

Shape the Sault.ca



Sault Ste. Marie Official Plan Review

**Welcome to our public
information session!**

**Sault Ste. Marie's Natural
Environment & Natural Hazards**

Tuesday, June 19, 2018

Shape the Sault - City of Sault Ste. Marie's Official Plan Review

NATURAL ENVIRONMENT

Endangered and threatened species

Significant wildlife habitat

Significant slopes - including ravines and the escarpment

Fish habitat

Wetlands

Precambrian Uplands

Drinking Water Source Protection
including wellhead areas and significant
groundwater recharge area

NATURAL HAZARDS

Flooding and erosion hazard lands

Forests with wildland fire risk

Shape the Sault - City of Sault Ste. Marie's Official Plan Review

- The **Official Plan** is the chief local planning document that informs all land use and development decisions in a community.
- **"Shall be consistent with"** - All municipalities are required to ensure that the Province of Ontario's regulations and policies are adhered to in land use planning decisions and processes. The Province requires and approves Official Plans in all Ontario municipalities.
- This diagram shows Ontario's land use planning hierarchy and where the **Official Plan** fits in:



Shape the Sault is the City of Sault Ste. Marie's project to create a new Official Plan for our city's next 20 years. This is the timeline for our two-year project:

Winter and Spring 2018	Fall 2018	Winter 2019	Spring/Summer 2019	Fall 2019
Phase 1 Educate, market, and gather informed feedback	Phase 2 High level policy directions	Phase 3 Draft Official Plan	Phase 4 City Council review	Phase 5 Provincial Ministry review

Community engagement opportunities will occur throughout the timeline

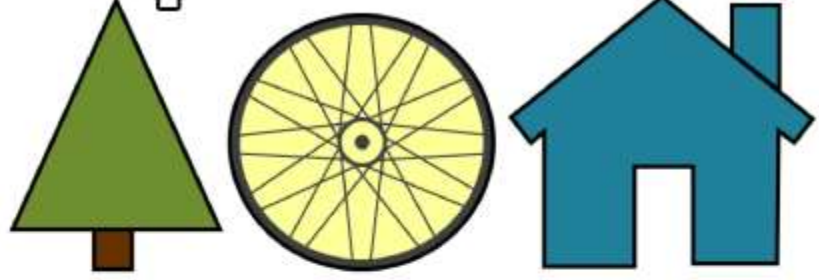
Many provincial documents relate to Official Plan policies on the natural environment, including:

- 2014 Provincial Policy Statement, under the Planning Act.
- Ontario Ministry of Natural Environment and Forestry's Natural Heritage Reference Manual.
- Clean Water Act, 2006.
- Endangered Species Act, 2007.
- O. Reg. 176/06 "Sault Ste. Marie Region Conservation Authority: Regulation of development, interference with wetlands and alterations to shorelines and watercourses."



Protecting natural heritage features and areas in Sault Ste. Marie

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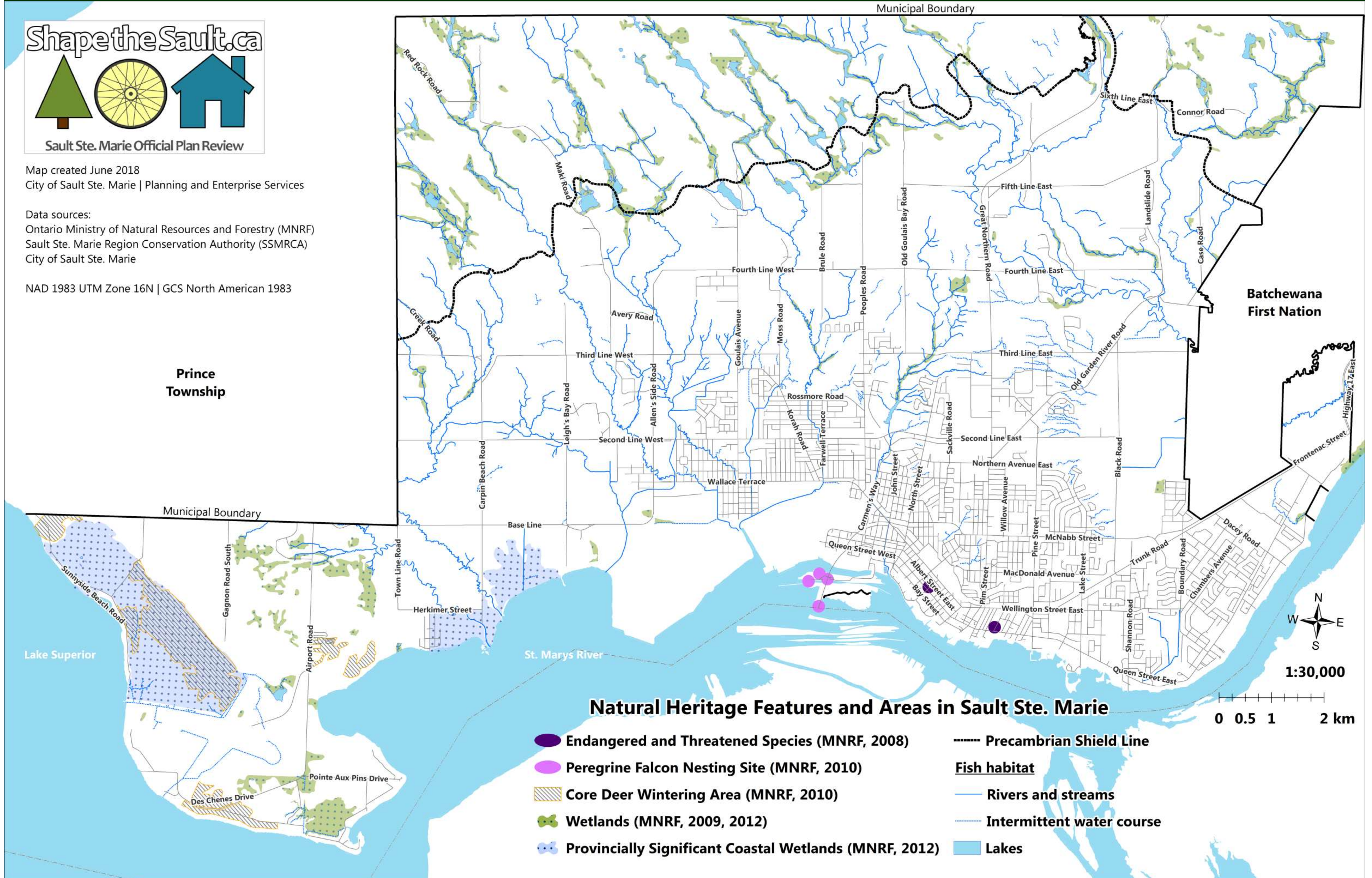


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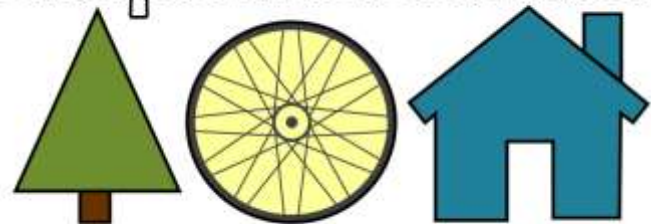
Map created June 2018
City of Sault Ste. Marie | Planning and Enterprise Services

Data sources:
Ontario Ministry of Natural Resources and Forestry (MNRF)
Sault Ste. Marie Region Conservation Authority (SSMRCA)
City of Sault Ste. Marie

NAD 1983 UTM Zone 16N | GCS North American 1983



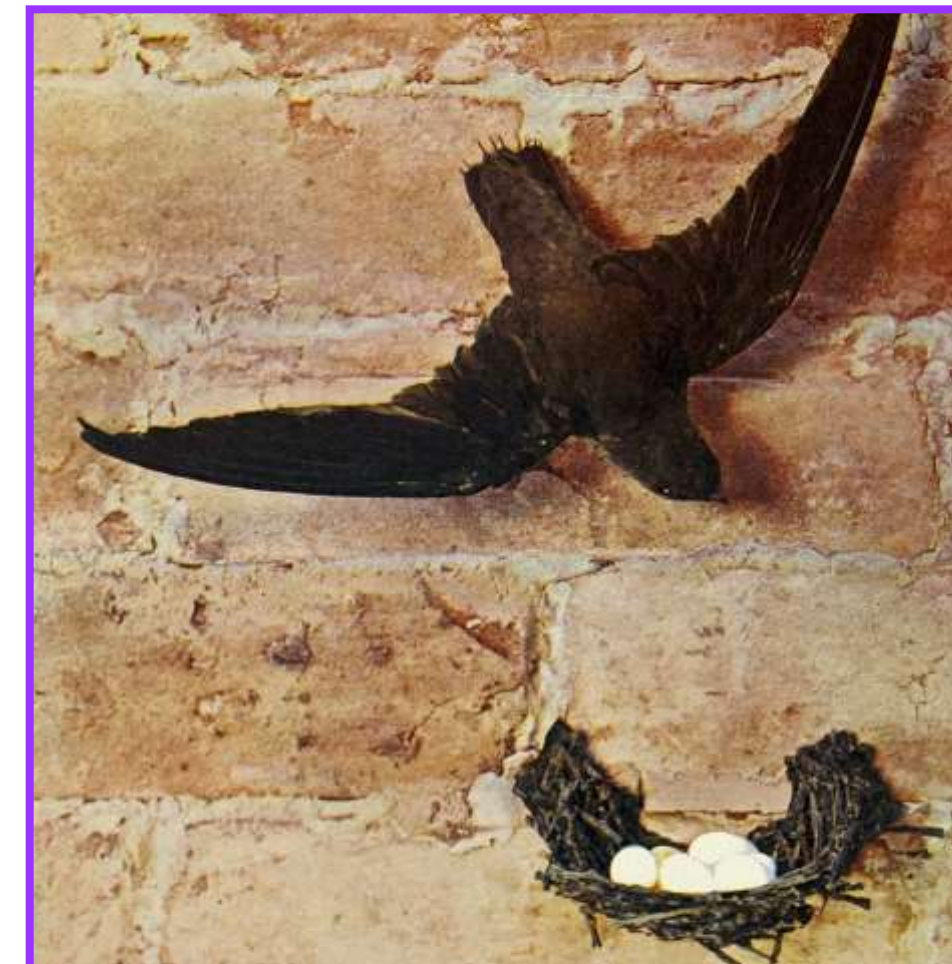
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Protecting natural heritage features and areas in Sault Ste. Marie

- The Province does not permit development and site alteration in habitat of **endangered species and threatened species**, except in accordance with provincial and federal requirements.
- Endangered and threatened species in the Sault Ste. Marie area include the **chimney swift, American chestnut, northern long-eared bat (myotis), lake sturgeon and wood turtle.**
- The City is also required to protect **other significant wildlife habitat** in Sault Ste. Marie. Significant wildlife habitat that have currently been identified and mapped in the Sault are:
 - ◇ **Peregrine falcon nesting sites** on the International Bridge.
 - ◇ **Core deer wintering area** located in the area surrounding the Sault Ste. Marie Airport.
- Development or site alteration in or within 120 metres of significant wildlife habitat is not permitted unless a professional **Environmental Impact Study** demonstrates that there will be no negative impacts.
- Because mapping for significant wildlife habitat might not always be complete, the City's Planning Division decides on a case-by-case basis whether professional evaluation is required to determine the presence of significant wildlife habitat on a development site.



Chimney swift



Wood turtle



Peregrine falcon

Image source: Wikimedia Commons

WILDLIFE HABITAT

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Protecting natural heritage features and areas in Sault Ste. Marie

- In Ontario, development and site alteration is not permitted in fish habitat, except in accordance with provincial and federal requirements.
- Development and site alteration of **land adjacent to fish habitat** is only allowed if there will be no negative impacts on fish habitat or the land's ecological functions.
- A professional **Environmental Impact Study** is typically required - it outlines any impacts and appropriate mitigation measures, taking into account the scope of the proposed development, existing development, zoning, topography, species and habitat sensitivity.



Speckled trout in a local stream

How close to fish habitat is "adjacent"?	
Type of fish habitat	Adjacent lands
Watercourse with no defined bed and banks, or intermittent stream.	120m from the centre line of a stream course or channel.
Non-meandering stream with defined bed and banks.	120m from the average annual high water mark.
Meandering stream.	120m from the line that connects each outside curve at bankfall.
Other lakes, rivers and water bodies	120m from the normal high water mark.

FISH HABITAT

Protecting natural heritage features and areas in Sault Ste. Marie

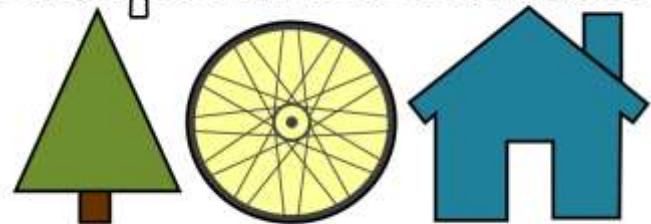
- A permit from the Sault Ste. Marie Region Conservation Authority is required before any development and site alteration on a wetland or on land adjacent to a wetland.
- A professional **Environmental Impact Study** is required to demonstrate that there will be no negative impacts on the natural features or ecological functions of the wetland and its adjacent lands.
- For wetlands, “adjacent” generally means within 120 metres of the wetland. Although, if a wetland is less than 2 hectares in size and is not a **Provincially Significant Wetland**, the distance applied may be 30 metres.
- Ontario’s Ministry of Natural Resources and Forestry (MNRF) establishes the criteria for determining if a wetland is “**Provincially Significant**”, and development proponents conduct professional wetland evaluations based on these criteria.
 - ◇ For unevaluated wetlands that show characteristics typical of identified significant wetlands (for example, being larger than 2 hectares), a wetland evaluation is required before any development or site alteration.



Did you know? Sault Ste. Marie has approximately 1,700 hectares of wetlands (based on MNRF data), occupying around 7% of the city’s land mass.

WETLANDS

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Protecting natural heritage features and areas in Sault Ste. Marie

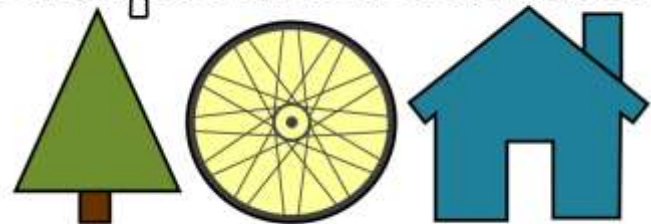
- The Precambrian Uplands is an environmentally sensitive area with many lakes, rivers and streams, and its geology is characterized by rugged bedrock with very little topsoil.
- Within Sault Ste. Marie, the Uplands extend from the **Precambrian Shield Line**, defined by the first exposed outcroppings of the Uplands' bedrock, northward to the City limits.
- The surface water in the rivers and streams here flows south and is the main source of water flowing into the **Significant Groundwater Recharge Area** located at the southerly edge of the Precambrian Uplands.
- Development within the Precambrian Uplands is limited to conservation uses.
- Any development proposal here is subject to a full review of environmental concerns, and the City requires that forested areas and other natural features be maintained and reinforced whenever possible.



The Precambrian Uplands can be seen from the viewpoint at Finn Hill, looking northeast.

PRECAMBRIAN UPLANDS

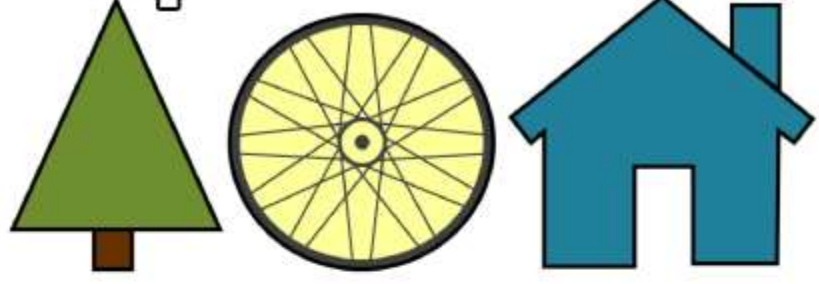
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Protecting against natural hazards in Sault Ste. Marie

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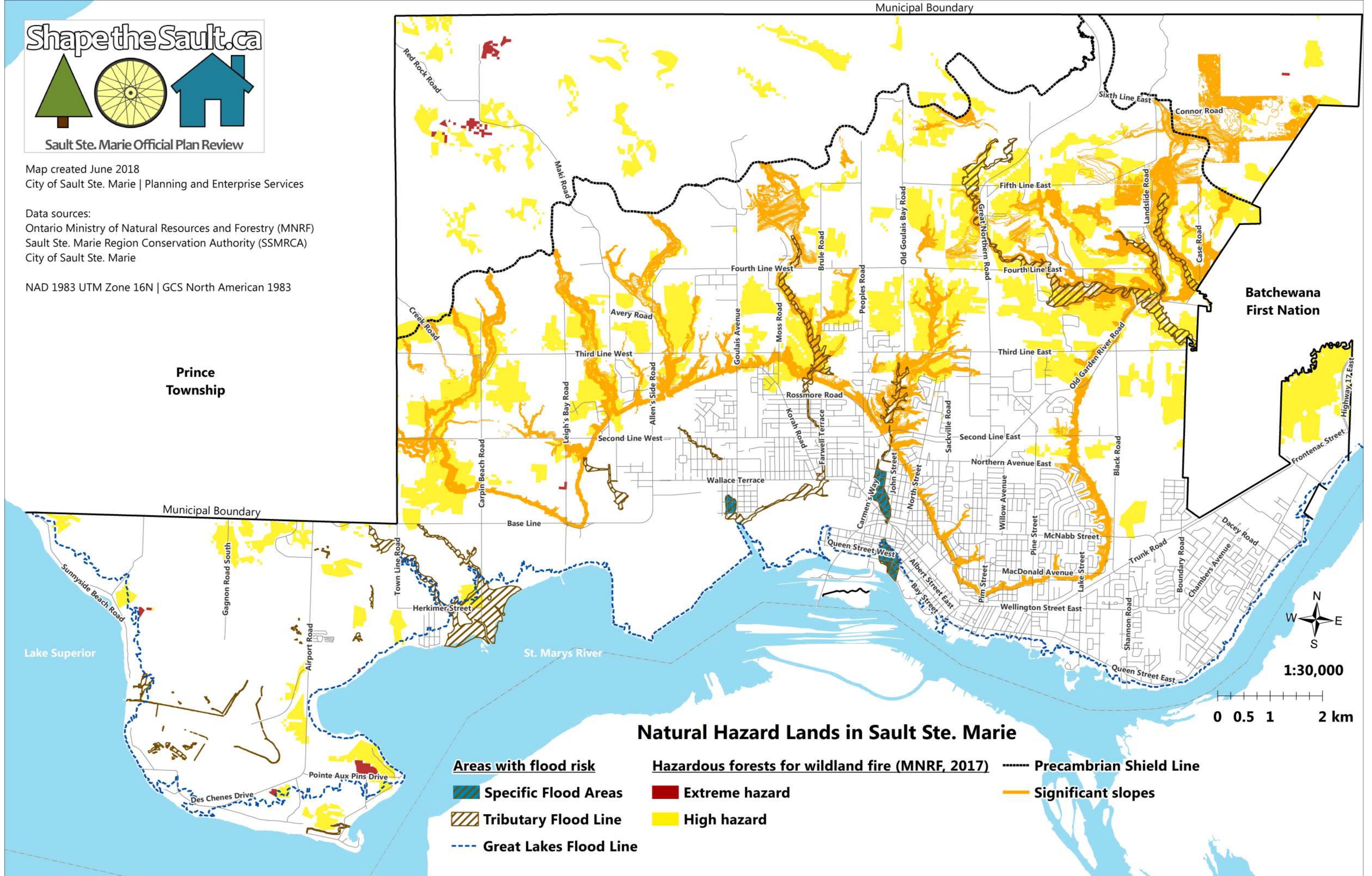


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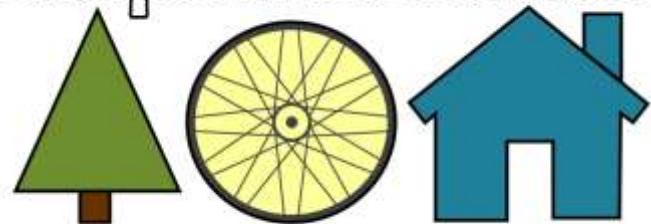
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Protecting against natural hazards in Sault Ste. Marie

- The Province requires that development generally be directed to areas outside of **hazardous lands** located next to the shorelines of the Great Lakes, the St. Marys River, inland lakes, rivers and streams.
- A permit from the Sault Ste. Marie Region Conservation Authority (SSMRCA) is required before any development or site alteration within or near hazardous lands.
- **Hazardous lands** refer to lands that could be unsafe for development due to naturally occurring processes - specifically, flooding and erosion. This includes the “**dynamic beach hazard**”, which refers to unstable accumulations of shoreline sediment such as sand.
- The potential for **climate change** to increase the risks of natural hazards is recognized.



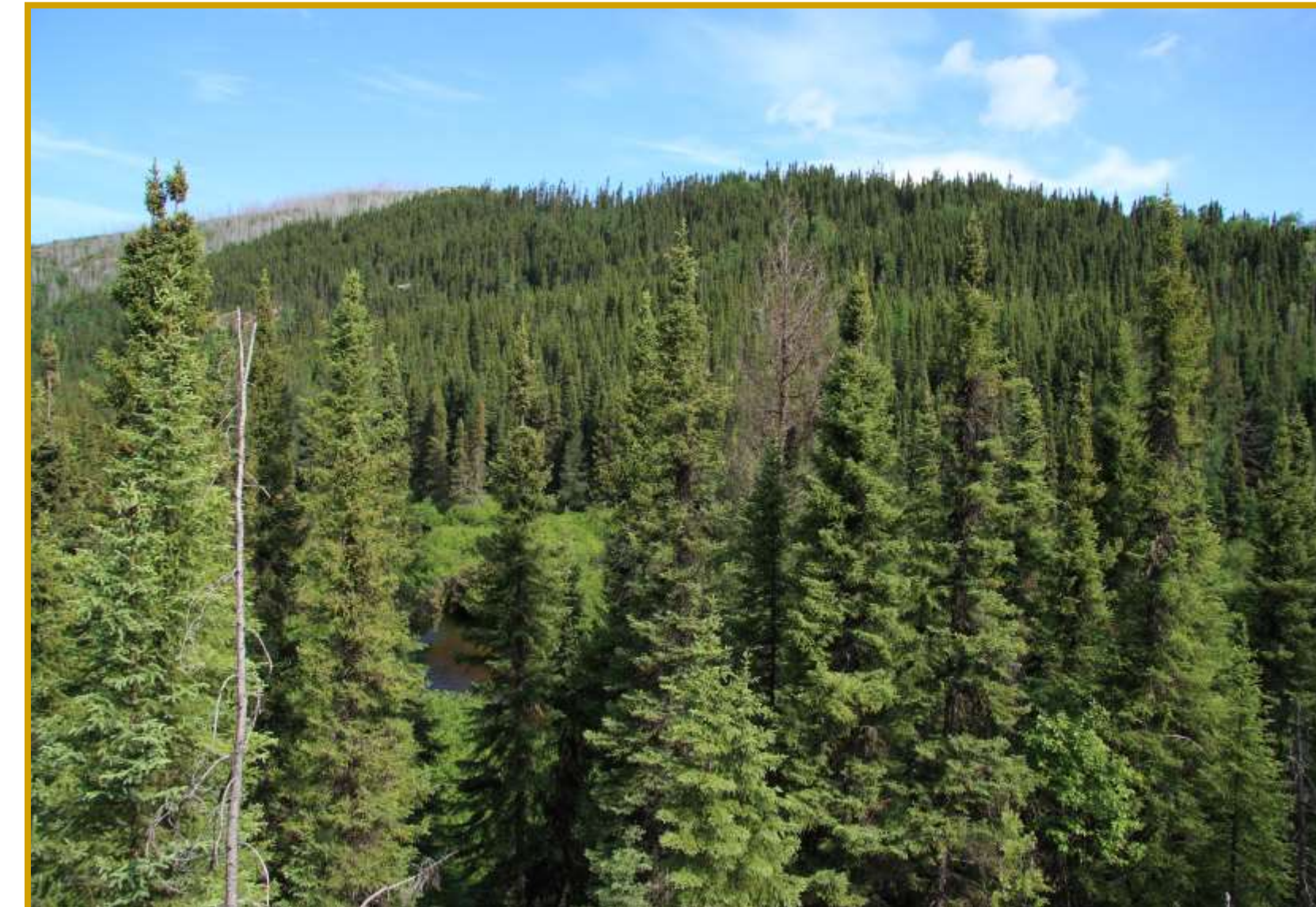
Bennett-West Davignon flood control channel during 2013 storm (top) and today (bottom).
(Image source: SSMRCA)

- The **Great Lakes Flood Line** corresponds to the Conservation Authority's Regulated Shoreline along Lake Superior and the St. Marys River. It is based on the 1 in 100 year flood level, the predicted long term stable slope for the shoreline, and accommodation for dynamic beach movement.
- The **Tributary Flood Line** indicates flood risk areas along streams, intermittent water courses and inland lakes. These flood risk areas are identified by the Conservation Authority using the “Regional Storm” with allowances for erosion, meandering and the 1 in 100 year flood event.
 - ◇ The **Regional Storm** for the Sault Ste. Marie area is the “Timmins Storm”, based on an actual rainfall event in Timmins in 1961.
- The **Specific Flood Areas** are urban areas prone to flooding. Presently mapped areas are located in Bayview, Gateway (near the casino) and Steelton. The Conservation Authority is currently conducting a review to add other flood risk areas in the Sault. Developments in these areas are often required to have improvements that address flooding, and habitable buildings must not have openings below certain elevations.

FLOODING & EROSION

Protecting against natural hazards in Sault Ste. Marie

- The Province requires that development generally be directed to areas outside of lands that are unsafe for development due to the presence of **hazardous forest types for wildland fire** - specifically, forests that pose “high to extreme” risk.
- Ontario’s Ministry of Natural Resources and Forestry provides general mapping of forests’ risk for wildland fire, but development proponents may still be required to conduct a professional **wildland fire assessment**, based on the Ministry’s standards, for sites where general mapping shows wildfire risk.
- Development may be permitted in lands with hazardous forest types for wildland fire if the risk is mitigated in accordance with Provincial mitigation standards.



Black spruce forest
(Image source: Wikimedia Commons)

In general, vegetation types which present high to extreme risk for wildfire include natural conifer forests and unmanaged conifer plantations that can include black or white spruce, jack pine and balsam fir, along with immature red and white pine.

Mixed wood forests with a composition that is greater than 50% conifer composition also pose a potential risk.
(Image source: Ontario Wildland Fire Management Strategy)



WILDLAND FIRE

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Protecting against natural hazards in Sault Ste. Marie

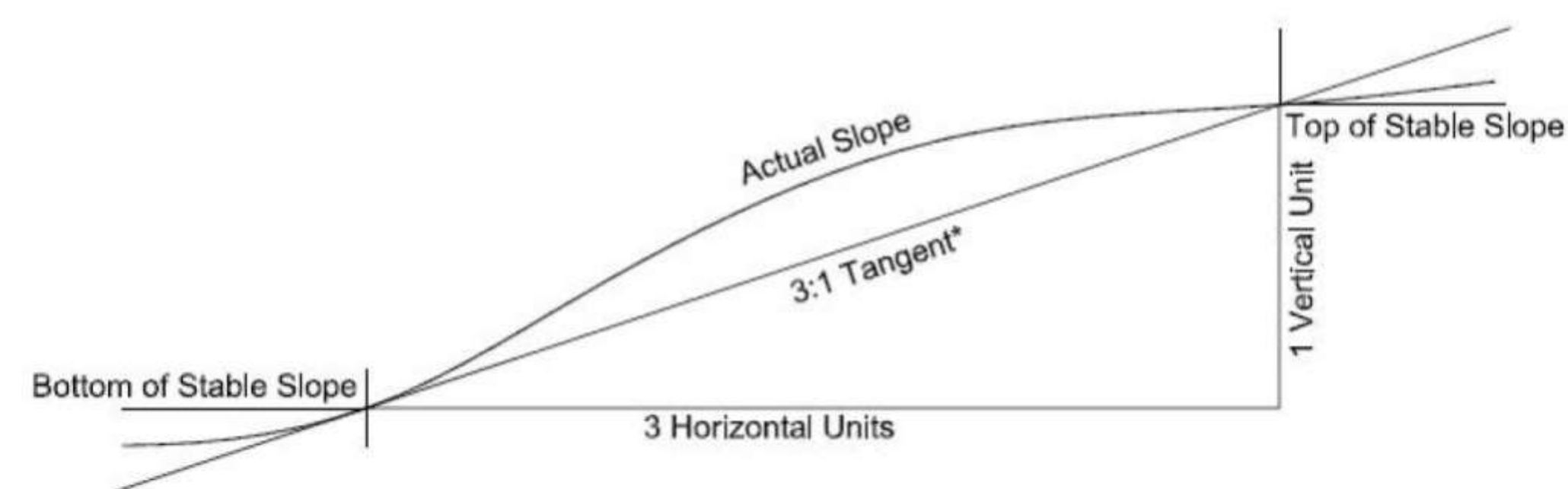
- A permit from the Sault Ste. Marie Region Conservation Authority (SSMRCA) is required before any development or site alteration on or near **significant slopes**.
- The limit of the regulated area for slopes is 15 metres from the top and bottom of a defined stable slope. The diagram on this panel shows how the boundaries of a "**stable slope**" are determined.
- Significant slopes include river and stream valleys (ravines), and the Sault's lower escarpment ("the hill").
- A **slope stability analysis** must be provided for all development proposals on or near significant slopes.
- The City's current policy is that lands having slopes greater than a 25% grade may not be developed upon, and that slopes should be maintained in as natural of a state as possible.



Flooding in the Fort Creek area during the 2013 storm. (Image source: SSMRCA)

The top and bottom of a stable slope can be defined as the points where a 3:1 tangent (or 5:1 for loose soils) drawn from the bottom of the slope intersects with the top of the slope.

Determining the Top and Bottom of a Stable Slope



*For loose soils (sand and gravel), the tangent shall be drawn at a 5:1 slope

To Scale

SIGNIFICANT SLOPES

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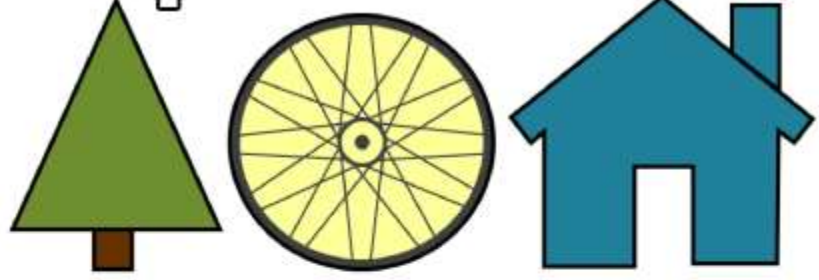
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Planning & Enterprise Services

Protecting Sault Ste. Marie's drinking water source

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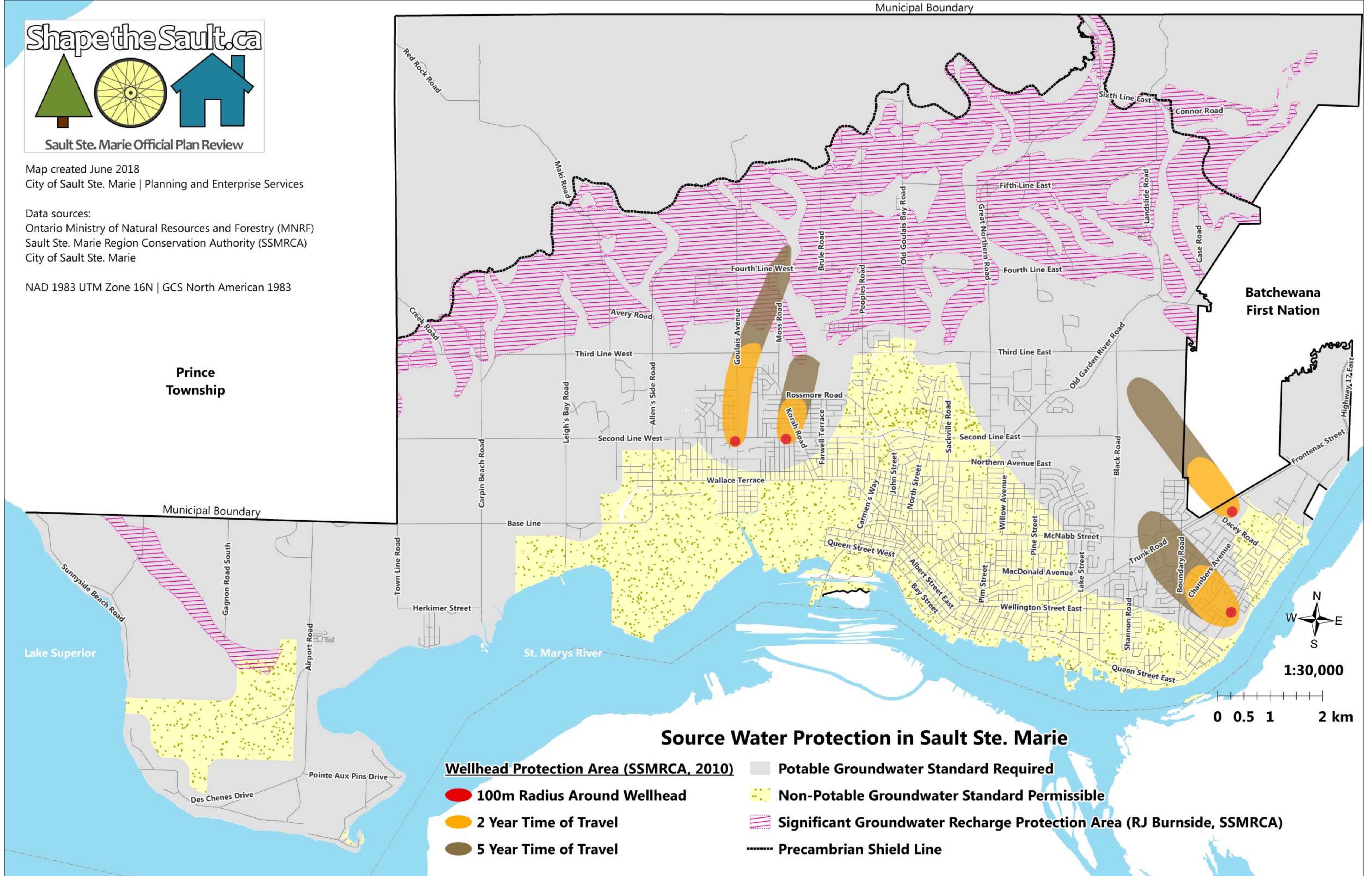


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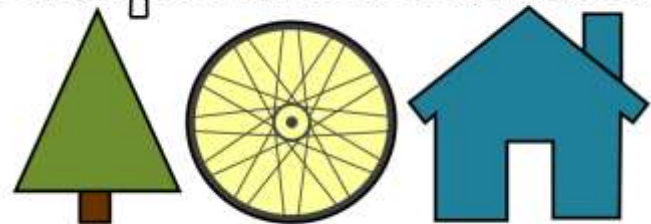
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Protecting Sault Ste. Marie's drinking water source

- The Province has defined **drinking water source protection areas** across Ontario and established Source Protection Committees to oversee local source water protection.
- The Sault Ste. Marie Region Source Protection Committee approved a **Source Protection Plan** in 2015 that contains policies for managing and monitoring potential threats to the Sault's drinking water supply.
- 50% of the Sault's water needs are supplied by municipal wells in four locations:
 - ◇ Lorna well at Queen Street East and Lorna Drive (currently closed).
 - ◇ Shannon well near Trunk Road and Dacey Road.
 - ◇ Steelton well at Second Line West and First Avenue.
 - ◇ Goulais well near Second Line West and Goulais Avenue.
- Sault Ste. Marie's source water protection policies apply to **Wellhead Protection Areas** surrounding each well location.
- Each Wellhead Protection Area is subdivided into four "time of travel zones" that estimate the amount of time it would take a contaminant to reach the well. The zone most strongly protected is the area within a 100 metre radius, followed by 2 year, 5 year and 25 year time of travel zones.

Regulated activities in Sault Ste. Marie's Wellhead Protection Areas include:

- Waste disposal sites.
- Snow storage.
- Storage, transmission and treatment of sewage and stormwater.
- Use and storage of manure, commercial fertilizer, pesticides, and road salt.
- Handling and storage of fuel, organic solvents and "dense non-aqueous phase liquids" (liquids denser than water that do not mix with water).
- Aircraft de-icing.
- Activities that take water from an aquifer or surface water body and discharges water to another source.
- Activities that reduce an aquifer's recharge.
- Livestock grazing, pasturing or using land as an outdoor confinement area or a farm-animal yard.

WELLHEAD PROTECTION

Protecting Sault Ste. Marie's drinking water source

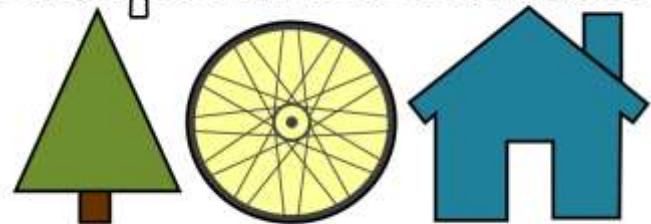
- The **Significant Groundwater Recharge Protection Area** covers a large swath of land just below the **Precambrian Uplands and the Shield Line** in the northern part of Sault Ste. Marie.
- This area contains sand and gravel deposits which allow water on the surface to percolate downward into underground aquifers, thereby recharging the Sault's groundwater supply.
- The City has policies regulating certain activities within the Significant Groundwater Recharge Protection Area, such as storage and handling of fuel, chemicals and petroleum products, and maintenance, repair and storage of vehicles.
- The City may also require an approved **spill response action plan** from operators of certain activities.



The Significant Groundwater Recharge Area is also where Sault Ste. Marie's aggregate deposits are located.
(Image source: www.maxpixel.net)

GROUNDWATER RECHARGE

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Protecting Sault Ste. Marie's drinking water source

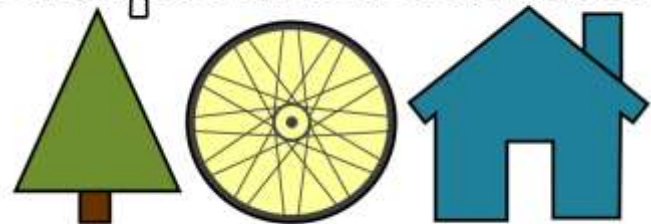
- The City of Sault Ste. Marie has **Potable and Non-potable Groundwater Site Condition Standards** that apply to cleanup of spills and remediation of contaminated sites.
- If a site is located within an area classified as "**Potable Groundwater Standard Required**", all spill cleanup and land remediation efforts on that site must meet the stricter Potable Groundwater Standard. These areas include:
 - ◇ The vast majority of the Sault's rural areas, where virtually all development is supported by on-site drinking water wells.
 - ◇ Parts of urban Sault Ste. Marie near the **Wellhead Protection Areas**, such as around Korah Road, the P Patch and other east end neighbourhoods.
- Areas classified as "**Non-potable Groundwater Standard Permissible**" means that cleanup and remediation efforts on sites in those areas may meet the Non-potable Groundwater Standard.



The historic "Steelton wells" pump house on Second Line West near Korah Road.

POTABLE WATER

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Furthering our environmental stewardship - Ideas we've been hearing

- The Province recently added to the **Municipal Act** a requirement for all municipalities to develop policies to “protect and enhance the tree canopy and natural vegetation in the municipality.”
- Municipalities are allowed to pass **tree by-laws** to prohibit or regulate “destruction or injuring” of existing trees.

Is a tree by-law needed for Sault Ste. Marie, and if so, what should the regulations be like?

TREE PROTECTION

- **Green infrastructure** refers to built features in developments that perform environmental functions such as filtering and storing stormwater, or enabling reuse of water.
- Green infrastructure can help with **energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions, and climate change adaptation** - all of which municipalities must pay attention to.

How can Sault Ste. Marie encourage the inclusion of these features in new developments?

GREEN INFRASTRUCTURE

- **Natural vegetation** means plants that are native to a region. They provide better habitat for local wildlife than exotic plants, and are also easier to care for and maintain.
- For example, planting native wildflowers alongside roads and trails can create small habitats for monarch butterflies. Naturalizing flood channels in the west end could make them more habitable for local birds, and potentially also enable the channels for recreational use.

How can we keep and increase the Sault's natural vegetation?

NATURAL VEGETATION

Community gardens

Snow dumps

Tell us your ideas - we may cover them at another open house!

Stormwater management

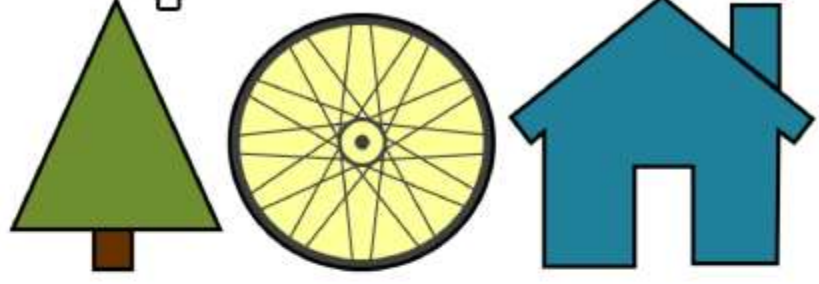
Low-impact design

Waste diversion



Map of all natural environmental "constraints" in Sault Ste. Marie

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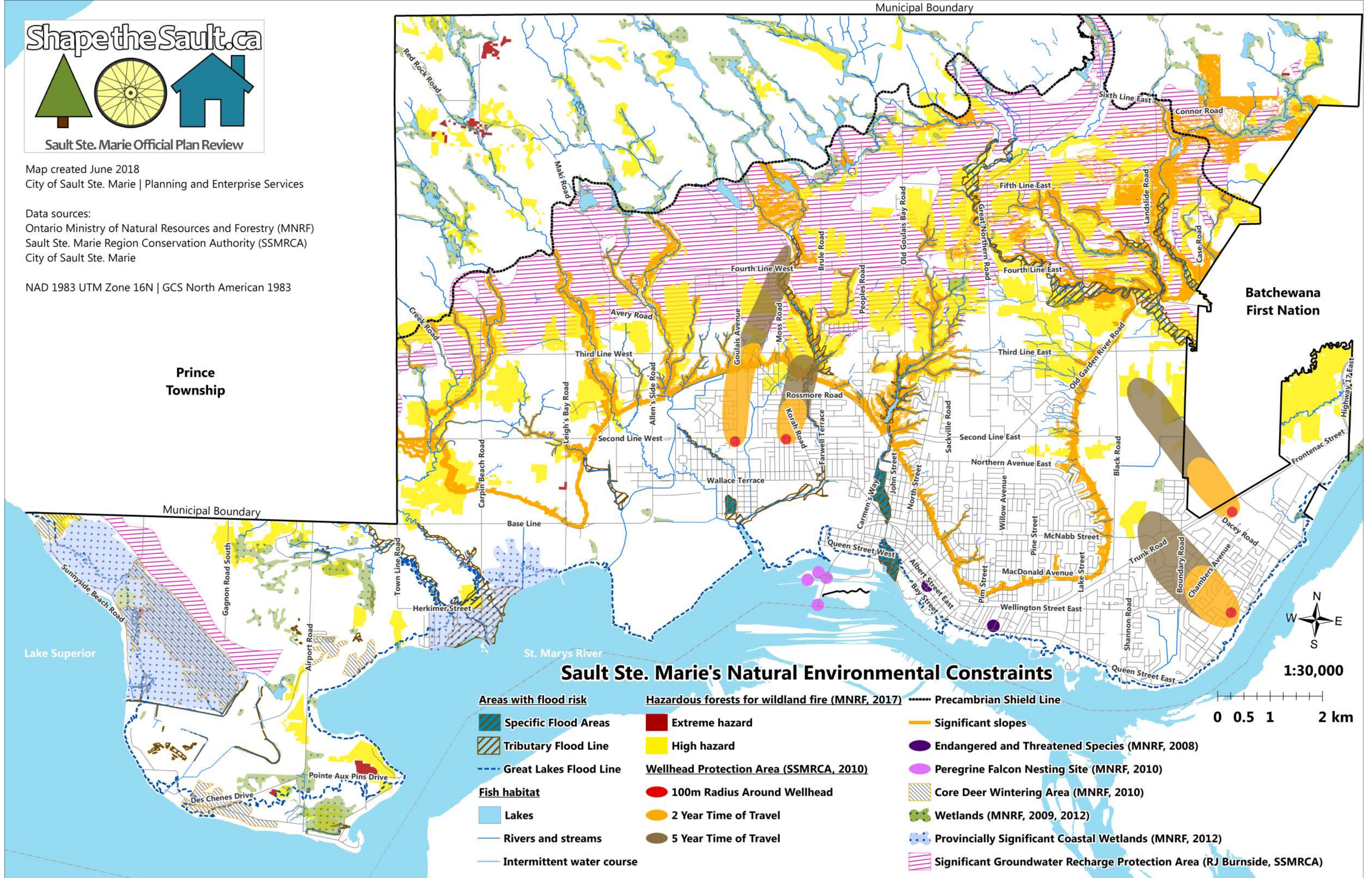


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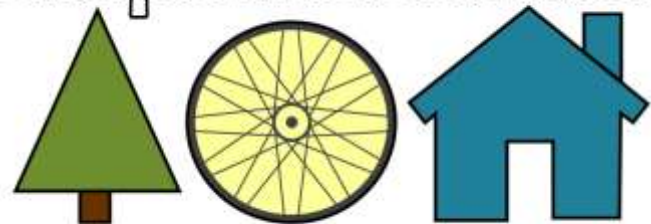
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Questions, suggestions or feedback?

Contact us:

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