



## Water/Wastewater

ONE out of every FIVE hectares in Greater Sudbury is covered by water or wetlands. That's 330 large lakes, 3 major river systems and many, many wetlands that help keep water clean and provide valuable wildlife habitat.

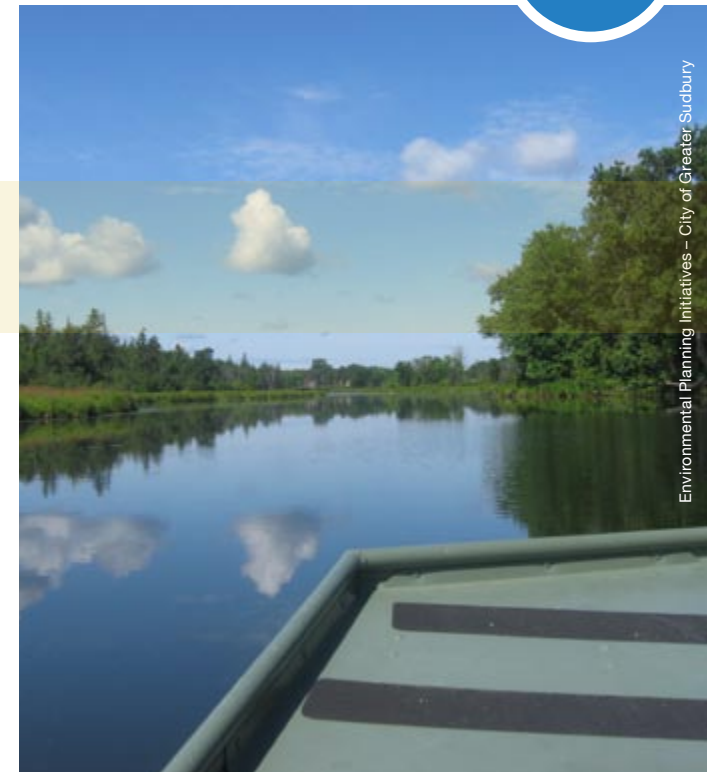
The municipal wastewater system also protects our lakes, streams and rivers from contaminants that could compromise the quality of our water resources. Wastewater treatment is a vital part of the cycle of water use and reuse that allows our continued use and enjoyment of these resources. However, this interconnection also

leaves our waterways vulnerable to weaknesses in the wastewater system.

Human activities pose additional threats to our water resources, even if they occur far from a lake. The watershed approach, which is now part of the City of Greater Sudbury's Official Plan, is central to the upcoming Greater Sudbury Source

**Goal: Clean and healthy lakes, rivers and municipal drinking water supplies.**

Protection Plan. This plan is a requirement under the provincial [Clean Water Act](#) that was enacted following the Walkerton tragedy.



### What YOU can do

- Reduce your lawn area and replace with plants that require little water.

## Threats

### Nutrients

Many area lakes and groundwater systems are at risk from excess nutrients – particularly nitrogen and phosphorus from septic systems and waste water treatment plants. Legacy nutrient enrichment from untreated sewage disposal still influences some lakes.

### Stormwater

Urban stormwater runoff contains a host of pollutants picked up as it flows over streets, parking lots and yards – fertilizers, herbicides, motor oil, road salt, animal feces and other contaminants – all of which end up in our lakes and rivers.

### Inflow and infiltration

Groundwater that infiltrates deteriorating wastewater infrastructure and surface water that flows into the sanitary sewer system can cause the capacity of municipal wastewater treatment plants to be exceeded. A particular concern during rainstorms, this excess flow can overwhelm pumping equipment and increases the risk of sewer backups onto private property and into waterways, including drinking water sources.

### Alterations in water flows

Various practices, including the elimination of wetlands, deforestation and the careless construction of dams can alter water flows. This can lead to increased risk of flooding in springtime, reductions in levels of groundwater and falling lake levels in summer.

### Climate Change

How climate change will impact local lakes and their recovery from past stresses is not yet well understood. However, as precipitation patterns change and temperatures rise, changes in both water quality and quantity are imminent.



## What YOU can do

- Install a rain barrel and use for watering garden.
- Install low-flow shower heads, toilets, and faucet aerators.

## Threats cont'd

### Shoreline development

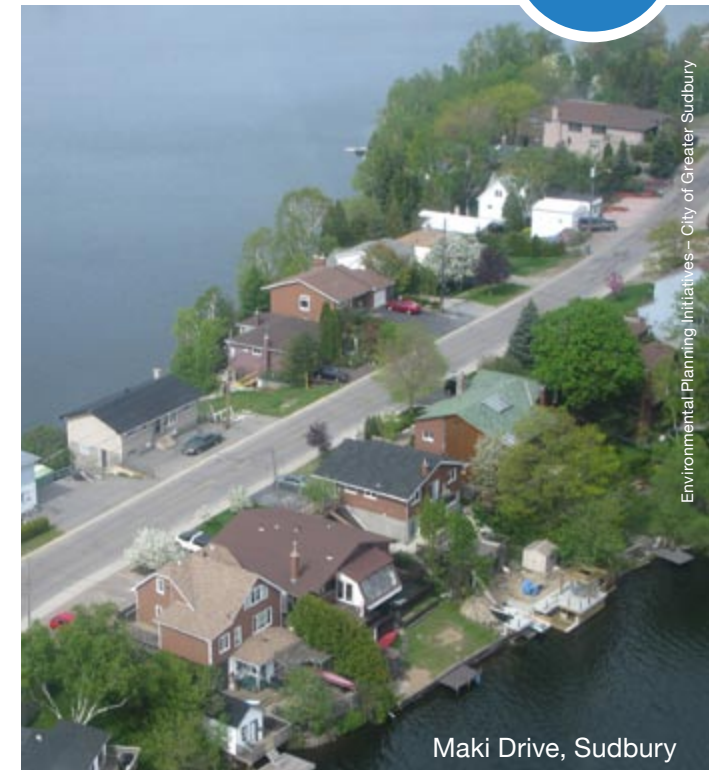
In several lakes, inappropriate shoreline development (such as construction of breakwater walls and docks with solid foundations and the clearing of native vegetation) has led to aquatic habitat loss, soil erosion, and pesticide and fertilizer runoff.

### Introduction of invasive species

Invasive aquatic species are already well established in some area lakes. Eurasian water milfoil is a problem in Kelley, Long, McFarlane, Minnow, Mud and Simon Lakes, among others. The spiny waterflea is now found in Lake Panache and the rainbow smelt is now established in Lake Nepahwin. These non-native species can severely destabilize native fish communities.

### Historical Pollution

Many of the area's lakes have been adversely affected by historical industrial activities, especially mining and smelting. This has led to erosion, acidification, metal contamination, the deposition of wood waste on lake bottoms (in Minnow Lake), and contamination from a former creosote plant (in Junction Creek and Kelley Lake). Recovery is underway as smelter emissions have been drastically cut, and other practices that led to these impacts have long since ceased. However, contaminated lake sediments could still release heavy metals if disturbed; for example, if water levels were to drop as is predicted by climate change.



## What YOU can do

- Leave or create shoreline buffer strips.
- Create a rain garden on your property.
- Minimize use of lawn fertilizers.

# Objectives & Actions

## OBJECTIVE

Identify and reduce stresses to municipal drinking water supplies.

## ACTIONS

The City of Greater Sudbury will:

- Prepare a Water Efficiency Plan that recommends strategies to reduce water consumption in Greater Sudbury
- Systematically reduce leakage in distribution systems
- Support innovative water conservation options where appropriate

EarthCare Sudbury Partners will:

- Adopt practices aimed at reducing water consumption and increasing efficient use of water

The [Greater Sudbury Source Protection Committee](#) will:

- Prepare an Assessment Report by 2010 that identifies the threats to the quality and quantity of the municipal drinking water supplies
- By 2012, prepare the first Greater Sudbury Source Protection Plan that recommends actions to protect municipal drinking water supplies by addressing significant issues and threats



## What YOU can do

- Choose water-saving washing machines and dishwashers.
- Check for leaky toilets and faucets and fix immediately.

## Objectives & Actions cont'd

### OBJECTIVE

Reduce nutrient and contaminant runoff into lakes, streams and rivers.

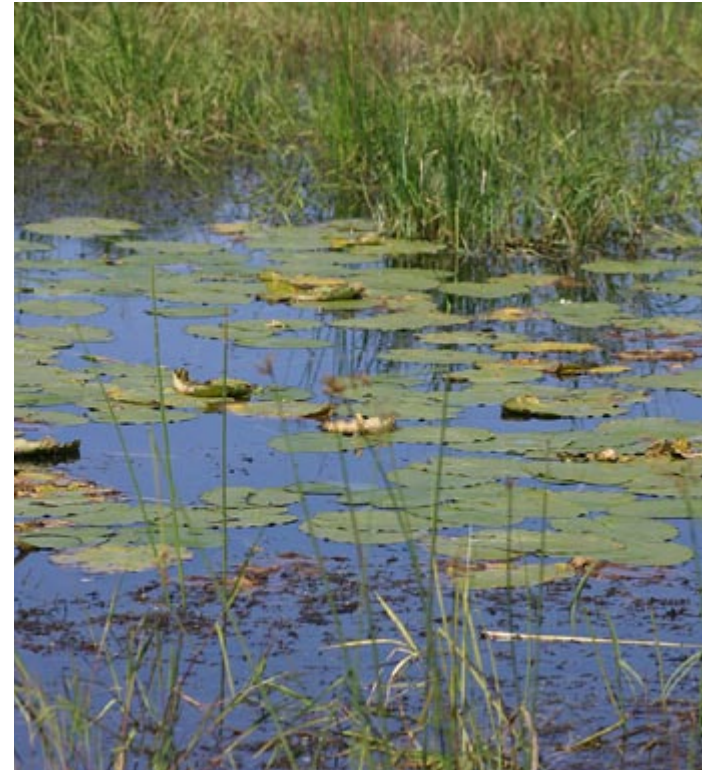
### ACTIONS

EarthCare Sudbury Partners will:

- Continue to promote and implement good shoreline and watershed practices
- Promote the protection and preservation of wetlands
- Implement [Low Impact Development \(LID\)](#) solutions for stormwater management
- Decrease use of salt deicers

The City of Greater Sudbury will:

- Use municipal policy tools to minimize the effects of land development on local waterways
- Complete upgrades to the stormwater infrastructure of the Lake Nepawhin watershed by 2010
- Develop drainage plans and upgrades in other urban watersheds, beginning with Lake Ramsey.
- Continue to administer the [Lake Stewardship Assistance Program](#) and facilitate the formation of lake stewardship committees.
- Update the municipal salt management plan



### What YOU can do

- Use permeable surfaces for your driveway or walkway.
- Use sand or an alternative deicer, such as Calcium Magnesium Acetate (CMA) on your driveway or walkway.

## Objectives & Actions cont'd

### OBJECTIVE

Prevent sewage disposal practices from adversely affecting the natural environment and private property.

### ACTIONS

The City of Greater Sudbury will:

- Construct a [Biosolids Management Facility](#) capable of producing Class A biosolids by the end of 2010
- Improve current disposal methods for hauled sewage (septage)
- Work with homeowners to disconnect downspouts from the sewer system
- Initiate capital projects to renew infrastructure and upgrade facilities

EarthCare Sudbury Partners will:

- Raise awareness about the impacts of inflow and infiltration from private property
- Support the Sewer Use By-law prohibiting disposal of contaminating agents in the wastewater system

What YOU Can Do:

- Replace faulty septic tank systems
- Use a car wash that recycles water
- Ensure your eavestrough is disconnected from the sewer system

[LEARN HOW](#)



What YOU can do

- Use only phosphate-free detergents.
- Have your septic tank pumped every two years.

## Objectives & Actions cont'd

### OBJECTIVE

Prevent further spread of invasive species in our lakes and rivers.

### ACTIONS

EarthCare Sudbury Partners will:

- Raise awareness on aquatic invasive species and monitor their spread in Greater Sudbury lakes
- Promote practices that reduce the spread of invasive species

What YOU Can Do:

- Inspect and remove aquatic plants and animals from boat, motor, trailer and fishing lines, especially where they meet a swivel, lure or downrigger ball connection
- Drain lake or river water from livewell and bilge before leaving access point
- Rinse boat and equipment with high-pressure hot water (104°F/ 40°C), especially if moored for more than a day, OR dry everything for at least 5 days

[LEARN HOW](#)



City of Greater Sudbury

### What YOU can do

- Learn to identify local invasive species and where they've already invaded.
- Always dispose of aquarium contents or unwanted fish in the trash.

## Objectives & Actions cont'd

### OBJECTIVE

Enhance fish habitat in local aquatic ecosystems.

### ACTIONS

EarthCare Sudbury Partners will:

- Re-establish vegetation where it has been removed along lakes and watercourses
- Avoid the removal of woody debris and vegetation from local aquatic ecosystems
- Initiate projects to create coarse woody habitat for fish
- Assist in determining climate change adaptation strategies for local lakes
- Re-introduce fish to lakes where the water quality is appropriate.



Ontario Ministry of Northern Development, Mines and Forestry

### What YOU can do

- Keep most of your shoreline natural.
- Leave aquatic plants in the water.



## Objectives & Actions cont'd

### OBJECTIVE

Stimulate increased interest in water resource issues among the general public.

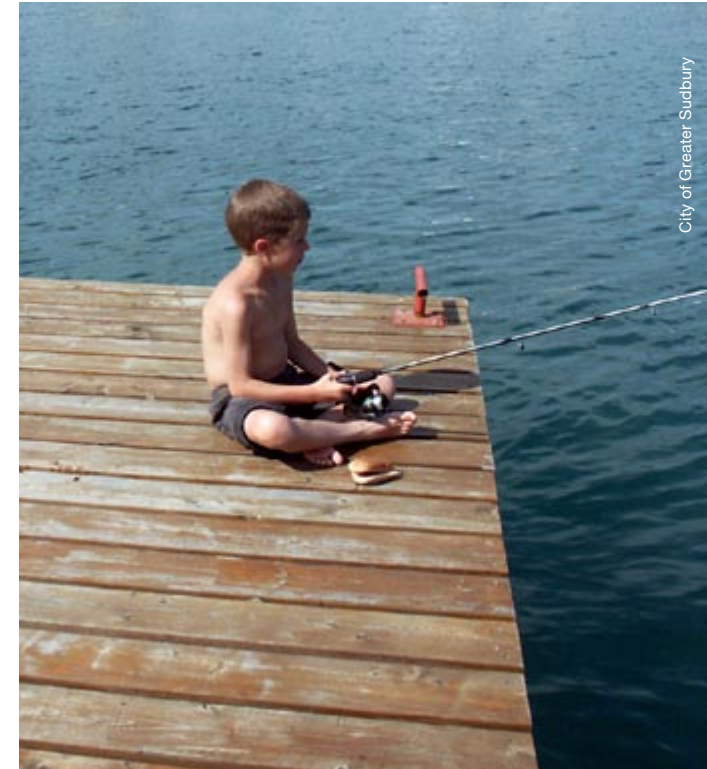
### ACTIONS

EarthCare Sudbury Partners will:

- Continue to organize and participate in events that aim to educate the public about water issues and water science
- Encourage landowner participation in drinking water protection

The City of Greater Sudbury will:

- Support the Lake Stewardship grant program and encourage the formation of more Lake Stewardship Groups
- Share water conservation strategies with the public



City of Greater Sudbury

### What YOU can do

- Avoid disrupting fish habitat during spawning and early rearing periods.

## References

<sup>ww1</sup> Lake Water Quality Program. (2007). [Annual Report](#). p. 3

<sup>ww2</sup> Ontario Municipal CAO's Benchmarking Initiative. (2007) [Performance Benchmarking Report](#). p. 81

<sup>ww3</sup> City of Greater Sudbury. (2008). [Municipal Performance Measurement Program Report to Citizens](#). p. 15

<sup>ww4</sup> City of Greater Sudbury. (2009). [Lake Stewardship Groups in the City of Greater Sudbury](#).

## Monitoring References

[OMBI Performance Benchmarking Report](#)

[Ontario Municipal Performance Measurement Program Results](#)

[Lake Water Quality Program Annual Report](#)

[OFAH Invading Species Watch Report](#)

Cooperative Freshwater Ecology Unit Data

Junction Creek Stewardship Committee Data

[Lake Water Quality Program Data](#)



## What YOU can do

- Use dock designs that don't obstruct water circulation or disturb the lake or stream bed (e.g. floating docks or docks constructed on stilts).