A GUIDE FOR ALGOMA

Biodiversity

PROTECT OUR SHARED HOME

A Publication of the Central Algoma Freshwater Coalition

Celebrating Life

Residents of Central Algoma are constantly reminded of how lucky we are to live here. This great region is remarkable for its large forests, Canadian Shield hills and Lake Huron's islands. There are more subtle features, too: farm fields, rivers and swamps, cottage lakes, woodlots and rural communities that define its diversity. We should be thankful that Central Algoma's fresh air and clean watersheds are unmarred by factory pollution, expressway traffic, industrial agriculture and urban sprawl.

What makes this region attractive to humans makes it a haven for many forms of life. We can marvel at sandhill cranes, bluebirds, wolves, beaver, bobcat and black bear, just as we delight in the brilliance of wildflowers and the towering presence of white pine. There are also countless species of insects, amphibians and fish. Central Algoma may not have the same overwhelming quantities of species as a tropical rainforest or ocean reef, but all of its native flora and fauna play ecological roles—and many supply essential services for humans, such as pollination.

This booklet explores biological diversity, a crucial indicator of ecological health. We encourage you to learn more about how diverse habitats, ranging from immense forests and inland seas to roadside ditches, abandoned farms, ravines and even backyards, make Central Algoma a stronghold of biodiversity.

These pages celebrate sharing the land and waters with milkweed, sugar maples, salamanders, bees, loons, moose and other plants and animals. Central Algoma is a pocket of joy. Be proud of our co-inhabitants of forests, fields and freshwater, and do your best to protect our shared home.

Chuck

Chuck Miller
President, Central Algoma Freshwater Coalition

What is Biodiversity?

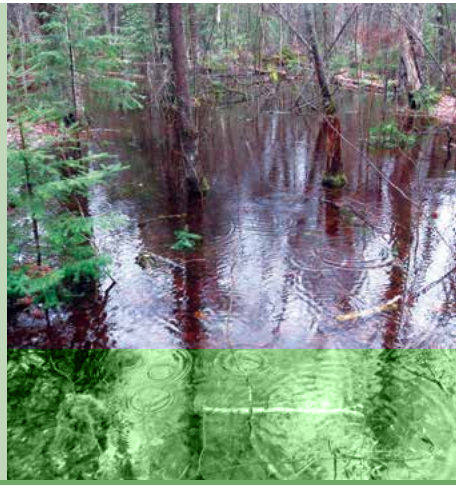
A complex and fragile web of living things makes Earth liveable with clean air, water, food and so much more.

Biological diversity is the variation of life on Earth. Interactions between plants, animals and the natural environment create the essentials of life: oxygenated air, fresh water, food, medicines and natural resources. Preserving biodiversity is integral to humans' survival.

But due to the destruction of habitats species are disappearing fast. Populations of caribou and polar bears are plummeting; migratory birds have decreased by 70 percent; amphibians are declining by about 4 percent per year; and 9 percent of Earth's insects are disappearing per decade.

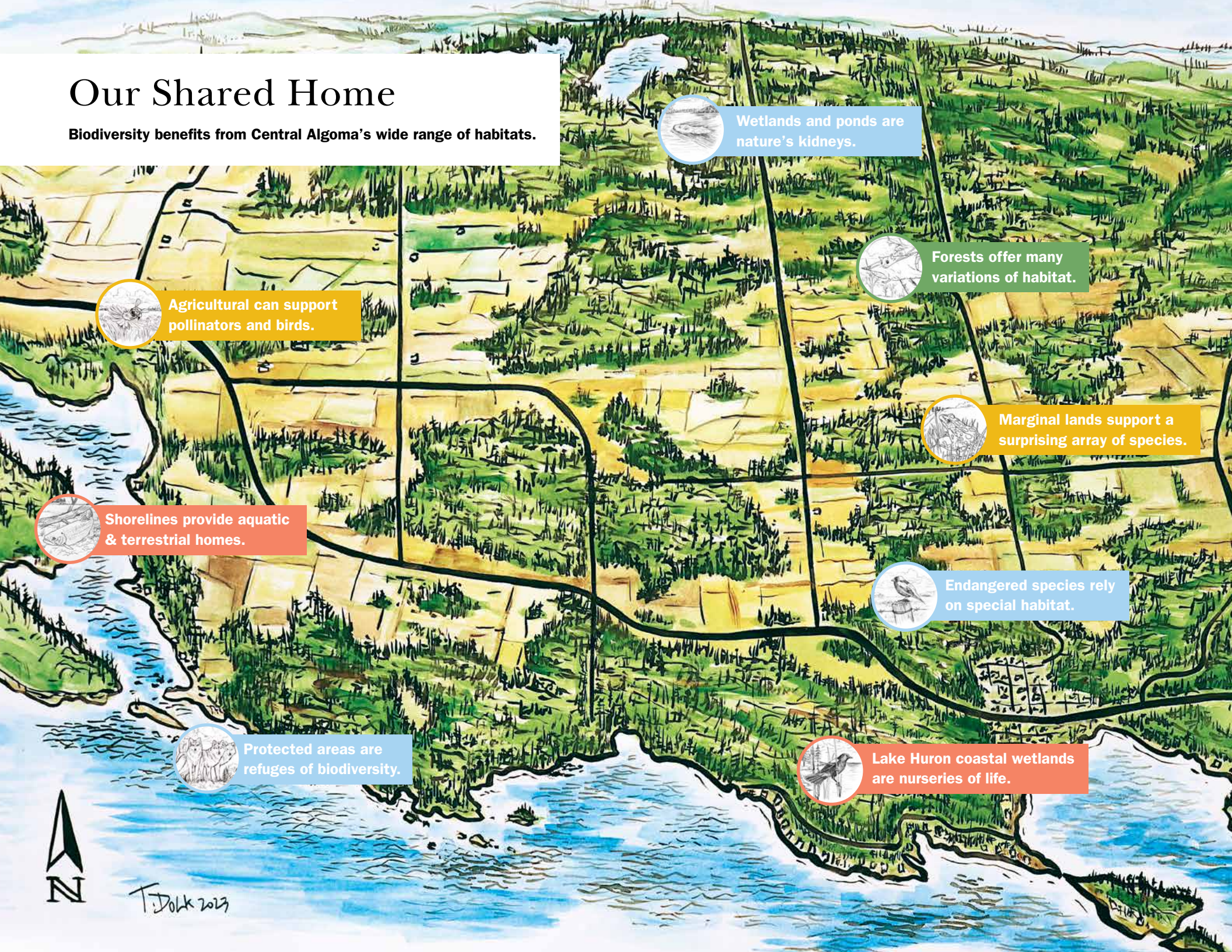
Our planet is facing an extinction crisis because of habitat loss. One in eight species is predicted to disappear by the end of the century. Conditions in Central Algoma reflect a glimmer of hope, but we're not immune to large-scale environmental disruptions affecting the entire planet.

Species abundance and genetic diversity increase with the area of habitat. Interconnected habitat is more valuable than isolated chunks. Complex ecosystems, such as wetlands and natural forests, support more forms of life. Ultimately every pocket of greenspace and aquatic habitat counts. Even "marginal" areas like utility corridors, rock barrens and ravines provide valuable habitat.



Our Shared Home

Biodiversity benefits from Central Algoma's wide range of habitats.

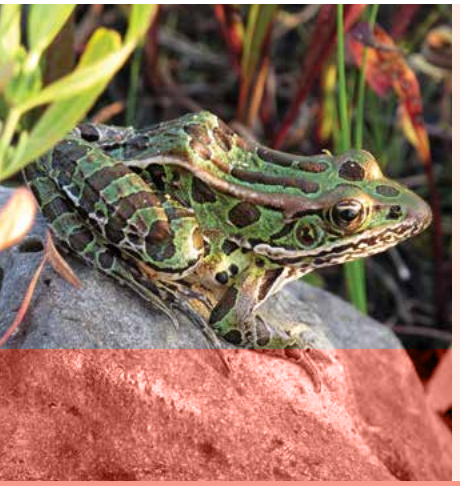


The Freshwater Coast

Dynamic water levels enhance biodiversity and support resilient Lake Huron shores.

Historical records show water levels have always changed on the Great Lakes, with highs and lows occurring over decades-long intervals. The seeds of plants are preserved in muddy bottoms, allowing different wetland and dry land species of plants to flourish as the water levels fluctuate. The changing community of vegetation contributes to the incredible diversity of wildlife at marshy shallows in places along the St. Marys River, Lake George and the North Channel.

Central Algoma is still a stronghold of dynamic coastal wetlands. Besides being home for a huge range of species, they are also key insurance as we adapt to climate change. Natural Lake Huron shores soak up extreme precipitation and filter pollutants from runoff to safeguard property from erosion and protect our drinking water, as well as supporting birdwatching, fishing and photography.



Plants in coastal wetlands include wildflowers in periods of low water and sedges and cattails when the water is high. This creates a rich habitat for Red-winged Blackbirds, Osprey, Spotted Sandpipers and other shorebirds, and migrating waterfowl like Long-tailed Ducks. These areas are also home for painted turtles and leopard frogs. Meanwhile, over half of Great Lakes fish species rely on wetlands for parts of their life cycle.

On the Waterfront

Natural shorelines support diversity at the transition of land and water.

Shorelines and shallow water areas are critical for the survival of 90 percent of all aquatic species. Replacing natural waterfront vegetation with lawns, docks and retaining walls destroys habitat and enhances erosion. Shoreline development also threatens water quality by giving nutrients and pollutants a free ride to the lake or river.

Preserving a 10-to 15-m buffer of native species like white cedar and silver maple, dogwoods and willow shrubs, and moisture-loving plants like Joe-Pye weed, pickerelweed and water lily is the best way to maximize biodiversity in and around cottage lakes. Natural vegetation along the shore keeps water temperatures cooler to reduce algal blooms and offers habitat for mosquito-eating dragonflies. Wild shorelines also reduce your property's appeal to Canada geese.

When a shoreline tree topples into the lake and slowly decays it creates habitat for countless species for centuries. Sunken logs provide shade and complex habitat for brook trout and walleye. Above the surface, logs and stumps offer nest sites and perches for turtles, herons, kingfishers and kingbirds.

Ponds & Wetlands

“Nature’s kidneys” absorb, purify and distribute water, and provide year-round habitat.

Humans’ misplaced urge to drain, fill and pave over wetlands has made these areas some of the most imperiled ecosystems on the planet. Beyond Lake Huron’s marshy shores, Central Algoma’s interior wetlands are often found in headwater areas, blending into ponds, meandering waterways and low-lying lakeshores where they naturally manage the storage and flow of freshwater.

Wetlands fall into four distinct types. Swamps are moist areas dominated by water-loving trees and shrubs such as tamarack and black ash, and provide secluded nest sites for Great Blue Herons. Marshes have areas of open water and plants such as water lilies and cattails and provide critical habitat for amphibians. Bogs are depressions covered by vast beds of acidic, low-nutrient sphagnum moss, creating cool microclimates. Fens are similar to bogs but with higher nutrients, capable of supporting grasses, sedges and reeds, including cranberry.

Beavers have a “keystone” influence on the environment, creating a cascade of ecological benefits from their ability to create and manage wetlands. Beaver dams, canals and ponds regulate the flow of water across the landscape in periods of drought and flood. They prune willow and poplar trees causing denser growth that offers nesting habitat to birds and ducks.

Agricultural Lands

From pollination to pest control, farmers benefit from biodiversity in a big way.

Factory farms have made huge impacts to biodiversity around the world. Massive agricultural operations rely on pesticides and other chemicals to control insect outbreaks and maximize crop yields. This activity has replaced diverse grasslands with monocultures and wiped out wildlife, such as songbirds, insects and amphibians, that rely on native habitat and cannot coexist with high-intensity agriculture.

The rugged nature of the landscape encourages farmers in Central Algoma to cultivate smaller areas and leave surrounding hedgerows, ravines and woodlots intact, providing sanctuaries for a wide array of species, as well as creating natural buffers to protect water quality and prevent wind erosion. Songbirds, bats, beetles and frogs eliminate pests, and bees and Monarch butterflies act as critical pollinators. Buying locally-grown farm products supports these holistic agricultural practices.

Allowing marginal farmlands to “return to nature” creates more resilient agriculture in surrounding areas. Over time, milkweed and other native plants, shrubs and trees will recolonize abandoned fields, attracting Northern Harriers, grassland birds, sparrows, snakes, white-tailed deer, red foxes and more—as well as pollinators like bees and butterflies.

Forests & Woodlots

Carefully managed woodlots provide homes for a vast diversity of plants and animals.

Central Algoma is blanketed by a mixed forest of oaks and maples, pockets of spruce, balsam fir and tamarack, and scattered remnants of old-growth white pine and regenerating stands of red pine. A woodlot's ability to support biodiversity is limited by its proximity to interruptions like roads and agricultural fields. "Edge" habitat favours generalists like white-tailed deer and racoons, as well as house - and feral cats; these areas are usually too small to support diverse populations of plants and animals.

Interior forests more than 100 m from clearings provide valuable habitat for sensitive species. Woodlots larger than 200 ha offer cooler microclimates, shelter from predators and an array of microhabitats for insects, songbirds, owls and amphibians. Dead-standing "cavity trees" provide places to nest, roost, store food, escape predators and hibernate.

Northern flying squirrels are surprisingly common in larger woodlots, and rely on cavity trees for roosting. They eat and disperse fungi spores across the forest, enhancing soil qualities crucial to tree health. Northern flying squirrels depend on interior habitat and cannot compete with generalists like European Starling for roosting sites along forest edges.

Backyards & Backroads

Natural landscaping is key to making your property a haven for plants and animals.

Biodiversity can thrive in small places, especially if pockets of quality habitat are connected by "greenways" to larger parcels of untrammeled nature. Rural residents and town-dwellers alike can play a key role in making space to accommodate insects, birds, native plants and wildlife and not interrupting their feeding, breeding and movements across the landscape. Backyards and urban parks connecting with ditches, transmission corridors and roadside forests create a nature network across Central Algoma.

Naturalizing your backyard requires planning to make sure you're not just replacing lawns with noxious weeds and invasive species. Actively reintroducing native wildflowers like columbine and pearly everlasting, shrubs including serviceberry and sumac, and oak trees, whose lush canopies supply shelter and food for songbirds and squirrels, has the added benefit of eliminating the need for harsh fertilizers and pesticides.

Ditches are often overlooked for the way they form natural links between larger areas of wet habitat for species like turtles and amphibians. Utility right of ways, meanwhile, provide terrestrial corridors and foraging areas for red foxes and Monarch butterflies. These "marginal" places are also habitat for Indigenous medicines like sweetgrass.

Protected Areas

Biodiversity has the best chance to thrive in big, undisturbed places.

Large, intact parcels of nature are crucial refuges of biological diversity. Many species of wildlife, including wolves and species at risk like Common Nighthawks, need far more space than fragmented woodlots can provide. Much of Central Algoma remains undeveloped, enhancing the diversity of plants and animals that occur in our region.

Provincial parks on the North Channel, conservation areas like Byrnes Lake, north of Thessalon, and the nature reserves managed by Desbarats' Kensington Conservancy provide long-term sanctuaries. More formal protected areas like these are needed for greater security. The undesignated, public wildlands of Central Algoma could play a key role in helping Canada reach its target of protecting 30 percent of its landmass by 2030.

Pockets of nature are becoming like islands in a sea of disturbed habitat due to development. According to the Theory of Island Biogeography, the larger the "island", the more species diversity and abundance. Natural corridors between large chunks of habitat also support biodiversity. This all contributes to greater genetic diversity, which allows species to evolve and adapt to environmental changes over time.

Species at Risk

The presence of rare species is the best indicator of a functioning ecosystem.

Certain species are less tolerant of habitat disturbance than others, making them more prone to becoming extinct. Central Algoma is home to over a dozen Species at Risk, including Eastern Whip-poor-will, Bobolink, snapping turtle and lake sturgeon. While the value of individual at-risk species may seem trivial, the presence of these exceptional species reflects high biodiversity and serves as strong indicators of healthy ecosystems. With so much at stake, they also demand our responsible stewardship.

Legislation makes it illegal to damage or destroy the habitat of designated species. Learn how to identify species at risk and contribute to ongoing efforts to monitor their populations by reporting sightings on iNaturalist. Funding for landowners, farmers and non-profit organizations is available for habitat rehabilitation from the Ontario Ministry of Environment, Conservation and Parks.

Habitat loss is the biggest threat to species at risk. In Central Algoma, the conversion of grasslands to rotational crop farming of corn and soybeans impacts birds like Bobolinks, Meadowlarks, swallows and kestrels. Hay fields, on the other hand, support these and other grasslands specialists.

Things You Can Do

Simple actions to support biodiversity.

Maintain windbreaks & fencerows

Ribbons of trees and shrubs in open areas protect soil quality, offer natural corridors for wildlife and breeding areas for birds, and provide habitat for bees.

Maintain natural shorelines

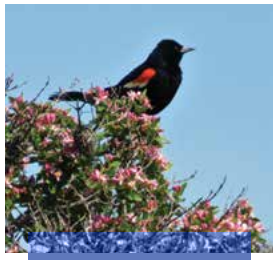
Try to preserve trees, shrubs and wildflowers, as well as fallen deadwood at least 10 m from the waterfront. Boardwalks and floating docks play a key role in minimizing habitat disruption.

Protect cavity trees

Dead-standing trees are critical habitat in forests and wetlands, providing food, shelter and safety for dozens of species, including woodpeckers, Saw-Whet Owls and Eastern Kingbirds.

Manage the forest for the birds

Different species of songbirds rely on different parts of the forest canopy. Maintaining a variety of tree heights maximizes habitat diversity for ground nesting Ovenbirds, mid-canopy Red-eyed Vireos and treetop specialists like Blackburnian Warblers.



* Bird species are capitalized in this booklet as per ornithological convention.

Build nest boxes

A variety of avian species benefit from human-made nest boxes, including Wood Ducks in wetlands, Eastern Bluebirds along field edges, and bats in forest areas.

Encourage natural decomposition

Leaving logs, branches, needles and leaves to decompose on the forest floor provides escape routes and food caches for small wildlife, supports fungi and microbes, and contributes nutrients for healthier soils.

Create a butterfly garden

Planting milkweeds, wild bergamot, serviceberry and other native plants and shrubs attracts and supports butterflies, bees and hummingbirds, while also beautifying your backyard.

Support wilderness protection

Encourage governments to create new provincial and national parks and support opportunities like Indigenous Protected Areas and non-profit land trusts, such as The Kensington Conservancy.

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.

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