FIELD GUIDE

AMPHIBIANS AND REPTILES

of the Northwest Territories

Government of Northwest Territories

This identification guide includes all species of amphibians and reptiles known to be present in the Northwest Territories.

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Maps were created by Suzanne Carrière, GNWT based on data from the NWT Wildlife Management Information System, including many locations shared by NWT residents and visitors who are interested in amphibians and reptiles. The maps were designed using level IV ecoregions as defined by the NWT Ecosystem Classification System (www.enr.gov.nt.ca/en/services/ecosystem-classification) following the Ecosystem-based Automated Range mapping method (see www.natureserve.org/natureserve-network/canada/biodiversity-data/ebar-range-mapping).

Front cover: Wood frog, credit Aryn Franklin, ENR

Back cover: Red-sided garter snake, credit C. Graydon

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Canadian toad

CANADIAN TOAD ENR, GNWT

NWT Checklist of Amphibian and Reptile Species

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Red-sided garter snake

PAUL PRATT

Amphibians and Reptiles in the NWT

Amphibians are cold blooded animals with thin, porous skin that requires moisture. Many amphibians spend part of their life in water and part on land. The free swimming larvae, called tadpoles in toads and frogs, breathe through gills. Adult amphibians breathe with lungs as well as through their skin. There are three frog species and two toad species known to occur in the Northwest Territories (NWT). One salamander species may also occur here, but this has not been confirmed.

Reptiles are also cold blooded animals. They have scales on their body and retain moisture, allowing them to travel across the landscape in both wet and dry areas. They breathe through lungs. There is only one species of reptile known to occur in the NWT, the red-sided garter snake.

Amphibians and reptiles play an important role in our ecosystem and help us to understand ecosystem health. Amphibians and reptiles are both predators and prey, transferring energy through the food chain. Both are sensitive to a variety of threats and can signal changes to the environment when monitored over long time periods.

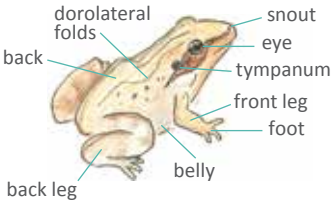
The distribution and numbers of amphibians and reptiles in the NWT are restricted by our harsh climate. Short, cool summers reduce the time available for feeding, growth, and reproduction, whereas the long cold winters are a very real test of their ability to survive in the North. Species have different adaptations to cold weather. For example, amphibian species that are not freeze-tolerant and must overwinter below the frost zone are only found in the southern NWT. Amphibians that can tolerate some freezing are more abundant and widespread.

There are still many gaps in our knowledge about population numbers, distribution, ecology and threats to amphibians and reptiles in the NWT. However, our information base is growing through research and monitoring, and as people share their knowledge and observations.

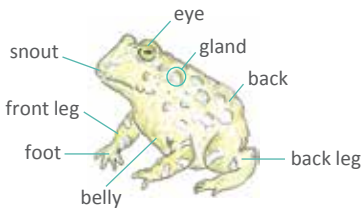
Anatomy

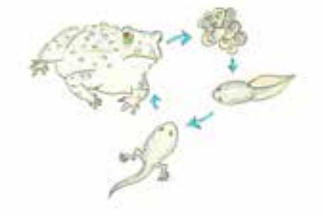
Life Cycle

Frogs

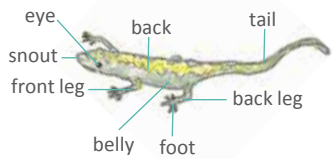


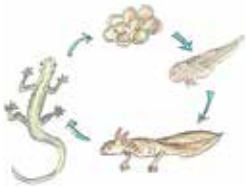
Toads



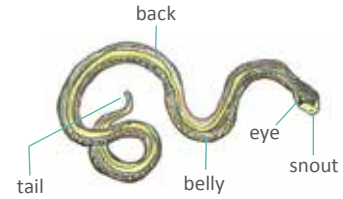


Salamanders





Snakes



Early in the spring, often when there is still ice in the middle of wetlands, amphibians will migrate to breeding grounds, sometimes travelling considerable distances. Female frogs and toads find males who advertise their presence with mating calls. The male clasps the female from behind and she releases her eggs into the water. The male then releases his sperm into the water where they fertilize the eggs.

Long-toed salamanders have elaborate underwater courtship 'dances'. Males deposit sperm packets, or spermatophores, on the bottom of the pond. The female will then move over the sperm packet and position herself so she can pick it up with her vent, or cloaca, and internalize it. In this way, salamander eggs are already fertilized when the female lays them on vegetation in the wetland.

Canadian toads mating and laying eggs.

Female amphibians at northern latitudes may not breed each year, perhaps because they need multiple active seasons to collect enough resources to produce a clutch of eggs. A single female amphibian can lay hundreds or thousands of eggs, but most will not survive. Often the eggs are preyed upon by predators, such as fish and insect larvae, or they get dried out when water levels drop.

Young amphibians that newly emerge from their eggs are called hatchlings. Hatchlings have big appetites and grow rapidly into free swimming larvae, which are called 'tadpoles' in toads and frogs. Toad and frog tadpoles primarily feed on algae and decaying matter, but may also scavenge on carcasses and can occasionally become cannibalistic under conditions of low food and ponds drying. Salamander larvae are primarily carnivorous and will readily eat any other creature it can catch and fit into its mouth, including other amphibians.

Northern leopard frog eggs.

Wood frog hatchlings.

Amphibian larvae grow and develop until they transform through a process called metamorphosis. Tadpoles will spend increasing amounts of time along the shoreline partially out of the water as their gills transform to lungs and their limbs grow. Newly metamorphosed frogs and toads are called froglets and toadlets. It can take several years for young amphibians to grow and mature into adults.

Red-sided garter snakes mate mostly when congregating at hibernacula, which are dens and crevices where the snakes overwinter below the frost line. Garter snakes do not lay eggs but instead protect the developing young inside the mother's body. This strategy is seen in several reptile species whose range extends into colder climates. The female bears live young in summer or early fall. Litter size is smaller than for snakes further south, but the northern young are relatively large. The young are independent from birth.

Western toad tadpoles going through metamorphosis.

Female/male garter snakes.

Where to Find Them

The name **amphibian** comes from a Greek word meaning to live a double life. This is fitting because many amphibians spend part of their lives in the water and part on land. They depend on fresh water habitat for breeding, laying eggs and developing as tadpoles. They need habitat on land for feeding and most species in the NWT overwinter on land. Amphibians often return to use the same breeding or overwintering sites year after year.

In the spring and summer, amphibians may be found in fresh water pools that are usually shallow and warm with plants growing in the water. Ponds, roadside ditches, gravel pits, swamps, marshes and the shallow edges of rivers and lakes can all be good amphibian habitat.

Northern leopard frog.

Fort Smith area

Near Colville Lake

Beside the Liard Highway

Norman Wells area

Beside Highway #5

Near Tsu Lake

Muskeg River wetland

Gravel pit by the Liard Highway

When on land, some amphibians may need sites for burrowing to keep their skin moist. Amphibians use a variety of habitats for this, including leaf litter, woody materials, small animal burrows and boulders/cracks in rocks.

Wood frog in leaf litter.

Reptiles require habitats that contain basking areas in the sun. During excessive cold or heat, they may take shelter in rock piles or outcrops, animal burrows, woody material and brush piles.

In summer, red-sided garter snakes may be found around wetlands where their prey is abundant. They are often found underneath objects that provide shelter, such as rocks and logs. Sometimes they are seen crossing roads or trails as they travel to and from their overwintering sites.

Red-sided garter snakes overwinter in underground crevices and caves, often in areas with limestone karst terrain. Sometimes, large numbers of snakes can be spotted at these sites in the spring, as the snakes emerge from hibernation and mate. There are nine known "snake pits" near Fort Smith, five of which are in the NWT.

Red-sided garter snakes at a hibernation site in spring.

Viewing and Listening Tips

The easiest way to find most **amphibians** is to listen for their calls, especially in the spring and early summer. Calling generally increases as daytime temperatures increase, both over the course of the breeding season broadly, and over the course of the day. During the breeding season, you will often hear no calls early in the morning, calls increasing as the day warms and often reaching full chorus in the evening. Calls can be hard to hear during windy days, so it is best to go out when the weather is calm. Remember to keep quiet and still while you listen for them.

Here are some easy steps for listening for frogs and toads in your area:

1. Learn what their calls sound like by listening to recordings at **www.naturewatch.ca/frogwatch/northwest-territories/.**
2. Choose a location where frogs and toads are likely to be, such as marshes, ponds, wetlands or even forest with some melt water areas.
3. Look around the edges of the wetland but avoid walking into the water.
4. Keep any pets on a leash or at home.
5. Stay quiet and still and listen for a few minutes. Scan the shallow water or the water edge for movement, such as a flash of light or small ripples in the water surface. The best way to scan is with a pair of binoculars or a scope.
6. Watch for species that are silent, such as long-toed salamanders.
7. Report your findings to **wildlifeobs@gov.nt.ca**

To look for salamanders, check underneath objects like stones and logs. Replace the objects carefully when you are done looking and avoid harming any animals hiding underneath. Do not step on logs or stones that may crack or rock and accidentally kill the animals underneath.

Reptiles are most active when the weather is warm and they can easily maintain their body temperature. When driving south of Hay River and around Fort Smith, watch out for snakes that may be crossing the road. In the spring, many garter snakes can be seen outside their hibernation sites with males forming big "mating balls" around the females. The Salt River Day Use Area in Wood Buffalo National Park is an excellent place for viewing red-sided garter snakes in April and May and again in the fall.

A mating ball of red-sided garter snakes in Wood Buffalo National Park.

Let Wildlife Be Wild

Although it can be tempting to pick up an adult amphibian, a bunch of tadpoles, or a reptile, it is very easy to injure them or to spread disease-causing agents between sites by accident. Amphibians absorb chemicals through their skin and can be harmed by even a small amount of sunscreen or bug repellent that may be on your hands. The best way to examine an amphibian very closely is to gently scoop it into a clean container, observe it for a few minutes and then let it go back where you found it. If you need to touch an amphibian, your hands should be completely clean and wet. Be very gentle and careful not to hold them too tightly. Amphibians have no ribs, so there is nothing protecting their internal organs if you grab them too hard. Sit or kneel low to the ground, in case the animal jumps or falls. Do not keep wild amphibians or reptiles in captivity.

MIKE OLDHAM

Identification and Photography Tips

Taking a photo and sharing it is a great way to help us learn more about our amphibians and reptiles. Photos that clearly show patterns on the animal's face, head and back are most useful for identification. Multiple photos from different angles can help. It is also helpful to take some photos of the habitat. Remember to make a note of the date, time, and location. Information on weather condition can also be useful.

Another easy way to document amphibian presence is to record the sound of them calling. You can use your phone, or borrow one, to make a sound recording.

Colour may not be a reliable way to tell amphibian species apart, as it can be quite variable.

Traits to note are:

- Skin texture – smooth or bumpy
- Size
- Face having a stripe through the eye or a dark 'mask'
- Raised bump or crest between the eyes
- Body covered with large spots
- Raised ridges (dorsolateral ridges) along the edges of the back

Canadian toads – same species but different colours.

Amphibian eggs can sometimes be identified by paying attention to the size and shape of the egg mass. For example, toads lay their eggs in strings and frogs lay their eggs in clusters.

It can be very tricky to identify amphibian species in the tadpole stage, but it can help to pay attention to their size, colouration, and shape of their tail. Compared to frog tadpoles, toad tadpoles are generally smaller and often quite dark in colour (i.e. no visible pattern).

Garter snake species can look quite similar to each other. Only the red-sided garter snake is known to occur in the NWT, but it is good to keep an eye out for other species, like the wandering garter snake *(Thamnophis elegans vagrans)*, that are found further south. Pay attention to the pattern of colours in and around the yellow stripes. Other species do not have the red markings between the yellow stripes on their sides like the red-sided garter snake.

Clusters of wood frog eggs.

Strings of western toad eggs.

Tadpoles of the western toad (left) and wood frog (right).

Report your Sightings

You can load your photographs on **iNaturalist.ca**, where other amphibian and reptile enthusiasts will be able to assist you in confirming the species you have observed.

Report your amphibian and reptile observations to ENR.

Send a photograph or sound recording to **wildlifeobs@gov.nt.ca** or even share it on the Facebook group "NWT Species". Be sure to include the location and date.

Detailed instructions on how to photograph and record sightings of amphibians and reptiles are available by contacting us at **wildlifeobs@gov.nt.ca.**


JAKOB DULISSE

Threats to Amphibians and Reptiles

Worldwide, amphibians and reptiles are in decline. Around a third of all amphibian species are thought to be at risk of extinction. Two species of amphibians found in the NWT are species at risk: the western toad and the northern leopard frog.

Diseases are one of the main threats facing amphibians in the NWT. For example, chytridiomycosis is caused by an aquatic fungus *(Batrachochytrium dendrobatidis)* and ranavirosis is caused by a group of closely related viruses called ranaviruses. Neither of these diseases affects humans. Other threats to amphibians and reptiles in the territory include habitat loss and road mortalities. Because many amphibians and reptiles gather together at breeding and overwintering sites, events that happen at these sites (for example, a disease outbreak) can affect many individuals at once. Species with naturally small or isolated populations at the northern edge of their range, including northern leopard frog, western toad, Canadian toad and red-sided garter snake, are particularly vulnerable to threats.

Western toad run over on the Liard Highway.

What can you do?

You can protect amphibians and reptiles by helping to prevent the spread of disease-causing viruses, bacteria, and fungi:

- Do not handle amphibians and reptiles.
- Do not move amphibians and reptiles from one site to another.
- Avoid driving through wetlands.
- When working around wetlands, make sure to disinfect and fully dry all equipment and personal gear before use at another site. Wash footwear of all mud and debris and then soak in disinfectant, like 6% bleach. Rinse with clean water and dry. Wash clothing in hot water with detergent.

If you see amphibians or reptiles that appear sick or dead, report them to **wildlifeobs@gov.nt.ca** or to the nearest ENR office.

Swabbing a wood frog to test for disease-causing agents.

Here are some more things you can do to help amphibians and reptiles:

- Drive with caution if you see a road sign indicating a wildlife crossing, or when driving in areas known to have amphibian or reptile activity, especially:
  - » around the Muskeg River bridge on the Liard Highway (Hwy #7)
  - » along Highway #5 between Fort Smith and km 154 (Klewi River)
  - » on Pine Lake Road in Wood Buffalo National Park
- Do not collect amphibians and reptiles.
- Help to conserve wetlands and overwintering habitats.
- Document and report your observations.

Help put the *Management Plan for Amphibians in the Northwest Territories* into action (available at **www.nwtspeciesatrisk.ca**). The management plan includes western toad, Canadian toad, northern leopard frog, wood frog, boreal chorus frog, and long-toed salamander. Management approaches are focused on filling knowledge gaps and enhancing understanding of NWT amphibians, identifying and maintaining key habitats, disease monitoring and management, and raising public awareness of amphibians and their habitats.

Warning sign on the Liard Highway at Muskeg River.

How to Use This Guide

Species Pages

Species pages follow the checklist at beginning of this booklet, grouped by Order then Family. A species page for the long-toed salamander is included because this species is expected to be found in the NWT.

Each page will have:

- Species common name and scientific name
- Species status (if applicable)
- Range map in the NWT
- Size
- Description
- Habitat
- Biology and life cycle
- Interesting facts

Amphibians

DANNA SCHOCK

Wood Frog

Lithabates sylvaticus
(= Rana sylvatica)

Class: Amphibia
Order: Anura
Family: Ranidae
Size: 3-6 cm body length

TRAITS

Small to medium-size frog, variable in colour, may be brown, tan, grey, pinkish, or occasionally orange-brown. Skin texture is relatively smooth. Has a dark "robber mask" going from the snout through the eye to the top of the front leg and a white stripe above the upper jaw. Has prominent raised ridges running down both sides of the back. Sometimes has a light stripe down the middle of the back and/or dark spots on its sides. **Tadpoles** are brown to green with a pale underside, a faint line along the edge of the mouth, an arched tail fin, and a tail with a pointed tip. They are very difficult to tell apart from boreal chorus frog tadpoles. **Young frogs** are dark in colour. **Eggs** are laid in a rounded mass loosely attached to underwater plants.

CALL

Sounds like a rapid "quack" and is sometimes mistaken for a duck. Listen at www.naturewatch.ca/frogwatch/wood-frog/

HABITAT

The most widespread and abundant amphibian in the NWT, found in forested regions as far north as the Mackenzie Delta and the edge of the tundra. Usually breeds in shallow, fishless pools with underwater plants. After breeding, the wood frog moves to damp woodland areas, but may remain around ponds for much of the summer. This frog can tolerate freezing and remains above-ground over winter, hidden under logs, rocks, or leaf litter.

Wood frog habitat near Norman Wells, NWT.

Wood frog habitat along Nagle Channel, Slave River Delta, NWT.

FOOD

Adults eat a variety of insects including beetles, flies, caterpillars, spiders and other small prey. Tadpoles eat algae, organic debris and decaying animal matter.

BREEDING

Late April or early May. The female lays 2,000-3,000 eggs in a single mass. Communal clusters of egg masses, probably laid by several females, are not uncommon. This may be a strategy to increase warmth of the egg masses and speed up development of the eggs. Males usually take one to two years to reach sexual maturity and females take two to three years, but it may take longer further north.

METAMORPHOSIS

Develops rapidly from eggs to adults in about 7 to 13 weeks.

Wood frog tadpoles midstage.

LIFESPAN

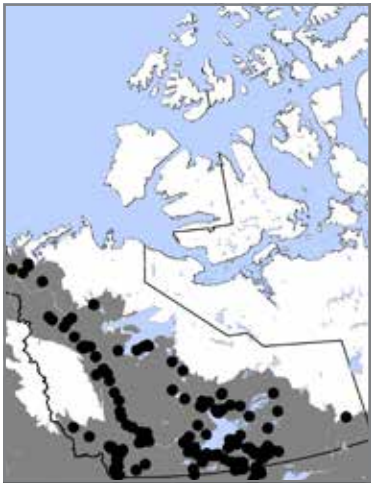
Up to three or four years.

DID YOU KNOW

- The wood frog is well adapted to a cold climate and is found further north than any other North American amphibian or reptile.
- Wood frogs freeze during the winter. Sugars in their cells act as a natural anti-freeze that prevents the water inside their cells from freezing and causing damage, even though ice does form in between their cells.
- The wood frog has the most rapid development from egg to adult of any North American frog.
- In late summer, some adult wood frogs will move around the land to disperse and sometimes will visit people's gardens where they help reduce insect pests by feeding on them.
- Wood frogs in the NWT sport a wonderful variety of colours and patterns. This variety is sometimes found in the same pond.
- Wood frogs are sometimes abundant enough to be an important food for sandhill cranes and ducks.

Wood frogs with different colours and patterns, all from the same breeding pond.

DISTRIBUTION



KRIS KENDELL

Northern Leopard Frog

Lithobates pipiens (=Rana pipiens)

Class: Amphibia
Order: Anura
Family: Ranidae
Size: 5-11 cm body length

TRAITS

Large frog covered in dark spots with distinct light borders. Usually green, but may be brownish, with a pale, unmarked belly. Has prominent folds of skin running down each side of the back. **Tadpole** has a bronze belly and small gold spots, with a long tail and large tail fin. **Eggs** are laid in in a globular mass attached to underwater plants, usually near the surface of the water and close to shore.

CALL

A drawn-out, rattling snore, often ending with several rapid grunts. Listen at www.naturewatch.ca/frogwatch/leopard-frog/

HABITAT

In the NWT, they are found only in the South Slave region near the Slave, Taltson and Tethul rivers. Many northern leopard frogs gather together to breed in lakes, ponds, marshes, and flooded areas of streams and rivers. After breeding, they will often move into grasslands and meadows. They overwinter in water bodies that do not freeze solid, lying dormant in the mud or sand at the bottom.

Northern leopard frog breeding and summer habitat, Taltson River, NWT.

FOOD

Adults eat insects, spiders, worms, snails and small vertebrates. Tadpoles mostly eat algae, but also decaying plant and animal matter.

BREEDING

Likely occurs from mid to late May in the NWT. The female lays one clutch of 600-7,000 eggs per year. Sexual maturity depends more on size than age. Females reach maturity at 5.5-6 cm. This probably takes at least two years in the NWT.


KRIS KENDELL


CALGARY ZOO


CALGARY ZOO

METAMORPHOSIS

Can take two to three months. In other parts of its range, this species can also overwinter as tadpoles under certain conditions. It is unknown whether this is the case in the NWT.

LIFESPAN

Rarely longer than four to five years in the wild.

DID YOU KNOW

- Traditional and community knowledge sources tell us that northern leopard frogs declined in number on the Taltson River between the 1950s and 1980s. Recent studies also suggest that their small range in the NWT may be shrinking.
- It is uncertain whether the NWT population is connected to populations in northern Alberta, northern Saskatchewan, and further south.
- With its large mouth, the northern leopard frog can even eat small frogs, birds and young garter snakes.
- Northern leopard frog is a species at risk in the NWT.
- Northern leopard frogs are sometimes called “meadow frogs”.
- When swallowing food, the northern leopard frog, like other amphibians, retracts its eyes. This motion helps to push the prey down its throat!

DISTRIBUTION

DANNA SCHOCK

Boreal Chorus Frog

Pseudacris maculata

Class: Amphibia
Order: Anura
Family: Hylidae
Size: 2-4 cm body length

TRAITS

Very small, slender frog, variable in colour, may be grey, brown, or green. Skin texture is somewhat rough and granular. Usually has a dark stripe going from the snout through the eye to the groin, a white stripe above the upper jaw, and dark, irregular stripes along the back. However, striping may be absent, particularly in young frogs. This frog does not have prominent raised ridges running down both sides of the back. **Tadpoles** are dark olive green with yellow spots and a clear tail fin. Seen from above, their eyes protrude beyond the sides of the head. They are very difficult to tell apart from wood frog tadpoles. **Eggs** are laid in small clumps, usually less than an inch wide and less than 100 eggs in each, attached to underwater plants.

CREDIT: © CHUCK BLYTH

CALL

A rising and very loud *"cree-ee-ee-eek"* similar to the sound of a thumbnail moving slowly over the teeth of a comb. Listen at www.naturewatch.ca/frogwatch/boreal-chorus-frog/

HABITAT

Widely distributed in the southern NWT and into the Sahtú region. Breeds in shallow pools with underwater plants. After breeding, the boreal chorus frog can usually be found in damp, grassy or wooded areas. When possible this frog spends the winter below the frost line in animal burrows and other underground cavities. However, they can tolerate some freezing which allows them to remain above-ground over winter, hidden under logs or leaf litter, where there is enough snow for insulation.

Boreal chorus frog breeding pond near Tsu Lake, NWT.

Boreal chorus frog habitat, Fort Smith area.

FOOD

Adults eat small insects and other invertebrates. Tadpoles eat algae and pollen.

BREEDING

Likely takes place from late May to early June in the NWT. The female lays 150 to 1,500 eggs in multiple small clumps attached to underwater plants. Frogs reach maturity and reproduce the year after they are hatched.

METAMORPHOSIS

Takes place over about two months.

LIFESPAN

No more than a few years in the wild.

DID YOU KNOW

- Like wood frogs, boreal chorus frogs can survive some freezing in winter by increasing the sugar levels in their blood. This prevents ice crystals from forming inside the cells.
- Boreal chorus frogs start calling very early in spring when there may still be ice on the ponds.
- These tiny frogs are rarely seen but easily heard. Their calls can be heard from a kilometre away!
- Boreal chorus frogs belong to the "tree frog" family. They are not great climbers, but may climb into small shrubs or tall grass.
- The distribution of boreal chorus frogs may be larger than currently displayed on the map. For example, boreal chorus frog calls have been recorded on the NWT barren lands near Lac de Gras, approximately 300 km northeast of Yellowknife. New sites are being verified and the map will be updated in future versions of this booklet.

DISTRIBUTION

JIM DENERON, ENR

Western Toad

Anaxyrus boreas boreas

Class: Amphibia
Order: Anura
Family: Bufonidae
Size: 5-9 cm body length

Common name for subspecies: Boreal Toad

TRAITS

Large toad with a light stripe down the middle of its back and small, reddish brown bumps. Usually green or brown but can also be reddish brown or black. It has prominent, oval-shaped glands over the shoulders, and a pale belly, often with dark blotches. Does not have a raised bump between its eyes. **Tadpoles** are blackish above and somewhat lighter below, with a long tail and a low and rounded tail fin. **Toadlets** (small young toads) are usually dark with few markings. **Eggs** are laid in long strings, often tangled around underwater plants.

CALL

Though unconfirmed, we suspect the western toads in the NWT are part of the "non-calling" population in North America. Non-calling toads do not have vocal sacs and do not make true mating calls during the breeding season. But, like other western toads, they can make a weak bird-like chirp called a "release sound".

HABITAT

In the NWT, they are found in the Liard River basin in the Dehcho region. Many western toads gather together to breed in a wide variety of shallow wetlands. After breeding, the toads may stay and search for food in wetlands or may move to forests, shrub lands or meadows. They can travel long distances and adults are often found far away from wetlands. In winter, they hibernate in burrows below the frost line and near water to avoid freezing and drying out.

Western toad breeding habitat at the Muskeg River and Liard River, NWT.

FOOD

Adults eat a wide variety of insects and other invertebrates. Tadpoles eat algae, organic debris and decaying animal matter.

BREEDING

Estimated to take place in late May or earlier in the NWT. The female lays a clutch of usually less than 3,000 eggs, fewer than western toads in the south (e.g. 1,200 to 20,000 eggs in a clutch). Most females mate only once in their lifetimes. Males take three to four years to reach sexual maturity; females take four to six years.


FRASER VALLEY CONSERVANCY

METAMORPHOSIS

Takes two to three months.


DANNA SCHOCK


FRASER VALLEY CONSERVANCY


DANNA SCHOCK

LIFESPAN

Up to 11 years for males, nine years for females.

DID YOU KNOW

- The Muskeg River area is an important breeding ground for the western toad.
- Western toads are vulnerable to getting run over and killed when crossing the Liard Highway near the Muskeg River Bridge. Slow down and watch out for toads!
- Sometimes many adults or young toads move together in large groups – this is called a 'mass movement event'.
- Western toad is a species at risk in the NWT.
- Western toads in the north tend to be smaller than those in the south.
- Western toads cannot tolerate freezing and must overwinter below the frost line.
- Many toads can use the same over-wintering site.
- In spring, male toads will try to mate with anything that remotely looks like a female toad, such as rocks, sticks, frogs and other male toads. When grasped, the male toad will make a chirp called a "release sound" to advertise that it is not a female and the grasping male will release it.

Young western toads crossing the road.

DISTRIBUTION


DANNA SCHOCK

Canadian Toad

Anaxyrus hemiophrys

Class: Amphibia
Order: Anura
Family: Bufonidae
Size: 4-8 cm body length

TRAITS

Small toad with a light stripe down the middle of its back and reddish brown bumps. May have one or two raised bumps, called cranial crests, between its eyes. It has prominent oval or kidney-shaped glands over the shoulders, and two prominent tubercles (hard bumps) on its hind feet. Usually brown to grey-green in colour and has a pale belly that may be spotted with grey. **Tadpoles** are blackish above and somewhat lighter below, with a long tail and a large, clear tail fin that is rounded at the tip. **Toadlets** (small young toads) may be beginning to develop the cranial crests that become more prominent as they age. **Eggs** are laid in long strings, in areas with or without plants.

CALL

A short, soft trill that repeats about every 30 seconds. Listen at www.naturewatch.ca/frogwatch/canadian-toad/

HABITAT

Found in and around Wood Buffalo National Park near Fort Smith. Breeds in shallow wetlands. After breeding, this toad tends to move into upland areas and spend a lot of time on land. They overwinter underground below the frost line, usually in sandy soils where the toads can easily dig their burrows.

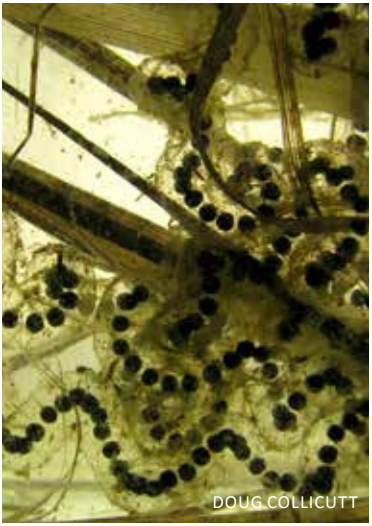
Canadian toad breeding habitat in Wood Buffalo National Park.

FOOD

Adults eat a variety of insects, including beetles, ants, bees, wasps, spiders, and other invertebrates. Tadpoles eat plankton, algae, organic debris and decaying animal matter.

BREEDING

In the boreal forest, Canadian toads begin calling between mid-May and early June. The female lays a long strand of up to 7,000 eggs. Males take one to three years to reach sexual maturity; females take three to four years.


DOUG COLLICUTT

METAMORPHOSIS

Occurs around six to nine weeks after the eggs are laid.


KRIS KENDELL


DANNA SCHOCK

LIFESPAN

Up to 12 years, but most only live a few years.

DID YOU KNOW

- Two hard bumps, called tubercles, on the toad's hind feet are used for digging. Canadian toads dig backwards using a shuffling motion so they sink into the ground.
- When they come out of their burrows in the spring, each toad leaves a small hole in the sand. Biologists can count the holes to monitor the toad population.
- In the north, overwintering sites often contain many toads. One Canadian toad overwintering site in Wood Buffalo National Park, near Fort Smith, is estimated to house several hundred toads.
- Watch out for toads crossing Highway 5 west of Fort Smith, in and around Wood Buffalo National Park. Many Canadian toads overwinter in the sandy cut-banks along this road.
- The glands and bumps on the toad's skin produce toxins that discourage predators.

Canadian toad overwintering burrows in Wood Buffalo National Park.

DISTRIBUTION

MARK THOMPSON

PRESENCE EXPECTED

Long-toed Salamander

Ambystoma macrodactylum

Class: Amphibia
Order: Caudata
Family: Ambystomidae
Size: 8-16 cm total length

TRAITS

Slender salamander with a long tail. Dark in colour with a bright yellow stripe down the back, and often with white speckles along its sides. The fourth toe on its hind foot is noticeably longer than the other toes. **Aquatic larvae** are yellowish brown, brown, tan or green with dark blotches. They have feathery gills and a tail fin. **Eggs** are laid singly or in a small, firm clump, attached to twigs or plants in shallow water. Eggs have a thick jelly layer that makes them look widely spaced.

CALL

Salamanders do not call.

HABITAT

Suspected to occur in the southern Liard River valley of the Dehcho region, just north of the NWT border. Breeds in shallow, standing water or very slow-moving water and may spend its whole life near the wetland where it was hatched. This salamander is secretive and rarely seen in the open. It prefers moist sites and may be found in forest understory, hiding under rocks or rotting logs, or in rodent burrows. Long-toed salamanders are not freeze-tolerant and overwinter underground in natural cavities.

FOOD

Adults eat insects, tadpoles, worms, beetles, and small fish. Larvae eat zooplankton and aquatic invertebrates.

BREEDING

Breeds in early spring. A female salamander may lay 100-400 eggs, singly or in small clumps. Mature salamanders may not breed every year. These salamanders take two to three years to reach sexual maturity.

ELKE WIND

METAMORPHOSIS

Transformation into the adult form can take from three to 26 months.

ELKE WIND

LIFESPAN

Usually up to six years, sometimes up to ten years.

DID YOU KNOW

- There have been no confirmed records of this species in the NWT but people from Fort Liard have reported seeing salamanders. If you see a salamander, try to take a photo.
- Long-toed salamanders produce a sticky white toxin when threatened.
- This salamander can drop part of its tail for self-defense, and grow it back later.
- In cool climates, these salamanders may overwinter as larvae and transform into adults the following year.
- Long-tailed salamanders are most likely to be found by turning over objects they may be hiding beneath, like rocks and logs. Remember to replace the objects carefully in their original position.

DISTRIBUTION

The long-toed salamander occurs in British Columbia and Alberta. It has not yet been confirmed in the NWT but may occur in the southern Liard River valley of the Dehcho region.

MARK THOMPSON

Reptiles

MICHAEL OLDHAM

Red-sided Garter Snake

Thamnophis sirtalis parietalis

Class: Reptilia
Order: Serpentes
Family: Colubridae

SIZE

Adults can grow over 1 m long. Males average 69 cm and females average 85 cm. Newborns are about 20 cm long.

TRAITS

Small snake, usually dark green to black with three yellow stripes down the back and sides. It has red or orange bars against the dark background colour, on the sides between the yellow stripes. Juveniles look like small versions of the adults.

PARKS CANADA

HABITAT

Found in the Fort Smith area of the NWT where karst topography provides the deep crevices and caves necessary for hibernation. In summer, often found around freshwater marshes where their prey are abundant, particularly frogs. Often found under rocks and logs which provide shelter and help with temperature regulation. Hibernation sites are often far from summer habitats, so the snakes have to move long distances each spring and fall.

FOOD

Eats a wide variety of prey including frogs, such as wood frogs and boreal chorus frogs.

BREEDING

Males take one to two years to reach sexual maturity; females take three years. Mating occurs mostly in early spring. Snakes form "mating balls" as many males attempt to mate with a single female.

Females give birth to live young in late summer or early fall. In the North, females reproduce only every second year, or less often. Litter size is usually small (e.g. five to 20 young).

A red-sided garter snake mating ball.

LIFESPAN

Up to twelve years.

DID YOU KNOW

- Snakes often hibernate in large groups of hundreds or even thousands of snakes.
- At the Salt River Day-Use Area in Wood Buffalo National Park, in April and May, red-sided garter snakes can be seen mating after they leave hibernation.
- Some male snakes emerging from hibernation will impersonate females, causing other males to cluster around them and help warm them up.
- Garter snakes are killed while crossing highways, especially while emerging and dispersing from their winter dens.
- Groups of females may give birth together at sites that offer protection from predators (for example, brush or rock piles).
- Garter snakes are completely harmless to people.
- Keep an eye out for other garter snake species found further south, such as the wandering garter snake (Thamnophis elegans vagrans). The yellow stripe on its back has a jagged or wavy edge caused by rows of black spots.


PARKS CANADA

DISTRIBUTION

Information Sheet

For more information please contact

Government of the Northwest Territories
Environment and Natural Resources
Web: www.enr.gov.nt.ca
E-mail: wildlifeobs@gov.nt.ca

NWT Amphibian and Reptile Resources

ENR website:
www.enr.gov.nt.ca/en/services/amphibians-and-reptiles

Species at Risk:
www.nwtspeciesatrisk.ca

Management Plan for Amphibians in the NWT available at:
www.nwtspeciesatrisk.ca

Other Helpful Resources

- iNaturalist.ca
- The Facebook group “NWT Species”
- www.canadianherpetology.ca
- www.naturewatch.ca/frogwatch
- The Amphibians and Reptiles of Alberta, by A.P. Russell and A.M. Bauer, University of Calgary Press.
- Amphibians and Reptiles of British Columbia, by B.M. Matsuda, D.M. Green and P.T. Gregory, Royal B.C. Museum Handbook.
- A Guide to Amphibians of British Columbia North of 50°, available at www.gov.bc.ca
- Amphibians of Oregon, Washington and British Columbia: A Field Identification Guide, by C. Corkran and C. Thoms, Lone Pine Publishing.

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