



# Endangered Species of Canada

Sierra Club Canada Foundation



F O U N D A T I O N  
S I E R R A C L U B C A N A D A  
F O U N D A T I O N

## *Acknowledgment*

First and foremost, we would like to thank all the photographers who donated their beautiful images. Their talent, passion, and skill has filled the pages of this book with unbelievably stunning photos of Canada's wildlife, plants, and insects. The donation of each photograph demonstrates their dedication to Canada's natural environment and your understanding of education as a necessary tool for protecting it for future generations. We would also like to thank all the researchers who helped create this book. Their generous donation of your time is greatly appreciated. Their research skills and ability to find photographs of the most obscure of species will not be forgotten.

Special thanks go to The George Kostiuk Family Private Foundation. A year ago when we approached Foundations in search of financial support for the creation of this book, The George Kostiuk Family Private Foundation saw the potential. They knew how important it is to have this resource available to the public. Their support in protecting wildlife, the environment and our organization gave us the opportunity to make this book a reality.

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## *Foreword*

By John Bennett  
Executive Director  
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I like to sip my first coffee staring out at the little bit of green my backyard provides. I like to listen to the birds and watch the squirrels running about. In those few moments, before the day starts, I really understand our responsibility to preserve the natural ability of our planet to renew itself and why I work every day to protect it.

This is a book about Canada's endangered creatures. It's an incomplete book, only 146, of the 300 registered endangered are pictured. We hope to eventually include all the species in need of our protection. If you are a wildlife photographer and would like to contribute, a list of all remaining species can be found at the end of the book.

It's a book no one has wanted to write. Sierra Club Canada Foundation would rather publish a book about our many, many successes; but when it comes to protecting the creatures that share the planet with us we are not doing a very good job. In addition to the 300 endangered species there is another 400 of great concern. We hope by documenting the blight of so many beautiful creatures we will contribute to a renewed effort on Canadians to protect them.

It's not that we can't or we don't know how. It's just that collectively our society hasn't put enough effort into preserving habitat. We just refuse to share our toys with the other creatures. All we need are a few good laws and a few good people to enforce them.

Throughout my career as a climate and energy campaigner I have left the more traditional conservation issues to others. There was one exception, in February 1976 when I found myself learning to swim in Halifax harbor. I was trying to prevent a sealing boat from setting sail for the ice floes, but my ten foot rubber boat was no match for a 150 foot ocean going sealer. I was pulled out of the polluted harbor waters and was soon back protesting nuclear power plants and acid rain.

In late 2011, I learned of a federal government plan to kill 6000 wolves to save the endangered Woodland Caribou in Northern Alberta. Now even I knew there was something wrong about this idea. Then I received a call from the 84 year old former president of the now defunct organization to save wolves. He chastised me because back in the 1980s Sierra Club Canada helped him organize a meeting of 1500 people in Edmonton to oppose a proposed wolf cull. What was I doing now?

Good question!



“Check it out!” he told me, “The scientific evidence doesn't support culls. It proves it doesn't work. What was I going to do?”

The real threat to the Woodland Caribou in Western Canada is the loss of habitat and disruption of migration caused the rapid expansion of Canada's oil industry. But that's just about all I knew. So I started talking to experts.

Susan Pinkus, EcoJustice's resident biologist was especially helpful. With her guidance we wrote a paper on the Woodland Caribou recovery plan strongly condemning the wolf cull and launched a petition campaign asking our supporters to endorse our submission to Environment Canada. In one weekend 3000 people signed.

The government received 19,000 comments. In a subsequent conversation with a government official I learned the average number of comments is 25 and previous high 125. As a result we got a new Caribou recovery plan putting habitat protection ahead of culling wolves - a rare victory. It's a better plan but the oil industry hasn't been kicked out of the woods so Caribou survival isn't guaranteed either.

Then came the 2012 omnibus budget bill, it changed or replaced the Environmental Assessment Act, Fisheries Act and the Navigable Waters Act -- three of five important federal laws that protect the environment.

What about the Species At Risk Act? We soon learned it was next on the list. Environment Canada, has drafted amendments. What the changes are we don't know.

Given the devastating weakening of the other acts we feared the worst and still do.

Through the media, we learned, the energy industry had secretly written a letter to the government early in 2012; in it the industry asked for changes to Environmental Assessment Act, Fisheries Act, Navigable Waters Act and the Species at Risk Act. Three out of four have been delivered.

So whatever is coming, it can't be good for animals, especially endangered species.

The question I was presented with is “What can Sierra Club Canada do to protect endangered species in these times?”

My experience in the omnibus bill debate taught me a lesson. As an environmental advocate calling for change I have always been on the side that frames the issue. In the omnibus debate I and all the other environmentalists were forced onto the defensive by the federal government that had carefully planned how it was going to villainize the environmental movement. Then make the most devastating changes to the laws we have relied on to protect the environment.



The campaign began with a premeditated attack from the Natural Resources Minister who called us “radicals” doing the bidding of “foreign interests”. These weren't off the cuff remarks. He wrote an open letter and sent it to the media. Later the prime minister, other cabinet members and MPs repeated the attack lines.

Environment Minister Peter Kent, the supposed advocate for the environment in cabinet, waited a few weeks before launching phase two. He said we were “laundering money” - a criminal act.

Then Greenpeace showed up on an RCMP terror watch list.

And the Senate Conservatives jumped in with an “investigation” of the funding of environmental charities. Despite dozens of phone calls no Conservative Senator would meet with Sierra Club Canada or invite us to testify.

The frame was set environmentalists had been tagged with every one of the traditional smears. We were “radical”, dupes of “foreign interests”; criminals and terrorists.

The government then introduced the changes environmental protection laws. Its spokespeople argued it was modernizing and streamlining. They said the Fisheries Act required a farmer to wait two years to drain a ditch. So we lost our bid to save environmental protection in Canada.

But nothing had happened to the Species at Risk Act, yet! When would the shoe drop?

So we began looking for ways to frame Species At Risk in a way everyone could understand..

Thinking back on the wolf cull and the picture we used in our campaign it occurred to me that it was what people saw that moved them to sign our petition. No words can describe the beauty and power of nature's creatures.

We need pictures of the Western Prairie Grouse and all the other endangered creatures in Canada.

Then I discovered that there was no place you can go and see pictures of the 300 endangered species in Canada. No book. No website. Well there is now!

So for eight months some of the best young people I've met toiled to produce this book. Tracking down pictures and photographers and asking for the right to include them. They donated their time and the photographers donated the pictures.

I think once you have looked through this book you will agree that it would be a crime to stand back and let the shortsighted weaken the laws that protect them. And you will join me in calling for stronger better laws.

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# Mammals



Photo by Samuel Wasser



## Wood Bison (*bison bison athabasca*)

The Wood Bison is Canada's biggest land mammal. It is listed as threatened under the Species at Risk Act and COSEWIC. The range of threatened populations covers Alberta, British Columbia, Yukon, and Northwest Territories. The ideal habitat for this creature are the boreal and aspen forests. This bison has the potential to live to up to 40 years of age. They are particularly vulnerable to certain diseases including anthrax, tuberculosis, and brucellosis. The latter diseases are heightened by cross-breeding with the Plains Bison. Their habitat, and their survival, is also threatened by agricultural, forestry, and petroleum developments. Cross-breeding with the Plains Bison. Their habitat, and their survival, is also threatened by agricultural, forestry, and petroleum developments.

Photo by Don Getty



## Grizzly Bear (*Ursus arctos*)

This charismatic bear is endangered throughout its range in North America, Europe, and Asia. In Canada, the Grizzly Bear has been extirpated in the Prairies and is extinct in Quebec and Newfoundland and Labrador. The remaining bears reside in British Columbia and western Alberta and are listed as special concern. The Grizzly Bear lives in a variety of habitats, from coastal rainforests to the arctic tundra. Mortality caused by humans is the main threat to these large bears. Humans contribute to Grizzly Bear mortality in various ways: hunting of bears for sport and Aboriginal subsistence, accidental kills, kills in defense of property and life, poaching, mortality during research, and collisions with trains and automobiles. Climate change, habitat degradation, and pollution may also be important limiting factors.



Photo by Don Getty





**Peary Caribou (*Rangifer tarandus pearyi*)**

Photo by Martin  
Brummell

The Peary Caribou are found in Northwest Territories and Nunavut. These animals have certain physical characteristics that distinguish them from other caribou. They are smaller in general, their fur is thicker, and their antlers are a beautiful grey velvet. Due to the harsh climate of the Arctic tundra, they migrate from island to island during the different seasons to feed on the vegetation. The biggest known threat to the Peary Caribou is climate change. Unpredictable and unseasonable winters that produce freezing rain, or any ice formation, put the caribou's food supply in serious peril.





Photo by Erica Newton

### **Woodland Caribou (*Rangifer tarandus caribou*)**

The Atlantic-Gaspésie population of the Woodland Caribou, found in Québec, is listed as endangered under the *Species at Risk Act* and *COSEWIC*. Currently, there are only four provinces in which you cannot find the woodland caribou: Prince Edward Island, Nunavut, Nova Scotia, and New Brunswick. This large mammal's ideal habitat is lush and isolated forests. They subsist mostly off of lichens. It is often cited that the health of the woodland caribou is an excellent indicator of the health of Canada's forests. Extreme cold and snow is detrimental to their food consumption. Low population size, habitat fragmentation due to human activity, and climate change all threaten this vulnerable population.

## Swift Fox (*Vulpes velox*)

This beautiful, lightly coloured fox gets its swiftness from being smaller and more slender than other types of Fox. Its ears are also notably large and pointed. The Swift Fox prefers the short to mixed grass areas of the prairies, however over the past 100 years the numbers have declined. In 1928, the Canadian population was speculated to have been completely extirpated. Since then captive breeding programs have been established to reintroduce them back into Canada. In the later years of the last century 942 Swift foxes were reintroduced into Alberta successfully establishing a new population. The reason for the reduced numbers has to do with the grasslands being converted into farmland. The Swift Fox is also vulnerable to shooting and trapping due to its preference of wide open areas. Poisons meant for coyotes have also greatly deteriorated their numbers.



Photo By Paddy Ryan



Photo by Don Getty

### **American Badger (*Taxidea taxus jeffersonii*)**

This largely nocturnal member of the weasel family currently resides in Ontario, just south of the Niagara and Bruce peninsulas. The ideal habitat of the American Badger seems to be somewhat of a mystery, but crumbly soil conditions, optimal for burrowing and hunting prey, are important for its survival. Badgers are generally found occupying natural grasslands or even man-made establishments such as golf courses. This animal is currently threatened primarily by habitat disruption caused by human development, road-kills, and increased agricultural production.





Photo by Coralie Sarron

## **Wolverine (*Gulo gulo*)**

The Wolverine might look more like a small, odd bear but it is in fact a member of the weasel family. The health of this mammal's population is an important indicator of the health of an ecosystem. However, sadly, the Wolverine is a species that is in trouble not just in Canada, but globally. Believed to be both a foe and spiritual guide by Aboriginal peoples, the Eastern population (in Québec, Newfoundland and Labrador) of this species is seriously endangered. According to the Species At Risk Act Public Registry, a variety of historical and current practices have led to its status. These include, hunting in the 19th century, decline in caribou in the 20th century, human alteration of habitat, and the use of poison to trap other animals.



Photo by PAWS, Lynnwood, WA, 2007

### **Townsend's Mole (*Scapanus townsendii*)**

The Townsend's Mole is the biggest of the moles in North America. Its range in Canada is limited to the southwestern region of British Columbia. These moles are essentially blind, as they cannot see images, but they can identify light. This is compensated by its significant sensitivity to touch and excellent hearing. The Townsend's Mole ideal habitat is moist soil. They are known to live in prairies and lowland fields and meadows, particularly those near rivers or wetlands. These moles also use farms, lawns, and golf courses as homes causing many to view them as pests. Therefore, sadly, trapping is their most significant threat.





Photo By Travis Livieri/Prairie Wildlife Research

### **Black-footed Ferret (*Mustela nigripes*)**

Extirpated in Canada, the Black-footed Ferret once inhabited southwestern Saskatchewan and southeastern Alberta. This ferret needs short grass prairies and the presence of prairie dogs to survive. Prairie dogs dig the burrows that Black-footed Ferrets use for protection and to nesting and are an important food source. The ferret's decline is thought to have been caused by habitat loss, drought, and poisoning of ground squirrels and prairie dogs. A reintroduction program started in 2009 in Grasslands National Park may be the ferret's last hope.





Photo by Joshua Nemeth, Las Cruces NM

### **Ord's Kangaroo Rat (*Dipodomys ordii*)**

This hopping rodent is the only species of kangaroo rat in Canada. Its range is restricted to 2 small areas of sand hills in southeastern Alberta and southwestern Saskatchewan. The Ord's Kangaroo Rat prefers sparsely vegetated sandy habitats because of its penchant for burrowing and its hopping locomotion. This kangaroo rat is threatened by habitat loss and degradation, agricultural practices, and oil and gas developments.



Photo by David Nagorsen

### **Vancouver Island Marmot (*Marmota vancouverensis*)**

This colonial burrowing rodent lives only on Vancouver Island in subalpine meadows. The Vancouver Island Marmot has been concentrated into a very restricted area by logging and this has resulted in inbreeding which can affect survival. Predation by wolves, cougars, and golden eagles is the main cause of decline in the species. Climate change may influence predation rates if marmots emerge earlier or go into hibernation later because of changing snow conditions.





Photo by Denis  
Knopp

## **Pacific Water Shrew (*Sorex bendirii*)**

The Pacific Water Shrew (also known as the Marsh Shrew) is fairly large, for a shrew that is. Its tail is actually half the length of its body! As it is a rare species, and difficult to document, the range of the shrew is not very well recorded. However, it is believed to occur in the lower Fraser River valley. The Pacific Water Shrew, as indicated by its name, eats mostly aquatic species like slugs and snails, but also small insects. They catch their prey by swimming on the water's surface. The shrew's special fringed feet can even help it to walk on water, but only for a few seconds. The main threats to this species are pesticide run off, fisheries surveys, and habitat loss.





Photo by Matt Binstead at the British Wildlife Centre

### **Western Harvest Mouse (*Reithrodontomys megalotis*)**

Two subspecies of Western Harvest Mouse reside in Canada and represent two populations. In Alberta the harvest mouse is endangered, while the British Columbian population is listed as special concern. This rodent prefers densely vegetated areas such as grasslands, old fields, and Ponderosa pine forests. The main threats to the Western Harvest Mouse are habitat loss, degradation, and fragmentation due to agricultural activities and urban development. Populations may also suffer mortality due to pesticides.

## Blue Whale (*Balaenoptera musculus*)

The Blue Whale is certainly an impressive animal. In fact, it is the largest mammal on Earth! An adult can weigh as much as 200 tons. To put this into perspective, just the tongue of the Blue Whale can weigh just as much as an elephant! Despite its massive size, this mammal's diet consists of very tiny crustaceans known as krill. However, the blue whale can eat up to 4 tons of krill a day. Another interesting fact about this species is that, again, even though it's so large it can swim as fast as 36 kilometers an hour. In general though, it likes to cruise at a speed of 2-8 kilometers an hour. In Canada, the North Atlantic and North Pacific populations are listed as endangered. The root cause of its status is historical: extensive whaling from 1900-1965 has drastically impacted the current population. Human threats such as collisions with boats, entanglements in fishing nets, and pollution still remain as present threats to the Blue Whale.



Photo by© Anthony Pierce  
[www.dolphinphotos.co.uk](http://www.dolphinphotos.co.uk)

## Sei Whale (*Balaenoptera borealis*)

The Sei Whale is in the same family as the endangered Blue Whale, but it is much smaller and lighter. They measure, in general, 14-15 meters long and weigh only 20 tons. They are also relatively fast swimming whales, with speeds reaching up to 56 kilometers an hour! However, under normal circumstances, they prefer to swim at 17 kilometers an hour. They are social animals, usually found swimming in groups of 2-5 whales at a time, and occasionally more. These whales are found off the Atlantic and Pacific coasts. The Pacific population is listed as endangered in Canada. The consequences of hunting in the past have been extremely detrimental to the Sei Whale. Tragically, the population has not been able to make a recovery. Indeed, throughout the 19<sup>th</sup> and 20<sup>th</sup> centuries, 300 000 Sei Whales were hunted for their oil and meat. While there are no known, specific threats to this whale to day there are “concerns”. These concerns include noise pollution, chemical pollution, and habitat loss.



Photo By © Anthony Pierce  
[www.dolphinphotos.co.uk](http://www.dolphinphotos.co.uk)





Photo by Samuel Wasser

## **Killer Whale (*Orcinus orca*)**

Canadian populations of the Killer Whale reside in the northwest Atlantic, eastern Arctic, and in the Pacific oceans. They can survive in a wide range of different marine habitats. Orca whales are threatened by chemical pollutants in the oceans, reduction in prey availability, and whaling. Commercial fishing practices and whale watching are affecting the survival of the Killer Whale. The former results in whales becoming entangled in nets and both interfere with the Orca's acoustic method of hunting and can cause collisions with boats. Killer whales are also shot for raiding fishing nets.

## Northern Bottlenose Whale (*Hyperoodon ampullatus*)

The Scotian Shelf population, found in the Atlantic Ocean, is considered endangered under COSEWIC and the *Species at Risk Act*. These whales can be found in the submarine canyon off of Nova Scotia while their key habitat is noted as The Gully, Shortland and Haldimand canyons. They prefer the deep end, avoiding water less than 800 meters deep. Being a small population, the Northern Bottlenose Whale is vulnerable to many threats. The most significant reasons for their status as endangered are net entanglements, water contamination, noise pollution caused by human activity, and oil and gas activities in their habitat.



Photo by H. Murphy



## Beluga Whale (*Delphinapterus leucas*)

The Beluga Whale is threatened or endangered throughout most of its Canadian range. This white whale resides in the St. Lawrence River and the Arctic and Atlantic oceans. They like cold waters with abundant prey and are found in different habitats in different seasons. The decline of the Beluga can be attributed to over-exploitation, environmental contamination, habitat alteration and degradation by humans, and disturbance related to ships and boats. Beluga whales are also hunted by Polar Bears and Killer Whale.



Photo by Chris Hawkes



## North Atlantic Right Whale (*Eubalaena glacialis*)

This endangered baleen whale extends from the Gulf of the St. Lawrence to Newfoundland and Labrador. In Canadian waters, these whales are considered part of the western stock of the North Atlantic Right Whale species. The whales are migratory and prefer coastal waters. Entanglement in fishing gear and collisions with boats represent a significant threat to the North Atlantic Right Whale. Other threats include habitat loss and degradation, climate change, disease, pollution, and disturbance from tourism activities.



Florida Fish and Wildlife Conservation Commission, NOAA  
Research Permit #15488

# Birds



Photo by Don Getty



Photo by Sofi Hindmarch

## **Barn Owl (*Tyto alba*)**

The Barn Owl is distinguished from other owls by its endearing heart-shaped face. They can be found in southern agricultural regions of Canada (one population in British Columbia and one population in Ontario), preferring open pastures where prey is abundant. Due to increased urbanization and changes to agricultural practices, the barn owl has found its way onto the endangered species list in Ontario. Pesticides, chemicals, and collisions with vehicles also play a role in the species decline.



# Williamson's Sapsucker (*Sphyrapicus thyroideus*)

This endangered woodpecker can be found in the coniferous forests of southern British Columbia. There are 2 subspecies which live in different regions: the *thyroideus* which is more widespread and the *nataliae* which is limited to the far southeast of the province. The Williamson's Sapsucker nests at medium or high altitudes, primarily in old-growth western larch trees. Limited nesting sites and habitat destruction by the forestry industry threaten the continued existence of the Williamson's Sapsucker.



Photo by: Glenn  
Bartley



## **King Rail (*Rallus elegans*)**

Photo by Kevin Karlson

The King Rail is a marsh bird which breeds in the extreme south of Ontario. It is found in a variety of freshwater marshes. *Rallus elegans* requires large marshes with shallow, open water and some shrubby areas. This large rail is threatened by habitat loss and degradation, including loss due to artificial water level maintenance and controlled burning of marshland.



Photo by John Cassady

### **Piping Plover (*Charadrius melodus* sp.)**

Both subspecies of piping plover living in Canada are endangered due to habitat loss and disturbance to nest sites. This small plover is also affected by climate change, changes in water levels, and predation on eggs and young. The circumcinctus subspecies breeds in the southern prairie provinces and formerly in southern Ontario. The melodus subspecies breeds on the Atlantic provinces and the Magdalen Islands of Quebec. Both subspecies require exposed gravelly or sandy beaches close to a body of water.





Photo by Vivek Khanzodé

## **Vesper Sparrow (*Pooecetes gramineus affinis*)**

This endangered sparrow is one of three subspecies of Vesper Sparrow which nests in Canada. It inhabits southeastern Vancouver Island and the Lower Fraser Valley in British Columbia. Nesting occurs on the ground in sparsely vegetated grasslands. The Vesper Sparrow needs mixed height vegetation. Habitat loss and degradation, mostly as a result of modern farming practices and urbanization, are the main threats to this passerine. Predation by domestic cats is another risk. Stochastic events could result in the bird's extirpation.



Photo by Don Getty

### **Greater Sage Grouse (*Centrocercus urophasianus* sp.)**

The male Greater Sage Grouse fills its yellow air sacs to attract mates during courtship. This chicken-like bird depends on sagebrush for survival; to breed, nest, mate, and feed. The Greater Sage Grouse has been extirpated in the Okanogan Valley and remains endangered throughout the prairies of Alberta and Saskatchewan. Conversion of fields of native sagebrush to farmlands of the exotic crested wheatgrass and industrial development has decreased populations.



## **Ivory Gull** (*Pagophila eburnea*)

This high arctic bird has small colonies scattered throughout the North. In Canada they breed exclusively in remote locations in Nunavut in order to find habitats that are safe from predators. During their breeding season, the Ivory Gull nests on both flat terrain and on rocky cliffs. For the rest of the year, they live near the edges of pack ice or drift ice. With such isolated choices for their habitats it may be surprising that predation is such a large threat for the Ivory Gull, but Arctic Foxes and Polar Bears can destroy entire colonies. Illegal shooting of adults and climate change also pose as likely reasons for their diminishing numbers.

Photo by Phil Jeffrey





Photo by Jeffery Offermann

### **Roseate Tern (*Sterna dougalli*)**

The Roseate Tern can be seen gliding along the coasts of the Indian, Atlantic and Pacific oceans. These seabirds return to the same site to breed year after year. In Canada, breeding occurs on a handful of islands off the coast of Nova Scotia. With increased ship traffic and aquaculture practices, as well as development of gas pipelines and receiving plants, the Atlantic Roseate Tern population remains endangered.



## **Red Knot (*Calidris canutus* sp.)**

Photo by Matthew Studebaker

This shorebird gets its name from the brownish red colour its feathers turn during the breeding season. These tough birds migrate thousands of kilometers every year from their breeding ground in the Canadian Arctic to their winter homes in Europe, the United States, or South America, depending on the subspecies. The three subspecies which breed in Canada are listed as special concern, threatened, and endangered. Threats to these birds include the overfishing of prey species, decreasing availability of wetland habitats, increasing frequency and strength of hurricanes, pollution in both North and South America, and global warming due to its effect on conditions in the Arctic during the breeding season. These amazing birds hold the world record for longest migratory flight journey (up to 20,000 km twice a year)!



Photo by Matthew Alexander

## **Yellow-breasted Chat (*Icteria virens* sp.)**

There are two subspecies of the Yellow-breasted Chat that are considered endangered in Canada; the auricollis, found in southern BC, and the virens, found in southern Ontario. Another population found in the prairies of Alberta and Saskatchewan is currently considered not at risk. Habitat availability of its riverside thickets, the conversion of this habitat to agriculture, reforestation, and development are the main threats to the Yellow-breasted Chat.



## White-headed Woodpecker (*Picoides albolarvatus*)

The White-headed Woodpecker is easily identified by its black body and white head. It can be seen or heard hollowing out holes in pine forests in southern British Columbia. The White-headed Woodpecker requires Ponderosa Pine, Jeffrey Pine, Sugar Pine and Coulter Pine forests. Extensive logging and fire suppression have reduced the quality of available habitat, endangering the species.



Photo by Matthew Alexander



Photo by Brian Wolf

## **Whooping Crane (*Grus americana*)**

Standing about 1.5 metres tall, the Whooping Crane is the tallest bird in North America. Occurring only in Canada in Wood Buffalo National Park, this crane inhabits marshes, bogs, and shallow lakes. Human disturbance to its wintering habitats in Texas, such as chemical spills, are the main threat to the species because they destroy habitat and affect food resources.





Photo by Brian Wolf

## **Northern Bobwhite (*Colinus virginianus*)**

The Northern Bobwhite lives on Walpole Island in southern Ontario. Captive breeding programs have tried to establish populations in southern BC and Quebec but were not successful. The population decline is estimated at 99.9% in the last 30 years. This bird species prefers a mixture of grassland, cropland, and brush. The Northern Bobwhite is threatened by loss of habitat to agriculture and urbanization, as well as harsh winters with significant snow cover. Interbreeding with captive reared birds may also have had an impact on the species decline.





Photo by Brian Wolf

## **Greater Prairie Chicken (*Tympanuchus cupido*)**

Considered extirpated in Canada, the Greater Prairie Chicken once ranged throughout the prairies and southern Ontario in natural grasslands. The conversion of grasslands to grazing land and other agricultural land is the main contributing factor to the extinction of the Greater Prairie Chicken in Canada. Hunting, competition with other grassland birds for breeding sites, and hybridization with the Sharp-tailed Grouse also contributed to the decline of this species.

## Loggerhead Shrike (*Lanius Ludovicianus excubitorides*)

The songbird known as the Loggerhead Shrike is slightly smaller than a robin, measuring just 21 cm in length, and can be spotted by its striking black facial mask that covers its eyes. The species began to decline in the 1990s and is represented in Canada by small populations in southeastern Manitoba and southern Ontario. There are currently just 20 breeding pairs in Ontario and a mere 5 in Manitoba. The Shrike captures its prey (usually large insects and occasionally small birds, rodents, and frogs), by scanning the ground from a perch and then swooping down to make the kill with its sharply hooked bill. Grazing areas are the Shrike's preferred habitat, as the short grass and lack of trees and shrubs creates an ideal site to spot potential prey. Grazing areas have sharply declined in Quebec and Ontario over the past few decades, reducing the Shrike's habitat significantly. An increase in the number of roads and traffic in wintering areas, along with use of pesticides, are thought to be other possible factors in the decline of this species .



Photo by Matthew Studebaker



Photo by Matthew Studebaker

### **Cerulean Warbler (*Setophaga cerulea*)**

The Cerulean Warbler is patchily distributed through southern Ontario and southeastern Quebec during the breeding season but migrates to South America for the winter. In the breeding range they prefer mature deciduous forests with large trees and an open understory. Habitat destruction, fragmentation, and degradation, as well as nest parasitism by Brown-headed Cowbirds are thought to be the main threats to this warbler.



## Acadian Flycatcher (*Empidonax virescens*)

This olive green flycatcher is thought to have been widespread before its forest habitats were cut down in the early 1800s. While still widespread and common in the United States, the Acadian flycatcher's numbers and range have been diminishing in Canada. It currently inhabits a few sites in extreme southern Ontario. These songbirds require sizable mature forests that have not been disturbed by human activities. The Acadian flycatcher is threatened by habitat loss, logging, and development near its forest homes.



Photo by Matthew Studebaker



Photo by Matthew Studebaker

## **Prothonotary Warbler (*Protonotaria citrea*)**

This golden warbler breeds in southern Ontario, mostly along the shore of Lake Erie or in sites nearby, and winters in Mexico or South America. In its breeding territory the Prothonotary Warbler nests in deciduous swamp or river floodplain forests, where it uses naturally formed or abandoned excavated tree cavities. The main threats to the Prothonotary Warbler are habitat loss and degradation, competition with other species for nesting sites, climate change, and invasive species.

## Kirtland's Warbler (*Setophaga kirtlandii*)



Photo by Matthew Studebaker

The Kirtland's Warbler is a medium-sized songbird with earliest sightings in Canada dating back to 1900. Although it spends its winters in the Bahamas, the Canadian population of the warbler spends the rest of its year as far west as Minaki, Ontario and as far east as Kazabazua, Quebec. The Warbler prefers forests with young jack pines where it is known to construct its nest on the ground at the base of the tree. The Warbler's main threat is habitat loss from fire suppression. Patches of young jack pines were once renewed frequently by fires caused by lightning. Today, however, fire suppression prevents the natural regeneration of the Warbler's preferred tree and, consequently, limits its habitat. Another threat is posed by female cowbirds that remove one or more eggs from Warblers' nests and replace them with their own eggs. This is very challenging for the Warbler chicks that are often trampled by cowbird chicks that hatch first and out-compete the Warblers for food .



## Horned Grebe (*Podiceps auritus*)

The Horned Grebe is a duck-like water bird known for its small size, usually ranging from just 31 to 38 cm in length. Canadian populations are grouped into two categories: the Western population (which includes birds breeding from BC to the extreme northwestern part of Ontario), and the Magdalen Islands population (birds breeding in this archipelago in the Gulf of the St. Lawrence and other sporadic areas in Quebec). The Magdalen Islands population has declined by 22% over the last three generations - only 5 adults were observed in 2005. The Grebe usually starts breeding after one year of age and is very protective of its nesting territory. Both parents share incubation of the eggs and ensure that their precious nest is never left alone. The Horned Grebe's Canadian population has been diminished by several factors, including oil spills on their wintering grounds, accidentally getting caught by fishing nets during spring and fall migrations, and disturbances from humans camping close to breeding ponds .



Photo by Matthew Studebaker

## Henslow's Sparrow (*Ammodramus henslowii*)

Henslow's Sparrow is a small grassland bird with a critically small population in Canada – a 2001 population estimate counted just 2 to 3 pairs of the small bird. Its population has been declining since the 1950s and is limited in Canada to southern Ontario. It migrates to the southern US during the winter where it can be found in the Gulf coast states and South Carolina. Henslow's sparrows prefer a habitat of undisturbed open fields with tall grasses. Unfortunately, they have very little habitat left as grasslands and pastures are frequently being converted to grow crops. Habitat loss can also be attributed to drainage of wetlands and wet grasslands, fire suppression that results in a change to woodland and shrubland, and urbanization .



Photo by Matthew Studebaker



Photo by Bruce Klassen,  
Footprint Press

## **Western Screech Owl (*Megascops kennicottii* sp.)**

There are two subspecies of the Western Screech Owl in Canada. The *macfarlanei* subspecies occurs in the Okanagan Valley region of British Columbia and is endangered. The *kennicottii* subspecies is present on the BC coast and on Vancouver Island and is currently considered special concern. In Canada this screech owl is found in low elevation forests close to water. The main threat these owls face is habitat loss due to logging and development.



## Burrowing Owl (*Athene cunicularia*)

This endangered owl nests underground in the abandoned burrows of small mammals. Fully grown, the Burrowing Owl is smaller than a pigeon. The Burrowing owl breeds in scattered sites through southern Alberta, Saskatchewan and has been reintroduced to south-central BC. It prefers flat pastures or agricultural field edges with little vegetation. This unique owl is threatened by habitat degradation and fragmentation. The extermination of ground squirrels which dig the burrows the owl relies on, predation, and the use of pesticides also contribute to the decline of the Burrowing Owl.



Photo by Chris Bailey



Photo by Chris Bailey

### **Red Crossbill (*Loxia curvirostra percna*)**

These endangered birds have a crossed bill which allows them to pry open conifer cones to feed on the seeds inside. They will hang upside down to access cones in a fashion reminiscent of parrots. This crossbill roams from BC to the Maritimes, following the production of pine cones. While wide ranging, the percna subspecies is only known to nest in Newfoundland but can do so at almost any time during the year, as breeding depends on food availability. They prefer coniferous forests and are threatened by the degradation of their boreal forest home. Competition with Red Squirrels for food and predation on nests also threaten the Red Crossbill.



Photo by Bill Thompson

## **Horned Lark (*Eremophila alpestris strigata*)**

With an estimated 1 to 5 birds in Canada, the strigata subspecies is the rarest of the Horned Lark subspecies in Canada. This passerine is home to open areas of short, sparse vegetation on southeastern Vancouver Island and in the lower Fraser River Valley. Habitat loss and scarcity are the main threats to this bird but invasive plants, predation by domestic cats, and pesticide use also likely contribute to their decline. Because merican populations are also declining, it is unlikely that dispersal and re-establishment of Canadian populations can occur.



# Reptiles



Photo by Joe Crowley



Photo by Josh Vandermeulen

## Five-lined Skink

The Five-lined Skink is the only lizard present in eastern Canada, with two populations in Ontario. The Carolinian population, resides near Lakes Erie, St. Clair, and Huron in southwestern Ontario. Similar to many species of this region they are endangered by the large volume of human activity and urban development. The Five-lined skin requires open area with significant shelter to shield high temperatures and avoid dehydration.





Photo by  
Shane Pratt

### **Prairie Skink (*Plestiodon septentrionalis*)**

This subspecies of Prairie Skink lives in southwestern Manitoba in the Assiniboine delta and the Lauder Sand Hills. This skink lives in sandy-soiled, mixed-grass prairies. The Prairie Skink requires loose soil so it can burrow deeply to escape winter frosts. The habitat that this skink favours is threatened by agriculture and development, and succession to aspen forests. The Prairie Skink is also threatened by introduction of exotic species and tree planting (which destroys prairie soil and changes the skink's habitat).





Photo by Jonathan Mays

## **Greater Short-horned Lizard (*Phrynosoma hernandesi*)**

The Greater Short-horned Lizard resides in southeastern Alberta and southwestern Saskatchewan in sagebrush and semi-arid short-grass prairies. They are found in high-altitude areas like canyon rims and the edges of badlands. This species of horned lizard is limited in its northern range by climatic factors, such as temperature. Isolation may also play a role in the species' distribution.



Photo by Josh Vandermeulen

### **Eastern Foxsnake (*Pantherophis gloydi*)**

This snake inhabits prairies, fields, dune shorelines, marshes, and rock barrens. Seventy percent of the species' range is in Ontario. There are 2 populations of the Eastern Foxsnake living in Canada: Carolinian and Great Lakes/ St. Lawrence. Both populations are endangered due to habitat loss and degradation, intensive agricultural practices, development (including high road density and boat traffic), and activities such as collection and destruction of snakes by humans and domestic animals.





Photo by Joe Crowley

### **Butler's Gartersnake (*Thamnophis butleri*)**

The Butler's Gartersnake is a gentle species which lives in southern Ontario in 3 areas of open, wetland edges. It inhabits ditches with dense grass, seasonally dry marshes, and small bodies of water. This species of garter snake is threatened by habitat degradation and fragmentation, road traffic, and is likely limited by present climatic conditions. The Butler's Gartersnake historically had a wider range during warmer, drier climate conditions





Photo by Joe Crowley

## **Blue Racer (*Coluber constrictor foxii*)**

Blue Racers are shy snakes, preferring densely wooded or planted areas. It is estimated that less than 200 adults inhabit Canada, confined to southern Ontario's Pelee Island. Development and loss of habitat have placed the Blue Racer on the endangered species list. The snake appears to be more sensitive to human activity.



Photo by William Flaxington

### **Sharp-tailed Snake (*Contia tenuis*)**

The endangered Sharp-tailed Snake lives on the Gulf Islands and southeastern Vancouver Island in British Columbia. This secretive snake makes its home in stands of Douglas Fir and at forest edges, especially where there are rocky slopes that face south. These rocky sites may provide nesting and hibernating sites. Cool environmental conditions and availability of egg laying sites and food limit the species' distribution in Canada. The Sharp-tailed Snake is threatened by forest fragmentation.





Photo by Ben Lowe

### **Gray Ratsnake (*Pantherophis spiloides*)**

The largest snake in Canada, the Gray Ratsnake is found in 2 separate populations. This snake often inhabits deciduous forests and prefers a mixture of forest and open habitats (fields, rocky outcrops). The Great Lakes/ St. Lawrence and Carolinian populations are susceptible to rapid changes in their environment because of several life history traits, including breeding habits. Other threats include habitat fragmentation, road kill, deliberate and accidental slaughter, and development and urbanization of habitats.





Photo by James P. Rowan

### **Queensnake (*Regina septemvittata*)**

This aquatic snake is endangered due to habitat loss. Their extremely special habitat requirements and patchy distribution make them vulnerable to local extinctions. A gentle species, the Queensnake is also susceptible to collection and slaughter by humans. Water pollution also affects this snake by killing off prey and poisoning the snake. In Canada the species resides in southwestern Ontario near large waterbodies with an abundance of prey and woodland surroundings.



Photo by Ben Lowe

### **Desert Nightsnake (*Hypsiglena chlorophaea*)**

Found in the hot, dry interior of southern British Columbia, the Desert Nightsnake inhabits shrub-steppe areas with desert-like conditions in some areas. This venomous snake is increasingly threatened by habitat loss due to development and agricultural activities. The Desert Nightsnake may also be persecuted because it can be confused with the Western Rattlesnake. Road mortality may also be a factor in this species' decline.



## Lake Erie Watersnake (*Nerodia sipedon insularum*)

The Lake Erie Watersnake can live up to 12 years in the wild and is harmless – although it *can* deliver a non-venomous bite if threatened. Its Canadian population can be found in the western end of Lake Erie on the islands of East Sister, Hen, Middle, and Pelee. Its population is most likely less than 1000 adults and has decreased sharply since the 1960s. Watersnakes can be found in or near water and usually don't further than 50 m from the shore. They hibernate in rock piles, tree root masses, animal burrows, and quarries. As such, shoreline development is a massive threat to the watersnake, as the islands they call home are becoming increasingly popular recreation and tourism destinations. Along with the construction of cottages and tourist accommodations along shorelines, island development has brought road construction and, consequently, frequent road mortality. Disturbingly, watersnakes are also threatened by deliberate human persecution. Island dwellers have previously attempted a series "extermination campaigns" to rid their islands of this harmless species. The Lake Erie Watersnake may also be at risk from contamination levels in western Lake Erie, as they feed heavily on Zebra and Quagga Mussels, known as "filter feeders" in contaminated waters.



Photo by Jan Nagalski





Photo by Shelley Wood

### **Leatherback Sea Turtle (*Dermochelys coriacea*)**

These large sea turtles can reach 2.4 metres in length and live in both the Atlantic and Pacific oceans. Leatherback Sea Turtles eat gelatinous organisms, such as jellyfish. These turtles need coarse-grain sand beaches for nesting. Open ocean, coastal, or continental shelf habitats are used for foraging depending on the season. Interactions with fisheries (bycatch) is the main threat to the Leatherback Sea Turtle in Canadian waters. International threats include predation of eggs and females by humans and other animals, climate change, habitat loss and degradation, pollution, and ship strikes.



Photo by William Leonard

## **Western Painted Turtle (*Chrysemys picta bellii*)**

The Western Painted Turtle is distinguished from other painted turtle subspecies by the butterfly marking on its plastron. This turtle can be found basking on logs in the shallow waters of western North America. The Coast population of British Columbia is endangered due to loss of habitat, destruction of riparian regions and human activity. Road mortality is high, during nesting seasons and migration.





Photo by Josh Vandermeulen

## **Spotted Turtle (*Clemmys guttata*)**

This turtle can be spotted in calm waters with lots of vegetation, such as ponds and bogs of southeastern Ontario. The polka-dot pattern on its carapace makes the Spotted Turtle a favourite in the pet industry, leading to declines in the population due to illegal trade. Habitat destruction and pollution also contribute to the extirpation and endangerment of this species.





## **Blanding's Turtle (*Emydoidea blandingii*)** Photo by Jonathan Mays

This medium-sized freshwater turtle can be spotted by its strikingly bright yellow throat and chin. Its Canadian population is divided into two geographical groups: the Great Lakes/St. Lawrence population and the Nova Scotia population. The Nova Scotia population, located in the southwestern portion of the province, has significantly declined. In 2005, it was estimated that only 210 to 245 Blanding Turtles remained in the province. The sex of the Blanding Turtle depends on the temperature during incubation - male turtles emerge from eggs incubated at or below 28 degrees Celsius, and females are produced from eggs incubated above 30 degrees Celsius. Blanding's Turtles can live for a very long time, able to survive 75 years or more in the wild. Their main threats are habitat fragmentation and degradation caused by increased human activity in the form of agriculture, road building (turtles tend to travel along roadways), and cottage development. These turtles are also at risk due to changes in water flow due to power generation. This is an extremely concerning development because it may negatively impact their ability to nest, feed, and reach overwintering sites. Although adult turtles have few predators, nests of Blanding's Turtles are severely threatened by raccoons, skunks, foxes, and coyotes. These predators are one of the main causes of nest failure. Disturbingly, Blanding's Turtles are also at risk from the pet trade. With their striking yellow chin and throat, they are extremely popular and sought-after. Adult females are typically removed from the wild population (because they are easier to locate). Consequently, the number of reproducing individuals is decreased from a population in desperate need of reproduction .



Photo by Richard Eaker

## **Loggerhead Sea Turtle (*Caretta caretta*)**

The Loggerhead Sea Turtle is an oceanic turtle that can be found throughout the world. On average, the loggerhead measures around 90 cm when fully grown, although larger specimens of up to 270 cm have been discovered. The Loggerhead Sea Turtle is omnivorous, and mainly eats bottom dwelling invertebrates. The Loggerhead Sea Turtle has experienced well documented, ongoing declines in the Northwest Atlantic population. The main threats to the Canadian population include commercial fishing using bottom and mid-water trawls, dredging, and gillnets; marine debris; chemical pollution; and illegal harvest of eggs and nesting females.



# Amphibians







Photo by Josh Vandermeulen

### **Blanchard's Cricket Frog (*Acris blanchardi*)**

Also called the Northern Cricket Frog, this amphibian is brown or grey in colour and semi-aquatic. This endangered frog is only found in the extreme southwestern part of Ontario at Pelee Island. Although previously found at Point Pelee, this population is now believed to be extirpated. The frog occupies the boundaries of water bodies and can be found on muddy shores or in aquatic vegetation. Factors contributing to the species' decline include habitat loss and degradation, pesticide and fertilizer use, predation, and scouring of marshes by storms.



Photo by Josh Vandermeulen

### **Jefferson Salamander (*Ambystoma jeffersonianum*)**

The Jefferson Salamander can be found in temporary and permanent ponds in the deciduous forests of Ontario's Carolinian Zone. Habitat loss is the greatest threat for this salamander. Large areas of habitat have been lost and those that remain are fragmented and situated on the fringes of agricultural land.





Photo by James P. Rowan

## **Tiger Salamander (*Ambystoma tigrinum*)**

Tiger Salamanders are one of the largest land-dwelling salamanders, growing up to 40 cm in length. In Canada, the species can be found from BC's Okanagan Valley across the prairies to Manitoba. They remain underground for most of the year, allowing them to avoid direct sunlight and therefore prevent dehydration. Threats to the Tiger Salamander include habitat destruction, introduced fish species, and agrochemical pollution from fertilizers and pesticides. Furthermore, the species is commonly sold as pets, sold as bait, or used in research .





Photo by Jonathan Mays

### **Northern Dusky Salamander (*Desmognathus fuscus*)**

Inhabits Quebec and New Brunswick and one in Ontario. This amphibian lives in clear streams, springs, and seepages and the wet habitats adjacent to these areas. Threats to populations of Northern Dusky Salamander include urbanization, logging, and road construction because these activities affect water and microhabitat quality and supply. Trampling and polluting habitat, and stochastic events also impact populations and could result in extirpation, especially of the Ontario population which is confined to a small area in the Niagara region.



**Allegheny Mountain Dusky Salamander** Photo by Jonathan Mays  
**(*Desmognathus ochrophaeus*)**

This endangered salamander does not have any lungs – it breathes through its skin ! The species lives as two populations in southwestern Quebec and southern Ontario and is commonly found in or near forested springs, seeps, and brooks. The main threat to this salamander is aquatic and terrestrial habitat alteration. Changes in water quantity or quality will probably have large impacts on the remaining populations. Natural stochastic events, physical barriers which limit dispersal, and recreational activities are also threats.





Photo by Denis Knopp

### **Coastal Giant Salamander (*Dicamptodon tenebrosus*)**

This threatened salamander lives in the Chilliwack River Valley of southwestern British Columbia. It is at home in a variety of aquatic habitats in many environments including dry, open woods and coastal rainforests. However, they seem to prefer cool, well-oxygenated headwater streams that are relatively small. Main threats to the Coastal Giant Salamander are habitat loss and degradation. Logging, poor dispersal capability, predation, and urbanization may be limiting factors for *Dicamptodon tenebrosus*.





Photo by William Leonard

### **Oregon Spotted Frog (*Rana pretiosa*)**

Historically occurring as 6 populations in British Columbia, the Oregon Spotted Frog now occurs as only 3 populations. This is probably due to a very limited range and breeding habitat, isolation of the populations from each other (limiting rescue effects and migration), exotic predator and vegetation species introduction, and habitat loss and alteration. The remaining frogs live in warm-water wetlands in the Fraser River Lowlands. These habitats have emergent vegetation, spring pools, and small floodplain wetlands associated with the permanent water bodies.



Photo by Scott Gillingwater

### **Fowler's Toad (*Anaxyrus fowleri*)**

This warty denizen of the shores of Lake Erie inhabits sand dunes in the early stages of ecological succession. The Fowler's Toad is endangered and has a 20% chance of becoming extirpated in Canada in the next 100 years. Factors contributing to the decline in this species include habitat disruption, pesticide use, severe winter storms, and natural succession.





Photo by Joe Crowley

## **Northern Leopard Frog (*Lithobates pipiens*)**

The Rocky Mountain population of Northern Leopard Frog lives in southeastern British Columbia. Previously occupying many locations, this endangered amphibian is now restricted to just one of its historic sites in this area. This frog needs well-oxygenated water bodies that do not freeze to the bottom in winter. They can also be found in moist terrestrial habitats, such as meadows and prairies. Population declines have been linked to habitat fragmentation, degradation, and loss, as well as diseases, invasive species introductions, road kill, and pollutants and pesticides.





Photo by Denis Knopp

### **Coastal Tailed Frog (*Ascaphus truei*)**

This species of special concern can be found in the Cascade and Coast mountain ranges of BC. The Coastal Tailed Frog requires clear, cold mountain streams that remain ice free in winter but less than 20°C in the summer. These frogs are habitat specialists and cannot live outside their specialized habitat requirements. Movement of debris and siltation in their home streams, as well as other kinds of habitat disturbance (logging, increasing temperatures), habitat loss and fragmentation all threaten the remaining populations of the Coastal Tailed Frog in Canada.

# Fish



Photo by Paul Vecsei



# Great White Shark

## (*Carcharodon carcharias*)

The great white shark has come to be the most famous shark of all the shark species. It has a reputation for its predatory nature and its large size. The white shark lives worldwide, however it is most frequently observed and captured in inshore waters over the continental shelves of the western North Atlantic, Mediterranean Sea, southern Africa, southern Australia, New Zealand, and the eastern North Pacific. White sharks occur sporadically along the Atlantic and Pacific coasts of Canada. There have only been 46 confirmed records between 1874 and 2006. White Shark generations are long (~23 years) and they have a low reproductive rate (gestation is ~14 months with an average fecundity of 7 live-born young). This severely limits the white sharks' ability to withstand any losses from increases in mortality caused mainly by pelagic long line fishing.



Photo by BJ Stacey





Photo by Mike Pearson

### **Salish Sucker (*Catostomus* sp.)**

The lower Fraser Valley of British Columbia is home to this bottom-feeding fish. It prefers slow-moving, shallow streams or small rivers. Larger specimens may be found at deeper headwaters that have cover in and above the water. The Salish Sucker is threatened by habitat degradation due to farming and forestry. Removal of overhanging vegetation which provides cover and helps to keep habitat cool and introduced species also threaten this fish.



Photo by Mike Pearson

### **Nooksack Dace (*Rhinichthys cataractae* ssp.)**

Another native of the lower Fraser Valley, the Nooksack Dace lives in four tributaries of the Nooksack River. Human disturbance causing loss of its fast-flowing, coarse-grain bottomed river habitats is the greatest threat to this dace species. Urbanization and siltation are restricting suitable habitat up and downstream of its current range.





Photo by Paul Vecsei

## **Sockeye Salmon (*Oncorhynchus nerka*)**

The Sockeye Salmon require a freshwater habitat for the early stages of their life before journeying out to the North Pacific Ocean for their adulthood. While living in the ocean, they are slender and streamlined and their bodies are silver in colour. This drastically changes however when they return to their freshwater place of birth for breeding. Their bodies turn scarlet and their heads become a pale green. The males gain a hump, teeth and a sharply hooked jaw. The number of Sockeye Salmon has been diminishing over previous years mostly due to overfishing which was made more severe by human activity causing the degradation of their only Canadian breeding ground - Sakinaw Lake.



Photo by Mike Ambach  
Photography

## Eulachon

This anadromous fish is found throughout the Pacific Coast. The Canadian population spend the beginning of their lives in rivers found in British Columbia, but spend most of their lives in the Pacific. The rivers that are chosen for breeding are typically glacially fed since the young Eulachon require freshwater. Estuaries are also a good location for the Eulachon to mature and they generally move to one quickly after birth.

It is unclear exactly as to why the Eulachon population has decline. It could be a result of habitat degradation or previous overfishing. Currently commercial fisheries for Eulachon are closed and most recreational fishing is prohibited.



Photo by Yo-Han Cha © 2010

## **Basking Shark (*Cetorhinus maximus*)**

The Basking Shark is the second largest fish in the world. They are found primarily in temperate coastal shelf waters both in the Atlantic and Pacific Oceans. Canada's Pacific population of basking sharks have virtually disappeared and there have been only 6 confirmed sightings of the fish since 1996. It is estimated that their rate of decline has exceeded 90% in only two to three generations. It is believed this decline is largely a result of an eradication program set forth by Canada's Department of Fisheries and Oceans between 1945-1970 to neutralize the Basking Shark from disrupting salmon fishing operations. However it is said to also be in part due to directed fisheries for liver oil from 1941 to 1947.





## **Redside Dace (*Clinostomus elongates*)**

Photo by Erling Holm, Royal  
Ontario Museum

The Redside Dace is a colorful minnow with a wide, bright red stripe along its front half and a bright yellow stripe directly above, extending down its tail. In Canada they live primarily in three tributaries of Lake Huron as well as tributaries of Western Lake Ontario, The Holland River and Irvine Creek. Intensive Urbanization is the main threat to the Redside Dace. In particular, they are threatened with changes in stream structure, removal of bank vegetation and agricultural practices.



Photo by Doug Watkinson

## **Western Silvery Minnow (*Hybognathus argyritis*)**

In only a mere decade the Western Silvery Minnow has gone from being classified as a special concern in 1997, to threatened in 2001, to endangered in 2008. It lives in quiet waters with low velocity, such as in pools and backwaters of larger streams. In Canada they are found exclusively in Southern Alberta, only in the Milk River. Their diet consists mainly of algae and other organic benthic matter. The Western Silvery Minnow is at risk due to changes in water flows and levels, prolonged drought and the introduction of a variety of pollutants into its environment.



Photo by Naoto Aoki

## **Aurora Trout (*Salvelinus fontinalis timagamiensis*)**

The endangered Aurora Trout is characterized by iridescent steel blue and silver sides and undersides which are often tinged in pink. The fins have a black or white bar followed by orange or red behind. Originally only occurring in 2 lakes in northeastern Ontario, they were wiped out by acidification in the 1960's. The species has since been introduced into the original lakes as well as 12 others. They prefer cooler waters and lakes with significant ground water upwelling. Acidification of habitat due to industry is the main threat to Aurora Trout. Climate change and changes in land use also threaten the Aurora Trout.



# Insects



Photo by Will Cook



Photo by Donal Dudehus

### **Island Blue Butterfly (*Plebejus saepiolus insulanus*)**

A native of Vancouver Island, this butterfly is not found anywhere else in the world. This subspecies of Island Blue Butterfly has not been seen since 1979 and may be extirpated in Canada. Habitat requirements are unknown but it is thought that the butterfly may have used open spaces with clover, an important food resource for larvae. Clover food resources are a limiting factor for the Island Blue. Urbanization, invasive plants, and regulation of fire regimes on Vancouver Island may have destroyed this butterfly's host plant population.



Photo by Johanna James-Heinz

### **Rusty Patch Bumble Bee (*Bombus affinis*)**

This bee is predominately found in southern Ontario and southwestern Quebec. They usually nest underground in abandoned rodent burrows, which makes these bees difficult to find in the wild. These bees are likely important pollinators and have been known to pollinate many of the fruits we farm, such as plums and apples, as well as several medicinal plants. The decline of this species is likely due to multiple factors, including pesticide use, habitat loss, and disease.





Photo by Pete Bryant

### **Mormon Metalmark (*Apodemia mormo*)**

The Mormon metalmark is endangered in British Columbia and threatened in the prairies. The snow buckwheat plant serves as the host plant for this beautiful butterfly. Both the adult and larva metalmark rely on the snow buckwheat for food. Human alteration and destruction of habitat, as well as invasive plant species, limit the distribution of the host plant and likely contribute to the extinction of this butterfly.



Photo By Bill Hubick

### **Northern Barrens Tiger Beetle (*Cicindela patruela*)**

The Northern Barrens Tiger Beetle (previously known as the Patterened Green Tiger Beetle) is a showy metallic green beetle that inhabits sandy, open forest habitat dominated by pine and/or oak trees . In Canada, it is only found in two localities in southern Ontario. Habitat loss as a result of natural succession of savannah and woodland habitat to more shaded conditions is the primary threat to the Northern Barrens Tiger Beetle , followed by increased pedestrian traffic.



Photo by Giff Beaton

### **Laura's Clubtail (*Stylurus laurae*)**

This clubtail can only be found at two locations in Canada, Big Creek and Big Otter Creek in southern Ontario. They typically live near small or medium sandy-bottomed streams with a tree cover. The Laura's clubtail is threatened by the degradation of its aquatic and streamside habitat from human activity and invasive species. Collisions with automobiles may also be a significant threat to adults, especially where roads fragment habitat.





Photo by Giff Beaton

## **Cobblestone Tiger Beetle (*Cicindela marginipennis*)**

First discovered in Canada in 2003, this tiger beetle lives only in New Brunswick, in the Saint John River System and along the shores of Grand Lake. Habitat alteration and fragmentation, ATV use, and agricultural pollution in its cobblestone habitats all threaten this species. Unfortunately, due to its rarity and beautiful appearance, this insect is also vulnerable to over collecting. Help save endangered species for future generations, enjoy them in their natural world.



Photo by Chris Friesen

### **White Flower Moth (*Schinia bimatris*)**

The Canadian populations of this unique moth exist primarily on the active dunes of the Manitoba prairies. The natural process of dune stabilization limits the habitat available to this moth and increasingly hotter and drier temperatures may be detrimental to these moths. Currently much of their habitat is protected so this unique looking moth may be preserved.



Photo by Glenn Corbiere

### **Hine's Emerald (*Somatochlora hineana*)**

There is only one Canadian population of the Hine's Emerald. It only lives in the Minesing Wetlands, Simcoe County, Ontario. This dragonfly prefers marshes and fens with underlying calcium rich bedrock, and a nearby forest to provide shade. Threats to the Hine's Emerald include changes in quality and quantity of water in its habitat, urbanization and other forms of habitat degradation, and invasive species, however, there is hope for this species. Currently, much of the habitat of the Hine's Emerald is protected.





Photo by Glenn Corbiere

### **Skillet Clubtail (*Gomphus ventricosus*)**

This species of clubtail is found in New Brunswick. It appears to favour murky streams with a silt or mud bottom. Dams and other forms of habitat modification are the greatest threats to the skillet clubtail but this species is also threatened by excessive algae growth in its habitat due to pollution, invasive species, water pollution, and automobile collisions.



Photo by Glenn Corbiere

### **Rapids Clubtail (*Gomphus quadricolor*)**

The rapids clubtail, historically found at 4 sites in southern and eastern Ontario, is now found at just two sites in Ontario. This dragonfly lives along medium and large wooded streams. Its waters are clear and contain calm pools as well as rapids. This is important because females lay their eggs in the rapids, which are then carried downstream to the pools where they can develop as nymphs. Habitat loss and degradation are the most significant threats to the rapids clubtail.



Photo by Troy D.  
Hibbitts, 2011

### **Olive Clubtail (*Stylurus olivaceous*)**

The olive clubtail is exclusive to the southern interior of British Columbia in Canada. They prefer warm streams with mud or sand bottoms and can often be found hanging in trees by the water's edge. Habitat loss and degradation, invasive species, pesticides and other pollutants, collisions with vehicles, and recreational activities in the water represent the main threats to olive clubtails from humans.





Photo by Bill Bouton

### **Eastern Persius Duskywing (*Erynnis persius persius* )**

This small, dark butterfly was historically known from several sites in southwestern Ontario but has not been encountered since 1987 and may be extinct in Canada . The habitat and host plants of the Eastern Persius Duskywing are very rare, therefore habitat loss and degradation is a very significant threat to this butterfly. This duskywing is also threatened by fire suppression resulting in vegetation succession and insecticide use.



Photo by Will Cook

### **Behr's Hairstreak (*Satyrium behrii*)**

There is only one subspecies of this hairstreak living in Canada; in the southern Okanagan Valley it lives in dry river bank areas which contain antelope-brush. The Behr's Hairstreak lives in one of the most imperiled ecosystems in the country . It is threatened by significant habitat loss over the last few decades due to an increase in agriculture in the area .



Photo by Kate  
Redmond

### **Bogbean Buckmoth (*Hemileuca* sp.)**

This species of moth is found in 4 sites in eastern Ontario, 2 near Richmond and 2 near Whitelake. The Bogbean Buckmoth lives in fens that contain its host plant, the Bogbean. The major threats to the buckmoth include invasive exotic species, habitat degradation, water level manipulation, and pesticides intended to kill introduced species (such as the European Gypsy Moth).





Photo by Jenny Balke

### **Taylor's Checkerspot ( *Euphydryas editha taylori* )**

Also called the Edith's Checkerspot, this orange and black butterfly lives in sparsely vegetated grasslands . This species range has shrunk to a small area on Denman Island, B.C., where previously it had included Vancouver Island and several adjacent islands . This small butterfly is threatened by habitat loss and degradation, natural succession, pesticide application, and climate change and natural disasters.



**Okanagan Efferia (*Efferia okanagana*)** Photo by Werner Eigelsreiter

Okanagan Efferia is a large (up to 2 cm long), brown, bristly fly. Both sexes have striking orange-golden bristles located behind the eyes. The known global distribution of the fly is restricted to only five locations in the world; in the Okanagan and Thompson valleys of south-central BC, from Kamloops in the north to Oliver in the south. It is part of the family Asilidae (robber flies). Robber flies are one of the more obvious large invertebrates representative of the Antelope-brush ecosystem in Canada; however, much of the Okanagan Efferia's ecosystem is threatened by urban and agricultural development, wild fires, invasive plants, climate warming, and pesticide use.



Photo by Werner Eigelsreiter

### **Half-moon Hairstreak (*Satyrium semiluna*)**

The Half-moon Hairstreak occurs as two populations in Canada, one in British Columbia and one in Alberta, and may actually be two different subspecies. Their drab colouration depends on many factors, including age, sex, amount of wear, and which subspecies they are. They live in sagebrush or bluebunch wheatgrass habitats that contain silky lupine, their larval food plant, at elevations of between 600 – 1100 m. These small butterflies are threatened by habitat loss and degradation, particularly livestock grazing and development of land to agricultural and housing projects. Invasive weeds also pose a threat to the Half-moon Hairstreak.





## **Wallis' Dark Saltflat Tiger Beetle**

Photo by Werner Eigelsreiter

Located in BC and also known as the Parawana Tiger Beetle, Wallis' Dark Saltflat Tiger Beetle is medium-sized (typically just 1.2 cm long) and can be spotted by its bulbous eyes, long legs and antennae, and the distinctive pattern of markings on its front wings. Extensive urban and agricultural expansion has resulted in habitat destruction and degradation, putting the Tiger Beetle at dangerous risk of extinction. In fact, recent searches have failed to find the Tiger Beetle and it is speculated to occur in a single location .

# Molluscs



Photo by Mark and Leslie Degner





Photo by  
DCA

### **Wavy-rayed Lampmussel (*Lampsilis fasciola*)**

The Wavy-rayed Lampmussel is easily distinguished by its yellowish-green rounded shell and its numerous striations. All Canadian populations are restricted to the Upper Grand River and to limited sections of the Thames, Sydenham and Ausable rivers in Ontario. They live in gravel or sand substrates, often stabilized with cobble or boulders, in and around areas up to 1m in depth. The main threat to the Wavy-rayed Lampmussel appears to be the availability of clean, silt-free water. However, agricultural activities also threaten the species, in particular - runoff of sediment, pesticides, fertilizers, livestock manures and sewage water are of huge concern.





Photo by Mark and Leslie Degner

## **Banff Springs Snail**

This snail is found in 5 different hot springs. They have very limited distribution in these springs since the hot springs can be a dangerous environment. The ideal temperature for these snail is between 30 and 36 degrees Celsius. Since the snails are sensitive to any changes to the springs, and disturbance can be very detrimental. The most danger comes from vandalism and illegal uses of the springs.



Photo by Kristiina Ovaska

### Warty Jumping-slug (*Hemphillia glandulosa*)

The warty jumping slug is very unique, with a horn ridge at the tip of their tails and a prominent dorsal hump on their backs. The most interesting and unique quality however, is probably their defense mechanism. They twist and jump to avoid danger. The Warty Jumping slug is currently a species of special concern because their habitat on Vancouver Island is being lost to logging. They need safe shelter in the form of undergrowth and rotting wood. Clear cutting practices are destroying these sheltered sites.





Photo by Kristina Ovaska

## **Blue-grey Taildropper Slug**

This beautiful slug is native to British Columbia and is currently endangered. The habitat of this slug is disappearing due to human activities resulting in the forest floor losing moisture. This process is occurring more rapidly due to climate change. Other animals and insects that have been introduced to the area are also causing a rapid decline in the number of these slugs in the wild. These slugs help to disperse necessary fungi in the forest and represent many species who are also at risk.



# Mosses



Photo by Jennifer Doubt



Photo by Jennifer Doubt

### **Spoon-leaved Moss (*Bryoandersonia illecebra*)**

This species of moss is the only member of its genus. Its leaves are slightly heart shaped and concave. The Spoon-leaved Moss is only found at 8 sites in Canada, all in the Carolinian zone of southern Ontario, where it grows on seasonally wet soil. This unique moss lives in a highly developed area of Ontario and is threatened by habitat loss and forest fragmentation. Forest fragmentation can affect breeding by separating male and female plants. Pollution is also a factor in the decline of the Spoon-leaved Moss.



# Lichens



Photo by Ryan Batten





Photo by Ryan Batten

### **Batwing Vinyl Lichen (*Leptogium platynum*)**

The Batwing Vinyl Lichen's range in Canada is limited to 4 sites on the coast of Vancouver Island south of 49°N. The lichen has been extirpated in 3 other locations in Canada. Threats to this lichen include habitat loss, air pollution, and agricultural pollution. Climate change is the biggest threat because the lichen lives on sedimentary rocks, that periodically seep due to moisture, at low elevations. Climate warming would force the Batwing Vinyl Lichen into higher, cooler elevations where sedimentary rocks with a basic pH are scarce.

# Plants



Photo by Dolcie House





## Grand Redstem (*Ammania robusta*)

The Scarlet Amannia can grow anywhere from 5 to 100cm in height. They grow in southcentral British Columbia in the Osoyoos lake area and in Essex Country in southwestern Ontario. They prefer sandy shorelines or either moist or dry alkaline flat areas. These areas are usually submerged in the spring and the Scarlet Ammannia starts to grow when the levels drop come summer. The British Columbia populations are being threatened by Provincial Park beach enhancement programs, shoreline housing, commercial development and controlled water level regimes. The Osoyoos population is dependent on levels controlled by a dam and but high water levels have come to threaten the species as of late. Other populations in the area are being threatened by quarry operations, encroaching woody vegetation and dirt bikes.

Photo by Doreen Smith





Photo by John Beetham <http://www.flickr.com/>

### **Wood Poppy (*Stylophorum diphyllum*)**

Existing populations of the Wood Poppy in Canada are restricted to 3 sites near London, Ontario. This poppy typically lives in species rich habitats including forests, ravines, woodland streams, and riverine cliff bases. Habitat destruction and burial by fill occurred in 1994 and caused a population decline. Habitat development, disturbance due to recreational activities, collection, trampling, invasive species, predation, and genetic contamination due to transplant of poppies from American populations are other threats.



## **Bashful Bulrush**

Photo by Arthur  
Haines

Growing in small clumps in only the warmest parts of Ontario, the Bashful Bulrush is a perennial sedge with small, petal-less and inconspicuous flowers. Its Canadian population can only be found in southwestern Ontario and is believed to be a mere several hundred to a thousand clumps – almost entirely within Royal Botanicals Gardens nature sanctuaries. The Bulrush is mainly threatened by human impacts; such as pedestrians, joggers, cyclists, and erosion-control measures put in place to help stabilize the slopes where it can be found. The Bulrush is also threatened by animal trampling and shading by trees and shrubs .



Photo by Dolcie House

### **Barrens Willow (*Salix jejuna*)**

The Barrens Willow is well adapted to life in a harsh environment. This dwarf shrub can live up to 100 years on its preferred habitat of limestone barrens. The willow grows on rocky areas with little vegetation and a thin, nutrient-poor soil. Unique to Canada, the Barrens Willow lives only at 4 sites at the end of Newfoundland's Northern Peninsula. Habitat loss and degradation from garbage dumping, removal of limestone from quarries, recreational vehicles, road maintenance, and human disturbance all threaten this unique willow.





Photo by Steve Matson

## Bear's-foot Sanicle (*Sanicula arctopoides*)

The Bear's-foot Sanicle is a biennial herb adorned with bright yellow flowers. It only occurs in western North America and, in Canada, can be found along the shores of Vancouver Island where it can be exposed to salt spray, sun, and wind. Unsurprisingly, its main threat is the loss and degradation of waterfront habitat. It is also at risk from the introduction of competitive non-native plants such as lawn grasses and ornamental horticultural plants. The populations found on Trial Island and Alpha Islet – located alongside one of the busiest shipping lanes in North America – are also threatened by potential oil spills .

## Bog Bird's-foot Trefoil (*Loutus pinnatus*)

This low-growing perennial herb with yellow and cream-coloured flowers has seven populations in Canada, all of which can be found near Nanaimo on Vancouver Island or Gabriola Island. The Bog Bird's-foot is pollinated by bees and requires a great deal of moisture throughout its life. Consequently, it can be found growing in wet meadows, along creeks, in wet ditches, and in seepages. Aside from being at significant risk from competition from rival vegetation, this plant species is threatened by loss and degradation of its specialized habitat due to logging operations and intensive use of recreational all-terrain vehicles. In addition, the site of the major Bog Bird's-foot Trefoil population in Canada is currently threatened by a proposed trailer park development .



Photo by Steve Matson

## Branched Phacelia (*Phacelia ramosissima*)



Photo by Steve Matson

The perennial herb known as Branched Phacelia is decorated by lavender, pale cream, and white flowers. Its Canadian population has always been limited to BC and, today, it can only be found on the slopes of Mount Kruger in the southern Okanagan Valley. Its three populations, all on Mount Kruger, are thought to number under 700 in total. Like the Bog Bird's-foot Trefoil, the Branched Phacelia requires a specialized habitat. Unlike the Trefoil, it prefers its habitat to be dry and requires very little moisture throughout its life. It can be found growing in Mount Kruger's rock debris. Unfortunately for the Branched Phacelia, the Okanagan Valley has been the site of a great deal of development and is experiencing the fastest population growth in BC. This species' specialized habitat is significantly threatened by many aspects of this rapid development, such as mining exploration and urban growth .

## Dwarf Woolly-heads (*Psilocarphus brevissimus*)

This member of the Aster family lives in the Similkameen Valley of south-central British Columbia and from southwestern Saskatchewan to southeastern Alberta. Dwarf Woolly-heads live in calcium carbonate rich clay soils that become pools in spring, along lakes and ponds, and in depress. Their forest habitats are dominated by Scouler's popcornflower and close-flowered knotweed. This aster occupies a very small range and a very rare habitat type which makes it vulnerable to extinction. Recolonization and expansion in to new habitats is also unlikely. Habitat degradation from the use of recreational vehicles and agriculture, as well as pesticide use, threaten the Dwarf Woolly-head .



Photo by Steve Matson



## Coast Manroot (*Marah oregana*)

The Coast Manroot is a large climbing perennial of the cucumber family that grows from a woody root and produces large trailing stems with branched tendrils. In Canada, the species only occurs in a small area extending from southeast Vancouver Island to Pender Island in the Southern Gulf Islands. In 2006, there were 18 recorded mature individuals at three locations (no plants have been observed at a fourth location since 1964). The primary threats to the Coast Manroot are habitat loss due to development, recreational activities, and invasive species. One population has disappeared entirely due to trampling, and this poses a serious threat to the other populations as well.



Photo by Steve Matson



Photo by Paul and Bernice Noll





Photo by Steve Matson

## Small-flowered Tonella (*Tonella tenella*)

On the west side of Saltspring Island, BC you can find the Small-flowered Tonella on west-facing slopes of talus or gravelly outcrops. This flowering plant is found in open mixed forests of bigleaf, maple, arbutus, Douglas-fir, and Garry oak. The biggest threat the Tonella faces is habitat loss because it lives along the waterfront where property is highly prized. Development in its habitat would be very detrimental to this plant. Fire suppression could also result in disaster because it allows combustible materials to build up. A large-scale fire could wipe out the Tonella. Exotic species can also contribute to decline

## Deltoid Balsamroot (*Balsamorhiza deltoidea*)

This member of the aster family is found on the southeast side of Vancouver Island in woodlands and meadows dominated by Garry Oak or Douglas-fir. This flowering plant prefers well-drained, deep soils. The Deltoid Balsamroot is threatened by habitat loss and degradation, invasive plant species which act as competitors, predation, and trampling and collection by hikers. Much of the balsamroot's habitat has been converted to parking lots and other developments



Photo by Steve Matson



Photo by Paul and Bernice Noll

### **Fragrant Popcornflower (*Plagiobothrys figuratus*)**

This charming flower grew on southeastern Vancouver Island and some of the surrounding islands but is now thought to be extirpated in Canada. The Fragrant Popcornflower lived in wet, low-lying areas like moist fields. On Hornby Island, where the last remnants of the species may survive as seeds in the soil, the flowers were known to survive in an undeveloped waste area. Urbanization, wetland draining, invasive plant species, and the species small population size all contributed to its extirpation.



Photo by Paul and Bernice Noll

## Coastal Scouler's Catchfly (*Silene scouleri* ssp. *grandis*)

The perennial herb, Coastal Scouler's Catchfly, grows up to 15 to 80 cm in height and is covered with elongated greenish-white to purple flowers that develop along the plant's tall stalk. The Catchfly's name is derived from its sticky hairs that can trap flies and other small insects. Its extremely limited Canadian population can only be found on three small islands close to Victoria on Vancouver Island. At one time, 12 populations existed. However, only 2 still exist – numbering less than 350 Catchfly's in total. The Catchfly requires a specialized habitat that is wet in winter and dry in summer. Its preferred home is within a "maritime meadow" in which it can grow in a grassy, gentle slope along the coast. This species' decline is mainly due to habitat destruction and degradation, such as fire suppression that favours the growth of rival shrubs and other species, lack of weed control, potential marine pollution (the Catchfly grows close to one of the most active oil shipping lanes in North America), trail maintenance (such as mowing and herbicide use), and trampling by humans .

## Coastal Silverpuffs (*Microseris bigelovii*)

Also known as Coast Microseris, the Coastal Silverpuffs is present in southwestern Vancouver Island and Hornby Island. It is often found in the presence of Garry Oaks on open rock bluffs no more than 100 m from the ocean. Habitat loss and degradation, recreational activities, alteration in fire regimes, agriculture, and invasive plant species all threaten the Coastal Silverpuffs .



Photo by Efren Alvarez



## Howell's *Triteleia* (*Triteleia howellii*)

This endangered perennial is one of only 3 species of the lily family native to Canada. It is only present at 9 sites on the southeastern side of Vancouver Island. Three more sites were previously occupied but populations may now be extirpated. The Howell's *Triteleia* lives in Garry Oak woodland (an area of British Columbia characterized by warm, dry summers and mild, wet winters) and in sites with high levels of disturbance. Habitat destruction is playing a major role in the decline of this herb. Fire suppression, low population numbers, limited ability to disperse, and invasive competitor species also threaten the Howell's *Triteleia*.



Photo by Adolf Ceska



Photo by Scott Perry

## Furbish's Lousewort (*Pedicularis furbishiae*)

The Furbish's Lousewort is only present in Canada along the banks of the upper St. John River in northern New Brunswick. This herb can survive in a range of habitats, from sandy river banks to gravelly areas in the shade of trees to open shrubby areas. It appears to need well drained soils that have a lot of moisture within them . Human disturbance and habitat degradation are having a large effect on the plant's ability to survive. Seed parasites can also contribute to decline .

## American Columbo (*Frasera caroliniensis*)

The American Columbo lives for 7 or more years as a rosette of leaves . Individuals within the population then flower synchronously and die shortly after. There are 13 extant populations in Canada in the extreme south of Ontario. Nine more populations once existed but have not been seen since 1956 and may be locally extinct. The plant lives on open slopes of deciduous forest but may be found in thickets or clearings. Invasive plant species are the main threat to the American Columbo. Habitat loss and degradation due to agriculture and urbanization, and habitat fragmentation are also major threats to this perennial .



Photo By Daniel W Reed,  
2bnTheWild.com





## Butternut Tree (*Juglans cinerea*)

A member of the walnut family, the Butternut is a small to medium-sized tree (usually no more than 30 m tall and 90 cm in diameter) that produces edible nuts covered by a hairy green husk. It has a widespread Canadian population, growing in southern Ontario, Quebec, and New Brunswick. The Butternut has a relatively short life span – rarely living past 75 years – and requires rich, fertile soils with plenty of sun to flourish. Traditionally, Butternut trees have been used for medicinal and cultural purposes by the First Nations of North America. This special tree is most seriously threatened by "Butternut canker" - a disease caused by a fungus that infects and kills. There is no known means of fighting this disease. South of the border, canker has killed up to 77% of Butternuts in some States. Fortunately, it is possible that some Butternuts possess some resistance to canker and, if this is true, selection of the resistant trees is a potential road to recovery. Other threats to the Butternut include extensive logging and loss of habitat due to agricultural and urban development .



Photos by Tim McCleary





Photo by Brian Wolf

## Prairie Lupine (*Lupinus lepidus*)

The Prairie Lupine is found at 2 sites on the southeastern side of Vancouver Island. Both sites contain less than 250 plants and are the only extant populations left of the 9 historic sites where the species was previously present. This plant, which is at risk of extinction in Canada, prefers dry, rocky habitats and is often present on hilltops or slopes with thin, well-drained soils. Vegetation in these areas is sparse and grass or grass-like.

Anthropogenic habitat destruction is the leading factor in the decline of the Prairie Lupine. Habitat degradation due to exotic species, stochastic events, and recreational activities can also contribute to the decline of this species .

## Large Whorled Pogonia (*Isotria verticillata*)

This endangered orchid occurs in southwestern Ontario and was last seen in 1996. The Large Whorled Pogonia favoured moist, rich sandy soils with a thick leaf litter in mixed or deciduous forests with a relatively open canopy. Habitat destruction and degradation are the largest threats to this species, followed by human recreational activities . Orchids often have long dormancy periods. We can hope that this orchid has not been extirpated in Canada and currently lies dormant .



Photo by David Arbour



Photos by Thomas Bailey

## **Nodding Pogonia (*Triphora trianthophoros*)**

The Nodding Pogonia is an orchid found in southwestern Ontario. It was last seen in 1985 in Essex County but remains in Rondeau Provincial Park, Kent County. This plant grows in rich, humid soils with a deep leaf litter in deciduous forests. The Rondeau Provincial Park site exposes this orchid to risk of trampling, collection, and soil compaction. Storms, grazing by livestock, and selective tree cutting can have detrimental effects on the soil and make it unsuitable habitat for the Nodding Pogonia.



Photo by Rob Broekhuis

### **Hoary Mountain Mint (*Pycnanthemum incanum*)**

This southern Ontario herb lives in several sites near Burlington and Hamilton. It prefers dry, sandy-clay habitats in deciduous forests with open canopies. Habitat destruction is the main threat to the Hoary Mountain Mint and is caused by human activities as well as the invasion of other plants, especially exotic species.





Photo by Jeremy Gatten

## **Contorted-pod Evening-primrose (*Camissonia contorta*)**

This British Columbia native lives along the southeastern coast of Vancouver Island and the adjacent Gulf Islands. Dry, open sandy habitats with sparse vegetation are where you will find this primrose. In Canada, it lives on sandy flats and dunes. This has caused their populations to be naturally fragmented but the condition is exacerbated by development in suitable habitat areas. Recreational activities, such as hiking and vehicle use, are the main threat to the Contorted-pod Evening-primrose. Invasive plants and small population size also threaten this species .



Photo by Elizabeth Watkinson



Photo by Martin Donald

### **Muhlenberg's Centaury (*Centaurea muelenbergii*)**

Present near Nanaimo and Victoria on the southeastern shore of Vancouver Island, as well as on the Chatham Islands, the Muhlenberg's Centaury lives in moist, open habitats that are wet in the spring and dry through the summer. Development in the area that the centaury lives has reduced the amount of existing suitable habitat. Disturbance from recreational activities and invasive plants can also affect the Muhlenberg's Centaury. Grazing of habitat areas by geese also has detrimental effects for this plant. Soil is disturbed as the geese graze .



## Rosy Owl-clover (*Orthocarpus bracteosus*)

Urbanization has caused the destruction of many historical Rosy Owl-clover populations and remains a significant threat to suitable, yet unoccupied, habitats. Invasive species have made potential habitats less suitable and also threaten the last existing population of clover at Trial Island, BC. Rosy Owl-clover is also threatened by trampling by boaters and lighthouse keepers at Trial Island. Marine pollution and small population size could also play a role in the destruction of this species. The Rosy Owl-clover is found in seasonal pools or moist, rich soils. It does not grow near shrubs, trees, or robust herbs.



Photo by Ryan Batten



Photo by Marven Kellar





Photo by Alexey Sergeev

### **Stoloniferous Pussytoes (*Antennaria flagellaris*)**

Named for its horizontal stems that help it reproduce (called stolons), the Stoloniferous Pussytoes is a small flowering plant that lives in the Similkameen River Valley in southwestern British Columbia. It can be found on unstable and eroded south-facing slopes with chalky clay soils that are wet in winter and dry in summer. Although over a million plants were found at the most recent survey of the species, the pussytoes is endangered due to the small area it occupies. Habitat is limited and therefore so is dispersal. Development, ATV use, and pest control measures also threaten this small plant.



Photo by Matt Fairbarns

## Seaside Bird's-foot Lotus (*Lotus formosissimus*)

This sprawling perennial herb lives in open stands of Garry Oak with grass-dominated meadows and rock outcrops at 2 sites in British Columbia: Trial Island and the southern-most tip of Vancouver Island. The Seaside Bird's-foot Lotus is limited in its dispersal because agricultural and residential development are destroying potential habitats. Grazing by cattle, deer, and rabbits, fire suppression, and invasive exotic species are also contributing to the lotus' decline .

## Purple Twayblade (*Liparis liliifolia*)

Found only in southern Ontario, the Purple Twayblade is found in deciduous or mixed forest habitats or open oak savannah. This orchid cannot grow in dense shade and therefore depends on disturbance in its habitat to ensure that the canopy doesn't fill in. Human control of natural disturbances, such as fire suppression, and conversion of habitat are threatening the survival of this species. Collection and pesticide use can also contribute to decline in this sensitive species .



Photo by Corey Raimond





Photo by Paul and Bernice Noll

### **Water-plantain Buttercup (*Ranunculus alismifolius*)**

Habitat loss, invasive plants, recreational activities, and grazing by herbivores all threaten this endangered plant which is found at only 2 sites in Canada. Oak Bay and Ballenas Island in British Columbia both have pools that form in the spring, in prairies with areas of Garry Oak. These pools are often free of trees because they cannot survive the seasonal flooding and drought. While the sites this plant occupies are not likely to be developed in the near future, habitat destruction limits sites for replacement populations.



## Tall Bugbane (*Actaea elata*)

This endangered perennial is found at sporadic sites throughout the Chilliwack River valley in southwestern BC. The Tall Bugbane grows in shady, moist areas of mixed Western Red Cedar, hemlock, and Douglas fir tree stands but can also be found in mostly deciduous tree stands. Deciduous trees are important to provide the plant with the right balance of shade, light, and moisture. This species of bugbane is pollinated by insects but does not show the normal characteristics to attract insects, such as nectar and showy petals. This fact contributes to the plant's decline because it is less attractive to pollinators than other plants. The Tall Bugbane is also threatened by its small population size and seeds that lack special dispersal structures. These factors combined with habitat fragmentation and low genetic diversity could lead to the extirpation of this plant in Canada.



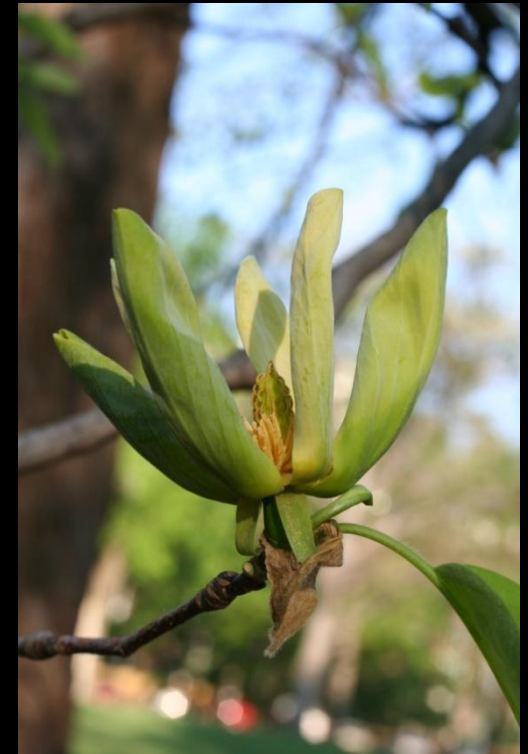
Photo by Tom Kaye



## **Skinner's Agalinis (*Agalinis skinneriana*)**

This endangered flower was once known at 11 sites in extreme southwestern Ontario. In 1997 only 5 sites were confirmed to still have specimens. Skinner's Agalinis is threatened by habitat loss and human disturbance. It is also be susceptible to water level changes, species changes due to fire suppression, and introduction of exotic species. This species grows in areas of shallow soil in open woods or glades, dry prairies, and bluffs or pockets amongst sand dunes.

Photo by Kenneth R Roberston



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## Cucumber Tree (*Magnolia acuminata*)

The Cucumber Tree produces conical seeds with an orange to scarlet coating (center photo). It is an inhabitant of southwestern Ontario where there are 16 known sites. This species needs moist, rich, acidic soils and is shade intolerant. Forest habitats must have openings in the canopy to ensure the regeneration of the plants. The Cucumber Tree is threatened by habitat loss due to agricultural clearing and logging. Low reproductive output, its special habitat requirements, and harvesting of these trees also contribute to their decline.





Photo by Joshua Mayer

### **Bird's Foot Violet (*Viola pedata*)**

The Bird's Foot Violet has 5 leaves and a flower supported on a stalk which all arise from an underground stem (rhizome). The Canadian populations are isolated from the main population in the USA and occur in pockets in southern Ontario. They are usually found in the deciduous forests of Black Oak savannahs. Natural disturbance is required to ensure the plant receives enough light. The main threat to this plant is habitat destruction. Competition from other plants, pesticides, and mowing also threaten this violet.



Photo by Hans Roemer

## **Yellow Montane Violet (*Viola praemorsa*)**

The *praemorsa* subspecies of the Yellow Montane Violet is present along the southeastern coast of Vancouver Island and on the adjacent islands in the Strait of Georgia. *Viola praemorsa praemorsa* grows in maritime meadows and Garry oak woodlands with shallow soils and a lot of herbaceous cover. Much of the habitat of this violet has been invaded by exotic species. Habitat destruction, invasive plants, and changes in the fire regime are the main threats to this species. Trampling and small population size threatens the violet at some sites.



Photo by Gerry Carr

### **Dense Spike-primrose (*Epilobium densiflorum*)**

This British Columbia native is found from Nanaimo to Victoria. The Dense Spike-primrose lives in open meadows and ditches that are wet in the spring but dry during the summer. This flowering plant self pollinates but sometimes insects, especially bees, will transfer pollen to neighbouring plants.

Developments in the area of the Dense Spike-primrose encroach on the last remaining populations and destroy the habitat they need to survive. Exotic plant species, changes in hydrology, their limited dispersal ability, and specific habitat requirements also threaten this endangered species.





Photo by Shirley Michelle

### **Virginia Mallow (*Sida hermaphrodita*)**

Virginia Mallow is a globally rare, tall perennial herb of the mallow family, which can grow anywhere from 1 to 3 m in height. In Canada, only two populations, separated by about 35 km, are known from southwestern Ontario. At present, these two populations are at risk from continued decline in habitat area and quality due to an aggressive invasive grass and quarry expansion. Luckily, Virginia Mallow has a high rate of seed production and viability, which means that it can come back from decline under the right conditions. Limiting human activities and monitoring invasive species will help to ensure the continued presence of the Virginia Mallow.



Photo by Seig Kopinitz

### **Virginia Goat's Rue (*Tephrosia virginiana*)**

Restricted to a few sites on Lake Erie's northern shore, the Canadian populations of Virginia Goat's Rue are threatened by fire suppression which allows longer lived plants, like trees, to grow and form a canopy which blocks out light for plants growing closer to the ground. Road maintenance can affect some populations of this endangered plant. Weevils are a major threat to the Virginia Goat's Rue because they eat the seeds and burrow into the plant. Direct sunlight in areas of open oak or pine woods on ridges or sand prairies or dunes is the favoured habitat of the rue but it can also be found in rural sites.



Photo by Ameet Zaveri, [sfbaywildlife.info](http://sfbaywildlife.info)

### **California Buttercup (*Ranunculus californicus*)**

The California Buttercup is found on ocean bluffs exposed to wind and salt spray or in open coastal meadows on several islands southeast of Victoria, BC . This buttercup is at risk from habitat development and alteration which result in habitat loss. Exotic species of plants can shade the buttercup, compete for water and nutrients, and reach suitable habitat sites before the buttercup has a chance to colonize. Recreational activities and fire suppression also threaten this buttercup .





Photo by Dave Delay

### **Spotted Wintergreen (*Chimaphila maculata*)**

This fragrant-flowered plant can has its Canadian range in central and southwestern Ontario and Quebec. It lives in oak-pine woods in sandy habitats with relatively dry soils. The Spotted Wintergreen has a very small population size which may limit reproduction. Habitat destruction is the main cause of decline in this species but collection and habitat disturbance may also play a role.



Photo by Ryan Batten

### **Victoria's Owl Clover (*Castilleja victoriae*)**

As its name would suggest, the Victoria's Owl Clover is found in the southern area of Vancouver Island (near Victoria) and on several islands nearby. It inhabits pool margins and seeps that are wet in autumn, winter, and spring but dry in the summer. Habitat loss and degradation due to urban development are the main threats to the Victoria's Owl Clover. Recreational activities can result in trampling. Invasive plant species also present a threat.



Photo by Bob Fischer

### **Small-flowered Lipocarpa (*Lipocarpa micrantha*)**

The Small-flowered Lipocarpa occurs in Ontario and British Columbia. The Quebec population is thought to be extirpated. This sedge grows on exposed sandy shorelines that are flood prone. It needs some protection from waves and strong currents. Controlling water regimes has a large effect on the Small-flowered Lipocarpa. Habitat degradation, due to recreational activities and invasive plants, and loss are the main threats to this species of sedge.





Photo by NPS

### **Small-flowered Sand-Verbena (*Tripterocalyx micranthus*)**

The Small-flowered Sand-Verbena inhabits the mixed-grass prairies of southeastern Alberta at several sites and at one site in eastern Saskatchewan. It lives in very dry areas of sand-hills where there is some soil movement or instability. This annual plant is threatened by dune stabilization due to the absence of fire and decreased grazing. Dune stabilization allows invasive plants to establish on dunes. Habitat disturbance due to cultivation of surrounding areas, sand removal, and dune flattening also contribute to the decline of the verbena.



Photo by Peter C. Gorman

## **White Prairie Gentian (*Gentiana alba*)**

In Canada, this blooming perennial is restricted to Walpole Island in southern Ontario. The White Prairie Gentian prefers habitats with well-drained, calcium carbonate rich soils. Areas that are often disturbed by fire, and therefore receive lots of sunlight, in the oak-hickory savannah are favoured. Sand quarrying, urban and residential development, and agriculture are contributing to habitat loss for the gentian. Fire suppression can limit *Gentiana alba* populations by allowing habitat to become shaded.



Photo by Ryan Batten

### **Tall Woolly-heads (*Psilocarphus elatior*)**

Tall Woolly-heads occur at several sites in Canada: southwestern British Columbia, southeastern Alberta, and southwestern Saskatchewan. This woolly plant lives in the dry beds of spring pools or similar sites that are seasonally flooded, open, and frequently disturbed. The greatest threat to *Psilocarphus elatior* is habitat destruction, though recreational activities also pose a substantial threat because plants can be destroyed by path maintenance and trampling.





Photo by Ryan Batten

### **Kellogg's Rush (*Juncus kelloggii*)**

Southeastern Vancouver Island is home to the sole population of Kellogg's Rush in Canada. This rush needs areas that are wet or moist through the winter and spring and dry in summer. These areas can be found in depressions in fields and meadows of Garry Oak habitat. Changes in water levels, recreational activities that cause trampling, and park development can all threaten this annual.



Photo by Ryan Batten

### **Whitebark Pine (*Pinus albicaulis*)**

The Whitebark Pine extends from the Canada-USA border up into the Rocky Mountains and Coastal Mountains in BC. It lives at or near the treeline and is often found with Engelmann Spruce and Subalpine Fir. This species enables an increase in biodiversity in the areas it lives because it supplies food and shelter for many animals and promotes the establishment of a variety of plants. Threats to this pine include the introduced White Pine Blister Rust (a fungus ), Mountain Pine Beetle, climate change, and fire suppression. These threats can interact and amplify their effects .



Photo by Ryan Batten

### **Bearded Owl Clover (*Triphysaria versicolor*)**

The Bearded Owl Clover is found in the Victoria area of Vancouver Island in 8 populations. This member of the Figwort family lives on rocky shorelines in the small coves or on exposed points. The very specific habitat requirements of this species limits its ability to colonize. Threats to *Triphysaria versicolor* include lack of protection in city parks, competition from invasive exotic plants, and development of habitat areas on private property.





Photo by Ryan Batten

### **Southern Maidenhair Fern (*Adiantum capillus-veneris*)**

The Southern Maidenhair Fern is found in the area of the Fairmont Hot Springs in southeastern BC. The hot springs make the local environment warm and humid, conditions the fern needs to survive. It can be found on lime-rich rock walls and cliffs. Resort construction and human use of the hot springs is threatening this fern because these activities destroy the habitat the fern needs to survive.



Photo by Ryan Batten

### **Spalding's Campion (*Silene spaldingii*)**

Occupying less than 1 km<sup>2</sup> of the Palouse prairie in British Columbia, the Spalding's Campion is an endangered perennial that lives at elevations between 580 and 1220 m in the Rocky Mountains. Habitat loss, introduced invasive species (for livestock grazing), drought, and fire suppression all threaten the survival of this species.



Photo by Ryan Batten

### **Golden Paintbrush (*Castilleja levisecta*)**

The Golden Paintbrush previously occupied eight locations on the islands off the Victoria, BC coast but is now only present in two of these sites. Because these populations are separated from the mainland and because the seeds are ill adapted to disperse long distances, it is unlikely that new plants will recolonize the areas lost. *Castilleja levisecta* lives in maritime meadows, areas characterized by their moderation of winter frosts, summer droughts, and low annual precipitation. Habitat loss, fire suppression, and introduced species are contributing to the extirpation of Golden Paintbrush in Canada.



## Call for Photographs

Do you want to help the Sierra Club save endangered wildlife? Do you have great photos of endangered wildlife that you would like to share with the world? We are still looking for photos of many species to complete our on-going project. Please contact us at [info@sierraclub.ca](mailto:info@sierraclub.ca) if you have photos of any of the following species:

- Cobblestone Tiger Beetle
- Northern Barrens Tiger Beetle
- Rocky Mountain Tailed Frog
- Eastern Persius Duskywing
- Band tailed pigeon
- Seaside Bird foot's Lotus
- Bent Spike-rush
- Drooping Trillium
- Slender Collomia
- Small Whorled Pogonia
- Townsend's Mole
- Western Harvest Mouse dychei subspecies
- Wood-poppy
- Coast Microseris
- Rough Agalinis
- Little Brown Bat
- Victoria's Owl-clover
- Rocky Mountain Tailed Frog
- Spotted Owl
- Mountain Plover
- Aweme Borer
- Marcopis Cuckoo Bee
- Ottoe Skipper
- American ginseng
- Foothill Sedge
- Small White Lady's-slipper
- White Meconella
- North Pacific Right Whale
- Eskimo Curlew
- Hungerford's Crawling Water Beetle
- Gold-edged Gem
- Dusky Dune Moth
- Edward's Beach Moth
- Bert's Predaceous Diving Beetle
- Five-spotted Bogus Yucca Moth
- Non-pollinating Yucca Moth
- Sand Verbena Yucca Moth
- Yucca Moth
- Seal Lacs des Loups Marins
- Atlantic Salmon
- Atlantic Whitefish
- Bluehearts
- Brook Spike-primrose
- Cherry Birch
- Copper Redhorse
- Eastern Flowering Dogwood
- Eastern Prairie Fringed-orchid
- Edwards' Beach Moth
- Engelmann's Quillwort
- Enos Lake Benthic Threespine Stickleback
- False Hop Sedge
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- Golden Paintbrush
- Grand Coulee Owl-clover
- Heart-leaved Plantain
- Horsetail Spike-rush
- Juniper Sedge
- Lake Chubsucker
- Long's Braya
- Margined Streamside Moss
- Northern Abalone
- Northern Madtom
- Northern Madtom
- Ogden's Pondweed
- Pale-bellied Frost Lichen
- Pitcher's Thistle
- Poor Pocket Moss
- Pugnose Shiner
- Rayless Goldfields
- Round Hickorynut
- Round Pigtoe
- Rusty Cord-moss
- Salamander Mussel
- Sand-verbena Moth
- Shortnose Cisco
- Silver Hair Moss
- Slender Bush-Clover
- Small-mouthed Salamander
- Snuffbox
- Spalding's Campion
- Speckled Dace
- Streambank Lupine
- Thread-leaved Sundew
- Tiny Cryptantha
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