

Caring for Our Coast

An introduction to wise stewardship practices for the private landowner

IPPERWASH to GRAND BEND

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Introduction

This guide has been prepared to support landowner stewardship of private properties located along the Lake Huron shores in Lambton County. As the beauty of the Lake Huron shore continues to attract more year-round residents, the importance of landowner contributions to best stewardship practices becomes increasingly significant if the community wants to conserve the quality of Lambton's beaches.

This guide is an education resource for residents living in the area and offers a balanced approach to property stewardship. It aims to help people in preserving the high quality environment that attracted them here in the first place, while at the same time continuing to enjoy the recreational benefits that make living here enjoyable. The content of this guide introduces the landowner to the ecology of the area and describes

priorities for stewardship approaches aimed at preserving the quality of the environment. Tips are described briefly and supported by a list of resources for those looking for more information.

Contained within is information on Species at Risk (SAR) in the area and descriptions of how a landowner can assist with the recovery of these species. Species at Risk are like canaries in the coal mine – they are indicators of environmental decline. Generally speaking, if landowners implemented the majority of the stewardship tips presented, they will be creating improved habitat conditions for the species in the area and, as a result, contributing to the recovery of the region's natural biodiversity and environmental health.



Get To Know Your Property

You are in a special part of the Lake Huron shores. The 'Grand Bend-Pinery-Ipperwash' dune complex, located between Grand Bend and Kettle Point, represents the largest complex of freshwater sand dunes in Canada. The landscape here has evolved over thousands of years.

This area is a series of sand dunes running parallel to the lake and created by the depositing action of waves and prevailing winds over a period of 6,000 years.

The Kettle Point to Grand Bend dune system covers approximately 36 km, much of it forested. Strong, long shore currents transport sand from Point Clark, 75 km to the north, to this major sand collection point in the Grand Bend to Kettle Point area.

The youngest dunes, which are closest to the shoreline, are unstable and subject to wind and wave erosion. The oldest dunes rise to heights of 25 m or more and lie parallel and adjacent to Highway 21.

Walking the three kilometer distance from the shoreline to the oldest dune is equivalent to walking through 6,000 years of sand dune history, an evolution from lake to beach to oak forest.

The rolling topography and natural plant succession have provided a mix of upland and wetland plant communities, resulting in diverse habitat for wildlife. It is because of this complexity and the connection to natural oak savannas and forests that this area supports an exceptional concentration

of provincially, nationally and globally rare plants and animals.

Land ownership within the Grand Bend-Pinery-Ipperwash dune complex is partially public, partially private. Privately owned land makes up about 30% of the total area within the complex.

Private landowners within the Grand Bend-Pinery-Ipperwash complex have a special role to play to ensure the species and the natural ecosystems that support them do not continue to decline.





What do you have to gain? Better water and beach quality, fewer pests and invasive species and an overall environment more able to cope with a changing climate.

Why Stewardship?

Large expanses of natural area are increasingly rare in southern Ontario and this is contributing to the decline of many native species and an increase in the number of species at risk. Private landowners living within this

forested dune area have an opportunity to help the overall well-being and survival of hundreds of species unique in Ontario by maintaining the natural integrity of their properties and learning how to protect and care for specific species at risk in the area.

Conservation efforts discussed in this guide not only help the local ecology of the area, but also help the general environmental condition of the Grand Bend-Pinery-Ipperwash area.

Benefits of Stewardship	Description of Benefits
Increased Property Values	<ul style="list-style-type: none"> natural settings are more attractive to potential buyers clean water for recreation and drinking reduced erosion and property damage reduced need for costly maintenance
Improved Resilience Against Climate Change	<ul style="list-style-type: none"> healthy ecosystems are better able to withstand changing climate conditions predicted changes include increased wind speeds off the lake and more extreme weather events
Healthy Habitats for Plants, Wildlife and People	<ul style="list-style-type: none"> improved habitat for species at risk helps populations recover and prevents common species from becoming endangered healthy, diverse habitats provide areas for rest and recreation which improves the quality of life for people
Community Building	<ul style="list-style-type: none"> wise stewardship of private properties shows personal commitment to the health of the environment and community

Bird Studies Canada, 2009

Maintaining the quality of our coast is everyone's role.

How to Use This Guide

The stewardship tips presented in this guide are meant to help landowners contribute to the four priorities for stewardship:



Protection and improvement of
WATER QUALITY



Conservation of
COASTAL PROCESSES



Protection and conservation of
BIODIVERSITY



Improved resilience to
CLIMATE CHANGE

Most stewardship activities will benefit more than one of the above priorities. The icons represent each priority and will appear beside each stewardship tip that will provide direct benefits to that priority.

The Coastal Centre believes good stewards are champions that deserve recognition for their efforts.

If you implement all the stewardship tips in this guide you are well on your way to becoming a Green Ribbon Champion!



4 Priorities for Stewardship



WATER QUALITY

The rain and snowmelt that run off your property, each flush of water that goes into your septic system, and water that flows from your garden hose, all end up flowing into the lake. Fertilizers, pesticides and anything you put down the drain can also end up as a pollutant in the lake. The more water we can hold back and release slowly into the soil, will help reduce the amounts of pollution reaching the lake. Three messages for water quality management on your property:

Slow it Down

Soak it Up

Keep it Clean



BIODIVERSITY

Biodiversity refers to the variety of life all around us. The plants and animals that have adapted to this coastal area over thousands of years have provided us with a balanced ecosystem. For example, native plants anchor the soil preventing erosion, their roots filter pollutants, and fruits and flowers provide food for beneficial birds and insects. When we alter biodiversity through clearing, development and other impacts to the land, we diminish the natural ecosystem. When this happens, we see signs of a deteriorating landscape – such as poor water quality, invasive species, bug infestations and erosion.

Are there often wet areas on your lawn or property?

Try planting a rain garden! See the Resource Section in this guide to find out how.

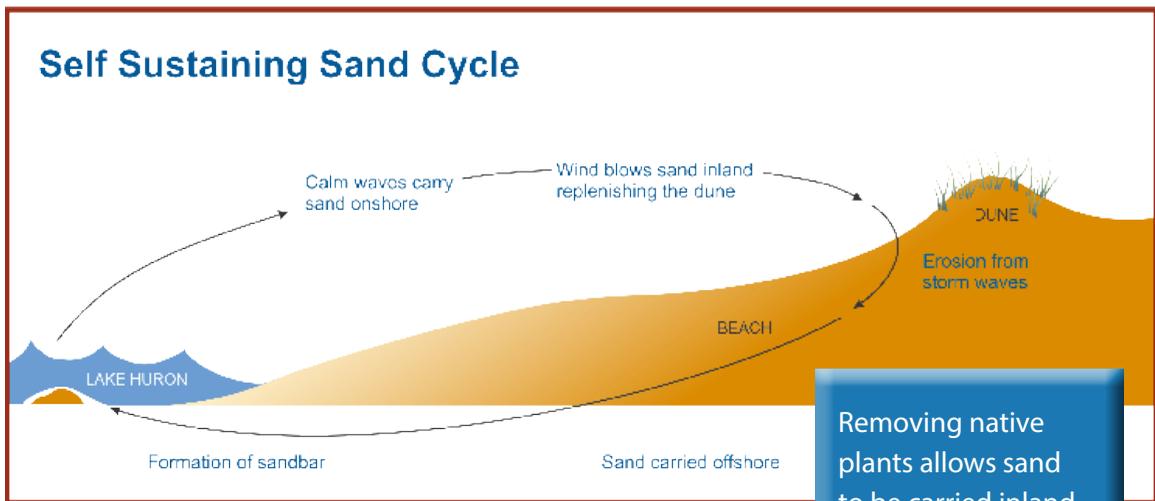


COASTAL PROCESSES

Coastal processes are the elements that make Lake Huron's shores and beaches what they are. Fluctuating water levels, waves and currents, and winds are the forces that form and maintain our beach and dune

systems. The vegetation that establishes in coastal ecosystems has evolved with these processes and is extremely important to the resilience of the shoreline. Understanding these processes in the context of the

coastal ecosystem is important so that we don't harm the lakeshore environment through unwise actions that damage our properties or beaches.



Removing native plants allows sand to be carried inland, causing a decline of ecosystem health.



CLIMATE CHANGE

Removing native species from the shore allows wind blown sand to be carried inland away from the sand cycle causing a decline of ecosystem health.

Climate change has far reaching implications for the Lake Huron environment. Extreme weather events, including changes in precipitation patterns, higher water temperatures, altered wind and wave intensities, could affect how we use and

enjoy the lakeshore. Stewardship measures that help to build up the natural environment will make our coast more adaptable and resilient to meeting the changes ahead.

Higher Winds Ahead!

As warming water reduces the temperature between land and water, the atmosphere becomes more turbulent and stronger wind speeds occur.

Wind speed plays a big role in the formation and re-formation of sand dunes. Degraded dunes will have less resilience to stronger wind speeds.

Tips for the Landowner



BOARDWALK OR TRAIL?

A simple, well-marked trail doesn't require much maintenance and can work well if the beach is accessed by a small number of people. Curving the path through the dunes helps prevent wind erosion. Boardwalks require regular maintenance, but may be a suitable choice

for providing beach access to people with disabilities or larger groups.

Removing and storing sections of boardwalk before fall and winter will increase their lifespan and allow the dunes to move and change naturally over time.

Telfer Wegg

If a boardwalk is needed, choose a non-permanent design that can be removed in sections.



SEPTIC SYSTEM MAINTENTANCE

Faulty septic systems can contribute both nutrients and pathogens to the groundwater table which flows toward Lake Huron. Septic systems installed in well-drained, sandy soils with a shallow water table provide ideal conditions for the transport of nutrients (that feed algae), and bacteria to groundwater. Therefore local systems can, and likely do, contribute to poor local water quality in the lake. Make sure your septic system is large enough to meet your needs.





other animals. They become a problem when people feed them food that is not typically in their diet and they become dependent on these supplements. Aside from the health issues affecting the birds themselves, large numbers of these birds attracted by human activity can pose a human health risk through excessive amounts of excrement on the beach area.



DETER WATERFOWL

Gulls are a common sight along beaches, and on occasion they arrive in such numbers, they could be contributing to poor

local water quality. However, they probably play a more important role in cleaning the beaches of rotting fish and

Canada geese are grazers and are particularly attracted to turfgrass lawns where the accumulation of fecal waste can degrade nearshore water quality. Landowners can prevent this grazing by replacing turf grass with native shore line vegetation. In sandy beach areas, replacing turf grass with native dune grass vegetation will deter geese.



REGULARLY REMOVE BEACH LITTER

The most commonly litter along Lake Huron is cigarette butts. Rural beaches are littered with recreational garbage such as broken beach toys, cans and bottles, and food packaging. Property owners along the shoreline find that garbage washes onto the shore regularly throughout the summer. Large pieces of plastic litter will continue to break down into smaller pieces that become extremely difficult, if not impossible, to clean-up. They can be ingested by local wildlife who mistake the item for food. Repeated ingestion by local wildlife can cause death.

Beach litter not only looks bad, it's dangerous to local wildlife and in some cases, human health.





birds, butterflies and mammals. Native plant landscaping can help sustain the natural beauty of the local ecosystem. This natural beauty is what has attracted so many to Lambton County's shores. Native plants will save money because there is no need to mow, fertilize, or water. They tend to have deeper root systems which better hold surrounding soils, reducing erosion; deep roots also filter water and improve local water quality.

Every exotic and ornamental plant sold at local landscaping companies has a native alternative; it is just a matter of finding out what native species will work for your purposes.



PLANT NATIVE SPECIES

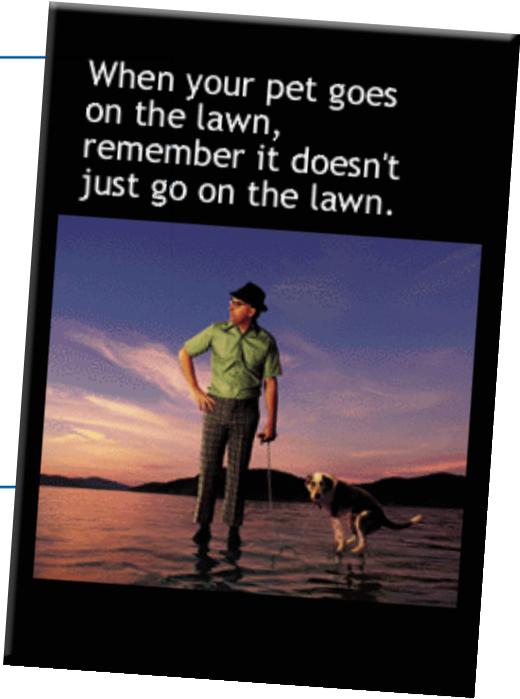
Native plants are adapted to certain ecological conditions such as shade, sun, high moisture, specific soil types or topography. Coastal plants

can handle extreme elements like wind, waves, temperature and lake-effect precipitation. Native plants provide valuable habitats and food sources for




PICK UP PET WASTE

Dog waste contains twice as much fecal bacteria as human waste. Fecal bacteria can make people sick if they swim in contaminated water. Be a good citizen: Pick up after your pet.





Read our Dune Planting Guide to learn how to restore native dunes to your shoreline.

ENCOURAGE DUNE RESTORATION

Native dune grasses provide a natural “buffer” between the lake and residences. Vegetation stabilizes sand dunes and helps to increase the amount of sand available to build sand bars during erosion events. Beaches, dunes and sand bars constitute the most effective shore defense from lake-effect erosion (they outperform engineered structures).

Sand dunes will become increasingly important as our climate changes and anticipated increases in wind speeds off the lake blows more sand inland. The absence of dunes will lead to greater shore erosion.



LEAVE NATURAL DEBRIS ON THE BEACH

Strand lines, or debris lines, are a common feature of Lake Huron beaches formed during storms or high wind events when the lake deposits floating organic debris in a distinct line down the beach. This debris provides important foraging habitat for migrating shorebirds, such as Sandpipers, Dunlins and Piping Plovers. The debris also provides basking opportunities for amphibians and reptiles. Organic debris will biodegrade and provide essential organic material to the dunes.



Help provide wildlife habitat by clearing only small areas for recreation. Leave most of the strand line alone.



these manicured areas. Mowers can run over wildlife. Any wildlife attempting to cross open lawns are vulnerable to predators.



LESS MOWING

Maintaining lawn grass near shorelines has a number of negative impacts for the local ecosystem. Turf grass, or in some cases, mowed shrubs and

herbaceous plants, provide little to no habitat for local wildlife, not to mention the disturbance caused by loud, motorized equipment used to maintain

Lawns do not compare with native vegetation in their ability to filter and absorb rainwater pollution, nor do they slow surface water flow during heavy rains. Lawns also attract waterfowl which can impact water quality.



MAINTAIN OR RESTORE BUFFERS

Buffers are areas of natural vegetation that run parallel to the shoreline or stream. They provide good habitat for many species. Buffers also improve water quality by filtering and purifying surface water before it enters a watercourse.

Sometimes people remove parts of a natural buffer to improve views of, or access to, the water. Opening up gaps in a vegetated buffer needs to be

done with great care. Trimming a few strategic branches for the purposes of improving a lake view may be the better option, since clearing vegetation can undermine the buffer's ability to protect against erosion and filter pollutants.

The occurrence of extreme weather events is increasing with a changing climate. Flowing stormwater carries nutrients and soil into the lake. Buffers provide a simple and sustainable solution.



KEEP MOTORIZED VEHICLES OFF BEACHES & DUNES

Motorized vehicles, such as all-terrain-vehicles, (ATVs), are very damaging to coastal environments, including beaches and dunes. Aside from the more obvious issue of pollution from fluids that could leak or be spilled onto the beach, ATVs are a threat to the plants and animals that live in beach and dune habitats, can damage the structure of dunes leading to mass erosion and damage both public and private properties.



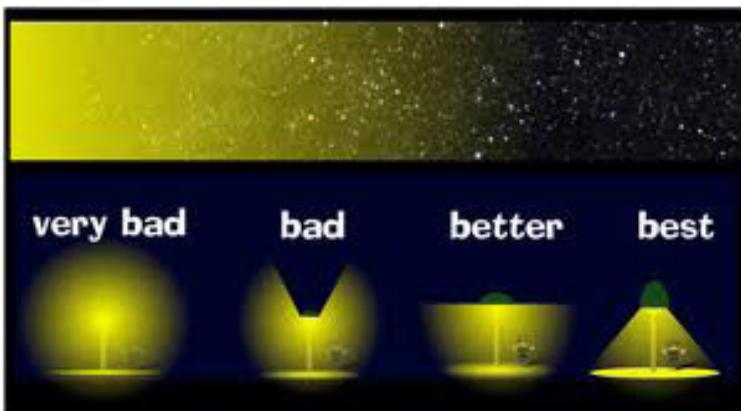
Maps of ATV trails can be found on-line at: lambtoncountytrails.com

Motorized vehicles facilitate the spread of invasive plant species along our coast. Seeds and root fragments can be transported by vehicles from an area infested with invasive plants and brought to our shores.

Municipalities and landowners along the Lake Huron coast have been forced in recent years to spend hundreds of thousands of dollars to slow the spread of the invasive plant, European Reed (*Phragmites australis*).

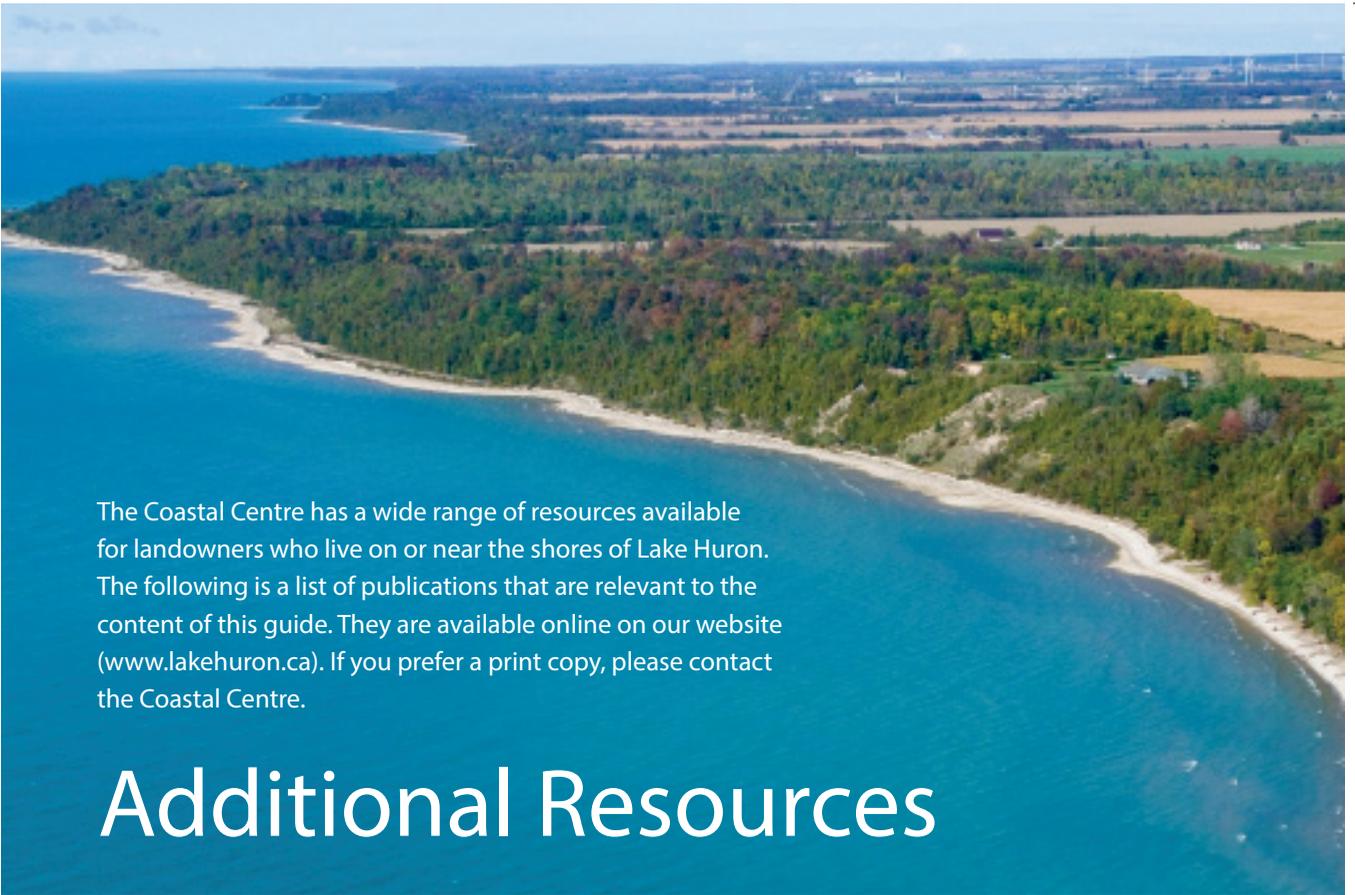


REDUCE NIGHT LIGHTING



Bright lights can cause light pollution and reduce our ability to enjoy the night sky. It can disrupt natural patterns in wildlife. Use dark sky friendly lighting in outdoor fixtures to direct light down to the area you wish to illuminate. Use automatic timers to ensure the light is on when you need it, and off when you don't.

Visit Bruce Biosphere Association www.bpha.ca for dark sky friendly products.



The Coastal Centre has a wide range of resources available for landowners who live on or near the shores of Lake Huron. The following is a list of publications that are relevant to the content of this guide. They are available online on our website (www.lakehuron.ca). If you prefer a print copy, please contact the Coastal Centre.

Additional Resources

Guides

Dune Planting Guide: Wise Stewardship of Lake Huron Coastal Dunes

A step-by-step guide on how to plan, implement and maintain a dune on your property.

Lake Huron Coastal Dune Plants Guide: The Good, the Bad, and the Ugly

Provides pictures, identification and habitat information for over 100 native, non-native, and invasive species found along the Lake Huron shore. Use this guide to plan your native species garden.

Stewardship Guide for Lake Huron Dunes

A comprehensive guide to dune stewardship, this publication includes information on dune ecology, dune species, and some guidance on how to use sand fencing and dune grasses to restore a dune.

Lake Huron Beach & Dune Ecosystems

A newspaper-style tabloid with general information on Lake Huron dunes.

Port Franks Beach and Dune Stewardship Guide

A comprehensive guide for the community of Port Franks and best practices for managing its beaches and dunes.

Factsheets

Value and Function of Coastal Vegetation

If you are still not convinced that vegetation is important to the health of the shoreline, this fact-sheet is for you.

Trouble with Beach Grooming

Outlines the reasons why removing beach debris is harmful to the beach-dune ecosystems and the species that use these areas as habitat.

Species at Risk (SAR)

Private landowners can greatly influence the successful recovery of Species at Risk (SAR) in their area and improve the status of those species. Learning to identify SAR and reporting sightings contributes extremely valuable data to their provincial recovery.

There are over 80 SAR in Lambton County. This guide will focus on the SAR known to occur in the Grand Bend-Lpperwash dune complex.

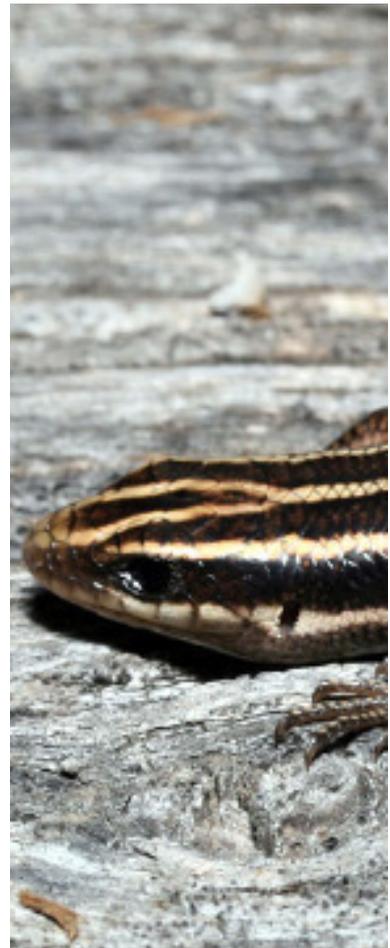
While habitat loss continues across the County, the corridor of forested dunes along the shores of Lake Huron provides a refuge for wildlife. The following species have been seen within the complex, but it's not certain if other SAR are using the area.

If you encounter any SAR, try to obtain a photograph without disturbing the animal or plant. If you cannot obtain a picture, it is still important to report your observation.

To report a SAR sighting, contact the Ministry of Natural Resources, Alymer District (519) 773-9241.

If you are reporting a reptile or amphibian sighting, you can use Ontario Nature's Reptile and Amphibian Atlas program at www.ontarionature.on.ca

For a full list of SAR in Lambton County, visit the Ontario Ministry of Natural Resources at www.mnr.gov.on.ca



Species at Risk (SAR)

Common Five-Lined Skink (Endangered)

(*Plestiodan fasciatus*)



Gary Nafis

Identification:

- Five cream coloured stripes running down the back
- Juveniles have a blue tail
- approximately 8.6 cm long
- Can shed all or parts of the tail

Habitat characteristics:

- Edges of deciduous forest
- Open areas, along the margins of sand dunes, open forested areas, wetlands
- Hibernate in crevices among rocks or buried in soil
- Spend most of their time concealed under cover of objects such as logs, boards, or sheets of wood
- Five-lined skinks prey on insects such as mosquitos and black flies

Help the Common Five-Lined Skink:

- Improve habitat quality by replacing lawns with natural species gardens
- Leave natural cover objects in place (logs, rocks, strand lines on the beach)
- Avoid stepping on cover objects (rocks, logs, etc.)
- Do not pick up or harass as this could cause the tail to break off. They can re-grow their tails but it requires a lot of energy

Species at Risk (SAR)

Eastern Hognose Snake (Threatened)

(*Heterodon platirhinos*)



Identification:

- Heavy-bodied snake
- Uprturned snout
- 50-85 cm long
- Can be gray, olive, brown or black
- Flares its neck like a cobra when threatened
- Plays dead when threatened

Habitat characteristics:

- Well drained, sandy or loose soils
- Open vegetative cover, such as woodlands, brushland, sand dunes
- Close proximity to water
- They prey on toads, salamanders, turtle eggs, small mammals and birds

Help the Eastern Hognose Snake:

- Improve habitat quality by replacing lawns with natural species gardens
- Plant buffers along waterways
- Avoid fertilizers that end up in the water which can contaminate prey and bio-accumulate in the snake
- Leave natural cover objects in place (logs, rocks, strand lines on the beach)
- Avoid stepping on cover objects (rocks, logs, etc.)

Species at Risk (SAR)

Dwarf Hackberry (Threatened)

(*Celtis tenuifolia*)



Identification:

- Small deciduous tree or shrub tree
- Light grey bark
- Hermaphroditic flowers
- Small, round, orange-brown fruit

Habitat characteristics:

- Shrub and treed sand dunes
- Oak savannahs
- Red cedar treed alvars

Help Dwarf Hackberry:

- Allow sand dunes to form and function naturally. This species relies on the disturbance of wind and waves, thriving on dune ridges and south facing slopes that maintain an early successional regime
- Garden with native species to avoid inadvertently planting something that will outcompete dwarf hackberry seedlings
- Do not trample the plant. Stay on access paths and trails
- Keep domestic cats indoors; cats are the number one threat to wild birds. This species relies on wild birds to consume its fruit and disperse its seed

Species at Risk (SAR)

Pitcher's Thistle (Threatened)

(*Cirsium pitcheri*)



Identification:

- Perennial plant with a distinctive white-green colour
- First appears as a rosette; remains a rosette for 2-11 years
- At maturity, an upright stem appears with one to many spiny shaped thistles
- Flowers are white or pale pink
- Fruit is blown by wind
- After setting seed, the plant dies

Help Pitcher's Thistle:

- Allow sand dunes to form and function naturally
- Never remove or destroy dune vegetation
- Never drive vehicles on dunes
- Do not trample the plant; Stay on access paths and trails

Habitat:

- Sand dunes and beach ridges
- Optimal habitat is open, dry, loose sand with little other vegetation

Species at Risk (SAR)

Turtles have an important role to play in our region's biodiversity. They help control insect and snail populations, disperse seeds, and help keep the water clean for all animals - including humans - by scavenging dead animals and preying on weak or sick individuals.

There are nine turtle species in Ontario. Eight of them are at risk.

Turtles are especially vulnerable to threats because they have long life spans (over 70 years for some) and low birth rates. The early death of even a few adult turtles a year will cause populations to decline, as they have in Ontario. Many of the turtles in Ontario are so vulnerable to poaching that even their general locations are kept confidential.

How Can You Help?

Report sightings or poaching to the Ontario Ministry of Natural Resources. Call 1-877-TIPS-MNR (847-7667) toll-free or contact your local ministry office. You can also call Crime Stoppers anonymously at 1-800-222-TIPS (8477). Leave turtles and their habitat alone. Inform others about the plight of Ontario's turtles. Please remember that most turtle species in Ontario are legally protected.

ONTARIO'S TURTLES



BLANDING'S TURTLE

greyish brown to black shell with yellowish flecks; bright yellow chin & throat; bulging eyes; 12 - 18 cm long

THREATENED



MIDLAND PAINTED TURTLE

red markings on edge of shell; yellow stripes on neck & legs; 11 - 14 cm long



NORTHERN MAP TURTLE

brown shell with light yellow 'map' markings; yellow markings on head, neck, legs, & tail; jagged shell rims; 9 - 27 cm long

SPECIAL CONCERN



SNAPPING TURTLE

light brown to black shell; long tail with 'dinosaur-like' spikes; 20 - 36 cm long

SPECIAL CONCERN



SPOTTED TURTLE

black shell with yellow spots; yellow/orange spots on neck, legs & tail; 9 - 12 cm long

ENDANGERED



WOOD TURTLE

brown shell with distinct ringed, wood-like texture; often found on land; 14 - 20 cm long

ENDANGERED



STINKPOT (MUSK) TURTLE

olive to black, high domed shell; 2 light yellow stripes on head; light yellow spots on neck, legs, & tail; 5 - 12 cm long

THREATENED



SPINY SOFTSHELL TURTLE

flat, soft, olive to brown shell; very long neck; pig-like snout; 12 - 43 cm long

THREATENED



RED-EARED SLIDER

NON-NATIVE SPECIES

green & yellow shell and skin; green head with a red stripe behind each eye; 12 - 20 cm long

Beach Etiquette



In honour of Emily Post, we present the following tips on proper beach etiquette. You may want to post these in a conspicuous place where visitors can read and learn!

Don't Bring Glass Containers

Leave your glass containers at home. Use recycleable plastic and paper. People are barefoot and broken glass could cause injury to humans or their beloved pets.

Can you Dig It?

Sure, but fill it in afterwards. Like a golfer replacing a divot, beach goers need to fill in their holes when they are done. Sand castles and holes left on the beach can pose a hazard to others walking along the shore, particularly people with low vision or walking after dark.

Collect Litter as you Walk on the Beach

Many of the wildlife living in and around the water do not chew or taste their food. They just gulp it! Even tiny pieces of litter can hurt wildlife, please be sure to dispose of your garbage and recyclables in proper receptacles.

The Beach is NOT an Ashtray

When you go to the beach, try to enjoy the fresh lake air. If you smoke, separate yourself from others and make sure you are downwind. Dispose of your cigarette safely in a garbage receptacle, not the sand. Cigarette butts are a big polluter on our beaches, and a danger to wildlife if ingested.

Don't Feed the Wildlife

Birds and other animals can find their own food. Seagulls are good at begging and hovering. If you feed them, they may become aggressive.

Campfires

Many public beaches do not allow fires. For those areas where allowed, be sure your fire is fully extinguished. Build your fire near the water's edge so embers do not float up and into treed areas or onto cottages. Do not have fires when it is windy.

Dispose of Litter Properly

Most public beaches have garbage or recycling cans. Never toss litter into the water or leave it on the sand. Leave the beach cleaner than you found it: Human-generated garbage (like plastics) often ends up on the beach. This can kill shore life (fish, birds, etc.) that either becomes entangled in it or ingests it. It is collectively our responsibility to clean up our garbage!

Follow the Posted Rules

Most public beaches have rules posted near the entrance. Read and follow them. They are for the safety and enjoyment of everyone.



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