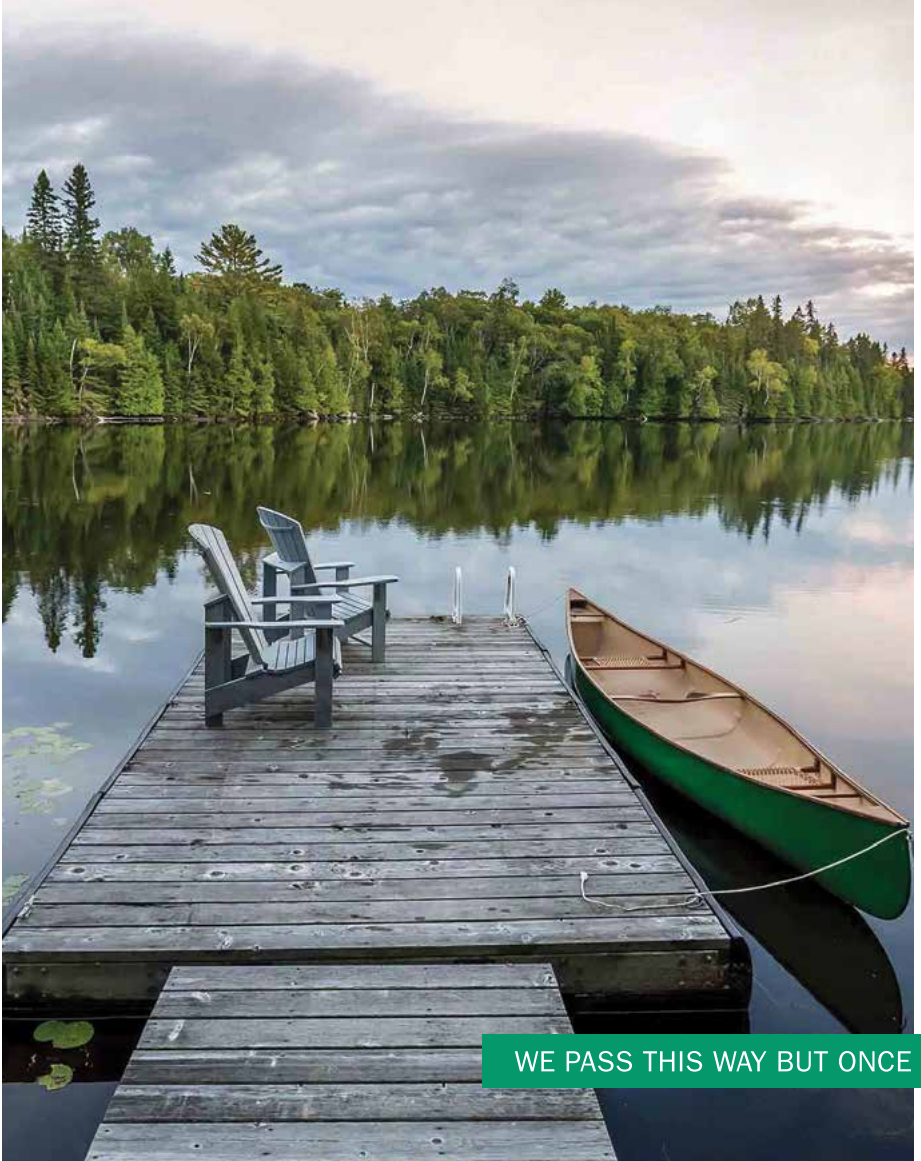


A GUIDE TO

Sustainable Living in Algoma



WE PASS THIS WAY BUT ONCE

A Publication of the Central Algoma Freshwater Coalition

A Message from the Central Algoma Freshwater Coalition

We pass this way but once. With this outlook, Algoma residents will realize the need to minimize our environmental footprint and contribute to a collective effort to protect our beautiful mix of farms, forests, rivers and lakes—for now and the future. Our unique landscape is a stronghold of biodiversity, with communities of animals and plants that include species at risk. As residents of this great circle of life, we have much to be proud of. We have only now to understand and fulfill our evolving role in Algoma's community of living things.

But Algoma isn't immune to the threats that have compromised the environment elsewhere. Invasive species, climate change, algal blooms, and extreme weather events are all taking their toll and challenging environmental, economic and social values, now and for generations to come. These challenges are a new normal and require flexible responses that adhere to sustainable principles.

Our future is inseparable from the health of our watersheds. In protecting water quality, you also safeguard your investment in your property and your community. Taking responsibility for your own piece of Algoma—and enjoying the benefits of improved water quality, reduced erosion and greater plant and animal diversity—will contribute to a positive societal shift.

We hope this guide will inspire you with ideas to protect Algoma's water and ultimately contribute to a greater good!

Sincerely,

Chuck

Chuck Miller
President, Central Algoma Freshwater Coalition

Water is A Shared Responsibility

**A watershed is an area drained
by a network of waterways
flowing to a common outlet**

Regardless of where you live, you share a watershed with other people, plants and animals, all reliant on local habitats the same way you are. Your actions impact a broad community, human and otherwise. You are one of many and your actions invariably impact a broad community of living things.

Explore, understand and respect the timeless, natural processes that maintain water quality and biodiversity. Any action on the land affects the water quality downstream. Strive to live within the limits of the ecosystem.

We'll all benefit from the results:

- Reduced chemical contaminants
- Decreased nutrients and algal blooms
- Diverse natural habitats and native species
- Reduced occurrences of invasive species
- Greater resiliency to the impacts of climate change



To learn more, visit lakehuroncommunityaction.ca/get-involved

Between Land & Water

Just as humans are drawn to the beauty and recreational opportunities of shorelines, these “living edges” are also diverse natural habitats

Lakeshores and the banks of creeks and rivers form a natural transition between land and water. Known as “riparian zones,” these areas include living and non-living components—plants, rocks and woody debris.

Healthy waterfronts include amphibians like frogs and toads, snakes, fish, songbirds, waterfowl, and mammals such as beaver and muskrats, as well as aquatic and terrestrial vegetation like sedges, cattails, dogwoods and willows.

The biggest thing you can do to enhance your shoreline is to preserve or restore a buffer of native vegetation along the water's edge, the wider the better. Ultimately, a natural waterfront protects your farm or cottage property from erosion, enhances wildlife and maintains water quality.



Keep It Natural

Create a shoreline buffer around lakes, rivers and creeks to protect water quality

Put the lawnmower away! Over time, native grasses, wildflowers and shrubs will replace monoculture lawns. This diverse flora is also less attractive to nuisance wildlife like Canada geese

Effective buffers extend a **minimum of 10 metres** (33 feet) from the water's edge

Moist soil is far more prone to compaction, which in turn increases erosion. Keep trails and livestock paths to a minimum to preserve natural shorelines around lakes, rivers and streams

Use barriers like fences or vegetation to keep **cattle out of waterways**



Trees—living and dead—provide food and shelter for wildlife. Trees also create cool and shady microclimates, reduce aquatic weeds and protect your property from erosion. Do not remove more than 10% of the trees in your shoreline area

Restore or enhance the buffer around lakeshores and waterways by planting non-invasive vegetation, such as willows, dogwoods, black ash and silver maple. Verify your selections at northernontarioflora.ca

Trees, fallen logs, rocks, and underwater vegetation are **habitat building blocks**, keys to a healthy riparian zone



Careful Construction

Carefully located, well-designed shoreline structures minimally impact the environment

Docks, other structures, and all work in the water may require construction permits from your local township or municipality, the Ministry of Natural Resources and Forestry and Fisheries and Oceans Canada. Ignoring regulations could result in fines.

It is always best to minimize shoreline structures. Any project near or in the water should be designed to conserve shoreline aquatic habitat, including woody debris and weed beds.

The following are best practices for shoreline structures:



Floating docks are easy to install and maintain and require minimal permitting

Docks can be used as a bridge to access deep-water areas for swimming and boating

Avoid clearing vegetation or building or expanding beach areas

Select untreated wood or synthetic building materials

Avoid dredging, draining or filling waterfront areas and wetlands

Construct buildings like saunas beyond the shoreline buffer



Rain barrel

Water Works

Water has the ability to shape and alter the landscape like few other natural forces

The more we compact and pave the earth's surface, the more fine sediments and contaminants will wash into waterways, destroying fish habitat and causing pollution. Eroded soils often contain high levels of nutrients, which contribute to algal blooms. On the other hand, wetlands and undisturbed shoreline areas act

like natural sponges, sopping up rainfall and runoff, nourishing the environment in times of drought, and keeping erosion in check.

Minimize hard surfaces: Non-porous asphalt and concrete driveways and paths are unable to absorb water

Maintain existing forest on rural properties and plant trees in unused farm fields to significantly reduce water contamination

Quick-growing willow and red-osier dogwood stakes will stabilize soil in areas where erosion is common, such as hillsides and gullies

On slopes, maintain vegetation and ensure pathways are curved to restrict the movement of water

Use barriers to prevent cattle and vehicles from degrading streambanks

Water-loving plants like Joe-pye-weed, Jack-in-the-pulpit and ferns capture stormwater naturally in low-lying areas. These plants attract pollinators like bees and butterflies

Do not alter natural waterways: Modifying streams can increase the risk of flooding and erosion

Downspout rain barrels reduce surges of surface water



Monarch on Joe-pye-weed

Species at Risk

Rural residents share their living space with Ontario's rarest plants and animals

Algoma is home to 46 Species at Risk, including eastern whip-poor-will, bobolink, Blanding's turtle, wood turtle, snapping turtle and lake sturgeon. The presence of these exceptional species reflects a healthy ecosystem—and calls for responsible stewardship from landowners.

At-risk species are particularly sensitive to habitat change. It is unlawful to damage or destroy the habitat of designated species. It is important for you to be able to identify Species at Risk and their habitat to determine if they're present on your property. Your local Ministry of Natural Resources and Forestry office can help you determine if approvals are required for certain activities and provide you with tips to



Lake sturgeon



Wood turtle

protect these unique species and their habitat. Visit ontario.ca/environment-and-energy/species-risk-ontario-list for more information.

If your property contains Species at Risk habitat you may be eligible to apply for stewardship funding to help recover populations. Contact your local MNRF office for more information.



Bobolink

Unwanted Guests

Invasive species disrupt ecosystems and impose huge economic and social costs



Emerald ash borer

We all suffer from outbreaks of invasive species: Roadside colonies of phragmites, a perennial bamboo-like reed, rapidly destroy aquatic habitat and impede drivers' visibility at intersections; emerald ash borer, an Asian beetle, imperils ash trees and imposes significant costs on municipalities; and Eurasian water milfoil, a dense aquatic plant, depletes oxygen from lakes and wipes out native fish. It is heartbreaking to discover invasive species on your property.

Humans frequently assist the spread of invasive species. Rural residents play a key role in battling the threat by getting educated, being observant,

taking a few simple precautions, and joining community efforts to eliminate invasive species.

The Invasive Species Centre offers [online resources and community programs](https://invasivespeciescentre.ca) to help Algoma residents identify invasive species and address outbreaks. Visit invasivespeciescentre.ca for more information

Download the [Early Detection and Distribution Mapping System](https://eddmaps.org/ontario) app (eddmaps.org/ontario) to report sightings of invasive species

[Inspect, pressure-wash and air-dry](#) all forms of watercraft and trailers before launching in a new body of water

[Clean debris](#) from your shoes, clothing and pets immediately after hiking

[Don't move firewood](#) to prevent invasive species spread

[Plant native species and remove non-native species](#) on your property. Refer to ontarioinvasivespecies.ca for "Grow Me Instead" selection guides

It is [illegal to dump](#) unused fishing bait in waterways. Dispose of bait in the garbage



How Do You Measure Up?

WATER ACCESS

Carefully planned boardwalks and docks allow access to the waterfront while preventing erosion and protecting natural values.

- ✓ **IDEAL** Boardwalks to the water's edge minimize erosion and protect native vegetation; floating docks protect aquatic habitat
- ✓ **GOOD** Paths concentrate traffic in the shoreline area and are curved to reduce erosion; docks and aquatic weed removal approved by government agencies
- ✗ **POOR** Multiple highly compacted paths to the water's edge; extensive human-made developments including beaches, concrete walls, and crib docks; all aquatic weeds removed

AGRICULTURE

Rural property owners can protect water quality with responsible agriculture.

- ✓ **IDEAL** A natural buffer maintained within 10 m of waterways, along with barriers to prevent access by livestock; fertilizers and chemicals are stored at least 150 m from surface water
- ✓ **GOOD** Livestock restricted to controlled water access points; fertilizers and chemicals stored at least 60 m from surface water
- ✗ **POOR** Lack of buffer area causes severe shoreline damage; unrestricted livestock access to water creates pollution; storing fertilizers and chemicals within 30 m of surface water creates an elevated risk of contamination

SHORELINE BUFFERS

Shoreline buffers extend 10 m from the waterfront to provide habitat and protect water quality.

- ✓ **IDEAL** Native trees, shrubs, wildflowers, grasses and standing and fallen deadwood make up at least 90% of the buffer
- ✓ **GOOD** Native vegetation makes some of the buffer area; leaves and decaying woody debris removed
- ✗ **POOR** Lawn maintained to the water's edge

WASTE MANAGEMENT

Rural properties often rely on septic systems, which collect and treat all wastewater.

- ✓ **IDEAL** A modern, two-compartment septic tank and an engineered leaching bed that's inspected annually and pumped out every 2 to 5 years
- ✓ **GOOD** A two compartment septic tank, some maintenance, no leaks
- ✗ **POOR** A single compartment tank, no maintenance, no inspections, clean-outs not accessible, leaks

INVASIVE SPECIES

Invasive species eradicate native plants and animals, diminishing biodiversity and imposing huge economic costs.

- ✓ **IDEAL** Keep track of flora and fauna on your property and watch for invasive species; carefully clean your boat and trailer and clothing when visiting other areas
- ✓ **GOOD** Some invasive species are recognized; firewood is purchased and burned locally
- ✗ **POOR** Unaware of invasive species; risky behaviour includes moving firewood and introducing exotic species on your property



Phragmites

Sustainable Agriculture

How to protect water quality and enhance your farm's productivity

Sustainable agriculture respects the capacity of soil and water to support economic, environmental and social values now and in the future. Best practices for cultivating crops and raising livestock protect local waterways from pollution and algal blooms and maintain soil productivity, in turn maintaining your property's value.

Plant **cover crops** to reduce erosion

Consider an **Environmental Farm Plan**. Visit omafra.gov.on.ca for more information

Retain or create shoreline buffers by protecting existing vegetation and **planting new trees** around waterways

Install barriers to restrict livestock from accessing creeks and rivers

Manage livestock waste to prevent water contamination

Store nutrients and chemicals carefully year-round—at least **150 metres** (495 feet) from surface water



Septic Systems

A well-maintained septic system protects waterways



Property owners without access to municipal sewers must install and maintain their own sewage treatment system. Septic systems are most common. In these setups, anything that goes down the drain or toilet flows into a two-chambered underground storage tank that separates out solids. From there,

wastewater is routed to a soil leaching bed that filters most contaminants. Proper installation, repairing, upgrading or replacing a rural septic system is subject to the *Ontario Building Code*.

Depending on amount of use, **septic tanks should be emptied every 2 to 5 years**

Septic systems are **designed to handle human waste and toilet paper**. Chemicals, oils, pharmaceuticals, and hygiene products should not be flushed

Properly maintained septic systems have a lifespan of **15 to 40 years**. Keep your records of permits, pump dates and other maintenance

Test well water **3 times per year** to ensure your septic isn't contaminating groundwater

Do not park or drive cars, ATVs or snowmobiles on your septic leaching bed

Algoma Public Health enforces the sewage systems provisions of the *Ontario Building Code*, including permit applications. Visit algomapublichealth.com for more information

Laws of the Land

Waterfront development may be directed by municipal by-laws. Policies can be influenced by community interactions

Each municipality has its own by-laws for properties and construction. Land use and zoning regulations may relate to new construction and renovations, water quality, invasive species, waterfront development, and other factors influencing environmental, economic and social values. Visit your municipal or township office to learn more about regulations in your watershed. Contact the Federation of Ontario Cottagers Association (foca.on.ca) for advice and resources to start your own committee or lake association.

By-laws may include minimum lot sizes, allowable cleared areas for buildings, minimum buffer sizes for property and shoreline and maximum foot trail widths.

Any projects near or in the water may be subject to mandatory approvals and permits—from provincial and federal agencies such as the Ministry of Natural Resources and Forestry, the Ministry of the Environment and Climate Change, Fisheries and Oceans Canada and Transport Canada. It is the responsibility of landowners to contact government offices and adhere to regulations.

Additional Resources

Visit centralalgomafreshwatercoalition.ca to download additional stewardship guides and technical reports specific to Algoma

“The Shore Primer” and “The Dock Primer” provide an overview of shoreline ecology and responsible development, including the regulatory process. These best practices protect the environment, maintain property values, and maximize the enjoyment of rural living. Both are available as digital downloads at dfo-mpo.gc.ca

Visit ontario.ca/page/species-risk to learn more about species at risk in Ontario and legal requirements under the *Endangered Species Act*

The Invasive Species Centre in Sault Ste. Marie organizes workshops and posts news and bulletins on its website: invasivespeciescentre.ca

The website cowsandfish.org provides guidelines for sustainable agriculture

SepticSmart is a guide for rural property owners published by the Ontario Ministry of Agriculture, Food and Rural Affairs. Download the booklet at omafra.gov.on.ca

The Federation of Ontario Cottage Associations (foca.on.ca) provides tips for developing lake management plans

For general information about sustainable waterfront and rural living, visit watersheds.ca

PHOTOS: W. GARDNER, FISHERIES AND OCEANS CANADA (P. 8 LAKE STURGEON), ISTOCK (P.14 KATHERINE'S COVE), ADOBE STOCK (OTHER)



About Us

The Central Algoma Freshwater Coalition is a not-for-profit organization dedicated to keeping Central Algoma a place to live, swim, drink, fish and play for generations to come.

We are committed to working with residents, cottagers, businesses, organizations and municipalities to become good stewards of our natural communities.

Let's work together to protect freshwater! We need your involvement to effectively engage the wide-ranging and sometimes competing interests of a vibrant Central Algoma. The membership, networking and support of a strong and diverse community are what sustain us. We require a strong, diverse group to achieve our goals.

Contact Us:

PO Box 88
Bruce Mines, ON P0R 1C0
705.785.1071

Email & Website:

cafreshwatercoalition@gmail.com
centralalgomafreshwatercoalition.ca

Editorial: Conor Mihell
conormihell.com

Design: Jessica Glemnitz
anthemdesign.ca

