



Ducks Unlimited  
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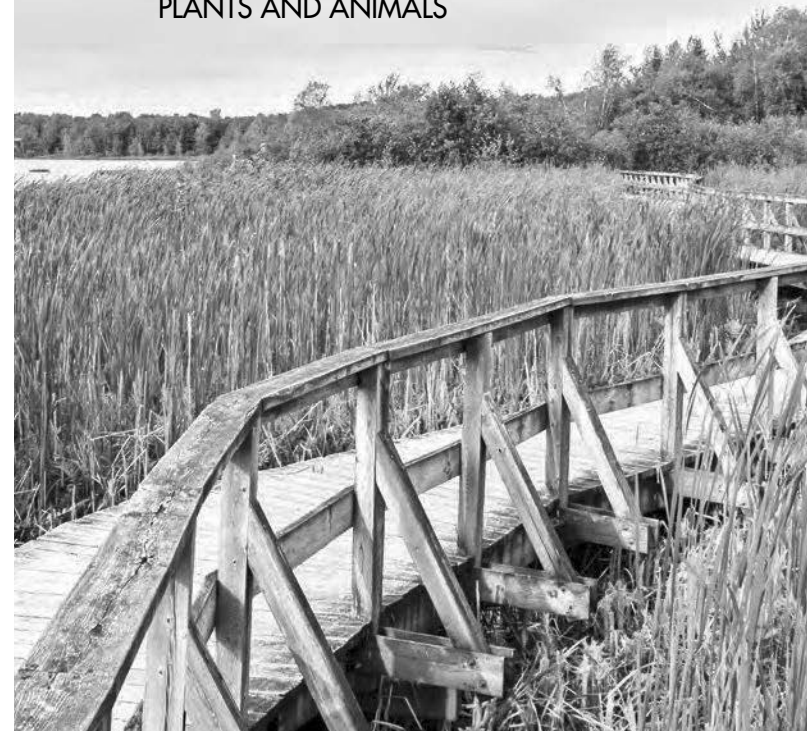


Ducks Unlimited  
Canada



# Marsh World

AN INTRODUCTION TO WETLAND  
PLANTS AND ANIMALS



*This guide belongs to:*

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## What does Ducks Unlimited Canada do?



Ducks Unlimited Canada connects people to nature and a healthier world through wetland conservation. DUC uses science to understand marshes, ponds, bogs, and other wetlands across Canada and we work with others to protect them.

*Get to know your local wetlands – you’ll love them!*



## Wetlands are Important



Wetlands are shallow waterbodies with special plants and soil. They include ponds, marshes, swamps, bogs, sloughs and potholes.

### Wetlands...

- help to keep our drinking water clean
- are homes to wildlife
- store water during droughts
- help reduce flooding
- store carbon to fight climate change
- are important resting, feeding and breeding areas for migratory birds

**When we protect wetlands, we help wildlife and ourselves.**



## Visiting a Wetland



### Exploring a wetland is a fun adventure!

Wetlands are alive and full of mystery. Is that lump on the log really a turtle sunning itself? Whose footprints are those leading down to shore? Why are those cattails moving? Who left those droppings on the trail? Everywhere you look there is a story to uncover.

### Be prepared

- Wear the right clothes and shoes for the weather
- Protect yourself from biting insects
- Remember: Take only pictures. Leave only footprints.



## Plants

Plants turn the sun's energy into the food animals need to survive. They provide shelter and nesting material for animals. Their roots hold soil in place to help other plants grow. When plants die and decay their nutrients nourish the soil.

Land plants and water-dwelling plants are different. Wetland plants are exposed to water and water levels that change season to season as well as sun, wind, waves, and on the coast, salt. They are specially adapted to deal with these.



## Underwater Plants



### Milfoil

Underwater plants provide food for many animals including ducks. Milfoil, like many underwater plants, also acts as a nursery or hiding place for invertebrates, tadpoles, fish, and other small animals.

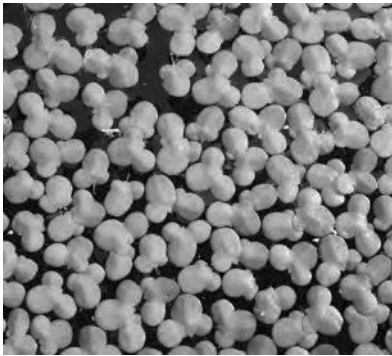
### Bladderwort

You may see their tiny yellow flowers bobbing on stalks above the water. Their floating stems contain many small bladders with trap-doors. Tiny aquatic creatures enter and become trapped, then slowly decompose to nourish this carnivorous plant.



## Floating Plants

Some plants float on the water's surface, allowing them to move up and down with changing water levels.



### Duckweed

Smaller than one centimeter, these tiny wetland plants grow in the still water of marshes, sloughs, and other wetlands. Look underneath for their threadlike roots.

### Yellow Water Lily

These bright yellow flowers, with broad floating leaves, are found in marshes and ponds across Canada. Moose feast on their roots. You may see old roots floating nearby – they kind of look like pineapples! Ducks and other birds eat their seeds.



## Pondweeds

You'll find pondweeds in shallow water with their many-shaped floating leaves and spiked flowers. They produce lots of seeds, an important food for wildlife.

### Confusing plants!

Marsh plants can be tricky to identify. A single plant may have two or three different kinds of leaves depending on whether they are underwater, floating, or are held on stems above the water.



underwater



floating

above water



### Marsh Marigold

In spring look for this beautiful yellow-flowering plant at the edges of marshes, ponds or forest streams.



### Arrowhead

White-flowering plants with arrow-shaped leaves grow from fleshy tubers, called duck potatoes. Bet you can guess the kind of birds that eat them!



### Cattails

Easily recognized with their brown, spiked tops, some cattails grow up to two metres tall. Cattails provide shelter and nesting spots for ducks and other birds. Muskrats eat their fleshy roots, and use their stems and leaves to build their houses.

Rushes and bulrushes produce millions of tiny seeds. Their seeds, and sometimes their roots and tubers, are important food for ducks and other birds.



## Rush & Bulrush



Willow roots hold the soils that surround the marsh and prevent erosion.



### Alders

Alder shrubs help nourish the soil making it ready for other plants to grow.

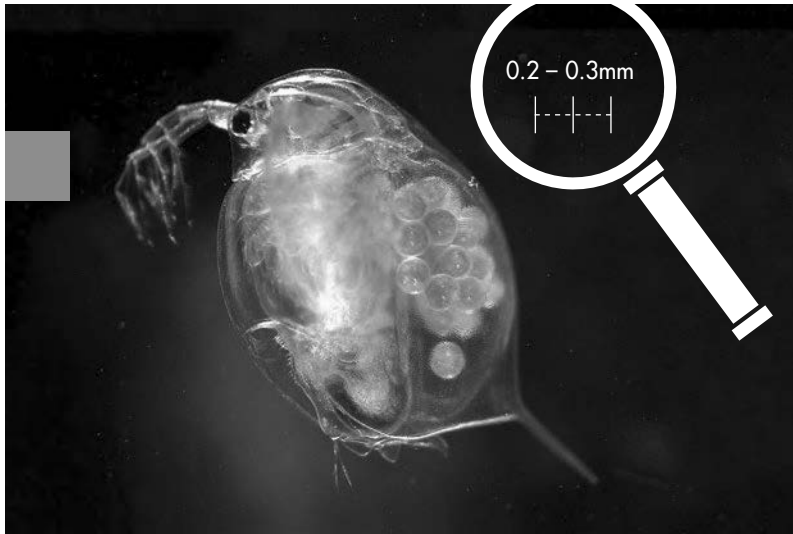
## Invertebrates

These boneless aquatic animals provide food for many birds and fish. Some are the first life stage for common insects, like mosquitoes and dragonflies, that emerge to live their lives on land.

Want to explore more? Check out our "Marsh Monsters" guide to invertebrates.



Predacious Diving Beetle

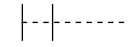


**Water Fleas** (above)  
and **Shrimp** (right)

Water fleas and freshwater shrimp, often called 'scud' are common in marshes, lakes and rivers. They are important food for other invertebrates, fish, ducks and insects. Both are tiny – water fleas measure 0.2 to 0.3 mm in length while the larger scud are 5-20 mm.



4 – 15mm



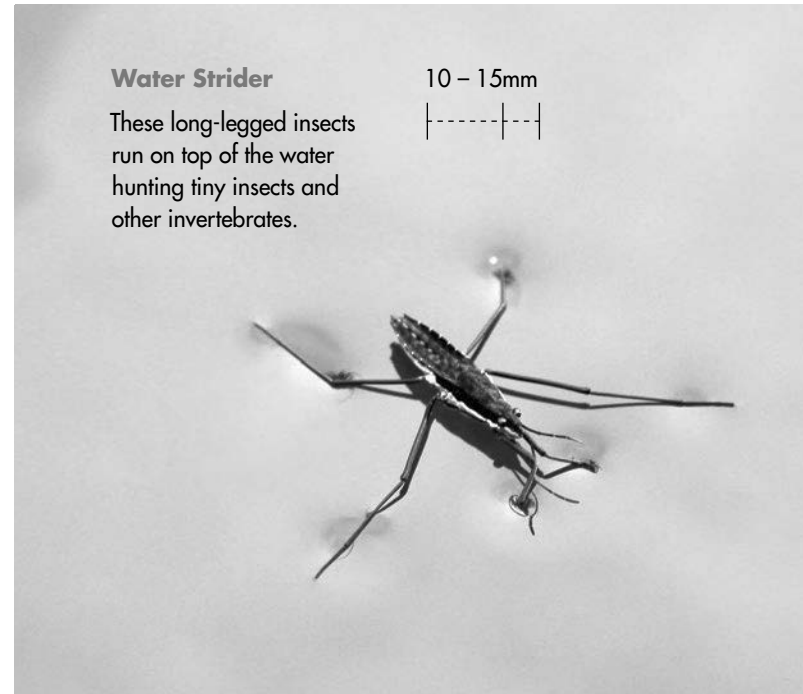
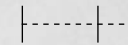
**Water Boatman**

These aquatic bugs have a slightly flattened body with long, slender legs for swimming. Their legs look like the oars of a small boat – hence their name. They feed on small creatures in the mud bottom of marshes and ponds.

**Water Strider**

These long-legged insects run on top of the water hunting tiny insects and other invertebrates.

10 – 15mm







**Damselflies** (above) & **Dragonflies** (below)

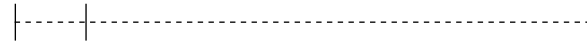
There are many kinds of these beautifully-coloured, winged predators. They may lay their eggs on the water surface, on plants or in the sand or mud bottom. They hatch and start their life in water as greenish-coloured nymphs, but emerge as the beautifully-coloured, winged predators we all know.



**Leeches**

Leeches, or bloodsuckers, may draw blood from other animals, but many are predators and scavengers. These dark, worm-like invertebrates move like inchworms but are excellent swimmers too.

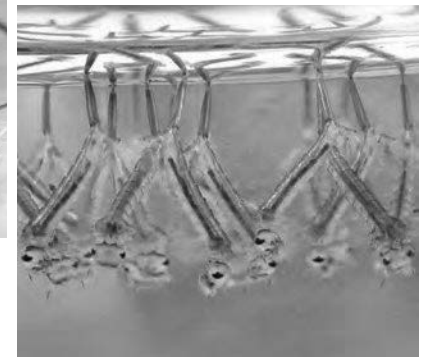
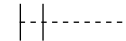
9 – 80mm



**Mosquito "wrigglers"**

Mosquitoes may not be our favourite insects but birds, fish, frogs and other wildlife depend on them for food.

3 – 15mm





### Crayfish

These large invertebrates look like miniature lobsters and live in shallow water, often burying themselves in the sand or mud bottom. Their claws are used to catch and tear apart prey. Fish, turtles, raccoons, otters, mink and many birds feed on crayfish.



### Snails

Snails glide along on a flexible "foot" using a slimy mucous to smooth the way.

5 – 36mm

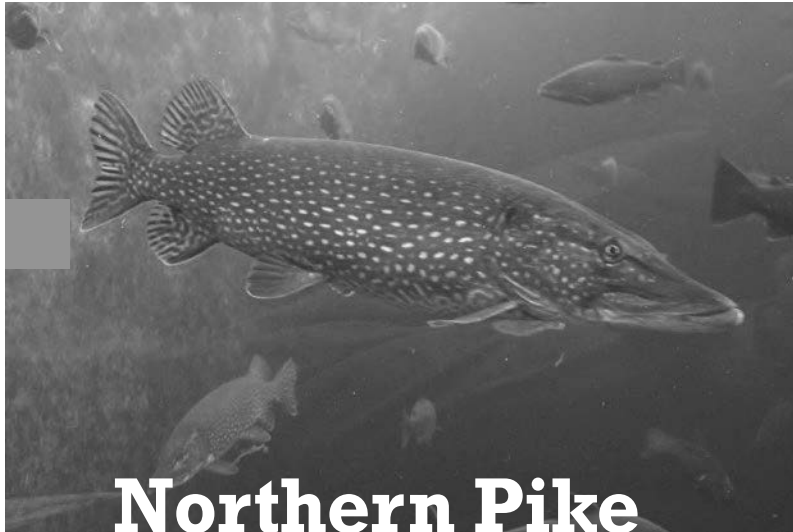


## Fish

Wetlands are important to fish. They provide protected areas for fish to lay their eggs, called spawning, and for their young to grow. Wetland plants give off oxygen that fish need to breathe and help to purify the water. Fish also feed on many wetland plants.

Not all wetlands have fish and the kind of fish you find will vary. You may see schools of little fish in the shallow water. These may be fry, the babies of larger fish that you will see in deeper water or they may be minnows – tiny fish that never grow any larger.





## Northern Pike

Pike (jackfish) are major predators feeding on fish, frogs, muskrat, and even ducklings.



### Carp

These large Asian fish were released into North American waters in the 1800s. This proved to be a mistake as they can cause a lot of damage to wetlands muddying the water and uprooting plants.

# Amphibians

Amphibians are animals that live part of their lives in water and part on land. Most have soft, moist skin that is protected by a slippery layer of mucus.

### Tree Frogs

The spring calls of tiny little tree frogs, such as spring peepers, create a deafening spring wetland chorus.

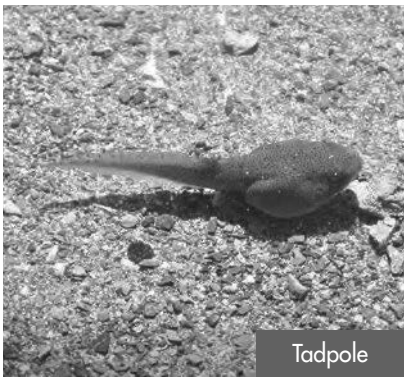


Grey Tree Frog



### Leopard Frog

Although the leopard frog is found across Canada, it is disappearing in some regions. This green frog is easily recognized by the dark oval spots on its back and legs.



Tadpole

They lay their eggs in a clustered mass, attached to plants below the water. These hatch into tadpoles which eventually sprout legs and lose their tails, transforming into frogs.

## Reptiles



Reptiles include snakes, turtles, crocodiles and other scaled animals. Their body temperature responds to the temperature of their surroundings so it is not unusual to see some, like turtles, sunning on a log to warm up their body.



### Garter Snake

These well-known striped snakes are expert swimmers and are often seen near the edges of ponds and marshes.



## Painted Turtle

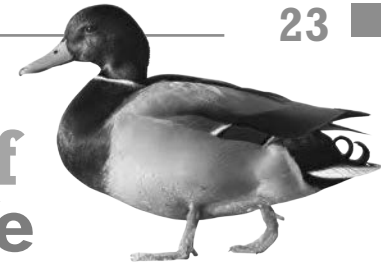
Painted turtles are known for their red and yellow stripes that appear on their face and underbelly shell. They eat plants, insects, and crustaceans.



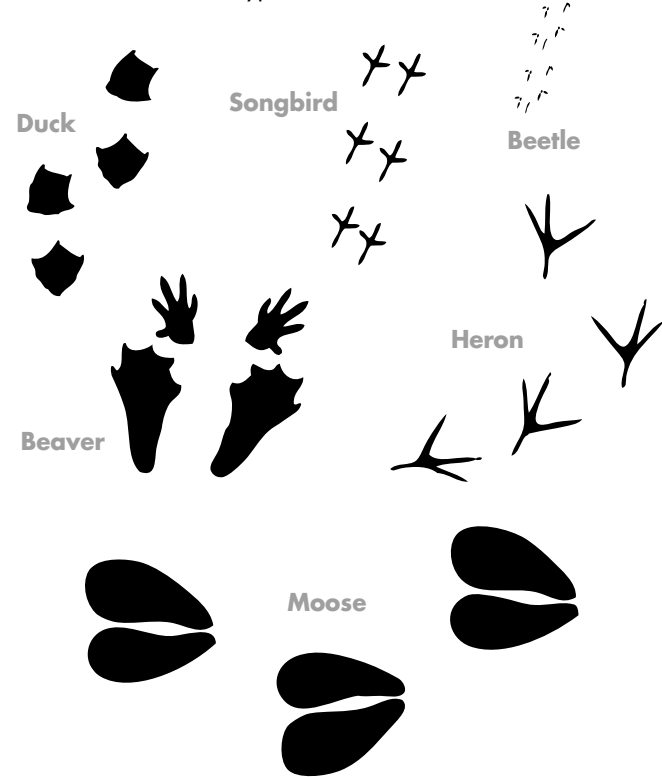
### Snapping Turtle

Snapping turtles have a long life and may grow up to 30 kilograms. They spend most of their time in water, scavenging plants and animals, although they do come out of the water to sun, and to lay their eggs.

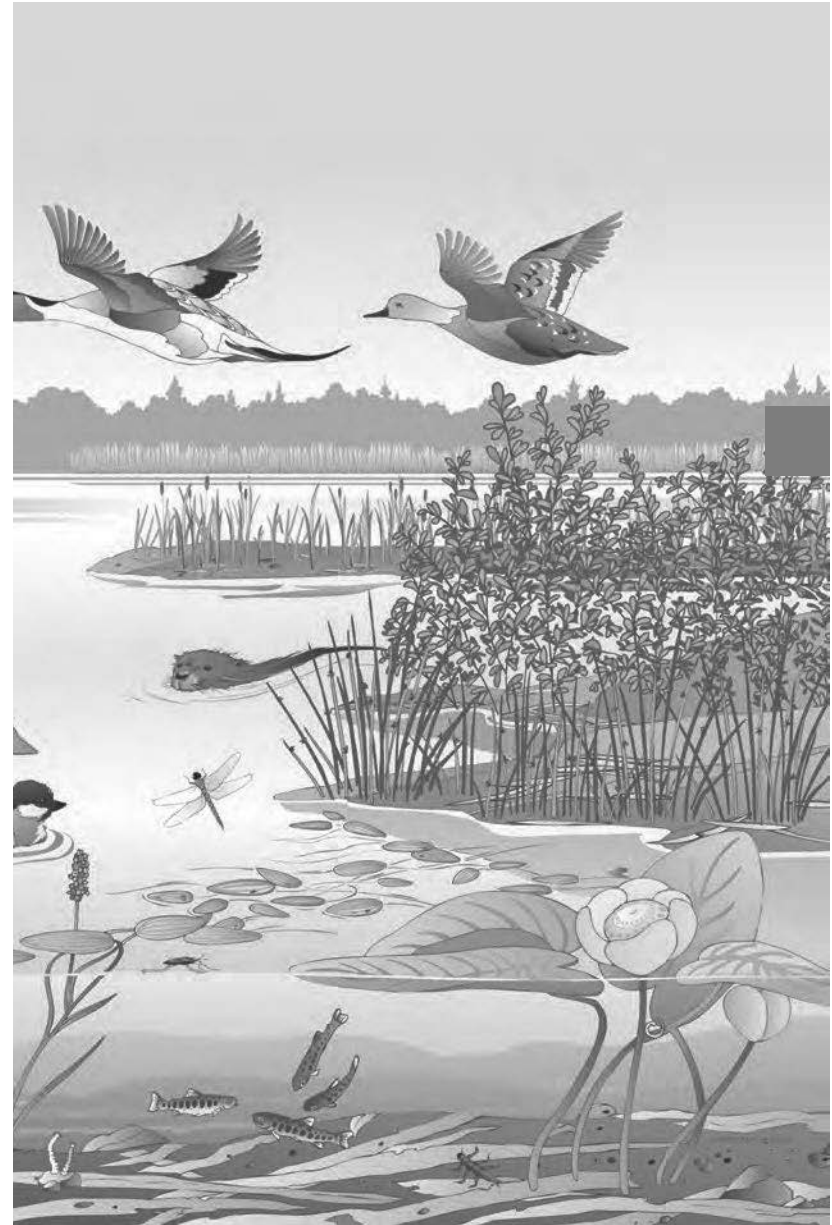
## Signs of Wildlife



You may see animal tracks. Sketch them and estimate or measure their size and the distance between them. This will give you clues about the size and type of animal.



*When we protect wetlands,  
we help wildlife and ourselves.*



## Signs of Wildlife

It's always exciting to see wildlife, but often you only see signs that they've been nearby. You may see their homes or nests. Look carefully – they come in all shapes and sizes. Look up at the trees, and down on the ground or in the water.



Look for other signs. Eggshells from newly-hatched chicks. Feathers, bones, a shed snake-skin, chewed twigs with teeth marks of a rabbit or beaver.



## Mammals



Nature's engineer, the beaver builds dams, lodges, and even its own swim channels. They change their habitats, flooding the land eventually creating wetlands.

### Moose

Moose feed on aquatic plants and have a particular fondness for water lilies. You may even see the bull's antlers draped in water lily roots and stalks as he raises his head up from feeding.







## Bat

Bats swoop back and forth over wetlands at dusk, feeding on mosquitoes and other newly hatched insects.



## Muskrat

Muskrats depend on cattails for food and to build their homes. These dens are a favourite resting and nesting sites for waterfowl.



## Skunk

Skunks are omnivores eating both plants and animals. They change their diet with the season, for example eating berries and eggs in the spring, and nuts and mushrooms in the fall. Year-round they eat grubs, worms, frogs, snakes, birds and other small animals.

## Raccoon

These night-time hunters are expert climbers and swimmers. They are omnivores, eating many kinds of food, but they are also predators feasting on turtle eggs, ducklings, and other small wetland creatures.





## Birds

Ducks, geese, swans and many different kinds of birds make wetlands their home.



## Waterfowl

Ducks, geese and swans are known as waterfowl. Many of North America's waterfowl nest in Canada, including three species of swans, five kinds of geese and 29 different species of ducks.



## Dabbling Ducks

Look for dabblers or “puddle ducks” in fresh, shallow marshes and rivers where they feed by “tipping up” with their head underwater and their tail up in the air. Dabblers are sure-footed and can walk and run well on land. Dabblers include mallards, black ducks, gadwall, wigeon, teal, shovelers, and wood ducks.



### Mallard

Mallards are the most plentiful duck in North America and are found in almost any wetland habitat from marshes to city ponds. The male’s bright green head and chestnut breast make it easy to recognize.



### Green-winged Teal

This small duck arrives in early spring to nest in the grass, or beneath low shrubs, close to a nearby wetland.

## Diving Ducks

Diving ducks are built for swimming and can dive to great depths to feed. With their paddle-like feet they move awkwardly on land and need to run along the water’s surface to become airborne. Divers include canvasback, redhead, scaup, and ring-necked ducks.



### Canvasback

Canvasback are large ducks, common to the Prairies. They dive for food, digging into the muddy bottom for the roots and tubers of aquatic plants.

### Common Goldeneye

Goldeneye feed by diving underwater to feed on invertebrates and fish. They nest in tree cavities high up off the ground to avoid predators.



## Geese

### Canada Goose

The well-known Canada goose is the world's largest wild goose. They feed on berries, seeds, grasses and other plants and so are often seen in grain fields and even city parks.



### Snow Goose

Snow geese are famed for their long and nearly non-stop migration from the southern U.S. and Mexico to the Arctic. Snow geese may be either white or blue in colour.

## Wading & Shorebirds

Wading and shorebirds are specially adapted for life in or near wetlands, grasslands, and coastal areas. Their long legs and feet are perfect for wading and walking in mud while their bills are adapted for probing in the mud or sifting through the water for food. Many of them have mottled or spotted brown, white, rust, and black colours that act as camouflage protecting them from predators.

### American Bittern

Seldom seen, the motionless bittern's striped chest blends into the reeds.





## Sora

Rails are small, secretive marsh birds that you may glimpse scampering through the wetland reeds. The tiny sora has slender legs and long toes and can run across a pond on top of lily-pads.



## Great Blue Heron

This long-legged hunter stands quietly in fresh or salt water marshes, stalking fish and frogs.

## Killdeer

In open fields, or near the borders of wetlands, you may hear distinct cry of "kill-ee" of the killdeer. Killdeer nest on the ground and if you see one that appears to have a broken wing, please don't try to help her out. It's a mother bird trying to lure you away from her nest.



## Spotted Sandpiper

Found across Canada anywhere there is water, this sandpiper eats small invertebrates - midges, mayflies, grasshoppers, beetles, snails, and small crustaceans - along with fish, both alive and dead. They move in a jerky, bobbing motion but can lunge quickly to grab moving prey.

### Wilson's Snipe

This sandpiper haunts the wet, muddy borders of marshes and sloughs but they are so well camouflaged and secretive that you may not spot them. A snipe uses its long, straight bill to probe into the wet mud for worms and other invertebrates.



### American Coot

The coot may be seen with ducks and look like one but it isn't. It lacks the duck's webbed feet and is more closely related to rails and cranes. Coots feed mainly on aquatic plants, although they will sometimes eat grains and tree leaves or even feed on insects and small vertebrates such as tadpoles and salamanders.

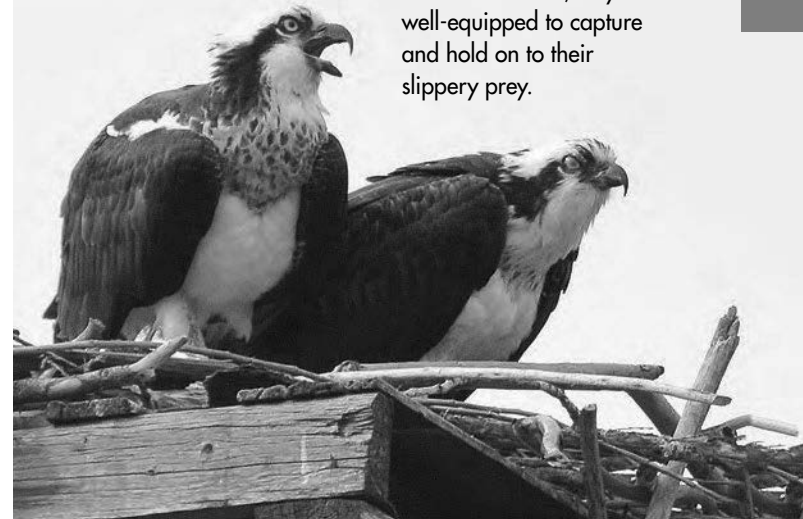


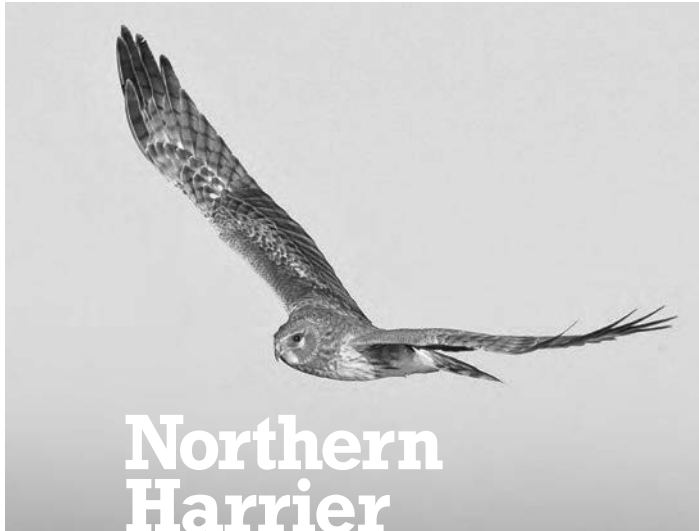
## Birds of Prey

Birds of prey include the hawks, owls and eagles. Wetlands provide a great place for these predators to hunt for food.

### Osprey

Osprey are fish-eaters often nesting high in trees bordering on a wetland. With long, sharp talons and horny spikes on the soles of their feet, they are well-equipped to capture and hold on to their slippery prey.





Often referred to as a “marsh hawk”, this predator flies low over the ground preying on small rodents, reptiles, birds, and other wetland creatures. Harriers nest on the ground in a clump of low shrubs or willows near their wetland hunting grounds.



### Bald Eagle

Bald eagles are most often seen during fall migration searching wetlands and lakes. Here they hunt for sick or crippled waterfowl that have become trapped in the ice as temperatures drop.

## Songbirds

This large group of birds consists of perching birds that communicate with a musical song. These are the birds that you most commonly hear or see in a garden or park, or at a winter bird feeder.





### Yellow-headed Blackbird

Found from western Ontario to B.C., they often nest in the same marshes as red-winged blackbirds where they claim the best spots, always over water. Yellow-headed blackbirds feed mostly on insects in the summer and seeds in the winter.

### Red-winged Blackbird

The male red-winged blackbird is easy to spot with its bright red wing patch. Their song is one of the first signs of spring as they arrive in wetlands across Canada to claim a nesting spot. Unlike the showy males, the females are well-camouflaged with brown, streaked colouration. Their deep, cup-shaped, woven nests are hidden amongst tall wetland plants.



These tiny marsh birds dart amongst the tall marsh cattails and reeds. They are more often heard than seen when they scold any creature that comes near their nest. They build a small, globe-shaped nest and the male may even build several dummy nests nearby to distract predators.

### Common Yellowthroat

Found across southern Canada, these small warblers live in marshes amongst the reeds or willow thickets. The male is easy to recognize with his black face mask and clear repeated song of "witchery-witchery".





## Tree Swallow

Tree swallows are masters of the air, twisting and turning as they swoop over wetlands chasing their flying insect prey. They eat all kinds of insects, from tiniest to ones up large dragonflies and beetles.



### Song Sparrow

Sparrows are small brown birds that are often difficult for beginners to identify. Song sparrows are found across North America. They feed on a wide range of seeds, fruits, and in the summer, insects.

## Gulls, Terns & Others

Gulls and terns are closely related seabirds that are found near coastal and inland waters. Most nest on the ground in large colonies made up of thousands of birds, while a few species build solitary nests in trees or on cliffs.



### Ring-billed Gull

Ring-billed gulls are a medium-sized gull, found across Canada. Their natural habitat includes open water and wetlands, but they have adapted to human environments and are often seen in parking lots, city parks or even garbage dumps. They are omnivores and can survive on almost any kind of food from fish and mollusks to dead animals and human food.





### Belted Kingfisher

This small, stocky bird is found across Canada by any river, lake, pond, or wetland with fish. Kingfishers perch over the water watching for their prey and then dive headlong into the water emerging with their catch.



### Black Tern

Terns are graceful seabirds found near seas, rivers, and wetlands. Black terns spend much of their time flying back and forth in a twisting turning flight as they chase insects. They nest in wetlands on mud-bars, in wetland vegetation or even on a log or muskrat house.

## DUC & Education

Educating young people about wetlands and waterfowl are important parts of DUC's conservation mission. DUC's education programs help young people understand and play a role in taking action to protect wetlands now and in the future. **Some of our programs for young people include:**

### Wetland Heroes

DUC values the efforts of young people who undertake actions to help conserve and restore wetlands across Canada. Visit our website ([ducks.ca/initiatives/wetland-heroes](https://ducks.ca/initiatives/wetland-heroes)) for ideas on how to help and then design a project of your own. Tell us about it and we'll recognize you as one of our Wetland Heroes.

### Wetland Centres of Excellence (WCE)

Wetland Centres of Excellence (WCE) are a national network of schools and community partners that engage students in wetland conservation through action projects, student-to-student mentored field trips and outreach in their communities.

### DUC Wetland Field Trips

Our elementary school programs include DUC's Wetland Field Trip program. This program provides learning resources and opportunities to engage students in the exploration of wetland habitats, allowing them to discover for themselves the importance of conserving wetlands for wildlife and people. Classes often take part in a wetland field trip led by their teacher, a skilled interpreter, or WCE mentor.

**For more information about DUC's education programs and resources, visit [education.ducks.ca](https://education.ducks.ca) or email us at [education@ducks.ca](mailto:education@ducks.ca)**

