage Act and its regulations, archaeological resources that possess cultural heritage value or interest are protected as archaeological sites under Section 48 of the act. Where analysis of documented artifacts and physical features at a given location meets the criteria stated in the Standards and Guidelines, that location is protected as an archaeological site and further archaeological assessment may be required.

Faunal Analysis

The analysis of animal remains found at an archaeological site to assist in the reconstruction or characterization of past human activities that occurred at the site.

Geophysical Survey

Surface-based physical sensing techniques used for archaeological imaging or mapping of subsurface artifacts and features.

Post-contact Period

The time period following the date Europeans made first contact with North American Indigenous peoples. In Southern Ontario, roughly after 1650; in Northern Ontario, at later dates depending on the time at which European explorers first arrived in a region.

Professional Archaeologist

In Ontario, a person holding a professional license. Often someone carrying out archaeology as a consultant or academic.



Significantly, the license allows the holder to completely excavate archaeological sites.

Project Area

The lands to be impacted by the project, e.g.: the area of a development application under the Planning Act, the area to be licensed under the Aggregate Resources Act; the area subject to physical alteration as a result of the activities associated with the project. This may comprise one or several properties, and these properties may or may not be adjoining. However, all the properties must be part of one project that is being undertaken by one proponent.

Property

A piece of land with a defined boundary and an owner. See Project Area.

Proponent

An entity, consisting of individuals, private corporations or government bodies, that is undertaking a development project.

Protection

Measures put in place to ensure that alterations to an archaeological site will be prevented over the long-term period following the completion of a development project.

Sacred Site

Places of great spiritual, ceremonial, and/ or cultural significance as identified by Wasauksing First Nation.

Stakeholder

Anyone with an interest in the property or archaeological site in question.



Standard

A mandatory instruction or practice that the reader is required to carry out if they are doing the stated activity. Terms like “must” and “should” are used in standards.

Survey Transect

A line of shovel test pits or a walking path across a cultivated field along which archaeological survey is carried out.

Survey

See archaeological survey.

Test Pit

A usually round hole about the diameter of a standard shovel blade dug to subsoil at regular intervals along a survey transect. The excavated soil is sifted through 6 mm mesh to look for artifacts.

Test Unit

A square hole 1 m by 1 m in its horizontal dimensions and of variable depth, excavated according to certain standards. Test units are excavated to obtain further information about an archaeological site subsequent to its discovery.

The above glossary of terms was adapted from the Ministry of Tourism, Culture, and Sport Standards and Guidelines for Consultant Archaeologists (2011) as well as the Curve Lake Archaeological Protocol (2016).



Land Development

Environmental Stewardship Guidance

Contents

Our Stewardship Vision

Community Objectives

**Stewardship Guidance
and Strategies**

**Monitoring and
Enforcement**

Community Initiatives

**Regulations and Best
Practices**

Glossary

*"Reconciliation means
empowering us to use our
language and our land
again."*

– Wasauksing Citizen

Our Stewardship Vision

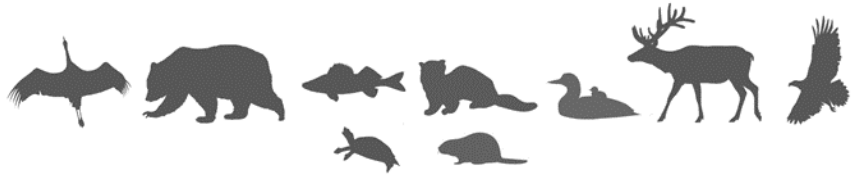
We are stewards of the Earth. We are responsible to the Creator to protect our *akii* (lands) and *nibiish* (waters) as development and growth occur in our community. We will work to ensure that development occurs on our *akii* in a way that respects our rights and interests. We understand our responsibility to protect our *akii* and *nibiish* for future generations.

If not conducted carefully, land development has the potential to impact many different components of the environment and to infringe on many of our environmental values. We strive to ensure that any development occurring on our *akii* meets high standards for environmental protection. We also aim to achieve high levels of community consultation, transparency and accountability related to all land development. Regardless of whether development is being undertaken by our community or external proponents, we clearly outline here our expectations for how development must occur on our *akii*. We understand the need to develop an Environmental Assessment and permitting regime, to implement our Land Use Plan, and to develop guidance manuals outlining how proponents should undertake *akii* development.





Community Objectives



In managing the environmental impacts of land development, we will pursue the objectives below, making use of, or adapting, our existing Community Development Plan and established procedures where possible. Working on these land development objectives will also help us to action our Strategic Plan, in particular section 3: “Business and the Environment” and Strategy 3.5: “Ensure development of our community follows effective environmentally responsible land management practices that protect our quality of life.”

Short-Term Objectives

- Complete and implement an Environmental Assessment (EA) and permitting regime by approving and enacting an Environmental Assessment law to support the application of site- and project-specific requirements for environmental management of land development.
- Complete and implement an Environmental Protection (EP) law to address the issue and risk of contamination on our lands.
- Update the Community Development Plan (2005) and Development and Building Approval process by enacting Land Law(s) to support a fair and transparent development process including permit requirements.
- Establishing a list of generic environmental permitting conditions for different development types based on this ESG.
- Enhance administrative capacity and systems at Wasauksing First Nation to administer the environmental assessment and permitting regimes.



Long-Term Objectives

- Live our community's vision and responsibility for stewardship, protection, use and development of our lands and waters.
- Evaluating the efficiency and effectiveness of environmental assessment and permitting processes with respect to land development to ensure the stewardship vision is being met.
- Developing clear proponent and lessor guidance manuals for how to undertake appropriate land development on our land.

Stewardship Guidance and Strategies



To meet our short and long-term objectives for land development in our community, we use the following stewardship guidance and strategies that are built on Land Laws, regulations, guidelines and best management practices.

Strategy 1: Complete and Implement an Environmental Assessment Law and Permitting Regime

We recognize that development may be proposed on our lands. This strategy gives our community the ability to develop an Environmental Assessment regime and permitting regime that outlines a fair and transparent decision-making process and regulates development. By developing this Land Law, it will ensure any development occurring on our lands is done "right", in



accordance with our community's rules and standards, and that we have the ability to enforce any wrongdoings.

This strategy is related to the development of our land and environmental laws under the Framework Agreement and our Individual Agreement with Canada. These laws, and associated processes, such as environmental assessments and permits, must, at a minimum, meet the same standards as related provincial laws and the requirements of federal laws, which are still in force on Wasauksing land (e.g., Fisheries Act, Migratory Birds Convention Act, Species at Risk Act, Indian Oil and Gas Act, Emergencies Act, Nuclear Safety and Control Act, Nuclear Energy Act).

The five-step process to develop this regime follows:

1. An initial scoping workshop with our Lands Manager and our legal counsel
2. Development of our draft EA law and permitting regime framework. The permitting regime can expand on our existing Development and Building Approval process outlined in our Land Use Plan.
3. Consultation by our Lands Manager with Council, and our legal counsel, on the draft EA law and permitting regime framework
4. Development of our final EA law and permitting regime, and related lands laws, by our legal counsel and our Lands Manager, based on the framework
5. Host community meetings with our citizens to gather support for the EA law and permitting regime, and associated Land Law(s), and to ensure community members understand the rules and compliance requirements of our Land Law(s)

There is a range of possibilities for our EA and permitting regime based on the FNLMA, and our Individual Agreement with Canada, and also a range of choices about the regime that will have implications for how it is administered and the capacity



requirements our Lands Manager will need to build. In developing this regime, we should assess and evaluate the pros and cons of each possibility, including as they relate to process, capacity, timelines, and cost, and determine what works best for us. Our EA regime must be “harmonized” with those of the Provincial and Federal governments and the EA law must be “consistent” with Canada’s EA law. This gives us the opportunity to develop and/or select an approach that works for our community with a focus on identifying impacts and mitigating measures honestly and effectively considering effectiveness, resources, time and cost. Some of these possibilities for an EA regime includes the following:

- The *Status Quo* approach – Adopting the federal EA process (both 2012 and 1992 versions are options), and INAC’s Environmental Review Process for smaller projects not triggering an EA. We recognize there are criticisms of the provincial processes, including the process being slow, subject to political interference, being expensive and only applicable to big projects, and must evaluate the pros and cons of this approach in our decision-making process. Note: these versions of the Act are specifically mentioned in the Framework Agreement and our Individual Agreement with Canada.
- Adopting the new federal Impact Assessment Act which came into force on August 28, 2019. We recognize there are criticisms of the provincial processes, including the process being slow, subject to political interference, being expensive and only applicable to big projects, and must evaluate the pros and cons of this approach in our decision-making process. Note: this version came into force after the Framework Agreement and our Individual Agreement with Canada.
- Adopting the provincial EA process. We recognize there are criticisms of the provincial processes, including the process being slow, subject to political interference, being expensive and only applicable to



big projects, and must evaluate the pros and cons of this approach in our decision-making process.

- Adopting a mix of the above options. There are criticisms of the federal and provincial processes as well, including the process being slow, subject to political interference, being expensive and only applicable to big projects.
- Developing an enhanced version of either of the options above, with greater emphasis on matters such as the consideration of traditional knowledge and traditional laws, alternatives assessment, cumulative effects, socioeconomic impacts for Wasauksing, or other factors on which the current EA processes are weak. There are criticisms of the federal and provincial processes as well, including the process being slow, subject to political interference, being expensive and only applicable to big projects.
- Developing an entirely new EA regime, that can be modelled from other Land Code communities who have developed their own EA law, which meets and/or exceeds federal and provincial requirements

A third-party environmental consultant should be engaged to participate in this process, with strong qualifications and experience in environmental impact assessment processes and the consideration of our rights and interests, within EAs and environmental permitting.

Strategy 2: Complete and Implement an Environmental Protection Law

Our Environmental Protection (EP) law addresses the issue and risks of contamination to our lands. It will allow us to establish our own standards and hold ourselves and anyone who uses our lands accountable to protect Mother Earth so it can be protected,



preserved and enjoyed by our grandchildren seven generations in the future.

This strategy is related to the development of our environmental protection law identified in our Land Code and required under the Framework Agreement and our Individual Agreement with Canada. These laws, and associated processes, such as its enforcement and fines, must, at a minimum, meet the same standards as related provincial laws and the requirements of federal laws, which are still in force on Wasauksing land (e.g., Fisheries Act, Migratory Birds Convention Act, Species at Risk Act, Indian Oil and Gas Act, Emergencies Act, Nuclear Safety and Control Act, Nuclear Energy Act).

We will develop our EP law in accordance with the process outlined in Section 8: Law-Making Procedure in our Land Code, including requirements for community engagement.

Our EP law will be developed and reviewed by our lawyer, with support from our community, staff and subject area third party consultants, where required.

The EP law should incorporate the following elements, at a minimum, to protect our lands and waters from issues and risks of contaminants:

- Prohibitions, including the activities that are prohibited without express permission from Wasauksing, such as the discharge of waste
- Rules and procedures for reporting, preventing, eliminating, mitigating and remediating environmental issues, such as pollution or waste discharge, and communicating the risks to the community
- Process for Wasauksing to issue permits to authorize certain activities in accordance with our standards
- Contaminated site remediation
- Dispute resolution process



- Fines and penalties for offenses

Strategy 3: Update the Community Development Plan (2005) and the Development and Building Approval Process by Enacting a Land Law(s)

This strategy involves enacting Land Law(s) updating our Community Development Plan (Land Use Plan), currently in process, and amending our Development and Building Approval process to align with the Environmental Assessment and permitting process developed under Strategy 1. A key recommendation in our updated Land Use Plan is to refine and implement the Development and Building Approval process, which already exists, by Land Law for a fair, transparent and enforceable permitting process for land use decisions.

These documents should be updated to allow for the assignment and enforcement of permitting conditions of approval to different types of land-uses laid out in the Plan. Permitting conditions of approval are environmental management requirements or practices a land-use proponent must follow, if their development is approved to proceed. This will likely require the assistance of a third-party planning consultant familiar with the First Nations Land Management Act, to ensure the amendments are enforceable and can be implemented with confidence.

The Development and Building Approval process should be enacted through a Land Law, which involves community engagement in accordance with our Land Code. By enacting this process by Land Law, we will legally establish our rules and



standards for development and building on our land and can outline how we will enforce the law.

Strategy 4: Establish a List of Generic Permitting Conditions for Different Development Types

Generic permitting conditions are meant to guide different kinds of land development, in relation to different kinds of development activities and Wasauksing First Nation values protection. They are relatively generic, but sufficiently detailed, requirements for how to undertake activities in order to protect our environmental and cultural values. These standards are based on the other ESGs provided in the EMP- as applicable- and best practices guidance provided in those ESGs.

The intent is that Wasauksing staff, when permitting a project, can pick and choose the relevant conditions from this generic list. There may be standard conditions that apply to every permit. It does not prohibit staff from adding other conditions or making them project specific. These generic permitting conditions help to speed up and streamline the process of developing permit conditions, and provide certainty to land developers about the environmental requirements they can expect and plan for.

The following are examples of the types of generic environmental permitting conditions we may develop for our lands:

- Right-of-way alignment changes and/or creation of brush barriers to reduce line-of-sight and restrict predator movements for improved wildlife habitat in linear corridor development (e.g. transmission lines, pipelines)
- Fish and wildlife timing restrictions and/or use of rig mats or temporary bridges to reduce impacts on wetlands and streambanks at water crossings during construction or forest harvesting



- No machine buffer zones in riparian areas when working near water
- Settling ponds and sediment filters to reduce suspended sediment into waterways/fish habitat from runoff or dewatering effluent in aggregate development
- Environmental and cultural monitoring during land development by Wasauksing staff
- Use of alternate forest harvesting practices (strip cutting, patch cutting, selective harvesting, horse logging) in environmentally sensitive areas for forestry and land clearing permitting
- Buffer zones and land or cultural-user access provisions to reduce cultural heritage and traditional use impacts during land development
- Use of grassed or vegetated swales to treat stormwater for contaminants at-source for parking lots and roadways
- Monitoring and adaptive management plans for water takings
- On-site wastewater treatment requirements for developers, to reduce impacts on communal systems.
- Daily soil cover application and wildlife fencing requirements for depositions of solid waste
- Fish habitat enhancement measures and fuel handling and storage requirements for marina and waterfront development
- Application of sustainable building standards (e.g. LEED, R-2000) to the design and construction of institutional and commercial building developments



- Use of Low Impact Development (LID) standards and principles when planning and constructing residential housing developments

Strategy 5: Enhance Administrative Capacity and Institutions to Administer the Environmental Assessment and Permitting Regimes

Implementing this ESG, along with other land-use and environmental permitting processes, monitoring, enforcement and other administrative functions, involves significant planning and funding efforts to build capacity for our current Lands Manager under the Public Works Department, and the First Nation administration overall. There are four suggested elements to this initiative:

- A needs and gap analysis process (to be repeated every 2-3 years) – involving a survey of staff, citizens, Council, land development proponents; benchmarking relative to other operational communities under the FNLMA; an analysis of the benchmarking and survey results to identify any gaps where there are needs not yet fulfilled by the existing administration. Needs may include staffing, professional development, equipment and systems, buildings, etc.
- A funding opportunities analysis (ongoing) – involving a survey of available Indigenous Services Canada (ISC) funding, other federal and provincial funding, own-source revenues, private and public foundation funding available, ranking these opportunities (high to low priority), aligning them with capacity needs as per the needs and gap analysis, and outlining the requirements and timing for funding applications for the high priority opportunities. Opportunities for collaborative capacity building with neighbouring governments, including municipal, provincial and federal



governments can also be explored through this analysis.

- A capacity review of the lands management function of the Public Works department on an annual basis to determine any additional capacity needs – this would be through a simple internal survey and workshop.
- Annual budgeting and fundraising to finance capacity development for the lands management function of the Public Works Department, including staffing, training, equipment and systems amongst others- this is an annual plan aligned with the First Nation administration's annual budgeting process, and makes use of the needs and gap analysis, and funding opportunities analysis results for a given year.

Strategy 6: Evaluate the Efficiency and Effectiveness of Environmental and Land-Use Permitting Processes

To ensure the high-level goals of the stewardship vision are being met, it is important to do a land development program evaluation periodically. Program evaluations normally involve looking at all of the goals and objectives, inputs, activities, outputs, and outcomes of a program such as our environmental and land-use permitting program (through the Development and Building Approval process and related Land Law(s)) and evaluates whether there could be improvements made for the program to function or perform better. A program evaluation every 3-5 years, conducted by a third-party consultant who specializes in this field, is recommended. The program evaluation is intended to answer the following questions:

- Could the program be delivered more efficiently to reduce costs and/or times to complete and issue permits?



- Are our responsibilities towards our ancestral lands and our future generations being effectively upheld in the permitting process?
- Are we effectively balancing environmental protection and economic development in accordance with our community's vision, goals and standards and the policies of our Land Use Plan and this Environmental Management Plan?
- Is environmental quality on our lands being maintained or improved?
- Are we effectively providing certainty and clarity to those developing our lands about their environmental protection and management responsibilities?
- Are we applying the permitting process in a consistent and coordinated way?

Evaluation results are to be shared with Council, the First Nation Administrator, and the community, and a plan for any follow-up actions based on the evaluation results should be developed collaboratively with these parties.

Strategy 7: Develop Clear Proponent and Lessor Guidance Manuals for How to Undertake Appropriate Land Development on our Lands

To meet our high-level goal of “providing certainty and clarity to those developing Wasauksing First Nation lands about their environmental protection and management responsibilities”, we will develop and provide guidance manuals to land developers. These manuals will describe our history and cultural heritage, our values about respecting the gifts of the Creator, our community economic and environmental protection plans, and our environmental and land-use regulatory regime and its



requirements (including generic environmental permitting conditions as outlined in Strategy 4).

We will make these “how to” manuals visually appealing that incorporates graphics and infographics to clearly articulate how we expect development to occur on our lands.

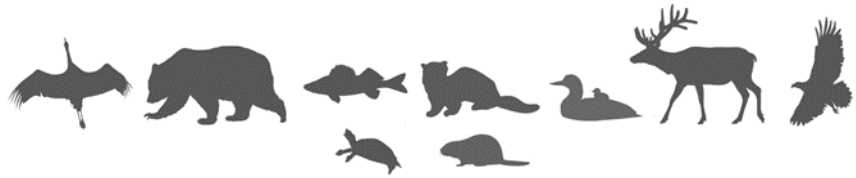
Wasauksing should prioritize the types of land development and create manuals to address known or projected development pressures. For example, Wasauksing should begin by developing “how to” manuals for residential housing and cottages/seasonal residences).

Manuals of this nature should be developed for the primary types of land development we expect, including:

- Commercial and light-industrial facilities
- Institutional buildings/facilities
- Residential housing
- Linear corridors (e.g., transmission lines, pipelines)
- Aggregate operations
- Forestry operations
- Marinas and waterfront development
- Cottages/seasonal residences
- Tourism and recreational facilities
- Solid waste and debris deposition



Monitoring and Enforcement



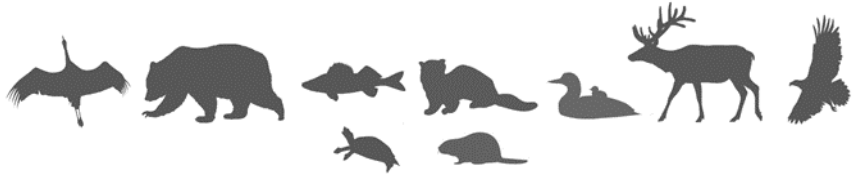
The management of land development on our reserve lands is facilitated by our Lands Manager under the Public Works department and monitored by Council. As we are all stewards of our environment who value and depend on our lands and waters, we all contribute to, and participate in, activities related to effective environmental management of land development.

Potential areas for monitoring and enforcement include the following:

- Monitoring and verification of the fulfillment of permitting conditions of approval.
- Monitoring and verification of the results of an environmental assessment (effectiveness of mitigation measures, predicted effects after mitigation)
- Compliance promotion and enforcement of permitting conditions and Land Law(s)
- Compliance promotion and enforcement of Environmental Protection law
- Investigations of spills, accidents, or malfunctions causing potential environmental impacts from land development, and any enforcement related to these types of events.
- Monitoring and assessment of the cumulative effects of development on Wasauksing First Nation lands or waters, to guide future development, environmental management or remediation plans.



Community Initiatives



If not conducted carefully, land development has the potential to impact many different components of the environment and to infringe on many of our environmental values. We strive to ensure that any development occurring on our lands meets high standards for environmental protection. We also aim to achieve high levels of community consultation, transparency and accountability related to all land development.

It is important to us that our citizens are aware of the potential impacts of land development, that they play a role in developing our approach to land development, and that they participate in activities related to environmental protection and land development whenever possible. This helps ensure that development proposals are carefully assessed, that projects are well monitored, and that development does not take place unless it is well understood and supported by citizens.

In Section 8 of our Strategic Plan (Community Action & Volunteers), Strategy 8.3 says “To promote activities which allow youth and elders to work together on key Projects/medicines walks.” In actioning the initiatives below, we will strive to bring youth and Elders together to share knowledge, wisdom and hopes for the future about development and preservation of the environment.

Some or all of the following community initiatives will be implemented at the discretion of Wasauksing First Nation to support responsible land development in our community.

Land Development Impacts – Community Awareness Sessions

This series of community sessions will address a range of land development types and impacts. Information will be provided by citizens with experience and stories related to the impacts of land



development, professionals in the field of environmental impact assessment, and others with important knowledge to share. Case studies from other communities will be shared, along with videos and photographs to help understand and visualize the impacts being discussed.

Environmental Assessment Community Consultation Workshops

These events will provide citizens with the opportunity to learn about the environmental assessment and permitting processes, to learn about efforts to develop a community-specific environmental assessment and permitting process, and to provide input on the community environmental assessment and permitting regime.

These workshops will not replace our consultation requirements for individual projects, as outlined in the environmental assessment and permitting regime we will develop and enact by Land Law(s). Our EA and permitting Land Law will include a robust requirement for community involvement.

Land Development Standards Community Consultation Workshops

These events will provide citizens with the opportunity to learn about the importance of environmental standards for various types of development projects, and to provide their input



regarding the approach, content, and enforcement of these standards.

Land Use Planning Community Events

A series of consultation and engagement sessions will take place to involve citizens in the land use plan development and implementation.

Land Development Permitting Processes Community Evaluation Sessions

Citizens will participate in these sessions to contribute their feedback on the efficiency and effectiveness of our environmental assessment and permitting processes. Our high-level goals related to land development will be reviewed, programs and projects will be evaluated, and opportunities for improvements will be identified.

Resources

Community Planning Toolkit – Community Engagement. Community Places, 2014: This toolkit provides guidance for designing and implementing effective community engagement strategies. It includes descriptions of various engagement methods, strengths and weaknesses of different styles of engagement, and links to additional online resources. This information may be useful for the development of community consultation and engagement sessions related to land development standards, environmental assessment and permitting regimes, and more.

Regulations and Best Practices



Under the Framework Agreement, we have the power to make environmental laws relating to our land. Our laws must have the



same environmental protection standards and punishments as those of the province, at a minimum, and certain federal laws that remain in-force under the Framework Agreement including the Fisheries Act, Species at Risk Act, and Migratory Birds Convention Act.

We outline, below, relevant Provincial and Federal Act and Regulations related to land development.

Provincial Legislation

Environmental Assessment Act. The betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management of Ontario's environment.

<https://www.ontario.ca/laws/statute/90e18>

- General R.R.O. 1990, Reg. 334
<https://www.ontario.ca/laws/regulation/900334?search=environmental+assessment+act>
- Waste Management Projects O. Reg. 101/07
<https://www.ontario.ca/laws/regulation/070101?search=environmental+assessment+act>
- Electricity Projects O. Reg. 116/01
<https://www.ontario.ca/laws/regulation/010116?search=environmental+assessment+act>
- Deadlines O. Reg. 616-98
<https://www.ontario.ca/laws/regulation/980616?search=environmental+assessment+act>
- Designation and Exemption – Private Sector Developers O. Reg. 345/93
<https://www.ontario.ca/laws/regulation/930345?search=environmental+assessment+act>



Environmental Protection Act: To provide for the protection and conservation of the natural environment.

<https://www.ontario.ca/laws/statute/90e19>

- Registrations under Part 11.2 of the Act – Activities requiring assessment of air emissions. O. Reg. 1/17
<https://www.ontario.ca/laws/regulation/170001?search=environmental+protection+act>
- Registrations under Par 11.2 of the Act – Water taking O. Reg. 63/16
<https://www.ontario.ca/laws/regulation/160063?search=environmental+protection+act>
- Applications for Environmental Compliance Approvals O. Reg. 255/11
<https://www.ontario.ca/laws/regulation/110255?search=environmental+protection+act>
- Spill Prevention and Contingency Plans O. Reg. 224/07
<https://www.ontario.ca/laws/regulation/070224?search=environmental+protection+act>
- Environmental Penalties O. Reg. 22/07
<https://www.ontario.ca/laws/regulation/070222?search=environmental+protection+act>
- Spills R.R.O. 1990, Reg. 362
<https://www.ontario.ca/laws/regulation/900360?search=environmental+protection+act>
- Marinas R.R.O 1990, Reg. 351
<https://www.ontario.ca/laws/regulation/900351?search=environmental+protection+act>

Ontario Heritage Act: To protect heritage buildings and archaeological sites. Individual building designations Council approved permit required to undertake alterations to any of the identified heritage elements of the property or to demolish any buildings or structures on the property. Designation of heritage



conservation districts.

<https://www.ontario.ca/laws/statute/90o18>

- Criteria for Determining Cultural Heritage Value or Interest of Provincial Significance O. Reg. 10/06
<https://www.ontario.ca/laws/regulation/060010?search=ontario+heritage+act>
- Criteria for Determining Cultural Heritage Value or Interest O. Reg. 9/06
<https://www.ontario.ca/laws/regulation/060009?search=ontario+heritage+act>
- Definitions O. Reg. 170/04
<https://www.ontario.ca/laws/regulation/040170?search=ontario+heritage+act>
- Historical Sites R.R.O. 1990, Reg. 880
<https://www.ontario.ca/laws/regulation/900880?search=ontario+heritage+act>
- Archaeological Sites R.R.O. 1990, Reg. 875
<https://www.ontario.ca/laws/regulation/900875?search=ontario+heritage+act>

Ontario Planning and Development Act. This Act requires public participation in the preparation of a proposed development plan, and permits the Minister to propose modifications to a development Plan. In many respects, a development plan under the Ontario Planning and Development Act is similar to an official plan under the Planning Act. The primary differences are: 1) the Province is the authority for both undertaking and approving a development plan, and 2) the legislative requirements for the preparation and approval of a development plan are unique to the Ontario Planning and Development Act.

<https://www.ontario.ca/laws/statute/94o23>

Ontario Water Resources Act. Ontario Clean Water Agency Water, wells, sewage works, water works, the Act aims to protect both Ontario's drinking water and fresh water resources at large from



pollution, whether from industrial sources, sewage systems, chemicals in use at farms, or any other source.

<https://www.ontario.ca/laws/statute/90o40>

- Service of Documents O. Reg. 226/07
<https://www.ontario.ca/laws/regulation/070226?search=Ontario+water+resources+act>
- Environmental Penalties O. Reg. 223/07
<https://www.ontario.ca/laws/regulation/070223?search=Ontario+water+resources+act>
- Water Taking and Transfer O. Reg. 387/04
<https://www.ontario.ca/laws/regulation/040387?search=Ontario+water+resources+act>
- Approval Exemptions O. Reg. 525/98
<https://www.ontario.ca/laws/regulation/980525?search=Ontario+water+resources+act>
- Wells R.R.O. 1990, Reg. 903
<https://www.ontario.ca/laws/regulation/900903?search=Ontario+water+resources+act>

Federal Legislation

Canadian Environmental Assessment Act (1992 and 2012 versions).

To guide the environmental assessment of all projects on federal lands or funded by Canada, and select types of major projects on non-federal lands, in order to prevent significant adverse environmental effects before development begins. <https://laws-lois.justice.gc.ca/eng/acts/c-15.21/> (2012 version of the Act) <https://laws.justice.gc.ca/eng/acts/c-15.2/20100712/P1TT3xt3.html> (1992 version of the Act).

Impact Assessment Act, 2019. To guide the impact assessment (broader scope of assessment than environmental assessment including socioeconomic and cultural considerations, and a much broader and more influential role for First Nations, Métis and Inuit communities) of all projects on federal lands or funded by Canada, and select types of major projects on non-federal lands, in order



to prevent significant adverse environmental effects and enhance project benefits before development begins. (Web link to the Impact Assessment Act, 2019 was not available at time of publishing)

Fisheries Act. To guide well-managed, stable and viable fisheries and to conserve and protect fish and their habitat.

<http://laws-lois.justice.gc.ca/eng/acts/F-14/>

- Applications for Authorization under Paragraph 35(2)(b) of the Fisheries Act Regulations (SOR/2013-191).

<http://laws-lois.justice.gc.ca/eng/regulations/SOR-2013-191/index.html>

Migratory Birds Convention Act. Protects migratory birds – as populations and individual birds – and their nests in Canada and the United States from being threatened by proposed or existing projects.

<http://laws-lois.justice.gc.ca/eng/acts/M-7.01/page-1.html>

- Migratory Bird Regulations (C.R.C., c. 1035).

<http://laws-lois.justice.gc.ca/eng/regulations/C.R.C., c. 1035/index.html>

Species at Risk Act, 2002 (Environment and Climate Change Canada). The Act lists native species that have been recognized as dwindling in population and being, in varying degrees, at risk of



extinction in Canada.

<https://laws-lois.justice.gc.ca/eng/acts/s-15.3/>

Land Laws from Other Land Code Communities

The Lands Advisory Board Resource Centre (LABRC) posts laws that have been passed by other Land Code First Nations that can be used for reference when we are developing our own laws:

<https://labrc.com/resource/first-nation-laws/>

Best Management Practices

B-6 Guidelines for Evaluating Construction Activities Impacting on Water Resources: This document complements its policies on the protection of water resources from sediment and associated contaminants.

<https://www.ontario.ca/page/b-6-guidelines-evaluating-construction-activities-impacting-water-resources>

Best Management Practices for Industrial Sources of Odour.

Information on best management practices for industrial sources of odour, including how to prepare a best management practice plan (BMPP), identifying typical sources of odour, and techniques used to reduce odour emissions.

<https://www.ontario.ca/page/best-management-practices-industrial-sources-odour>

Best Management Practices: Buffer Strips. Well-managed buffer strips filter runoff before it enters streams, wetlands, ponds and lakes. This has many benefits for water quality, erosion prevention, soil water-holding capacity, fish and habitat quality, livestock health, and drain maintenance.

<http://www.omafra.gov.on.ca/english/environment/bmp/buffer.htm>

Best Management Practices: Fish and Wildlife Habitat

Management: Healthy fish and wildlife habitat on rural property has many benefits, and BMPs for improving habitat are compatible with cropland BMPs. Full of info for farmlands, woodlands,



wetlands and other transitional areas, and aquatic areas.

Prevention and control of nuisance wildlife are also covered.

<http://www.omafra.gov.on.ca/english/environment/bmp/wild.htm>

Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales. The Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (the Stand and Site Guide) is one of a series of forest management guides used by forest managers when planning and implementing forest management operations.

<https://dr6j45jk9xcmk.cloudfront.net/documents/2786/guide-standsitescales-aoda.pdf>

Fisheries and Oceans Canada (DFO) Buffers to Protect the Environment: Guidelines around the creation of conservation buffers or strips in and around fields and along roads, streams, rivers, lakes and wetlands.

http://www.lrconline.com/Extension_Notes_English/pdf/bffrs.pdf

Fisheries and Oceans Canada (DFO) Land Development Guidelines for the Protection of Aquatic Habitat (1993): Guidelines to protect fish populations and their habitat from the damaging effects of land development activities. These guidelines apply primarily to salmon, trout and char, but are applicable to all fish species.

www.dfo-mpo.gc.ca/Library/165353.pdf

In-Water Work Timing Window Guidelines: Guidelines to restrict in-water during certain periods to protect fish during spawning migrations and other critical life stages.

<https://www.ontario.ca/document/water-work-timing-window-guidelines>

Land Development Guidelines for the Protection of Aquatic Habitat: These guidelines are to protect fish populations and their habitat from the damaging effects of land development activities.

<http://www.dfo-mpo.gc.ca/Library/165353.pdf>

Preserving and Restoring Natural Shorelines: Extension Notes: This fact sheet provides information on the importance of shoreline vegetation and where you can get help to restore your shoreline





and others in your community.

http://www.lrconline.com/Extension_Notes_English/pdf/shrlns.pdf

Regional Timing Windows of Least Risk

Fish and Fish Habitat – Ontario Restricted Activity Timing Windows for the Protection of Fish and Fish Habitat. Time work to avoid the restricted activity timing windows in order to reduce the risk of harm to fish and fish habitat in Ontario.

<http://www.dfo-mpo.gc.ca/pnw-ppe/timing-periodes/on-eng.html>

General Nesting Periods of Migratory Birds in Canada. Technical information on general nesting periods to support the planning of activities in order to reduce the risk of detrimental effects to migratory birds, their nests and eggs.

<http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=4f39a78f-1>

Runoff, Erosion Protection and Additional Best Management Practices 2011: BMPs created by Conservation Ontario to protect municipal drinking water sources from runoff contamination and soil erosion and to reduce the amount of sediment and nutrients that reach drinking water sources.

Waste disposal sites approvals: List of guides and resources such as landfill standards, and Best Management Practices and procedures for handling and disposal of wastes.

<https://www.ontario.ca/page/waste-disposal-sites-approvals-sample-applications-guides-and-resources>

Glossary



Alternatives Assessment

A problem-solving approach used in the environmental assessment process that aims to minimize environmental harm by



comparing multiple solutions to a specific problem, goal, or objective.

Cumulative Effects

Changes to the environment that are caused by a particular project, initiative, or activity in combination with past, present, and future projects, initiatives, or activities. Cumulative effects assessments are a part of the environmental assessment process completed to ensure that incremental effects resulting from combined influences of various activities are assessed.

Environmental Assessment

A process to predict environmental effects of proposed projects or initiatives before they are carried out. Environmental assessments identify potential adverse environmental effects, propose measures to mitigate them, predicts subsequent adverse environmental effects, and follow-up programs. Environmental assessments can be administered at the provincial or federal level, or by First Nations operating under the Framework Agreement.

Environmental Permit

An authorization that allows a proponent(s) to carry on various projects, initiatives, or activities.

Land Clearing (Forestry)

Refers to the removal and disposal of all trees, brush, stumps, fallen timber, hedges, and wooden curbs (among other things) that lie within the footprint of a right-of-way corridors or construction sites. This process is performed between the surveying and construction stages.

Linear Corridor Development

Developments projects such as roads, railways, pipelines, transmission lines that are linear in nature.



Solid Waste Management

Environmental Stewardship Guidance

Contents

Our Stewardship Vision

Community Objectives

Stewardship Guidance and Strategies

Monitoring and Enforcement

Community Initiatives

Regulations and Best Practices

Glossary

Our Stewardship Vision

As citizens of Wasauksing, we are a proud people with a deep connection to the *akii* (lands) and *nibiish* (waters) that sustain us. For much of our history, our people relied on natural materials, sourced from the environment around us, which could easily be disposed of by returning them to the earth and allowing natural processes to break these materials down. Synthetic materials are now increasingly used in a wide array of products we rely on for daily life. These durable materials persist in the environment, requiring our community to have a clear plan for reducing, recycling, and disposing of these wastes. Otherwise there are significant risks to Wasauksing *akii* and *nibiish* from contamination.

Through the objectives and strategies described in this ESG, we are committed to managing the waste we produce in sustainable ways to preserve the integrity of the environment for seven generations and beyond.

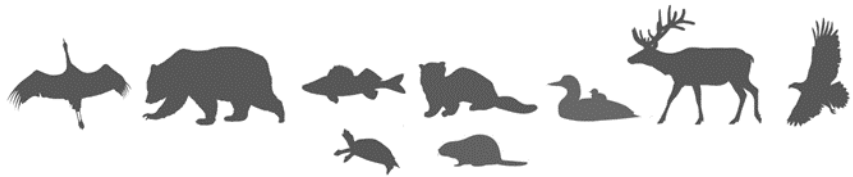
"What our ancestors left for us, we need to leave for our grandchildren."

– Wasauksing Citizen





Community Objectives



We will work to implement strategies that support the following short and long-term objectives to safely and responsibly manage our community's waste.

Short-Term Objectives

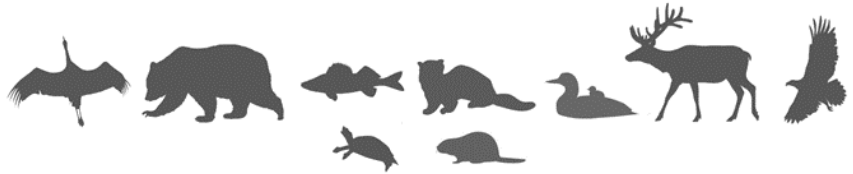
- Promote reduction and diversion of waste materials.
- Eliminate unauthorized dumping on our lands.
- Develop a Waste Management Plan and a Solid Waste Land Law.
- Clarify and improve accessibility to waste disposal services for all land users.
- Foster environmental stewardship through community programs and initiatives.
- Explore the viability of a community composting program.

Long-Term Objectives

- Reduce waste in our community.
- Explore ways to improve the convenience of hazardous waste disposal options.
- Partner with neighbouring communities to identify solutions to waste management challenges.



Stewardship Guidance and Strategies



To meet our short and long-term objectives, we will implement the following strategies.

Strategy 1: Develop a Waste Management Plan

Wasauksing will develop a Solid Waste Land Law. We will also create a Waste Management Plan that outlines our community's long-term vision for handling waste including:

- Qualitative and quantitative assessments of waste
- Potential disposal sites
- Methods of collection, disposal
- Identifying realistic waste reduction methods and targets
- Feasibility of a community composting program

The Plan will be based on the waste management hierarchy (below) which illustrates the preferred options for managing waste beginning with the most preferred, reduction and reuse, and terminating at ultimate disposal, which is the least preferred option and should ideally contain the smallest proportion of the waste managed throughout the hierarchy.



Figure 1. Waste Management Hierarchy (US EPA, 2017)

Wasauksing's Waste Management Plan will be reviewed every five years to ensure that the content is up-to-date and consistent with any applicable legislation.

Strategy 2: Establish a Community-Specific Waste Management Regulatory Regime

We will develop a waste management regulatory regime aimed at clarifying requirements for residents, businesses, lessees and visitors, as well as our respective roles and responsibilities when it comes to waste management. The regulatory regime may establish penalties for non-compliance, measures for compliance promotion, and powers of enforcement officials. This system will also serve to clearly outline what Wasauksing expects of proponents, reducing uncertainty in the planning process.



Strategy 3: Design and Implement a Communication Plan

We recognize that waste disposal needs vary considerably amongst land users, depending on whether we are working with cottagers, short-term visitors (e.g., campers) or permanent residents at Wasauksing. Developing a communication plan will enable Wasauksing leadership and staff to convey information to land users in the most effective way.

Our communication plan may include, but is not limited to, the following:

1. Mission statement
2. Key objectives
3. Targeted audience(s) – *citizens, business owners, cottage lessees, visitors*
4. Messaging content – *What are the issues we want to address?*
5. Channels of communication – *How will we convey our message? (email, social media, newsletter, signage)*
6. Frequency of engagement – *scheduled (weekly, monthly, annually), as-needed basis*
7. Feedback mechanisms (e.g., surveys) - *Are we reaching our target audience? Is our messaging clear? What could we do better?*
8. Evaluation of outcomes – *How will we measure success? Is our messaging achieving the desired outcome (i.e., improved waste diversion or reduction)?*
9. Reporting



Strategy 4: Conduct Waste Audits

We will conduct waste audits, at a minimum, every 5 years. Waste audits allow us to evaluate the types and quantities of waste that we generate in our community to better inform the development of our waste management programs and policies.

When completing waste audits, we will evaluate sources separately (e.g., cottagers, citizens, business owners), as well as cumulatively, to identify specific issues and broader challenges that can be addressed through our waste management program and communication strategy.

In conducting waste audits and developing waste reduction plans, we will follow the methodologies outlined in *A Guide to Waste Audits and Waste Reduction Work Plans for the Industrial, Commercial, and Institutional Sectors as Required under O. Reg. 102/94* and *A Guide to Waste Audits and Waste Reduction Work Plans for Construction and Demolition Projects as Required Under Ontario Regulation 102/94*. We could investigate conducting the audit in collaboration with the Town of Parry Sound.

The waste audits will consist of the following seven steps:

1. **Review Facility Operations**
2. **Identify Waste Types**
3. **Plan the Waste Audit** – including materials, sampling period, audit team, and records management
4. **Conduct the Audit** – the standard length of time for a waste audit is one full operational week at the facility
5. **Estimate Recycled Content** – As part of the audit, keep a record of which products contain recycled content or are recyclable and indicate if the material is presently being recycled or disposed of at a landfill



6. **Analyze the Waste Audit Data** – Use data gathered to calculate an estimation of waste generated over the course of a year
7. **Prepare Waste Audit Report** – Using the data gathered and analyzed, complete a waste audit report using the report template provided in pages 41-49 of A Guide to Waste Audits and Waste Reduction Work Plans for the Industrial, Commercial, and Institutional Sectors as required under O. Reg. 102/94.

<https://www.ontario.ca/document/guide-waste-audits-and-waste-reduction-work-plans-industrial-commercial-and-institutional-sectors>

Strategy 5: Deter Illegal Dumping

Improper disposal of various waste materials is a significant concern for our community, given associated impacts to the environment, health and safety of residents, and the overall aesthetic of our community. We are committed to implementing strategies that deter individuals from dumping illegally on Wasauksing lands.

Some of the strategies we employ may include the following:

- Restricting access to known illegal dumping sites (i.e., installing gates that prevent entry of vehicles)
- Monitoring for and issuing penalties/fines to those doing illegal dumping through enforcement of the Environmental Protection Law and/or the Solid Waste Land Law.
- Erecting signage in applicable areas that describe legal implications of dumping and associated penalties/fines
- Employing landscaping designs for community spaces that impede access for dumping, or improves visibility of dumping “hot spots”





- Distributing educational materials to raise awareness of the risks associated with illegal dumping and the potential consequences (i.e., issuance of fines)

Strategy 6: Community Composting Program

As part of our commitment to reducing waste and diverting it from landfills, we will explore the viability of a community composting program.

Composting can provide significant benefits both to the environment and our community by ensuring that organic waste is processed and returned to the earth, rather than adding to disposal costs for our transfer station. When properly maintained, compost can be turned into nutrient-rich material to amend garden soil.

The Institute for Local Self-Reliance in collaboration with the Highfields Centre for Composting created a guide entitled *Growing Local Fertility: A Guide to Community Composting* to assist communities with planning their first composting project.

The Guide can be viewed here: <https://ilsr.org/wp-content/uploads/2014/07/growing-local-fertility.pdf>

A community composting pilot project would provide a key opportunity for citizens of all ages to work together and facilitate learning about biological processes.

Safety considerations will need to be addressed particularly to ensure the safety of citizens pertaining to bears and other wildlife that may be attracted.

Strategy 7: Explore Options Relating to Hazardous Waste Disposal

Our community transfer station is not currently able to accept domestic hazardous waste. As a result, Wasauksing citizens must transport hazardous waste off the island to an approved location in Parry Sound and pay a fee. This scenario creates significant





barriers to citizens properly disposing of hazardous waste. For example, it is inconvenient in that they must have access to a working vehicle and assume additional costs (e.g., gas, maintenance, etc.) to transport this waste to the disposal site and then pay the associated fee. These barriers act as deterrents to proper disposal and may encourage citizens to stockpile domestic hazardous waste in and around their residences, posing several health and safety concerns and risks to the surrounding environment, including groundwater. The lack of a convenient disposal option also contributes to a higher likelihood of unauthorized dumping on Wasauksing lands.

To address this challenge, we will conduct a thorough assessment of disposal options for hazardous waste, which may include, but is not limited to the following:

- Providing occasional community collection services (i.e., annually) by a licensed contractor
- Covering off-site disposal fees for Wasauksing citizens

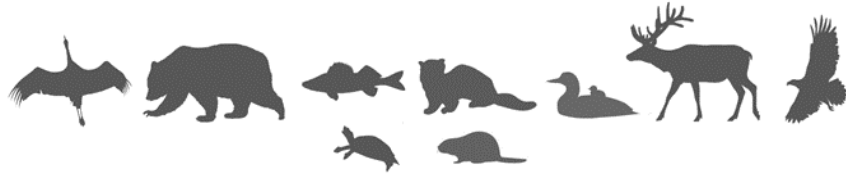
To eliminate confusion and ensure that hazardous waste disposal options are clearly communicated to all citizens as well as cottage lessees and short-term visitors, we will address the disposal methods for domestic hazardous waste in our Waste Management Communication Plan (see Strategy 3).

Strategy 8: Develop Local Partnerships

Although we currently have a disposal site in Bracebridge, we recognize that many of our neighbouring municipalities and First Nation communities are facing challenges sourcing disposal locations as local landfills are nearing capacity. In order to ensure that we have adequate long-term waste management solutions in place, it is important for us to actively participate in finding solutions that will meet the needs of the broader region for years to come. Possible partners may include the Town of Parry Sound, Shawanaga First Nation, the Municipality of Killarney, Magnetawan First Nation, Henvey Inlet First Nation, and others.



Monitoring and Enforcement



As Anishinaabe people, we believe that every child, youth, adult and elder has a responsibility to do their part in protecting the lands and waters and by extension, all life that inhabits these places. In the instance of waste management, we all can work to reduce and properly dispose of the waste we produce to minimize impacts to the environment.

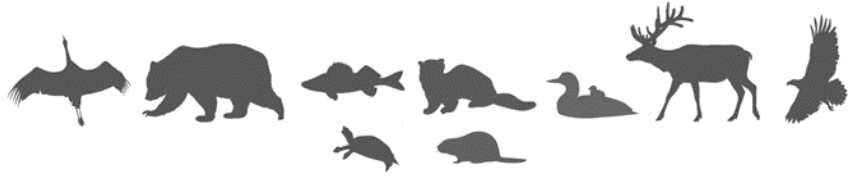
Wasauksing First Nation Council, Public Works and Lands Department staff all have a responsibility to ensure our waste management programs and regulatory regime are well-suited to address our community's needs, that all citizens have equal access to services, and that the objectives and requirements of these programs are communicated effectively (i.e., to citizens, cottage lessees, business owners, and visitors). It will be up to Wasauksing First Nation Council and staff to determine how enforcement of a regulatory regime should be carried out.

A monitoring and enforcement program, implemented through our Environmental Protection Law and/or the Solid Waste Law, could include, but is not limited to the following:

- An organization structure outlining roles and responsibilities, points of contact, etc.
- Audits and inspections for waste types, transfer station operations/maintenance
- Formal warnings and penalties (e.g., fines) for non-compliance
- Community education/outreach campaigns.



Community Initiatives



The involvement of citizens of all ages plays a central role in the way we manage waste. By clearly communicating our community's vision and goals for reducing our impact on the environment and empowering our citizens through education campaigns, we can not only improve our waste management system, but change behaviours and attitudes to reduce the amount of waste we produce. This section contains community initiatives that we will implement to connect our citizens to Wasauksing's plan for waste management, focusing on a collaborative approach.

Waste Reduction Week

Our community will begin taking part in the international annual waste reduction week that takes place on the third week of October. During this week we will hold events to educate citizens about ways to reduce waste and about proper waste disposal. Citizens will learn about the ways waste impacts our environment, and about success stories of communities and families that have found ways to reduce their waste production. Posters, information booths, videos, waste reduction pledges and guest speakers will all be used to share this information. A poster competition will be held in the month leading up to this week, with contestants designing posters to encourage waste reduction.

Household Hazardous Waste Collection Events

Household hazardous wastes tend to pile up over time in homes. Holding annual or bi-annual collection events provides a convenient opportunity for citizens to dispose of these items in a responsible way. Pick-up and transport to an appropriate disposal facility can be arranged with a licensed contractor.

Common household hazardous waste includes the following (this list is not exhaustive):



- Cleaning products (drain, floor, glass, oven, etc.)
- Cooking oil
- Compact Fluorescent Light (CFL), fluorescent bulbs and tubes
- Medicine (over-the-counter and prescription)
- Car batteries
- Fuel
- Motor oil
- Propane tanks
- Paint
- Bleach
- Aerosol cans
- Solvents

Pharmaceutical Drop-off Program

The improper disposal of pharmaceutical products poses a significant risk to our water resources, as well as aquatic life even in very small amounts. Citizens are able to dispose of their unused pharmaceuticals (prescription and over-the-counter medications) by dropping them off at the Wasauksing Health Centre. This initiative reduces the volume of pharmaceutical compounds released to the environment through improper disposal methods – i.e., placing items in household garbage or flushing them down the toilet.

Eco-Art Challenge – Repurposed Materials

This challenge will encourage students and interested citizens to create pieces of art using waste materials. Examples of creative “eco-art” will be provided to participants. Through the creation of these art pieces, participants get to know more about the waste they and their families create, and ideally develop a heightened awareness of waste production into the future. Eco-art pieces will be displayed during Waste Reduction Week and a winner will be announced at the main community event associated with Waste Reduction Week.





Resources for Community Initiatives

The Great Canadian Shoreline Cleanup: The Great Canadian Shoreline Cleanup is a national conservation program that provides Canadians the opportunity to take action in their communities wherever water meets land, one bit of trash at a time. It was created through a conservation partnership between the World Wildlife Fund (WWF) and Ocean Wise. Following each cleanup event, collected garbage is quantified and can be compared to other cleanup events, highlighting the difference volunteers are making and providing a sense of competition. While individuals can use tools available on the website to host a cleanup event themselves, communities, have the opportunity to take on a leadership role and become designated “Clean Shoreline Communities”.

This initiative will be integrated with Community Clean-Up events to address litter along our shorelines.

<https://www.shorelinecleanup.ca/>

Waste Reduction Week in Canada: This website provides information about Waste Reduction Week, along with links to educational resources, videos, and other materials for waste reduction programming.

<http://www.wrwcanda.com/>

Waste Reduction Week in Canada's School Resource Kit: This Waste Reduction Week webpage provides a link to a School Resource Kit that outlines various activities and initiatives to carry out in schools during Waste Reduction Week. It includes guidance surrounding waste assessment, waste action plans, classroom activities, resources and more.

<http://www.wrwcanda.com/en/school-resources>

Ontario EcoSchools' Waste Audit Guide: This Ontario EcoSchools publication contains detailed information about how to conduct a school waste audit, including materials, safety precautions, and key steps. It also includes templates for waste audit recording forms, waste diversion calculations, and for a waste minimization action plan.



[https://www.ontarioecoschools.org/wp-content/uploads/2017/08/Waste Audit Instructions-EN-2017.pdf](https://www.ontarioecoschools.org/wp-content/uploads/2017/08/Waste%20Audit%20Instructions-EN-2017.pdf)

Green Tourism's How to Conduct Your Own Waste Audit: This webpage describes the benefits of waste audits and provides a link for downloading a guide on how to conduct a waste audit. To access the download a free account must be created.

<http://www.greentourismcanada.ca/how-to-reduce-waste-at-work/>

Waste Minimization Learning Activities – By Grade (1-8). Ontario EcoSchools, 2004: This manual provides lesson plans for a variety of lessons and activities related to waste minimization for each grade from 1 to 8. The lessons explore the different causes of waste, impacts of waste, and ways to reduce waste. Outdoor learning is incorporate into many of the lesson plans.

<http://www.ontarioecoschools.org/document/waste-minimization-learning-activities-by-grade-1-8/>

Ontario EcoSchools' Waste Minimization Ideas: This Ontario EcoSchools webpage provides links to a variety of ideas for school-based initiatives to reduce waste production. Ideas include a waste-free lunch initiative, reusable dishes, one-stop waste stations, and more.

<https://www.ontarioecoschools.org/gallery-category/waste-minimization/>

Encouraging New Behaviours that Reduce Waste: Best Practices Guide for Creating a Social Marketing Plan. National Zero Waste Council, 2015: This publication provides guidance on how to design and a social marketing campaign plan to reduce waste creation. This includes the description of 10 key steps in the planning process, including the creation of an implementation plan.

www.nzwc.ca/focus/campaigns/Documents/SocialMarketingPlan_BestPracticesGuide.pdf

Holiday Waste Reduction Campaign Review – Create Memories, Not Garbage. National Zero Waste Council, 2016: This National Zero Waste Council webpage provides an overview of a fun and





humorous holiday waste reduction campaign developed by Metro Vancouver. The campaign's posters gave examples of non-wasteful gifts that people have planned for each other, including singing lessons, home baked cookies, and babysitting services. The overview outlines the factors of success in the campaign, helping provide ideas for our own waste reduction campaigns and initiatives. The videos and posters are free to be used by any community and can be accessed by contacting Metro Vancouver. webmaster2@metrovancover.org

ExternalRelations@metrovancover.org

Regulations and Best Practices



This section contains federal and provincial regulations that pertain to waste management as well as other resources, including best management practices. We may rely on these in the absence of our own applicable Land Laws, and potentially consult these standards when developing Wasauksing's own waste management regulatory regime.

Federal Legislation

Canadian Environmental Protection Act, 1999: The purpose of the Act is to provide federal legislative guidance regarding "the prevention of pollution and the protection of the environment and human health in order to contribute to sustainable development." The Act provides guidance on the production and transportation of waste and states that the prevention of pollution i.e., reducing the amount of waste produced, and regarding transportation, the act provides guidance on the movement of waste across inter-provincial and international boundaries.

Transportation of Dangerous Goods Act, 1992: The purpose of the Act is to promote public safety in the transportation of dangerous goods. Certain types of waste can be classified as dangerous



goods and, therefore, this Act can apply to its transportation and disposal. Substances that the act are applicable to are identified in Schedule 1 of the Act and/or fall under one of the 9 substance classes. The 9 substance classes are: explosives, gases, flammable liquids, flammable solids, oxidizing substances and organic peroxides, toxic and infectious substances, radioactive materials, corrosives, and miscellaneous products, substances or organisms.
<https://www.tc.gc.ca/eng/tdg/clear-part2-339.htm#sec21>

<http://wwwapps.tc.gc.ca/saf-sec-sur/3/sched-ann/schedule1form.aspx>

Indian Reserve Waste Disposal Regulations C.R.C c 960 under the Indian Act: The purpose of this regulation is to provide guidance on waste management practices to be adopted on reserves that are under the Indian Act. The regulation is mandated under section 73 of the Act and currently is still mandated for communities, like Wasauksing, that are under the First Nations Land Management Act.

<https://www.aadnc-aandc.gc.ca/eng/1423604442004/1423604470475>

http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.%2C_c_960/page-1.html

Provincial Legislation

Environmental Protection Act, 1990: The act provides overarching legislative guidance on the protection and conservation of the natural environment in the province of Ontario. Where “natural environment” is defined as the air, land and water, or any combination or part thereof, of the Province of Ontario. In terms of waste management this act and its accompanying regulations outline the requirements, definitions, and environmental protections related to waste generation, waste collection, waste operators, disposal sites, and waste management systems. In addition, the regulations provide requirements associated with specific waste types including pharmaceuticals, sharps, polychlorinated biphenyl (PCBs), waste generated by household, institutions, businesses, manufacturers, construction sites, and



demolition sites. Applicable regulations under this act include but are not limited to the following:

- O. Reg 351/12 – Registration under Part II.2 of the Act: Waste Management Systems
- O. Reg 298/12 – Collection of Pharmaceuticals and Sharps – Responsibilities of Producers
- O. Reg. 232/98 – Landfilling Sites
- O. Reg 101/94 – Recycling and Composting of Municipal Waste
- O. Reg 102/94 – Waste Audits and Waste Reduction Work Plans
- O. Reg 103/94 - Industrial, Commercial, and Institutional Source Separation Programs
- O. Reg 104/94 – Packaging Audits and Packaging Reduction Work Plans
- R.R.O. 1990. Regulation 362 – Waste Management – PCB's
- R.R.O. 1990. Regulation 347 – General Waste Management
- R.R.O. 1990. Regulation 342 – Designation of Waste

Waste Diversion Transition Act, 2016: The purposes of this act are: "to promote the reduction, reuse and recycling of waste; to provide for the operation of waste diversion programs; and to promote the orderly winding up of waste diversion programs and industry funding organizations in order to allow responsibility for waste to be governed under the Resource Recovery and Circular Economy Act, 2016 or otherwise." This act is aiming to accelerate the province of Ontario's zero-waste strategy. Applicable regulations under this act are as follows:



- O. Reg 390/16 – Used Tires
- O. Reg 389/16 – Waste Electrical and Electronic Equipment
- O. Reg 388/16 – Stewardship Ontario
- O. Reg 387/16 – Municipal Hazardous or Special Waste
- O. Reg 386/16 – Blue Box Waste

Nutrient Management Act, 2002: The purpose of this Act is to provide legislative guidance on the management of materials containing nutrients “in ways that will enhance protections of the natural environment.” Compost is classified as a nutrient under the act therefore any programs or processes applicable to compost waste ought to consider the requirements outlined in the Act. The applicable regulation under this act is

- O. Reg 267/03 – General.

Environmental Assessment Act, 1990: The purpose of this act is to provide guidance regarding the processes, procedures, and guidelines required in the carrying out of provincial environmental assessments in Ontario. The act sets the direction of protecting the environment as a top priority in carrying out environmental assessments in the province of Ontario. In the act included in the definition of the environment are: “the social, economic, and cultural conditions that influence the life of humans or a community” and “any building, structure, machine, or other device or thing made by humans.” Regarding waste management, the Act outlines requirements for environmental assessments and operations of municipal waste disposal facilities including landfills and incineration facilities. Applicable regulations under the Ontario Environmental Assessment Act include but are not limited to the following:

- O. Reg 101/07 – Waste Management Projects

Waste-Free Ontario Act, 2016: The purpose of this act is to provide legislative guidance and direction to the Ontario zero-waste



strategy as well as other recently passed waste management legislation in the province of Ontario namely the Waste Diversion Transition Act and the Resource Recovery and Circular Economy Act. These pieces of legislation work together towards the goal of Ontario achieving 80% waste diversion out of landfills by the year 2050. This act does not have any accompanying regulations to note.

Planning Act, 1990: The purpose of the Planning Act is to set out the land use planning system in the province of Ontario. The act specifically defines how the land use planning system works, who makes decisions, how to resolve disputes and seek public input, and the roles of the province and municipalities in planning administration. The Act identifies waste management systems as an important infrastructure component to consider in planning and the Provincial Policy Statement has provisions regarding waste management systems.

Provincial Policy Statement under the Planning Act, 2014: The Provincial Policy Statement is the policy document that accompanies the Planning Act and serves to provide directions to applicable authorities under the Planning Act. The statement is issued under section 3 of the Planning Act and it provides direction regarding the operation of infrastructure facilities including waste management sites. The Provincial Policy Statement defines waste management facilities as “sites and facilities to accommodate solid waste from one or more municipalities and includes recycling facilities, transfer stations, processing sites and disposal sites.” The most recent Provincial Policy Statement was released in 2014 and has one statement related to waste management. The policy statement related to waste management is

- 1.6.10.1 Waste management systems need to be provided that are of an appropriate size and type to accommodate present and future requirements, and facilitate, encourage and promote reduction, reuse and recycling objectives. Planning authorities should consider the implications of development and land use patterns on waste generation, management and



diversion. Waste management systems shall be located and designed in accordance with provincial legislation and standards.

<http://www.mah.gov.on.ca/page10679.aspx#Waste+Management>

Guidelines and Best Practices

The following technical documents will be used, in conjunction with the applicable regulations and guidelines, to implement strategies to safely and appropriately to manage Wasauksing's waste.

AFN Environmental Stewardship: Landfill Wastes Fact Sheet:

https://www.afn.ca/uploads/files/env/09_02_25_draft_landfill_wastes_fact_sheet.pdf

A Guide to Solid Waste Management Planning: This guide provides a detailed approach to solid waste management planning. It may be overly detailed for Wasauksing's purposes; however, it can provide a starting framework and some ideas.

<https://www2.gov.bc.ca/assets/gov/environment/waste-management/garbage/swmp.pdf>

Ontario Compost Quality Standards under Regulation 347 Waste Management.

<https://www.ontario.ca/page/ontario-compost-quality-standards>

A Guide to Waste Audits and Waste Reduction Work Plans for the Industrial, Commercial, and Institutional Sectors as Required under O. Reg. 102/94.

<https://www.ontario.ca/document/guide-waste-audits-and-waste-reduction-work-plans-industrial-commercial-and-institutional-sectors>

A Guide to Waste Audits and Waste Reduction Work Plans for Construction and Demolition Projects as Required Under Ontario Regulation 102/94.



<https://dr6j45jk9xcmk.cloudfront.net/documents/1357/228-waste-reduction-work-en.pdf>

A Guide to Source Separation of Recyclable Materials for Industrial, Commercial and Institutional Sectors and Multi-Unit Residential Buildings as Required Under Ontario Regulation 103/94.

<https://www.ontario.ca/page/guide-source-separation-recyclable-materials-industrial-commercial-and-institutional>

Environment and Climate Change Canada Technical Document on Municipal Solid Waste Organics Processing.

https://www.ec.gc.ca/gdd-mw/3E8CF6C7-F214-4BA2-A1A3-163978EE9D6E/13-047-ID-458-PDF_accessible_ANG_R2-reduced%20size.pdf

Municipal Waste Integration Network: Municipal Solid Waste Options Guide.

https://recycle.ab.ca/wp-content/uploads/2016/01/MSW_Options_Report.pdf

Federation of Canadian Municipalities Solid Waste as a Resource Guide for Sustainable Communities.

https://www.fcm.ca/Documents/tools/GMF/Solid_waste_as_a_resource_en.pdf

Government of Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste

https://www.gov.nu.ca/sites/default/files/guideline_-_burning_and_incineration_of_solid_waste_2012.pdf

Guide for Selecting Policies to Reduce and Divert Construction, Renovation and Demolition Waste: This proposed guidance document was produced for the CCME's Waste Management Task Group (WMTG) to address challenges associated with the disposal of CRD waste. The guide focuses on the effective selection of policy options for various levels of government (including municipal and territorial) to reduce or divert CRD waste materials, and includes implementation considerations, case study examples, and approaches to measure and model CRD waste.





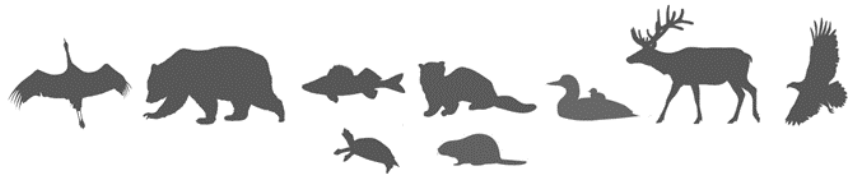
As this guidance document is currently in a draft form and under review, it will not be used to inform waste management decision-making until a final version is released.

https://www.ccme.ca/files/current_priorities/waste/CCME%20Draft%20CRD%20Waste%20Guidance%20for%20review%20and%20comment%20EN.pdf

Growing Local Fertility: A Guide to Community Composting: This guide provides a comprehensive look at the benefits of community composting, the types of composting systems that exist and related details, and an in-depth step-by-step process for planning a community compost project.

<https://ilsr.org/wp-content/uploads/2014/07/growing-local-fertility.pdf>

Glossary



Compost

Decaying organic matter that can be used as a plant fertilizer. Composting provides a means of contributing to waste reduction and reuse.

Household Hazardous Waste

Types of waste found in everyday homes that are corrosive, flammable, explosive, or toxic that must be used, stored, and disposed of properly. Examples include fluorescent lights, batteries, cleaners, paints and solvents, motor oils, chemicals and grease.

Municipal Solid Waste (Refuse)

All non-hazardous solid waste from a community that requires collection and transport to a disposal site.



Pharmaceuticals

Compounds manufactured for use as a medicinal drug. These compounds have been found to have significant adverse effects to aquatic wildlife, even at very small amounts.

Polychlorinated Biphenyls (PCBs)

Any class of human-made organic chemicals consisting of carbon, hydrogen, and chlorine atoms, which range in consistency from an oil to a waxy solid. They are commonly used in electrical equipment, motor oils, adhesives, for thermal insulation, and in plastics.

Reuse

The act of using something again in an effort to reduce the demand for another, and to reduce solid waste outputs.

Waste Audit

A methodical process used to determine the amount and types of waste that are generated by an organization or operation. They are often conducted by independent parties to determine the effectiveness of existing waste management strategies and identify areas for improvement.



Chemical and Fuel Storage

Environmental Stewardship Guidance

Contents

Our Stewardship Vision

Community Objectives

Stewardship Guidance and Strategies

Monitoring and Enforcement

Community Initiatives

Regulations and Best Practices

Glossary

“Any contributions to cleanliness of the environment, of rehabilitation of industry areas—those are the things that we have to work on collaboratively.”

– Wasauksing Citizen

Our Stewardship Vision

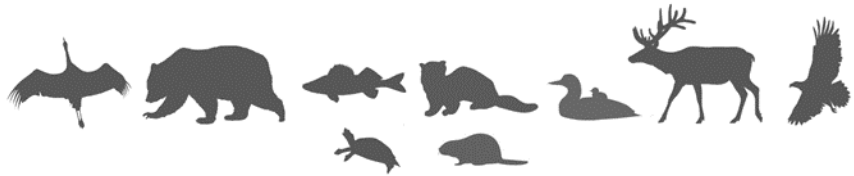
To ensure healthy *akii* (lands) and *nibiish* (waters) for future generations, we are committed to ensuring all chemicals and fuels are safely handled, transported, and stored on Wasauksing *akii* (lands). Unsafe and improper transportation, handling, and storage methods have the potential to impact our *akii* and *nibiish*. We are committed to not only ensuring accidents and malfunctions do not occur, but also are committed to transporting, handling and storing our fuels in a manner that demonstrates our vision and commitment to being good stewards of Wasauksing *akii*.

When it comes to chemical and fuel handling and storage the main areas of interest for our community are: above ground and underground storage tanks, including their decommissioning, fuels and chemicals in the ground from previous accidents, management of historical waste oil pits, the use of chemicals at the water treatment plan, potential impacts from offsite storage facilities, and the community gas station.





Community Objectives



We will work together to implement guidance and strategies that promote safe and effective transportation, handling, and storage of chemicals and fuels on Wasauksing lands. This includes stewardship strategies that assist in meeting both the short term and long-term objectives.

Short-Term Objectives

- Establish clear communications and communication protocols with the Technical Standards and Safety Authority (TSSA), the Ontario Ministry of Environment, Conservation, and Parks (MECP), and Environment and Climate Change Canada (ECCC) about fuel handling, storage, and management on and adjacent to our lands
- Establish a process for documenting and reporting any fuel spills or other issues to the Ontario Ministry of Environment, Conservation and Parks Spills Action Centre
- Create an Environmental Protection law that specifically addresses chemical and fuel storage at Wasauksing
- Ensure any spills or accidental releases of fuels or chemicals are reported to the Ontario MECP Spills Action Centre
- Comply with applicable regulations and legislation for fuel storage, transport, and handling, as stipulated in the Environmental Protection Law, which may include:
 - *Technical Standards and Safety Act,*
 - *Ontario Regulation 217/01 – Liquid Fuels (Ontario)*



- *Ontario Regulation 213/01 - Fuel Oil*
 - *Ontario Regulation 212/01 - Gaseous Fuel*
 - *Ontario Regulation 211/01 - Propane and Storage Handling*
 - *Canadian Environmental Protection Act*
 - *Transportation of Dangerous Goods Act*
- Complete regular inspections on all existing fuel tanks and chemical storage facilities (based on standards set out by the TSSA and Environmental Protection Law)
 - Ensure the current Island Gas and Variety gas station and any future gas stations will be equipped to with emergency and spill response information
 - Conduct a public education campaign to inform Wasauksing citizens of how to spot and respond to fuel spills and accidental releases. The awareness campaign will also include education and training on proper fuel handling and storage procedures.

Long-Term Objectives

- Conduct an inventory of all fuel and chemical storage locations on Wasauksing lands and implement safety and control mechanisms and spill contingency plans for each location
- Develop a fuel storage monitoring program to manage and mitigate potential risks to the integrity of fuel storage. This could include developing an inspection protocol that is based on the standards and guidelines set out by the TSSA, MECP, and ECCC.
- Develop and implement community-specific management practices for fuel storage and handling based on existing best management practices pertaining to:
 - Regular inspections



- Spills reporting
 - Create spill contingency plan for fuel spills
 - Install appropriate fuel containment structures around existing storage tanks
- Establishing collaborative partnerships with organizations outside Wasauksing to ensure proper handling and storage of fuel. This could include partnerships with fuel companies, construction companies and other industry working in our territory in developing strategies to minimize risks associated with fuel storage, with a focus on spill prevention.

Stewardship Guidance and Strategies



To meet our short term and long-term objectives, we will implement the following stewardship guidance and strategies that are based on existing laws, regulations, and best management practices for safe and effective handling, transportation, and storage of chemicals and fuels.

Strategy 1: Develop Partnerships and Communication Agreements with Relevant Agencies

Wasauksing First Nation will explore the potential for establishing partnerships with the TSSA, MECP and ECCC to foster a constructive and collaborative approach to fuel handling and storage, as well as managing any potential fuel spills on Wasauksing lands. A strong relationship with government agencies allows us to draw upon existing resources and expertise in fuel handling and storage compliance and management. The TSSA along with MECP may also be able to provide valuable



response assistance in the event of any fuel spill or emergency. This relationship should also include a training program to help build capacity of Wasauksing citizens around fuel management, storage, and handling. The partnership could include training for inspections, monitoring and understanding government regulations.

Strategy 2: Create a Fuel Storage Tank and Facilities Inventory on Wasauksing Lands

Developing an inventory of all existing fuel storage tanks will help us understand and better manage the risks associated with fuel handling and storage on our lands. According to current federal and provincial legislation, all regulated fuel tanks need to be registered with the ECCC and MECP. To ensure both compliance with standards and that fuel storage is safe into the future, we will inventory the location and condition of all existing fuel tanks on our lands. Following the completion of this inventory, copies should be provided to TSSA, MECP, and ECCC. This inventory will be created and maintained by Wasauksing staff under the direction of Council and the Lands and Resources Committee. Owners of fuel tank systems are to provide all applicable documentation to the Lands and Resources Committee to demonstrate compliance to federal and provincial regulations, as applicable, and to the Wasauksing Environmental Protection Law.

Strategy 3: Ensure Regulatory Compliance of All Future Fuel Systems on Wasauksing Lands

Regulatory compliance is essential to ensuring safe and proper handling and storage of fuels on our lands. All new fuel storage tanks must be designed to be compliant with all federal and provincial regulations. All future installation of fuel storage tanks or upgrades to existing fuel storage tanks must include certifications from a professional engineer, registered in Ontario, with direct experience with fuel storage tank design, to confirm that the systems are designed and will be operated in compliance



with all federal and provincial regulations. Any new tank installations or tank upgrades should be performed by a licensed technician who is certified by the TSSA. Owners of all fuel tank systems must provide supporting documentation to the Lands and Resources Committee to show that they are compliant with Environment Canada Storage Tanks Regulations and Canadian Standards Association (CSA) Standard B139, and the Environmental Protection Law. Wasauksing staff will update the inventory to include all new and/or upgraded tank systems, under the direction of Council and the Lands and Resources Committee.

Strategy 4: Develop and Implement a Wasauksing Inspection and Maintenance Program

The Lands and Resources Committee will develop and implement a Fuel Storage Inspection and Maintenance program based on standards and guidelines set out by the TSSA, and our Environmental Protection Law. This inspection and maintenance program will include regularly scheduled inspections of all fuel storage systems on our lands, and follow up maintenance procedures when required. Owners of fuel tanks will also be required to submit documentation to the Lands and Resources Committee to demonstrate compliance.

Strategy 5: Develop Effective Fuel Storage Protocols for Future Developments

To allow for safe and effective management of fuel storage associated with future development on our lands, all proposed development involving bulk fuel storage should be subject to a review and assessment by Wasauksing First Nation staff or a third-party expert of our choice. This review should be funded by the proponent of the proposed development. This will allow us to identify potential impacts, assess proposed mitigation, and determine potential effects. The protocols for effective fuel storage for future developments will be part of our Environmental Assessment process, defined in our Environmental Assessment law.



Strategy 6: Create and Comply with the Fuel Spill Response and Emergency Action Plan

To ensure we are equipped to respond to spills that occur on our lands, we will create a community-wide Fuel Spill Response and Emergency Action Plan based on best management practices. Our Environmental Assessment law will include a protocol for managing fuel storage on our lands. Business owners or others storing fuel on our land will be required to submit a fuel response plan to the Lands and Resources Committee and have a spill response kits where fuel is stored, transported, and handled. Following the Fuel Spill Response and Emergency Action Plan will ensure that fuel and chemical spills, leaks, and accidental releases are addressed such that impacts to the lands, waters, and health of Wasauksing citizens are minimized as much as possible, and that any required remediation is carried out in a timely and consistent manner. This action plan includes the following emergency response protocol.

- In the event of any fuel or chemical spill or discharge, either the owner or any Wasauksing citizen that notices the spill must immediately contact the both the Lands Manager (705-746-2531 ext. 2260) and the MECP Spills Action Centre Hotline: 1-866-663-8477. To report a spill and take immediate action to stop a spill will be required under our Environmental Protection law.
- The person who witnesses or identifies the incident should record the date and time of the spill and if it is known, the source of the spill and the substance that was spilled. The information documented should be provided to the Lands and Resources Committee and the MECP Spills Action Centre (SAC).
- Upon contacting the MECP SAC, an Environmental Officer will provide guidance and direction on next steps (i.e., clean-up, sampling, remediation) or engage other agencies as appropriate to ensure prompt action



is taken to contain, control, and clean-up the spill, and restore environmental conditions. Depending on the severity of the spill, the SAC may opt to dispatch a field team, from MECP or another government agency, to take over management of the site.

Overall, Wasauksing First Nation citizens should use the following as the standard spill response procedure:

1. Ensure the health and safety of the public, including checking the site for any injuries or risks of injuries
 - Ensure personal, public and environmental safety.
 - Consult applicable Safety Data Sheets (SDS) to identify hazards, personal protective equipment (PPE) required and accidental release measures.
 - Warn other people in the vicinity of the spill.
 - Make sure there are no ignition sources present including smoking.
2. Secure the spill area
 - Restrict access to the spill area
3. **Contact the both the Lands Manager (705-746-2531 ext. 2260) and the MECP Spills Action Centre Hotline: 1-866-663-8477**
4. Stop or contain the flow of the spill, if possible and if it is safe to do so
 - Isolate the spill by closing valves, turning off pumps, or fixing the containers position.
 - Stop the spill at its source.
 - Block off spill and prevent contaminants from entering drains and culverts.
 - Divert flow from water or other sensitive areas (i.e., wetlands) with materials such as gravel, sandbags, digging a trench, booms, etc.



- Prevent spilled material from entering sewer or drainage structures (i.e., ditches, culverts, drains).
- Use spill absorbent material to contain spill.
- Contain the spill as close to the source as possible

5. Initiate clean-up.

Following notification, the spill needs to be documented and must include the following information as outlined in CEPA:

1. The quantity of the substance that the company imports, sells, uses, manufactures or disposes of per year
2. The use of the substance (starting material for synthesis of polyvinyl chloride (PVC) stabilizers, etc.)
3. The name and address of each facility where the substance is handled
4. The name and address of the facility that disposed of the wastes as well as records that the wastes were disposed of in conformity with the Code of Practice outlined in the Canadian Environmental Protection Act (CEPA)
5. The preventive actions, pertaining to elements of the Code of Practice, implemented to minimize the potential for release of tetrabutyltin to the environment
6. Records of any spill incident including the cause of the spill, remedial actions taken, and steps taken to prevent future incidents
7. Waste manifests, movement document, or a permit, if applicable, showing the date, amount, waste class and receiver of any waste containing tetrabutyltin



8. Any paper or electronic record and bill of lading showing the date, number of pieces and the designated receiver of any solid waste containing tetrabutyltin (absorbent materials, rags, contaminated clothing, etc.)
9. Any paper or electronic record and bill of lading relating to the shipment of waste packaging (i.e., non-bulk) to a supplier showing the date, number of pieces and the designated receiver
10. Any paper or electronic record and bill of lading relating to the shipment of waste packaging showing the type and number of pieces, the original product in the waste package and the designated receiver
11. Work instructions and training records
12. Spill response plan for the incident

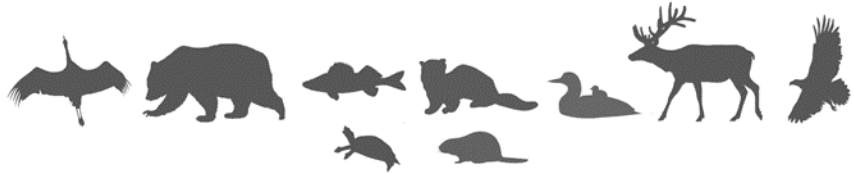
Strategy 7: Develop Community Fuel Storage Roles and Responsibilities

Safely storing and handling chemicals and fuels on our lands requires a number of roles and responsibilities be identified that can be integrated into the job roles of key lands and facilities staff people. Some of those responsibilities would include working closely with partner organizations which may include the TSSA and the MECP to implement compliance measures that ensure fuel storage systems on our lands comply with federal and provincial regulations. This person will need to have a working knowledge of applicable federal and provincial regulatory standards and is responsible with liaising with counterparts at the TSSA, ECCC, and MECP on all fuel storage and handling related matters on Wasauksing lands. This person is also responsible for carrying out public awareness and education activities with our citizens to ensure people know how to respond to fuel spills and accidental releases, including how to contact the MECP Spills Action Centre. It may be worthwhile considering whether this role may be part of



a larger set of job duties for an environmental staff person that relates to other strategies in this EMP as well.

Monitoring and Enforcement



As a community we must work collectively to enforce the measures laid out in this ESG to ensure our lands and waters will be protected for future generations. This protection includes reporting any incidents, spills, malfunctions or other issues that may impact the safe handling, transport, or storage of fuels and chemicals.

Enforcement and Compliance

We work closely with applicable government agencies to help enforce provincial and federal standards on our lands, until we develop our own requirements for our Environmental Assessment and Environmental Protection Laws. Until then, for fuel spills or incidents we notify the Spills Action Centre to assist us in determining any non-compliance issues.

We participate in the monitoring and enforcement process by selecting a designated person from the Lands and Resources Committee or the First Nation administration to liaise with government agencies to obtain inspection results and receive information/training.

Emergency Contact Roster

We will establish a roster of contact people within the community for fuel management who are responsible for providing resources and information on spill response measures, including how to contact the MECP Spills Action Centre. The purpose of a roster is to ensure that at least one trained designated person is available at all times to play this role. This should also include a procedure for contacting people on the roster in a specific order, starting



with a first designated contact and then proceeding through the list in a particular order if the first designated contact is not available. The available contact person or their designate(s) will be readily available and will rely on local emergency responders when necessary.

It is the responsibility of the emergency contact to inform the community of the appropriate person to contact if they detect a fuel spill or incident, whether this be a Wasauksing emergency responder or by contacting the Spills Action Centre directly.

Standards and Training

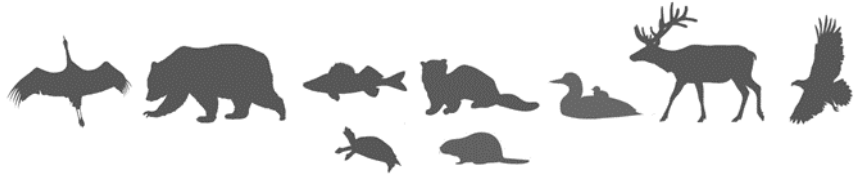
We work in close partnership with the MECP and ECCC to monitor and enforce standards around fuel handling and storage on our lands. The TSSA standards are used as guidance for training our staff on inspection methods and regulatory requirements for fuel and chemical handling and storage. Together, Wasauksing, MECP, and ECCC ensure that individuals and businesses that handle and store chemicals are compliant with the applicable regulations and conduct regular inspections to maintain their compliance.

Project Proponent and Developer Responsibilities

Proponents of large-scale development projects on Wasauksing Lands (i.e., road or linear corridor constriction, industrial facilities) will be required to follow protocols for fuel management under our Environmental Assessment Law. Proponents are required to ensure proper fuel handling, storage and spills reporting and to file verification of this with the First Nation Administration for quick access and reference when needed. The proponent is required to liaise with Chief and Council and the Lands and Resources Committee to develop contingency plans for fuel handling, storage and spills and file these plans with the First Nation Administration as well. Environmental permits for development should include this requirement, and there should be a process established for verifying this has been completed. For more information on environmental permitting for development, see the Land Development ESG.



Community Initiatives



The following initiatives can be championed by anyone in the community such as Wasauksing staff, educators, land users, youth, or anyone with a passion for caring for the land.

Fuel Talks Public Education Campaign

To raise awareness for safe fuel and chemical storage, handling, and transportation practices and approaches, we will design and implement a public education campaign for both owners and handlers of fuel and citizens more broadly speaking. The campaign will include education sessions for Wasauksing citizens and people that own and/or handle fuels, and a poster campaign.

Fuel Talks: Public Awareness Poster Campaign

The first component of the fuel talks campaign is using posters to promote safe fuel storage and handling practices and further inform our citizens of the fuel handling storages and practices being used on Wasauksing lands. The poster designs would target a variety of demographics, including youth and children to ensure young people are aware of the risks and know to avoid areas with stored fuel.

Fuel Talks: Community Education Sessions

These community sessions are interactive events where citizens are provided with information about how to avoid chemical and fuel spills and what to do if such an event were to occur, including key emergency contact people. These sessions will also be used to share updates to the Wasauksing First Nation Emergency Response Plan and Fuel Spill Contingency Plan. Lastly, these sessions will provide demos on how to properly and safely dispose of fuel when required as well as safety drills and spill simulation activities.



Regulations and Best Practices

Fuel Talks: Info Sessions for Owners and Handlers of Fuel

These events provide more in-depth training and information geared toward individuals who own and handle fuel on a regular basis (i.e., it is part of their job). These sessions will provide extensive and hands-on training using role-playing scenarios, including safety drills and interactive discussions that deepen people's knowledge on what to do and how to respond in the event of an incident.



Laws and Regulations

Canadian Environmental Protection Act (Government of Canada): The Canadian Environmental Protection Act (CEPA 1999) is the foundation of Canada's environmental legislation aimed at preventing pollution and protecting the environment and human health. A key aspect of CEPA 1999 is the prevention and management of risks posed by toxic and other harmful substances. CEPA 1999 also manages the environmental and human health impacts of toxic substances such as fuel. (Environment and Climate Change Canada, 2004). CEPA 1999 permits flexibility to each province in the authority to make regulations surrounding the handling distribution and storage of fuels and the fuel's effect on the operation of emissions control equipment. (Environment and Climate Change Canada, 2004). <http://laws-lois.justice.gc.ca/eng/acts/c-15.31/>

Environment Canada Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations (Government of Canada): Environment and Climate Change Canada has created regulations under Part 9 – Government Operations and Federal and Aboriginal Land of the Canadian Environmental Protection Act, 1999 (CEPA 1999), governing storage tank systems under federal jurisdiction. The purpose of the Storage Tank Systems for



Petroleum Products and Allied Petroleum Products Regulations is to reduce the risk of contaminating soil and groundwater due to spills and leaks of petroleum products and allied petroleum products from storage tank systems. The regulations establish technical standards for the design and installation of storage tank systems, and include requirements for operation, maintenance, removal, reporting and record-keeping (ECCC, 2017). <http://laws-lois.justice.gc.ca/eng/regulations/SOR-2008-197/index.html>

National Fire Code of Canada – National Research Council of Canada (2015): Section 4.1.5.6 “Emergency Planning” and Section 4.1.6.3 “Spills and Leaks” of the Code requires that emergency planning measures to be provided for areas where flammable liquids or combustible liquids are stored. The Code also requires that maintenance and operating procedures be established to minimize potential impacts of spills and leaks of flammable or combustible liquids. http://www.nrc-cnrc.gc.ca/eng/publications/codes_centre/2015_national_fire_code.html

Transportation of Dangerous Goods Act – Transport Canada (1992): Transport Canada developed safety standards and regulations, provides oversight and gives expert advice on the transport of dangerous goods including fuels. Transport Canada has requirements for people handling and transporting fuels as well as methods of fuel transportation. The Transportation of Dangerous Goods Act governs the transport of fuels on Canadian roads, waters, railways and air. <https://www.tc.gc.ca/eng/acts-regulations/acts-1992c34.htm>

Technical Standards and Safety Act (Ontario): The purpose of the Technical Standards and Safety Act is to enhance public safety in Ontario by providing for the efficient and flexible administration of technical standards with respect to fuel, hazardous materials, controlled substances, vehicles and industrial equipment. The Technical Standards and Safety Act provides guidance on authorizations, safety and compliance, inspections, enforcement and the structure of responsibility and power (TSSA,2017). The Province of Ontario delegates responsibility to Technical Standards and Safety Authority to administer and enforce the



Technical Standards and Safety Act. The Technical Standards and Safety Authority acts as a third-party inspector and regulator for fuel storage and handling in Ontario (TSSA, 2017).

<https://www.tssa.org/>

<https://www.ontario.ca/laws/statute/00t16>

The Technical Standards and Safety Act is composed of the several regulations that form provincial legislation for a variety of substances, activities or equipment. The regulations which are applicable to fuel storage and handling are listed below:

- [Ontario Regulation 217/01 – Liquid Fuels \(Ontario\)](#)
- [Ontario Regulation 213/01 - Fuel Oil](#)
- [Ontario Regulation 212/01 - Gaseous Fuel](#)
- [Ontario Regulation 211/01 - Propane and Storage Handling](#)

These regulations are part of the Technical Standard and Safety Act and provide specific guidance on the storage and handling of liquid fuels, fuel oil, gaseous fuel and propane and storage handling in Ontario. Each regulation outlines compliance requirements for individuals or businesses who wish to store fuel on their property including licensing and permit requirements, operating specifications, testing/inspection requirements and occurrence/accident reporting (Ontario, 2017).

Best Management Practices

The most effective best management first and foremost is for Wasauksing First Nation to maintain compliance with applicable federal and provincial laws and regulations as set out by the Ontario Ministry of the Environment, Conservation, and Parks, Transport Canada, and Environment and Climate Change Canada.

Alongside maintaining compliance, the following documents provide further guidance and information on safe and effective



chemical and fuel storage and handling practice for Wasauksing to integrate into our environmental protection regime.

Technical Standards and Safety Authority Fuel Safety Program. The Technical Standards and Safety Authority Fuels Safety Program regulates the transportation, storage, handling and use of fuels as to ensure conformance to the Technical Standards and Safety Act, and applicable regulations, codes and standards. These fuels include natural gas, propane, butane, hydrogen, digester gas, landfill gas, fuel oil, gasoline, and diesel. The Technical Standards and Safety Authority licenses fuel facilities, registers contractors and certifies tradespersons who install and service equipment. Additionally, TSSA reviews and approves facility plans for sites licensed by TSSA and performs custom equipment approvals and inspection services to ensure fuel is handled and used safely. Their website provides valuable information and contact information for the Fuels Safety Program (TSSA, 2017). <https://www.tssa.org/>

A Field Guide to Fuel Handling, Transportation & Storage – British Columbia Ministry of Water, Land and Air Protection (2002). This field manual provides guidance on acceptable practices for managing fuel handling, transportation and storage. Although the guide is written for rural and remote areas of British Columbia, many of the principles apply to Wasauksing. It summarizes requirements of applicable statutes of Canada, industry codes of practice and recommendations relating to environmental protection, health and safety, and fire protection. http://www2.gov.bc.ca/assets/gov/environment/waste-management/industrial-waste/industrial-waste/oilandgas/fuel_handle_guide.pdf

Glossary



Butane

A low-boiling paraffin hydrocarbon generally stored and delivered in liquefied form and used as a fuel in gaseous form. It is obtained



by processing natural gas as produced and also from a process in petroleum refining.

Combustible Liquid

A liquid that has the ability to burn at temperatures that are usually above normal working temperatures.

Digester Gas (Anaerobic Digestion)

A biological process that produces a gas principally composed of methane and carbon dioxide, otherwise known as biogas. These gases are typically produced from organic wastes such as livestock manure or food processing waste.

Flammable Liquid

A liquid that will ignite (catch on fire) and burn easily at normal working temperatures.

Fuel

A material used to create heat or power through conversion in such processes as combustion or electrochemistry.

A. Gaseous Fuel

Fuel that is in gas form under ordinary conditions (e.g., natural gas)

B. Liquid Fuel

Fuel that is in liquid form under ordinary conditions (e.g., petroleum)

C. Solid Fuel

Fuel that is in solid form under ordinary conditions (e.g., wood, coal)



D. Fuel Oil

Any liquid fuel that is burned in a furnace or boiler for the generation of heat or used in an engine for the generation of power (e.g., diesel)

Gasoline

A refined petroleum product used as fuel for internal combustion engines.

Hydrogen

A colourless, odourless, highly flammable gas.

Landfill Gas

A natural by-product of the decomposition of organic materials in landfills, composed of roughly 50% methane and 50% carbon dioxide.

Natural Gas

A naturally occurring mixture of simple hydrocarbon components (primarily methane) used as fuel.

Petroleum

A liquid mixture of hydrocarbons that is present in certain rock strata and can be extracted to produce fuels including gasoline, kerosene and diesel oil.

Propane

A flammable hydrocarbon gas of the alkaline series present in natural gas and used as bottled fuel.



Contaminated Sites Management

Environmental Stewardship Guidance

Contents

Our Stewardship Vision

Community Objectives

Stewardship Guidance and Strategies

Monitoring and Enforcement

Community Initiatives

Regulations and Best Practices

Glossary

Our Stewardship Vision

Wasauksing has been impacted by the historical contamination of our *akii* (lands), *nibiish* (waters), and surrounding areas throughout the years. As stewards of our Island, the health of our citizens and natural environment relies on the responsible management of existing contaminated sites, and prevention and intervention of future potential contamination. We are committed to carrying out strategies to identify and reduce the risk of new contamination on our *akii*, make sure our community is prepared to safely respond to emergency spill incidents, and that long-term monitoring occurs for the existing areas of concerns on our Island.

The intent of this ESG is to describe our contaminated sites management strategy, which includes strategies for the identification, assessment and remediation of contaminated *akii* and *nibiish*, and emergency spill response and mitigation.

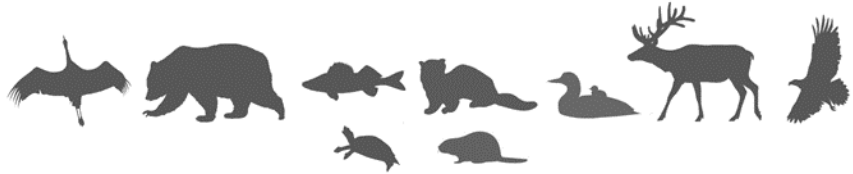
"We have cranberries that grow in Depot Harbor, but I don't pick them myself because of the toxicity that exists there."

– Wasauksing Citizen





Community Objectives



We will work to implement strategies that will result in the remediation of contaminated lands and waters to protect our natural environment for seven generations to come.

Short-Term Objectives

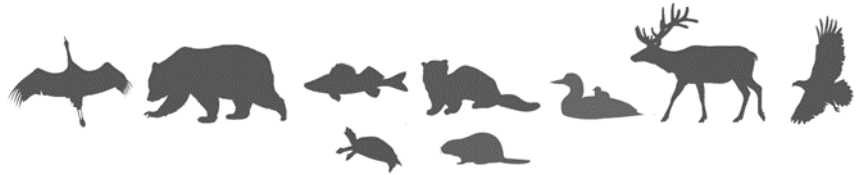
- Manage the risks associated with existing contaminated sites at Wasauksing
- Develop an Environmental Protection law that establishes environmental standards for levels of potentially contaminating substances on our lands and includes protocols to identify and reduce the risk of new contamination at Wasauksing, such as emergency response, spills protection, and registering contaminated sites.
- Establish a community emergency spill preparedness and response plan

Long-Term Objectives

- Develop and implement a community-based contaminated sites management strategy



Stewardship Guidance and Strategies



To meet our short and long-term objectives for contaminated sites management in our community, we use the following stewardship guidance and strategies that are built on regulations, guidelines and best management practices.

Strategy 1: Identify Suspect Contaminated Sites

The Phase 1 Environmental Site Assessment (P1ESA) that was completed for Wasauksing First Nation lands by Neegan Burnside in 2015 identified the following existing suspect sites:

- Locations with bulk fuel storage tanks, including Island Gas & Variety, Wasauksing Marina, and Rez Mart have detected petroleum hydrocarbon contamination
- Adult Learning Centre, where a fuel spill occurred in 2002
- Historic oil waste disposal pits
- Wasauksing Campground, where cyanide has been detected near the dump station
- The shoreline, which may have been impacted by contamination from historical oil spills

A P1ESA was conducted by AMEC in 2014 for a series of parcels of land located on Rose Point Road. Although this P1ESA wasn't undertaken for the Island, it identified several contaminated areas that may be of concern to Wasauksing First Nation, including the former rail bed and the Bridge Operator's house.



The following criteria and information, as outlined in the “Federal Approach to Contaminated Sites” are used to identify any new suspect sites that may require a P1ESA

(<https://www.canada.ca/en/environment-climate-change/services/federal-contaminated-sites/federal-approach.html>):

- Environmental record(s), if they exist;
- Internal environmental programs;
- Complaints raised by Wasauksing citizens;
- Observed off-site impacts or issues that could impact Wasauksing lands and waters;
- Similarities to other known contaminated sites;
- Visual or olfactory evidence of previous leaks, spills or discharges; and
- The nature of current or past activities at the site or adjacent properties.

Strategy 2: New Phase One Environmental Site Assessments (P1ESA)

The purpose of a P1ESA is to identify any areas of potential environmental concern (APECs) on our Island, and any potentially contaminating activities that could have potential to impact our lands and waters. If deemed to be required, additional P1ESAs for our Island will build on the P1ESAs completed by Neegan Burnside. It may be necessary to complete an updated P1ESA if, and when, there are any changes to our land use designation (i.e., from commercial to residential or recreational). In addition, P1ESAs are necessary prior to any Additions to Reserve acquisitions. A P1ESA has been completed by Neegan Burnside Ltd. in 2018 for Depot Harbour to begin examining the legacy of contamination on that part of the island. P1ESAs are intended to help us determine whether more intrusive investigations are



required for adequate assessment of environmental impacts or degradation.

P1ESAs for Wasauksing will be conducted under the supervision of a qualified person for environmental site assessments in Ontario (QPESA – as defined by the Environmental Protection Act) and in collaboration with our Lands and Resources Committee. The P1ESA includes a review of historical records for our lands, interviews with Wasauksing First Nation citizens and staff, and a visual inspection of lands within and around our boundaries to identify APECs and PCAs. P1ESAs are conducted according to requirements outlined in Ontario Regulation 153/04.

Common environmental chemicals of potential concern that are often the focus of environmental site assessments include the following:

- Polycyclic Aromatic Hydrocarbons (PAHs)
- Volatile Organic Compounds (VOCs)
- Metals
- Petroleum Hydrocarbons (PHCs)
- Pesticides
- Polychlorinated biphenyls (PCBs)

Cordite may also be a contaminant of concern for Wasauksing, as it has been reported as washing up on the shores near Depot Harbour.

Strategy 3: Phase Two Environmental Site Assessments

In the event that a known impact occurs on our Island, or a P1ESA identifies areas of potential environmental concern that requires further environmental investigation, a Phase 2 Environmental Site Assessment (P2ESA) is conducted. The P2ESA must be designed and conducted by a QPESA, as defined under Ontario Regulation



153/04 (see Strategy 2), using the results of the P1ESA. The P2ESA includes a sampling and analysis plan to characterize suspected or known contamination on our lands.

As part of the P2ESA, we work with the QPESA to identify the appropriate environmental quality standards to be used in the assessment based on land use, land properties and groundwater use. Our P2ESA considers both Federal guidelines (Canadian Council of Ministers of the Environment Environmental Quality Guidelines), as well as Provincial guidelines (Ministry of the Environment and Climate Change Site Condition Standards - SCS). The most conservative (i.e., lowest) guideline is used to identify chemicals of potential environmental concern (COPCs) within areas of potential environmental concern on our lands, as will be detailed in our Environmental Protection Law.

With respect to the provincial Site Condition Standards, the following schematic is used to identify which standards will apply to the P2ESA (Figure 1).

Following a P2ESA, we can use the results to determine the next steps, which could include the following:

- Do nothing, if the suspected contamination does not exceed the applicable environmental guidelines or standards
- Conduct a human health and ecological risk assessment (HHERA) to quantify potential risks associated with the contamination (Strategy 4)
- Remediate the area to meet applicable guidelines and standards (Strategy 5)

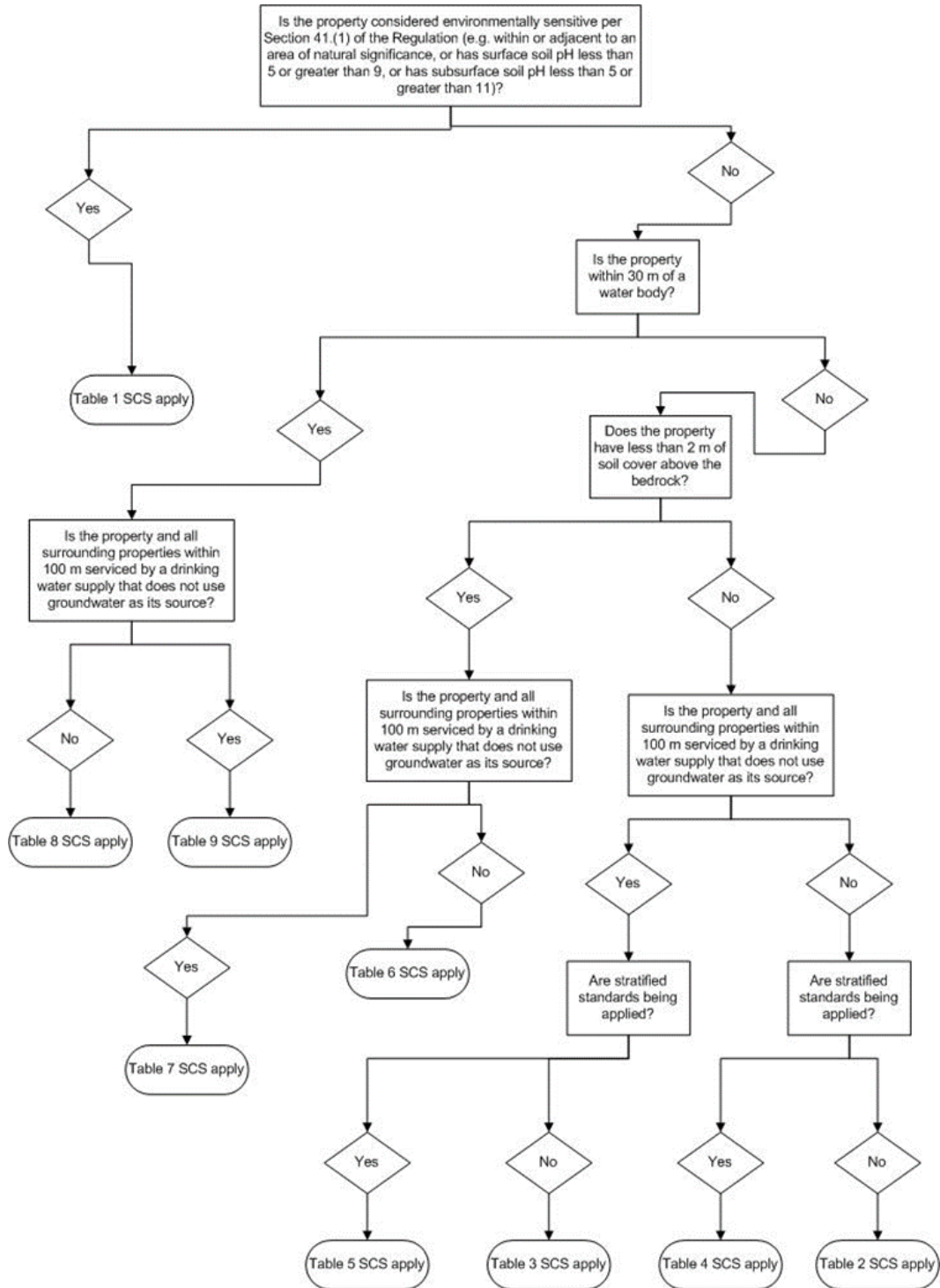


Figure 1. Association of Professional Geoscientists of Ontario, 2011. Guidance for Environmental Site Assessments under Ontario Regulation 153/04 (as amended)



Strategy 4: Human Health & Ecological Risk Assessments (HHERA)

Based on contamination identified in the P2ESA, a human health and ecological risk assessment (HHERA) will be conducted to quantify the risks, if any, associated with exposure to the contamination identified in the P2ESA. The HHERA is to be carried out in accordance with Ontario Regulation 153/04 and under the guidance of a Qualified Person for Risk Assessment in Ontario (QPRA), as defined by the Environmental Protection Act.

HHERAs consider the toxicity of the contaminants identified as being of concern, the presence and type of human and ecological receptors present on our Island, and the potential and extent of exposure for these receptors. The degree to which each of these three components overlap is a representation of the potential risk for adverse effects to occur. A conceptual site model (CSM) is then developed using this information and depicts the potential ways in which humans and wildlife could be impacted by contaminated lands and waters. As shown in the sample CSM below (Figure 2), the model illustrates how unacceptable risks to human and wildlife health could occur.

The overall purpose of the HHERA is to quantify the magnitude of health risks associated with contamination on our lands. This information can then be used to develop a risk management plan for mitigating any unacceptable risks identified through the HHERA, and subsequently provide an acceptable degree of health protection to our citizens and wildlife. Depending on the outcomes of the HHERA, if risk management and remediation of contaminated sites is requested, Strategy 5 will be implemented.

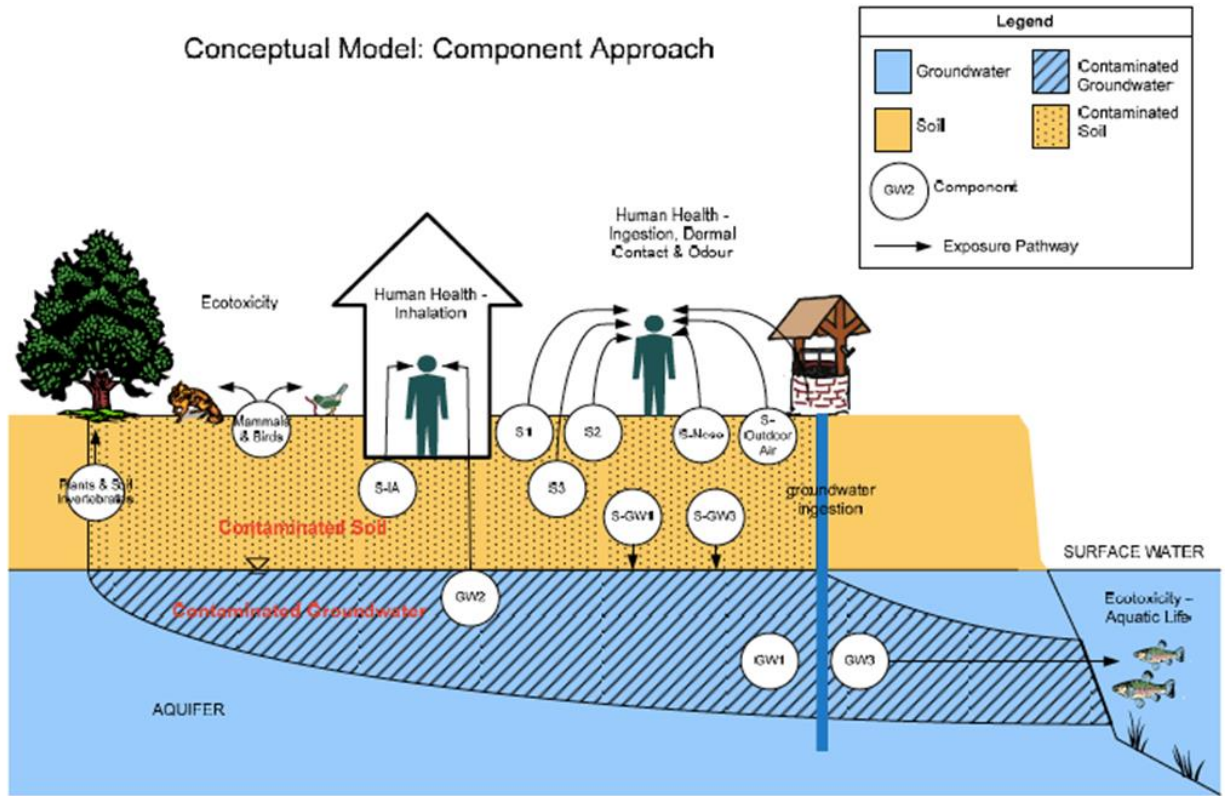


Figure 2. Pathways of human and ecological exposure to contamination. MOE 2011.

Strategy 5: Remediation of Contaminated Lands and Waters

If the results of the HHERA indicate that there are unacceptable risks for Wasauksing First Nation citizens or the wildlife on our lands, we will retain a QPESA to remediate the environment to meet applicable standards and guidelines as outlined in Strategy 3 and/or the HHERA. Remediation will be completed with assistance from the Wasauksing Lands and Resources Committee and the QPRA.

The remediation strategy chosen depends on the results of the P2ESA and the HHERA, but typically includes either

- removal and disposal;
- containment or encapsulation;



- treatment; or
- a combination of all of the above.

Strategy 6: Build Capacity for Contaminated Sites Management

The citizens of Wasauksing First Nation are deeply connected to our lands and waters, and therefore the management of contaminated areas on our Island is of great importance. We recognize the need to retain qualified professionals (QPESA and QPRA) to oversee the remediation and risk assessment efforts, however we also recognize that there is value in having community involvement throughout the process. We will aim to involve our citizens and the Lands and Resources Committee, in future contaminated sites management and remediation, as suggested by Health Canada (2010) and outlined in Table 1 below.

Wasauksing staff will work toward gaining the knowledge and experience necessary to effectively provide guidance and oversight on contaminated sites/remediation projects on our Island. To assist with capacity building efforts, we will seek out job shadowing and mentoring opportunities, as well as training programs such as ECO Canada's Building Environmental Aboriginal Human Resource (BEAHR) training programs for both Environmental Site Assessment Assistants and Contaminated Sites Remediation Coordinators.



Table 1. A Guide to Involving Aboriginal Peoples in Contaminated Sites Management. Health Canada 2010.

Site Management Activity	Examples of Opportunities for Public Involvement
SITE IDENTIFICATION	
1. Identification of suspect sites	Aboriginal peoples' input on: Areas of concern Prioritization of sites in an inventory
SITE AND RISK ASSESSMENT	
2. Historical Review (literature review, site visit, interviews)	Aboriginal peoples can also assist with: <ul style="list-style-type: none"> • Site characteristics; • Buried landfills; • Sampling;
3. Initial Testing Program (sampling, analyses, conceptual exposure model, preliminary human health RA)	<ul style="list-style-type: none"> • Historical review; • Local records; • Oral histories; • Photos; • Maps; • Establishing a baseline on historical conditions; • Oral history;
4. Site Classification (Classes 1 to 3, N, I)	<ul style="list-style-type: none"> • Traditional knowledge; • Present conditions; and • Changing conditions (climate, permafrost). <p>For Ecological Risk Assessment Aboriginal peoples can assist with: Problem formulation;</p> <ul style="list-style-type: none"> • Selecting valued ecosystem components; • Chemicals of concern and pathways;
5. Detailed Testing Program (Contamination delineation, update of conceptual exposure model, finalization of remediation guidelines or risk assessment) Detailed Human Health Risk Assessment	<ul style="list-style-type: none"> • Identifying where and when to collect samples; • Collecting samples; and, • Animal health (observations, determinants). <p>For Human Health Risk Assessment Aboriginal peoples can assist with:</p> <ul style="list-style-type: none"> • Problem formulation; • Exposure assessment; • Historical and current risk scenarios; • Dietary consumption / seasonal variation;
6. Site reclassification	<ul style="list-style-type: none"> • Types and parts of animals used by community members; • Living/working conditions and land use; • Risk characterization; • Provide historical and current epidemiology of the community; and, • Help identify what is "safe" or "acceptable".



Site Management Activity	Examples of Opportunities for Public Involvement
SITE REMEDIATION / RISK MANAGEMENT	
7. Development of Remediation/ Risk Management Strategy	<p>Aboriginal peoples can also assist with:</p> <p>Development and implementation of remediation/risk management strategies throughout all aspects of the strategy.</p> <p>Aboriginal peoples can help identify:</p>
8. Implementation of Remediation/ Risk Management Strategy	<p>Components of concern;</p> <p>Land use objectives;</p> <p>Issues/criteria for evaluating options;</p> <p>Options for meeting objectives; and,</p>
9. Confirmatory Sampling and Final Reporting	<p>Preferred and acceptable options.</p> <p>Other opportunities to involve Aboriginal peoples in the risk management/ site remediation-process include roles related to:</p> <p>Heavy equipment operators;</p> <p>Cooks and support;</p>
10. Long-term Monitoring	<p>Project management;</p> <p>Administration;</p> <p>Health and safety; and,</p> <p>Communications and facilitation.</p> <p>Aboriginal peoples can:</p> <p>Act as informal monitors and communicators;</p> <p>Provide long-term knowledge of the site;</p> <p>Be involved in short-term and longterm monitoring processes; and,</p> <p>Act as informal or formal "watchdogs" for the project.</p>

Strategy 7: Long-term Monitoring of Areas of Concern

A long-term monitoring program will be carried out in areas of concern and/or areas of potential concern on the Island, as identified through the above strategies, as well as for areas of



potential concern that are identified by Wasauksing First Nation citizens. These monitoring programs may or may not be carried out by Wasauksing, and the responsible party will be determined on a case by case basis. Monitoring will be carried using standards outlined in our Environmental Protection Law, once developed. As outlined in Strategy 7 of the Groundwater ESG, long-term monitoring of groundwater helps to improve our understanding of changes to groundwater quality over time and to guide future land use activities. Existing groundwater monitoring wells on the Island will be maintained where appropriate for continued use in long-term monitoring programs. Depending on the sites to be monitored, the long-term monitoring program may also include sampling of soil, sediments, and surface water.

A professional contaminants specialist, with expertise in hydrogeology and contaminant sampling, should be retained to work with the Lands and Resources Committee to set up the long-term monitoring program on the Island. For each given location to be included, the types of contaminants to be sampled for and the frequency of sampling events will be based on:

- The contaminants have been identified as an issue near that location in preliminary studies and ESAs
- Community concerns and knowledge, and the cultural and ecological and importance of the location
- The degree of vulnerability of resources in the area
- Locations where conditions and potential sources of contamination may change with time (e.g., sediments near aquaculture fish farms)

Strategy 8: Community Emergency Spill Preparedness and Response Plan

An emergency spill preparedness and response plan provides our community with strategic direction for mitigating the risks of spills and contamination, preparing for potential disastrous events, and responding to spills and contamination events. The plan outlines



possible hazards and how to both prevent and respond to those hazards, and the steps that will be taken to respond and recover from emergency spill events. Additional information regarding spills is provided in the “Chemical and Fuel Storage Environmental Stewardship Guidance”.

A qualified person trained in emergency management, preparedness, and response should be involved in the drafting of the plan, in conjunction with the Wasauksing Lands and Resources Committee. The emergency spill preparedness and response plan will be a living document that gets updated annually and guides the training of selected Wasauksing First Nation citizens for responding to incidents. The plan will also guide any necessary capacity building for monitoring, response, and mitigation capabilities of staff and citizens.

Until a comprehensive emergency spill preparedness and response plan is developed, the following steps will be taken, if and when a substance is released that may cause harm to the environment or public health:

1. Where safe to do so, stop the source of the spill, taking care to wear any appropriate personal protective equipment.
2. Ensure public safety by cordoning off the affected area.
3. As per section 212 of the Canadian Environmental Protection Act, 1999 and the corresponding Environmental Emergency Regulations, verbal notification of the spill must be made to the following 24-hour telephone line:

416-325-3000 or 1-800-268-6060

Follow all directions for spill response that the officials at this number provide.

4. When possible, use a spill kit to contain the release and prevent it from spreading. This often involves the application of an adsorbent over the affected area.





5. Make a reasonable effort to notify any Wasauksing citizens and non-citizens (including the general public) that may be adversely affected by the spill.
6. Contact a contractor that is licensed by the Ontario Ministry of Environment, Conservation, and Parks to dispose of contaminated waste to clean up the area of the spill. The following company is located in Parry Sound and is qualified to clean up spills of oil, fuel oil, diesel fuel, PCBs, and other toxic waste:

Adams Bros. Construction Ltd.

info@adamsbros.ca

705-746-2962

After hours service: 705-774-1147

When contracting a company to clean up a spill site, the Wasauksing Lands and Resources Committee will retain documentation of where the final contaminated materials will be disposed of, and proof that the Toxicity Characteristic Leaching Procedure (TCLP) has been completed on any waste soils.

7. As per section 212 of the Canadian Environmental Protection Act, 1999 and the corresponding Environmental Emergency Regulations, a written report of the incident must be prepared and sent as soon as possible to

Regional Director, Environmental Enforcement
Directorate

Ontario Region

Environment and Climate Change Canada

867 Lakeshore Road

Burlington, ON L7S 1A1

ec.dale-ontdegarde-eed-ontoncall.ec@canada.ca

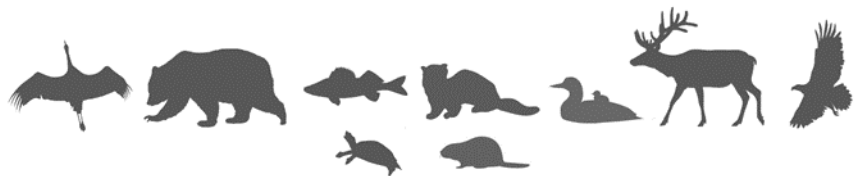
The written report must include the following information:

- The name, civic address and telephone number of the person who owns or has the charge, management or control of the substance released



- The date, time and location of the release
- The name and CAS registry number of the substance released
- The quantity of the substance released or, if the quantity cannot be determined, an estimate of it
- The identification of the container from which the substance was released and a description of its condition
- The location of the release and a description of potential negative effects on the environment or on human life or health
- A description of the circumstances and of the cause of the release, if known, and of the measures taken to mitigate any negative effects on the environment or on human life or health
- The identification of all persons and agencies that were notified as a result of the release
- All measures taken or planned to be taken to prevent similar releases

Monitoring and Enforcement

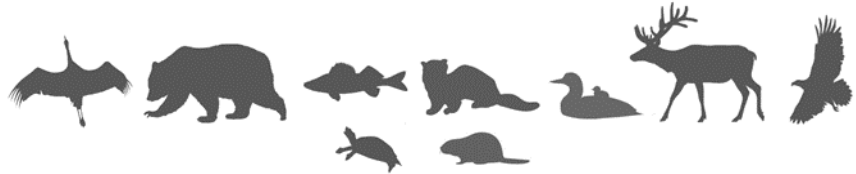


As Anishinaabe people and citizens of Wasauksing First Nation, we are responsible for helping to protect our lands and waters from contamination. It is our entire community's responsibility to report anything we see that might affect our lands and waters, such as changes on the land, spills, or potentially harmful activities. Wasauksing First Nation's Council, Lands Department and Lands and Resources Committee are responsible for managing the



contaminated sites on our Island. Our requirements for managing contaminated sites and preventing future contamination will be enforced through our Environmental Protection law.

Community Initiatives



The following initiatives can be championed by anyone in the community such as Wasauksing staff, educators, land users, youth, or any interested citizen. Given the risks associated with contaminated sites, community champions will require some background knowledge of the subject area and support from Wasauksing staff.

Community Reporting System

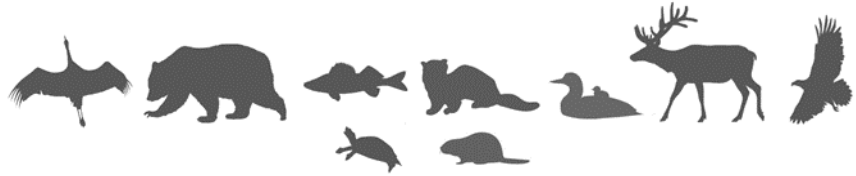
A formal reporting system will allow Wasauksing First Nation citizens to anonymously report observations of any kind of environmental contamination on Wasauksing lands, waters, or air. This reporting system will also provide the Lands and Resources Committee with timely report of incidents that require immediate action or attention.

Remediation Education in the Community

Citizens participate in classroom and interactive activities that provide information about the sources of contamination, methods used to prevent contamination from occurring, how to report contamination and spills, and typical remediation activities that are required for contaminated areas. Educational sessions should also include audience-g geared sessions in the school for community youth.



Regulations and Best Practices



Assessment and Management of Contaminated Sites

Canadian Environmental Protection Act, 1999: This Act aims to protect ecosystems from the impacts of pollution. It covers environmental protection planning, such as pollution prevention planning and environmental emergency response planning. It also addresses the management of toxic substances, hazardous waste, nutrients, vehicle and engine emissions, and international air and water pollution. Part 9 of the Act applies to government operations and federal and Aboriginal land.

<https://laws-lois.justice.gc.ca/eng/acts/c-15.31/page-1.html>

Release and Environmental Emergency Notification Regulations, SOR/2011-90. Under the Canadian Environmental Protection Act, 1999, this regulation outlines the requirements for reporting releases and provides the 24-hour phone numbers for each province in the case of a release or environmental emergency.

<https://laws-lois.justice.gc.ca/eng/regulations/SOR-2011-90/page-1.html#docCont>

Ontario Regulation 347: General – Waste Management, 1990: This regulation provides guidance on waste management and disposal, including the legislated requirements for disposing hazardous waste in Ontario, such as contaminated soil materials.

<https://www.ontario.ca/laws/regulation/900347>

Ontario Regulation 153/04: Records of Site Condition – Part XV.1 of the Environmental Protection Act, Ministry of the Environment, 2004: The purpose of this regulation is to provide legislative guidance on conducting Phase I Environmental Site Assessments, Phase II Environmental Site Assessments, and Risk Assessments in support of obtaining a Record of Site Condition (RSC). This regulation also provides guidance on site condition standards for



different classifications of contaminated sites based on characteristics such as soil depth, soil type, and potable vs. non-potable water.

<https://www.ontario.ca/laws/regulation/040153>

A Guide to Involving Aboriginal Peoples in Contaminated Sites Management, Health Canada, 2010: The guide is intended to provide guidance to those managing contaminated sites projects on the involvement of the public in the projects, and in our case, the involvement of Wasauksing citizens.

<http://www.hc-sc.gc.ca/ewh-semt/pubs/contamsite/aboriginal-autochtones/index-eng.php>

Guide for Completing Phase One Environmental Site Assessments under Ontario Regulation 153/04. Ministry of the Environment, 2011: This manual provides guidance for the completion of phase one environmental site assessments (P1ESA) under O. Reg. 153/04, for the purpose of obtaining a record of site condition.

<https://www.ontario.ca/document/guide-completing-phase-one-environmental-site-assessments-under-ontario-regulation-15304>

Guide for completing phase two environmental site assessments under Ontario Regulation 153/04. Ministry of the Environment, 2011: This manual provides guidance for the completion of phase two environmental site assessments (P2ESA) under O. Reg. 153/04, for the purpose of obtaining a record of site condition.

<https://www.ontario.ca/page/guide-completing-phase-two-environmental-site-assessments-under-ontario-regulation-15304>

Guidance Manual for Environmental Site Characterization in Support of Environmental and Human Health Risk Assessment: Volume 1 - Guidance Manual, Volume 2 - Checklists, Volume 3 – Suggested Operating Procedures, and Volume 4 – Analytical Methods. Canadian Council of Ministers of the Environment, 2016:

This guidance manual is intended to provide national guidance, training and advice with regard to environmental and human health risk assessments on federal sites. It describes the site characterization process and methods to obtain environmental data required for input to environmental and human health risk assessments at contaminated sites.



http://www.ccme.ca/en/files/Resources/csm/Volume%201-Guidance%20Manual-Environmental%20Site%20Characterization_e%20PN%201551.pdf

Canadian Standards Association (CSA) Phase 1 Environmental Site Assessment, 2003: This guidance document provides details regarding the conduct and completion of a phase one environmental site assessment to the standards specified by the CSA.

Association of Professional Geoscientists of Ontario Guidance of Environmental Site Assessments under Ontario Regulation 153/04 (as amended)- April 2011: The purpose of this document is to provide technical and operational guidance for conducting an environmental site assessment (ESA) to meet the requirements of Ontario Regulation 153/04, as amended.

https://www.apgo.net/files/APGO_Brownfields_Guidance_Document.pdf

Canadian Council of Ministers of the Environment Canada-wide Standard for Petroleum Hydrocarbons (PHC CWS) in Soil, CCME, 2008: The Canada-Wide Standard for Petroleum Hydrocarbons in Soil (PHC CWS) is a remediation standard that sets out the levels to which PHC impacted sites must be cleaned up to, if and when they are subject to remediation. The PHC CWS sets out generic target levels, as well as a process for generating site-specific numbers based on risk that are protective of human and ecological health.

https://www.ccme.ca/en/resources/contaminated_site_management/phc_cws_in_soil.html

Canadian Council of Ministers of the Environment, Canadian Environmental Quality Guidelines (CEQG) online database: The CEQGs provide science-based goals for the quality of aquatic and terrestrial ecosystems.

http://www.ccme.ca/en/resources/canadian_environmental_quality_guidelines/

The guidelines can be used if no provincial standards are available from the MOECC, or if the federal guidelines described herein are



more conservative and/or applicable than provincial standards. Information included in the guidelines includes the following:

- Chemical-specific guideline fact sheets that summarize the key scientific information and rationale for each substance
- Detailed tables that summarize recommended guidelines for the different media and resource uses and the protocols used in developing the guidelines, along with their associated implementation guidance
- An interactive Summary Table that provides the ability to search CEQGs by chemical or chapter
- Factsheets for ease of verifying specific information and obtaining implementation guidance pertaining to each environmental quality guideline
- Spreadsheet calculators for the Water Quality Index, Soil Quality Index and Sediment Quality Index
- Scientific criteria documents

The following CEQGs are available:

- Community Water Supplies
- Recreational Water Quality Guidelines and Aesthetics
- Canadian Water Quality Guidelines for the Protection of Aquatic Life
- Canadian Water Quality Guidelines for the Protection of Agricultural Water Uses
- Canadian Sediment Quality Guidelines for the Protection of Aquatic Life
- Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health



- Canadian Tissue Residue Guidelines for the Protection of Wildlife Consumers of Aquatic Biota

Human Health and Ecological Risk Assessment

Procedures for the Use of Risk Assessment under Part XV.1 of the Environmental Protection Act, Ontario Ministry of the Environment, October 2005: This Procedure document provides the minimum requirements for conducting both the human health and ecological components of risk assessment for contaminated properties in Ontario. This Procedure document is intended for use by experienced risk assessors in conjunction with best professional judgment.

<https://www.ontario.ca/document/procedures-use-risk-assessment-under-part-xv1-environmental-protection-act>

MGRA User Guide: A Guide to Using the “Approved Model” (November, 2016) When Submitting a Modified Generic Risk Assessment (MGRA), Standards Development Branch, Ministry of the Environment and Climate Change. The Modified Generic Risk Assessment (MGRA; also referred to as “Tier 2”) provides a streamlined approach for developing property specific standards (PSS) under Ontario Regulation 153/04 (Records of Site Condition (RSC) – Part XV.1 of the Act), made under the Environmental Protection Act (the Regulation). This streamlined process uses the “Approved Model,” which is based on the model (a system of interconnected Excel spreadsheets) that was used to develop the generic site condition standards (Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act - dated April 15, 2011). The Approved Model enables a Qualified Person (QP) entitled to prepare or supervise a risk assessment (QPRA, as described in section 6 of the Regulation) to develop Property Specific Standards quickly and easily.

<https://www.ontario.ca/page/guide-using-approved-model-when-submitting-modified-generic-risk-assessment>

[Federal Contaminated Sites Action Plan \(FCSAP\)](#), Health Canada, 2010. The FCSAP provides the following guidance documents on



the conduct of risk assessments for contaminated federal sites in Canada:

Federal Contaminated Site Risk Assessment in Canada, [Part I: Guidance on Human Health Preliminary Quantitative Risk Assessment, Version 2.0](#)

Federal Contaminated Site Risk Assessment in Canada, [Part II: Health Canada Toxicological Reference Values, Version 2.0](#)

Federal Contaminated Site Risk Assessment in Canada, [Part III: Guidance on Peer Review of Human Health Risk Assessments for Federal Contaminated Sites in Canada, Version 2.0](#)

Federal Contaminated Site Risk Assessment in Canada, [Part V: Guidance on Human Health Detailed Quantitative Risk Assessment for Chemicals \(DQRACHEM\)](#)

Federal Contaminated Site Risk Assessment in Canada, [Part VI: Guidance on Human Health Detailed Quantitative Radiological Risk Assessment \(DQRARAD\)](#)

Federal Contaminated Site Risk Assessment in Canada, [Part VII: Guidance for Soil Vapour Intrusion Assessment at Contaminated Sites](#)

Federal Contaminated Site Risk Assessment in Canada, [Supplemental Guidance: Checklist for Peer Review of Detailed Human Health Risk Assessment \(HHRA\)](#)

Federal Contaminated Site Risk Assessment in Canada: [Supplemental Guidance on Developing a Contract Statement of Work \(SOW\) for Human Health Preliminary Quantitative Risk Assessment \(PQRA\) and Detailed Quantitative Risk Assessment \(DQRA\)](#)

Federal Contaminated Site Risk Assessment in Canada: [Supplemental Guidance on Human Health Risk Assessment for Country Foods \(HHRAFoods\)](#)



<http://www.federalcontaminatedsites.gc.ca/default.asp?lang=En&n=B15E990A-1>

Remediation

United States Environmental Protection Agency, 20016. In Situ Treatment Technologies for Contaminated Soil: This issue paper provides summary information on a wide variety of in situ technologies for the treatment of contaminated soil in both the vadose zone and saturated and unsaturated source zones. The in-situ technologies presented involve applying chemical, biological, or physical processes to the subsurface to degrade, remove, or immobilize contaminants without removing the bulk soil.

<https://clu-in.org/download/remed/542f06013.pdf>

Emergency and Spill Response

Ontario First Nations Technical Services Corporation (OFTSC) Emergency Planning Services: The OFTSC provides advisory services to First Nation communities for training and preparation for emergency situations, including industrial and transportation accidents. This branch of OFTSC works with First Nations in Ontario to develop emergency management plans, and/or review and analyze existing community emergency management plans.

<http://ofntsc.org/services/emergency-planning/>

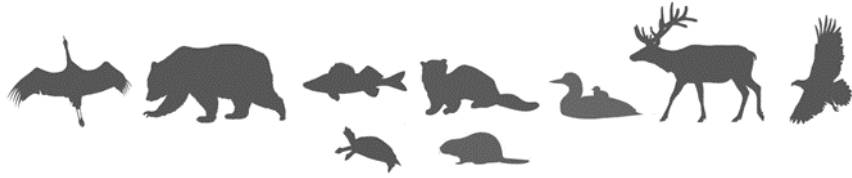
Emergency Response Guidebook, Transport Canada, 2016: This guidebook provides safety precautions, information pertaining to transportation of dangerous goods, rail car identification, and guidelines for first responders during the initial phase of transportation incidents that involve hazardous materials.

<https://www.tc.gc.ca/media/documents/tdg-eng/EnglishERGPdf.pdf>





Glossary



Areas of Potential Environmental Concern (APECs)

The area on, in, or under a phase one property where one or more contaminants are potentially present, as determined through the phase one environmental site assessment, including through, (a) identification of past or present uses on, in or under the phase one property, and (b) identification of potentially contaminating activity.

Contamination

The presence of a polluting or poisonous substance in the natural environment, making it impure.

Cordite

An explosive that is composed of nitroglycerine, guncotton, and petroleum jelly.

Petroleum Hydrocarbons (PHCs)

Includes any mixture of hydrocarbons that are found in crude oil.

Phase One Environmental Site Assessment (P1ESA)

A reporting process that addresses the contaminated property issues that may be of concern to the parties involved in activities on a particular land. Phase One ESAs include gathering information about past and present site uses, a site inspection, a review of site environmental files, and the preparation of a report that identifies potential sources of contamination. This phase determines whether there is a need for further site investigation.

Phase Two Environmental Site Assessment (P2ESA)

A reporting process that addresses the contaminated property issues that may be of concern to the parties involved in activities



on a particular land. Phase Two ESAs focus on gathering specific information about a property including: surface soil, groundwater, surface water, sediment, and plant or aquatic species sampling, storage tanks contents, PCB sampling, geophysical surveys, noise levels and radiation, then using models to evaluate potential contamination. This phase determines whether there is a need for a comprehensive remediation work plan.

Polychlorinated Biphenyls (PCBs)

Any class of human-made organic chemicals consisting of carbon, hydrogen, and chlorine atoms, which range in consistency from an oil to a waxy solid. They are commonly used in electrical equipment, motor oils, adhesives, for thermal insulation, and in plastics.

Polycyclic Aromatic Hydrocarbons (PAHs)

A group of chemicals containing only carbons and hydrogens atoms that are often released from burning coal, oil, gasoline, trash, tobacco, wood and other organic substances.

Potentially Contaminating Activities (PCAs)

Activities industries, or land uses that are occurring or have historically occurred on specific land, or adjacent to specific land that may have cause pollutants to enter the environment resulting in contamination.

Remediation

The process of removing pollutants or contaminants from environmental entities including soil, groundwater, sediment or surface water.

Toxicity Characteristic Leaching Procedure (TCLP)

An analytical procedure to determine the potential for a soil sample to leach through a landfill. This test is required prior to disposal of contaminated soil at Ontario landfill sites.



Resource Management

Environmental Stewardship Guidance

Contents

Our Stewardship Vision

Community Objectives

Stewardship Guidance and Strategies

Monitoring and Enforcement

Community Initiatives

Regulations and Best Practices

Glossary

"Everything is here for us, and that's what they say in our teachings—that we were given everything we would need to live."

– Wasauksing Citizen

Our Stewardship Vision

As proud Anishinaabe people, we have a profound relationship with the *akii* (land) that is rooted in respect for the spiritual value of the Earth and the gifts of the Creator. As such, we have a deep desire to preserve our relationship with the *akii*.

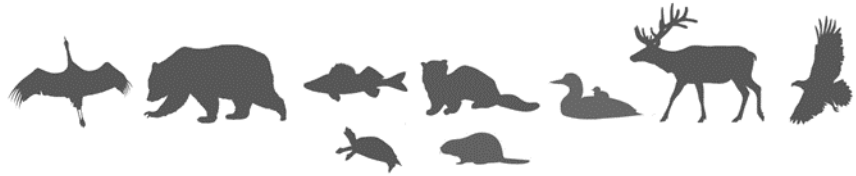
Our authority to govern our *akii* and resources flows from the Creator to the people of Wasauksing First Nation. The health of our resources found in and on the *akii* are vital to our being as Anishinaabe people. We are stewards of the *akii* and resources, which includes our forests, aggregate and mining resources and maple syrup production. We do not "use" our resources, but rather we have a relationship with them. Through our relationship with the *akii*, we have a responsibility to appropriately manage our resources. Once our non-renewable resources are gone – they are gone.

We will work to implement the following strategies that will help to ensure our resources are properly protected, conserved and managed. As Anishinaabe people, we are committed to ensuring any resource development on our *akii* is done with our consent and in accordance with our rights, culture, traditions, customs and laws for the benefit of our present generation and the next seven generations.





Community Objectives



We will work to implement strategies to meet the following objectives, in order to protect, conserve and manage our land and water resources during resource development activities on our land.

Short-Term Objectives

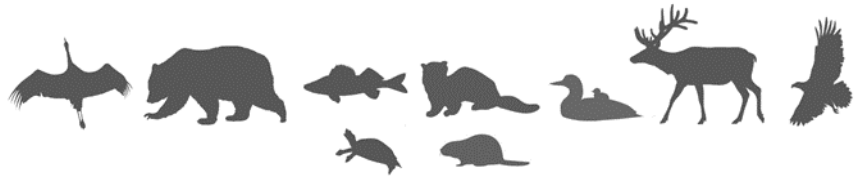
- Encourage sustainable forest harvesting that balances our social, economic and environmental values
- Develop and implement fair and transparent processes to evaluate resource-based project impacts and promote community decision-making
- Incorporate the use of natural resources into our Development and Building Approvals process by enacting a Land Law(s)
- Establish consultation standards for resource-based development to ensure we are consulted and engaged on our terms for all projects on our lands
- Develop and implement a community-led environmental monitoring program for resource-based uses on our lands
- Ensure that all resource-based operations on our land meet applicable regulations, environmental standards and community-derived Land Laws
- Provide Wasauksing citizens with information and skill building opportunities to manage our resources
- Increase the number of taps per hectare in our sugar bush



Long-Term Objectives

- Evaluate the effectiveness of our own or adopted (federal, provincial) environmental laws, policies and guidelines for resource management on our lands
- Monitor our resource-based operations to adaptively manage and mitigate potential risks
- Implement, monitor and evaluate pit and quarry rehabilitation plans for their effectiveness
- Improve the long-term health of our sugar bush

Stewardship Guidance and Strategies



To meet our short and long-term objectives for resource management, we will use the following stewardship guidance and strategies that are built on a foundation of regulations, guidelines and best management practices.

Strategy 1: Forest Management Planning

Forest management planning is essential to sustainable forest management on our lands and must balance our social, economic and environmental values. Our most recent Forest Management Plan expired in 2017. To ensure forestry planning and timber harvesting occurs in a sustainable manner, and in accordance with our values, we will complete a new Forest Management Plan to replace and update the previous Plan.

Our Forest Management Plan will be prepared by a registered professional forester, who will ensure that the Plan provides for the sustainability of our forests. The process to develop our Forest Management Plan will incorporate numerous community



engagement methods to ensure there are plenty of opportunities for our citizens to participate in the planning process.

We recognize that forestry and forest product businesses could be a revenue stream for the First Nation and citizens. Our Forest Management Plan will evaluate how commercial forestry activities can occur on our lands in an ecologically sensitive manner, through a seven generations lens.

In addition, we have a thriving sugar bush and maple syrup operation, Wasauksing Maple Products, located in our community. This operation has the potential to become one of the larger maple syrup operations in Ontario. The health of our sugar bush is vital to its' success. Our Forest Management Plan may include elements from Strategy 2: Sugar Bush Management Planning to combine the planning processes, capitalize on efficiencies, and developing shared management strategies.

As Anishinaabe people, our relationship with the land provides us with a deep understanding of the impacts of climate change on our forestry resources. We have observed and experienced disturbances, such as fires, drought, severe storms, and damaging insect and disease attacks, with higher frequency and at higher levels of severity. Our Forest Management Plan will be completed through a climate change lens to identify vulnerabilities, undertake assessments and monitoring, and consider the impacts of climate change on our ability to maintain a healthy and resilient forest.

Strategy 2: Sugar Bush Management Planning

As Anishinaabe people, harvesting maple sap is an activity we have done since time immemorial, and in the 16th century, First Nations shared the maple syrup making process with Europeans. Maple syrup production is a community tradition and we have recently revived the tradition of holding an annual MapleFest celebration in honour of the Sugar Moon.





Since the first study was completed in 1965, on the feasibility of establishing a commercial maple syrup operation on Wasauksing First Nation, we have been building our company, Wasauksing Maple Products, towards a for-profit business model. We aim to become a self-sustaining and profitable business that utilizes our vast maple forest resources in an environmentally friendly manner, while continuing to pass this community tradition on to future generations. Based on our sugar bush resources, we have the potential to become one of the larger maple syrup operations in Ontario.

To support our sugar bush activities, we will develop a sugar bush management plan to outline our goals and objectives; an inventory of the sugar bush's resources, and operating plan of "on the ground" management activities to achieve our goals. All or elements of our sugar bush management plan may be combined with Strategy 1: Forest Management Plan for efficiency.

Over the last 50+ years, we have completed numerous feasibility and business case studies and subsequent expansions of our maple syrup operations. Our sugar bush management plan will build upon the available information with a focus on our short and long-term objectives for our sugar bush and sustainable management strategies to ensure its' long-term health and viability.

Our sugar bush management plan will be completed by a professional forestry consultant with experience in maple bush management. We will also give consideration in our sugar bush management plan to the impacts of climate change and identify appropriate adaptation and mitigation strategies.

Strategy 3: Resource-Based Permitting Process

Intended to weave together with our Land Use Plan, the purpose of our resource-based permitting process is to ensure a fair and transparent decision-making framework for resource-based projects, such as aggregate extraction and commercial forestry. We already have a Development and Building Approval process,



which establishes the way our First Nation, our citizens and proponents can obtain permission to use land or construct and renovate a building or structure on Wasauksing First Nation.

We will use our existing Development and Building Approval process as the decision-making framework for resource-based projects. In further developing and refining this permitting process for resource-based projects, we will consider

- the types of resource-based projects that will require a permit;
- project duration. In accordance with our Land Code, community approval is required for any grant or disposition of a non-renewable natural resource exceeding a term of five years;
- the types of applicants that will require a permit (First Nation vs citizen vs non-member);
- the level of community participation in the decision-making process;
- who has decision-making authority, and whether it could be delegated to staff for certain types of applications;
- fees for permit applications; and
- the appeals and dispute resolution mechanisms.

To implement this resource-based permitting process, we will incorporate its components into the established Development and Building Approval process and enact a Land Law so it can be enforced. Once approved, we will communicate this new process with our citizens, staff and proponents.

Strategy 4: Consultation Protocol

Wasauksing First Nation are the caretakers of our Traditional Territory and possess Aboriginal and Treaty rights over lands and





resources within our Traditional Territory. Section 35 of the Constitution Act, 1982 recognizes and re-affirms our existing Aboriginal and Treaty rights and that there is a Duty to Consult prior to the occurrence of any decisions, conduct or activities that may have an impact on our rights and interests.

As such, we will develop a consultation protocol for resource-based development on Wasauksing, and within our Traditional Territory, to ensure we are appropriately consulted and engaged on our terms for all projects on our lands. Our consultation protocol will outline a fair and transparent process for consultation and accommodation between Wasauksing First Nation and proponents for any resource-based activity proposed on Wasauksing lands and within our Traditional Territory. We may also expand the scope of our consultation protocol beyond resource-based activities to include other development activities, as deemed necessary by our community.

Once developed, we will communicate our consultation protocol and community expectations for consultation with our citizens, staff, the Crown and proponents.

Strategy 5: Environmental Monitoring Program

We will have a resource management component, or team, within our community environmental monitoring and/or Guardian program, with a focus on our forestry and aggregate resources. On this team, we will ensure to have at least one member who is a Council authorized enforcement officer. The resource management monitoring team will be responsible for the following:

- Completing periodic evaluation, and where necessary, enforcement, of our existing First Nation-operated resource operations (pits and quarries) on our lands;
- Completing periodic evaluations, and where necessary, enforcement, of new resource operations on our lands, during construction, operation and closure;



- Monitoring industry partners' practices and procedures to ensure they are taking appropriate environmental care; and
- Implement adaptive management processes and mitigate potential impacts/risks.

For forestry activities, monitoring tasks may include the following:

- Monitoring forestry site boundaries including buffers around bodies of water and wetlands, as well as important habitat for species at risk (e.g., wintering, nesting and feeding sites)
- Monitoring construction and maintenance procedures, ensuring they are completed in accordance with best management practices
- Monitoring timber harvesting methods, ensuring they are completed in accordance with best management practices
- Ensuring any existing or new forestry access routes are completed in an environmentally conscious manner in accordance with best management practices
- Monitoring equipment use and timing of operations
- Ensuring that forestry operations are minimizing wasteful practices
- Enforcement of Wasauksing's Land Law(s), where necessary

For aggregate extraction activities, monitoring tasks may include:

- Monitoring water quality to identify negative impacts due to contamination, displacements of large quantities of water, and changes to the flow and quantity of groundwater near resource operations, such as pits and quarries



- Monitoring wildlife, wildlife habitat, species at risk and culturally important species within and near resource operations
- Monitoring air quality and noise impacts from resource operations
- Overseeing aggregate resource operating techniques, procedures and methods
- Enforcement of Wasauksing's Land Law(s), where necessary

If non-compliance is observed, more frequent and extensive monitoring protocols are to be completed and Council is to be notified immediately to enforce our Land Law(s) (see Strategies 6 & 7). Where non-compliance of federal laws is observed, we will also notify the relevant federal authority.

The need and urgency for this program will be driven by the level of resource-based activities on our lands.

Strategy 6: Resource Regulations, Policies, Guideline and Land Law Development

This initiative provides us with the structure needed to regulate resource operations on our lands, with a specific focus on forestry and aggregate extraction. We will ensure there are additional environmental regulations, policies, guidelines and, ultimately, Land Law(s) that are specific to resource operations, such as forestry and aggregate extraction operations, outside of the general environmental regulatory regime we have adopted under the First Nations Land Management Act (1999). These will be developed based on industry best management practices and, if needed to achieve high environmental standards, extend beyond federal and provincial regulations, policies and guidelines. Specifically, we draw from the guides, standards and best management practice documents listed in this ESG.



These regulations, policies and/or guidelines will be written with support from qualified subject area experts, reviewed by the Lands and Resources Committee, approved by Council, and implemented through Land Law prior to the start of any new resource-based operations on our lands. Our goal is to have enforceable Land Law(s) to regulate resource development on our lands.

Over time, we will evaluate the effectiveness of our own established laws, policies and guidelines for resource management on our lands. As necessary, we will revise our regulations, policies, guidelines and Land Law(s) in accordance with best management practices.

Strategy 7: Regulations and Environmental Standards Compliance

We will work to ensure that all resource operations on our lands comply with the applicable environmental regulatory regime(s) and that they meet our standards.

Our community environmental monitoring program (Strategy 5), under the direction of Council, helps us implement this strategy. Our community environmental monitoring program will identify issues of non-compliance with our Land Law(s). Once matters are reported, the Wasauksing First Nation will be responsible for penalizing the appropriate parties, in accordance with our Land Code and/or any other applicable Land Law(s). We use the legislation and documents referenced in this ESG, as well as our Land Code community regulatory regimes, as guides for recognizing infractions and being aware of reporting protocols.

When entering into partnerships with industry or issuing permits to use our lands, we include clauses in our contracts/permits that give us the right to terminate their lease of our land should they fail to comply with the appropriate regulations and our standards; the decision to terminate will be made at the discretion of Council, with input from the Public Works Department, and will be dependent on the severity of the infraction. On a situation-by-situation basis, additional enforcement may be necessary to





ensure compliance in accordance with our Land Code and relevant Land Law(s).

Our community environmental monitoring program will help monitor resource-based operations to ensure regular compliance. We also encourage all citizens to be active stewards of our land. Subsequently, this initiative also relies upon successful implementation of the following initiative (Strategy 8: Capacity Building – Resource Management). To ensure widespread monitoring, we must help citizens become aware of the potential risks associated with forestry operations, have the ability to recognize them and the knowledge to report non-compliance.

Strategy 8: Capacity Building – Resource Management

We will continue to build community capacity around resource management. This initiative empowers Wasauksing citizens and staff with the knowledge and resources to understand resource operations, identify possible impacts and develop solutions to mitigate or eliminate threats to our lands and waters. We will continuously identify opportunities to provide Wasauksing citizens with education and skill building opportunities related to resource management.

These include the Aboriginal Procurement Program, the First Nations Natural Resource Youth Employment Program, Natural Resources Science and Technology Camp (in partnership with Outland), and others. This Strategy is carried out in conjunction with the environmental monitoring programs established in other ESGs.

Community involvement and support is essential in building our community's resource-based knowledge. We will constantly involve our community in resource programs to help build our collective knowledge of how best to manage our lands and resources through a seven generations lens.





Strategy 9: Pit and Quarry Rehabilitation

Presently, we have multiple pits on the Island used by the First Nation for the benefit of Wasauksing First Nation citizens, including the maintenance and construction of our roads and building sites. We do not currently have any commercial aggregate extraction operations in Wasauksing First Nation.

During operation, it is our best management practice to reduce the environmental footprint of our aggregate businesses through progressive reclamation and interim clean-up. We explore options to initiate ecosystem re-establishment on those portions of the pit or quarry that are no longer necessary for immediate industrial operating requirements.

We are committed to rehabilitating all pits and quarries at the end of their lifecycle in accordance with the Aggregate Resources Act, R.S.O. 1990, c. A.8. Since there are several rehabilitation options, including wildlife habitat and wetland restoration, golf course or recreational park development, and forestry or agriculture land development, we will conduct studies on a case-by-case basis to determine the most appropriate option for each site.

When planning for rehabilitation, we aim to weave our traditional stewardship knowledge and practices with western science to restore our lands and resources. With the high prevalence of species at risk and culturally important plants and species on and around our lands, we prefer rehabilitation options that provide rare habitat and habitat for species at risk. This will be done with the support of qualified subject area experts according to community and environmental needs.

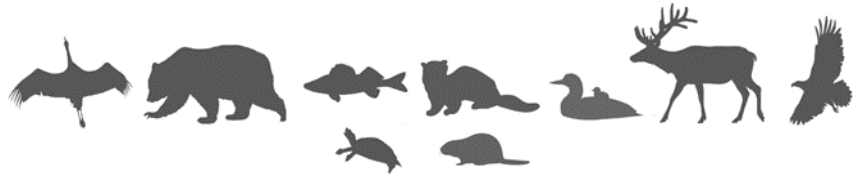
Progressive reclamation and rehabilitation efforts must be explored and planned through the resource-based permitting process (Strategy 3) prior to Council approval. This way, our community understands the long-term impacts over the next seven generations of the aggregate extraction operation at the time of our decision-making process. This includes planning for soil storage, placement and handling, revegetation and phasing of reclamation.





Throughout operation, we will require our industry partners for commercial operations to submit periodic update reports on site activities, which includes charting reclamation progress. Our environmental monitors will also play a role in implementing and monitoring progressive reclamation and rehabilitation efforts.

Monitoring and Enforcement



As Anishinaabe people, we are all responsible for protecting our lands and waters, and showing respect to the plants, animals and resources that flourish here. It is our responsibility to report anything that might affect the health and abundance of resources, both renewable and non-renewable. It is also our community's responsibility to action against those risks.

Our community environmental monitoring team, including the Council appointed enforcement officer, will work to identify any environmental impacts and issues of non-compliance of resource-based operations on land, water, traditional use, cultural sites, ecosystems and species at risk.

In the event that a non-compliance of our Land Law(s) is observed, we report matters directly to Council to initiate enforcement protocols (as applicable).

Community Initiatives



The following community engagement and outreach activities include current ongoing events as well as potential new events/activities that support responsible resource management, to be implemented at the discretion of Wasauksing First Nation. Many of these initiatives can be championed by anyone in the



community such as Wasauksing staff, educators, land users, youth, or anyone with a passion for caring for our lands and resources.

MapleFest Celebration

Every spring, we host a celebration in honour of the Sugar Moon that is open to our citizens and the public. At this event, visitors can experience the maple syrup-making process firsthand. We also use this opportunity to pass knowledge onto our youth and educate the public about the Anishinaabe people, our history, our culture and our traditions for making maple syrup—an activity that we have done since time immemorial. This event is a celebration of our history, culture and traditions and the gifts of our land and resources.

Resource Education for School Groups

This series of workshops, activities, and lessons will help our children and youth learn about renewable and non-renewable resources, including forests, forestry, maple syrup production and aggregate extraction. The purpose of this initiative is to help students come to understand how deeply connected they are to the land and resources and the impacts improper resource management can have on the health of our land and resources.

We will work with Elders and other knowledge holders in the community to share their knowledge and experiences on the land with our youth and children. Materials from not-for-profit organizations are also used to help teach students, and in some cases, classes take part in provincial initiatives related to resource management. There are both classroom and outdoor “on the ground” components to these educational initiatives.

Forest-Based Traditional Skills Workshops

These workshops will provide citizens with the opportunity to learn various skills related to food harvesting, shelter building, and crafts making – all using materials found in Wasauksing’s forests. Elders, knowledge holders, and land users lead workshops focused on their area of expertise, including topics such as medicinal plant collection and sweat lodge building. Each workshop will include





information about forest ecology, tree and plant identification, and sustainable practices for using forest resources. These workshops will help our citizens understand the many values of healthy forests and the importance of protecting them.

Forest Celebrations

These events will offer an opportunity for Wasauksing citizens to display and share their knowledge of and experiences in the forests of Wasauksing through storytelling, visual art, dancing, photographs, crafts, music, food and more. Citizens will also get to learn new things about forests and the ecosystem they provide through talks, display booths, films and more. Speakers give talks and lead workshops focused on various elements of forest ecology.

Resource Community Watch Program

This program will have Wasauksing citizens report on any changes they observe to our resources, including our forests, pits and quarries, resource-based operations and other human activities. The program will be led by our community environmental monitoring program who will hold regular sessions to inform citizens about the things they may observe and to make them aware of the process for relaying that information to the monitors. Our environmental monitors teach citizens specific things to watch for, including invasive species, tree disease and pests, species at risk, dumping of garbage, sensitive wildlife areas, and more.

Community-Based Environmental Rehabilitation and Restoration Activities

Following the clearing or degradation of areas for aggregate related development, citizens will be invited to participate in environmental rehabilitation and remediation initiatives directed by our community environmental monitoring program and environmental monitors. Activities may include native plant and tree plantings, wetland development, and more. These community efforts act as a supplement to the work done by trained professionals from our community and from outside our





community. The involvement of our citizens in this process provides them with the opportunity to witness the effects of aggregate development on the land and to play a role in restoring the land for the purposes of long-term environmental sustainability.

Resources

Forestry Connects: This program, sponsored by Forests Ontario, provides high school students with a first-hand look at what it's like to work in forestry. It is a hands-on program with lessons on local wildlife, tree identification, the importance of forests within the larger environmental lens, and the complexity of forest management and planning. Participants gain knowledge and develop skills that would be useful for a career related to forestry. <https://www.forestsontario.ca/education/programs/forestry-connects/>

Focus on Forests: This is a forestry education program created by Forests Ontario. The website provides links to over 100 lesson plans and resources to help teachers teach children and youth about a variety of topics related to forestry and forests – forest biodiversity, tree identification, parts of trees, trees use of water, soil structure, and more. Learning resources can be accessed by signing up for free on the website. <https://www.forestsontario.ca/education/programs/focus-on-forests/>

Ontario Envirothon: This program is not just an educational program but also a team-based competition for high school students who love the outdoors. It gives students the ability to learn about forests, wildlife, aquatic ecosystems, and other components of the natural environment. <https://www.forestsontario.ca/education/programs/ontario-envirothon/>

Forest Stewardship: Teaching Youth About Forest Stewardship: This teaching tool provides information about how to teach youth about forests, and about the importance of forest stewardship. The guide includes ideas for activities and lessons and provides



information about additional resources.

<https://extension.psu.edu/forest-stewardship-teaching-youth-about-forest-stewardship>

Tree Bee: Forest Ontario's Tree Bee Program offers a tree identification tool for classrooms, families and communities. It also provides opportunities for children and youth to participate in tree identification competitions.

<https://treebee.ca/education-resources/>

Mining Matters: Mining Matters travels to schools and delivers hands-on workshops related to earth sciences, mineral exploration and mining. They have programs that are developed specifically for Indigenous communities. They also provide education resources for teachers that meet curriculum expectations. Mining Matters has close ties with industry, but they do ensure that environmental stewardship and resource management considerations are included in their educational resources and programming.

<https://miningmatters.ca/resources/education>

Ontario Nature: Ontario Nature is a conservation organization that protects wild species and spaces through conservation, education and public engagement. They recognize the challenge of balancing the need for aggregate resource extraction with the need to preserve our biodiversity. We will use Ontario Nature for its resources and knowledge on the aggregate industry and balancing the needs of industry with our environmental values.

<https://ontarionature.org/programs/greenway/pits-and-quarries/>

Cornerstone Standards Council: The Cornerstone Standards Council was originally formed as a certification/accreditation organization for industry; however, they are currently re-evaluating their role in this process. Nevertheless, we will use the Cornerstone Standards Council's Responsible Aggregate Standard (V4) document as a 'best practices' document for aggregate developers on our lands and for building the capacity of our children, youth and citizens. <http://www.cornerstonestandards.ca/>





The Ontario Aggregate Resources Corporation (TOARC): TOARC is trustee of the Aggregate Resources Trust under the authority of the Ontario Aggregate Resources Act. TOARC is responsible for, amongst other things, the rehabilitation of abandoned pits and quarries, the publication and production of statistics and other information and the education and training of those in or interested in the aggregate industry. We will use this information to help develop citizen information sessions and lesson plans for classrooms. We may also invite TOARC to visit the community and lead information sessions with our children, youth and citizens. <https://toarc.com/legacy-pits-quarries-maap/research-funding/research-publications/>.

Regulations and Best Practices



Federal Regulations

Species at Risk Act (S.C. 2002, c.29): Under the Framework Agreement on First Nation Land Management, the Federal Species at Risk Act continues to apply. The purpose of this Act is to prevent wildlife species from disappearing, to provide for the recovery of wildlife species that are extirpated, endangered, or threatened as a result of human activity, and to manage species of special concern to prevent them from becoming endangered or threatened. The Federal Species at Risk Act needs to be considered when undertaking resource-based operations on Wasauksing First Nation lands.

<https://laws-lois.justice.gc.ca/eng/acts/s-15.3/>

Migratory Birds Convention Act, 1994 (S.C. 1994, c.22): Under the Framework Agreement on First Nation Land Management, the federal Migratory Birds Convention Act continues to apply. The purpose of this Act is to protect migratory birds, their eggs and their nests from hunting, trafficking and commercialization. This Act needs to be considered when undertaking resource-based



operations on Wasauksing First Nation lands.

<https://laws-lois.justice.gc.ca/eng/acts/m-7.01/>

Fisheries Act (R.S.C., 1985, c. F-14): The Fisheries Act is intended to conserve and protect fish habitat through a variety of mechanisms, including permitting, habitat protection, and pollution prevention policies. The Fisheries Act needs to be considered when undertaking resource-based operations on Wasauksing First Nation lands.

<https://laws-lois.justice.gc.ca/eng/acts/F-14/>

National Pollutant Release Inventory (NPRI): This is a tool used by the Ministry of Environment and Climate Change Canada to inventory pollutant releases (air, water, land) and identify pollution prevention priorities. Pits and quarries where annual production is greater than 500,000 tonnes are required to report their activities to the NPRI.

<https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/report.html>

Provincial Legislation

Crown Forest Sustainability Act (1994): The purpose of this Act is to ensure the long-term health of Ontario's Crown Forests and ensures they met the social, economic and environmental needs of present and future generations in a sustainable manner.

<https://www.ontario.ca/laws/statute/94c25>

To help administer this Act, the Ontario Ministry of Natural Resources and Forestry provides a series of guides which outlines the forest management standards that must be followed.

<https://www.ontario.ca/page/forest-management-guides>

The Forest Management Planning Manual (2017): Provides direction for preparing a forest management plan from guidance on planning, implementation, monitoring and reporting.

<https://files.ontario.ca/forest-management-planning-manual.pdf>

Environmental Assessment Act (1990): All environmental approvals for forest management on Ontario's Crown lands are regulated by this Act. An important Declaration Order is





Declaration Order MNR-75: This outlines the environmental assessment process that must be followed when planning forestry on Crown land. It ensures that potential environmental effects, the public consultations, and Indigenous input are all considered before operations begin.

<https://www.ontario.ca/laws/statute/90e18>

Professional Foresters Act (2000): This Act outlines codes of practice and regulations for the practice of professional forestry in Ontario.

<https://www.ontario.ca/laws/statute/00p18>

The Ontario Forest Tenure Modernization Act (2011): This Act enables the establishment of up to two local self-sustaining forest corporations and was implemented, in part, to provide local Aboriginal people and communities a greater say in the management of local forests and to transition to enhanced sustainable forest licencing. The first of these corporations, Nawiingokiima Forest Management Corporation, was established in May 2012 to operate within a defined management area that includes the communities of the Ojibways of the Pic River First Nation, Pic Moberg First Nation, Hornepayne Aboriginal community, Marathon, Hornepayne, Manitouwadge and White River Forest. There is potential for our community to become involved in forest tenure modernization and take a similar approach on our land.

<https://www.ontario.ca/laws/statute/11o10>

<https://www.ontario.ca/page/forest-tenure-modernization>

Aggregate Resources Act, R.S.O. 1990, c.A.8: This Act regulates most of Ontario's pits and quarries. Some pits and quarries on private lands are not covered by the Act, in which case we will consult the appropriate municipality. Guidance on how to implement the Aggregate Resources Act can be found in the [Aggregate Policies and Procedures Manual](#). This includes supporting regulations, licensing and permit forms, fee documents and the Aggregate Resources of Ontario Provincial Standards.

<https://www.ontario.ca/laws/statute/90a08>





Provincial Policy Statement (2014) under the Planning Act, R.S.O. 1990, c.P.13: While this statement is not specific to aggregate mining operations, it advises the wise use and management of resources that relate to land use planning and development in Ontario. It is issued under the authority of Ontario's Planning Act, which all decisions on land use planning must abide by. While the Provincial Policy Statement does not apply to Wasauksing, the themes can be applied in our decision-making framework. It includes a "close to market supply" policy, which aims to ensure that aggregate materials are available close to areas of need, where economically feasible.

<https://www.ontario.ca/laws/statute/90p13>

<http://www.mah.gov.on.ca/Page215.aspx>

Ontario Water Resources Act (1990): This act requires aggregate operators to apply for a Permit to Take Water (Section 34) to use water at a quarry, and an Environmental Compliance Approval (Section 53) to discharge naturally occurring water from a quarry.

<https://www.ontario.ca/laws/statute/90o40>

Ontario Environmental Protection Act (1990): This Act provides for the protection and conservation of the natural environment in Ontario. If water discharged into the environment from a pit or quarry is not predicted to meet provincial water quality objectives, it may require an Environmental Compliance Approval (ECA) for Industrial Sewage Works under the Act.

<https://www.ontario.ca/laws/statute/90e19>

Resources

Forest Management Guide for Great Lakes – St. Lawrence Landscapes (2010): This guide addresses aspects of forest management that are best applied to large forest areas (e.g., a whole management unit). It includes standards, guidelines, and best management practices specific to the Great Lakes-St. Lawrence region.

<https://www.ontario.ca/page/forest-management-great-lakes-and-st-lawrence-landscapes>





Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (2010): This guide provides direction for forestry activities at the scale of individual stands, sites, particular harvest areas or cut blocks. Specifically, it outlines processes for retaining special features (e.g., decaying trees, fallen logs) and protecting sensitive habitat (e.g., bird nests, travel corridors).

<https://www.ontario.ca/document/forest-management-conserving-biodiversity-stand-and-site-scales>

Forest Management Guide to Silviculture in the Great Lakes-St. Lawrence and Boreal Forest of Ontario (2015): This resource was designed mainly to guide forest managers on choosing which silviculture activities are appropriate for their particular management unit. It is specific to the Great Lakes-St. Lawrence region. Included in this document are a series of best management practices on: integrated management systems, including directives for silviculture and the conservation of biodiversity, managing or resilience in a changing climate, and maintaining forest health; silviculture practices and techniques, including logging methods, renewal treatments and tending treatments; species-specific management; and adaptive management strategies.

<https://www.ontario.ca/document/forest-management-guide-silviculture-great-lakes-st-lawrence-and-boreal-forests-ontario-0>

Forest Management Guide for Cultural Heritage Values (2007): This guide provides an overview of four categories of cultural heritage values (archaeological sites, sites of archaeological potential, cultural landscapes and Aboriginal values) and how they can be protected during forest management operations.

<https://www.ontario.ca/page/forest-management-cultural-heritage>

Management Guidelines for Forestry and Resource-Based Tourism (2014): This guide provides forest managers with the tools and direction to help develop forest management plans in areas used for forestry and resource-based tourism.

<https://www.ontario.ca/page/management-guidelines-forestry-and-resource-based-tourism>





A Guide to Improving and Maintaining Sugar Bush Health and Productivity (2006): This resource developed by the Eastern Ontario Model Forest provides guidance on developing a sugar bush management plan and identifies best management practices for the long-term sustainability of a sugar bush.

[https://www.eomf.on.ca/media/k2/attachments/A Guide to Improve Maintain Sugar Bush Health EOMF.pdf](https://www.eomf.on.ca/media/k2/attachments/A_Guide_to_Improve_Maintain_Sugar_Bush_Health_EOMF.pdf)

North American Maple Syrup Producers Manual (2006): This manual developed by Ohio State University Extension in cooperation with The North American Maple Syrup Council provides guidance and best practices for maple syrup production. Specific guidance is included when developing a sugar bush management plan. The Manual provides guidance through the entire production process from planning through to operation.

[https://holmes.osu.edu/sites/holmes/files/imce/Program Pages/Maple/North%20American%20Maple%20Syrup%20Producers%20Manual%20full%20pdf.pdf](https://holmes.osu.edu/sites/holmes/files/imce/Program_Pages/Maple/North%20American%20Maple%20Syrup%20Producers%20Manual%20full%20pdf.pdf)

Westbank First Nation Development Applications and Process: Westbank First Nation is a model Nation that has established their own regulatory framework, development proposal process, Land Laws and application forms to regulate various types of development on their lands. They can be used as a model for any resource-based permitting framework.

<https://www.wfn.ca/business-development/developing-property/development-applications-process.htm>

First Nation Consultation Framework (2008): This report prepared for the National Centre for First Nations Governance provides key findings on consultation approaches by First Nations throughout Canada, as well as identifying specific elements and models for First Nation consultation. In Appendix A, there is a Consultation Plan fact sheet that provides three examples and specific ideas to include in your own consultation protocol.

http://fngovernance.org/resources_docs/First_Nation_Consultation_Framework.pdf

Alderville First Nation Consultation Protocol (2015): A consultation protocol example for reference.





<http://alderville.ca/wp-content/uploads/2017/02/AFNProtocol2.pdf>

Cornerstone Standards Council: The Cornerstone Standards Council was originally formed as a certification/accreditation organization for industry; however, they are currently re-evaluating their role in this process. Nevertheless, we will use the Cornerstone Standards Council's Responsible Aggregate Standard (V4) document as a 'best practices' document for aggregate developers on our lands and for building the capacity of our children, youth and citizens.

<http://www.cornerstonestandards.ca/>

Ontario Sand, Stone, and Gravel Association (OSSGA) Official Plan Guide for Producers (2015): This guide is currently being updated to address changes some regulatory changes, but the overall intent and material should not be affected. This guide is meant to help aggregate producers operate in compliance with the Provincial Policy Statement (2014). It helps producers determine where and under what circumstances new pits and quarries may be located, how to manage long-term aggregate production, what land uses are permitted around operating sites.

https://www.ossga.com/land_use_planning/

Aggregate Operators Best Management Practices Handbook for British Columbia: Volume Two Best Management Practices (2002): There is no known handbook specific to Ontario, but this guide provides a series of valuable guidelines on pit and quarry procedures that may be applicable to Ontario operations.

https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/permitting/agg_bmp_hb_2002vol2.pdf

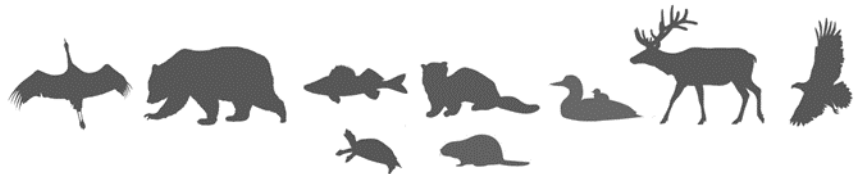
Aggregate Resources Act (described above) requires proponents to rehabilitate their pits or quarries during their operational lifetimes. There are several rehabilitation options, including wildlife habitat and wetland restoration, golf courses, recreational parks, and forestry or agricultural lands. Below are the relevant best management practice guiding documents:



Rehabilitation of Pits and Quarries (2010): This brochure was produced by the Ontario Stone, Sand and Gravel Association, and provide a brief overview of pit and quarry rehabilitation options and profiles several examples. <https://www.ossga.com/multimedia/9/rehabilitation2010.pdf>

Best Practice Guidelines for Aggregate Rehabilitation Projects: The Ontario Aggregate Resources Corporation (TOARC) have produced a variety of best practice guidelines for various forms of rehabilitation of pits and quarries for fruit production, fish and wildlife, forest production and playgrounds. These documents can be referenced depending on the type of rehabilitation and restoration desired by Wasauksing. <https://toarc.com/legacy-pits-quarries-maap/research-funding/research-publications/>

Glossary



Pit

An excavation that is open to the air and is operated for some purpose of extracting sand, clay, marl, earth, shale, gravel, stone, and other rock, but not coal.

Progressive Reclamation

The act of reclaiming land in a specific area as soon as work has been completed even though work is ongoing on adjacent locations, in order to initiate ecosystem re-establishment as soon as possible. This is a best management practice in aggregate extraction.

Quarry

An excavation that is open to the air and is operated for the purpose of working, recovering and extracting stone, limestone,



sandstones, dolostone, marble, granite, construction materials and any mineral other than coal.

Rehabilitation

The treatment of the land from which aggregate has been excavated so that the condition of the land is either restored to its former use/condition or is changed to another use/condition that is or will be compatible with the use of adjacent land.

Resources

Means any materials found in nature, on or under the land, including wildlife, timber, fresh water, or a mineral deposit, that is necessary or useful to humans and therefore an economic value.

Restoration

A planning process to regain ecological integrity and enhance human well-being in deforested or degraded landscapes.