Fluvarium Fact Sheets

Wood frog

Lithobates sylvatica (formerly *Rana sylvatica*)

The wood frog is native to Labrador, but was introduced to Newfoundland in 1963. The males make a distinctive ducklike quacking call during the breeding season.

Description

Wood frogs range in colour from dark to reddish brown. They have a racoon like mask that extends from the tip of its snout through the eye and **tympanum** and may have a small light stripe down the middle of their back. The tympanum, located behind the eye is smaller than the eye.

Their undersides have no markings and are white or cream coloured. They have two ridges made of folded skin along the sides of their back.

Males are darker in colour compared to females, especially during the breeding season. Females are generally more reddish.

During the breeding season, males develop a pad on their thumbs to help grip the female during **amplexus**.

The tadpoles are olive to brownish coloured with a greenish tint. Their belly has a pinkish iridescence.

Size

Females are slightly larger than males. In Atlantic Canada:

- Female frogs range from 4.8-6.0 cm.
- Male frogs range from 3.8-5.3 cm.

Measurements are from head to tail and do not include the legs. During the breeding season, females are also fatter than males due to their eggs. Maximum size of tadpoles is about 5 cm in length.

Lifespan

Females usually live up to 5 years and males usually live up to 4 years.

Habitat

Wood frogs live in wet mixed woodlands, tundra and grassland. They are the most terrestrial of all the pond frogs, but still need water and moisture in their surroundings to keep their skin moist.

When inactive, they hide in logs, humus, leaf littler moss or under logs and rocks.

Range

This species is naturally found throughout Canada and Alaska and as far south as the Appalachian mountains in Georgia.

These frogs are naturally found in western Labrador but are an exotic species in Newfoundland. They are mainly found around Corner Brook where they were introduced and have spread to Deer Lake and the Codroy Valley.

Box 1: Definitions

Amplexus – the mating clasp of male frogs or toads where they cling to the back or sides of the female and fertilize the eggs as she releases them.

Exotic species – a non-native species introduced to an area through human activity.

Tympanum or **tympanic membrane** – a circular, external hearing structure just behind the eye. It transmits sound to the inner ear which is protected from water and other foreign objects.

Diet

- Adult frogs eat mainly terrestrial invertebrates crickets, beetles, insect larvae, ants slugs and spiders.
- Tadpoles feed on organic debris and other suspended matter in the water including algae, phytoplankton, and aquatic plants. They will also consume aquatic animals including invertebrates and the tadpoles and eggs of other amphibians.

Reproduction and development

In Newfoundland, wood frogs breed in early March to late April, just after the emerge from hibernation. Their breeding period is short, only lasting a week or less.

It takes place in fish-free woodland pools or ponds or slow moving areas of streams. Human made aquatic habitats such as ditches, tire ruts in dirt or clay roads are used as well.

Male wood frogs call in large choruses beginning in the early evening and throughout the night. Their call resembles ducklike quacking.

Females choose their mate based on the attractiveness of the call. After a female chooses their mate, the male climbs on her back and grasps her in an embrace called **amplexus**. He then fertilizes the eggs as she lays them in a mass. A female lays between 300-1500 eggs in a large rounded clump about the size of a tennis ball. The pair will stay clasped together for an hour to three days until all her eggs are deposited.

The transparent eggs hatch after about a week or two. The tadpoles start to metamorphose into frogs after about 65-130 days.

They first start to acquire their back legs as their respiratory system changes from gills to lungs. Their digestive system also goes through changes as the young frog switches from herbivory to carnivory. Their front legs develop as their tail starts to shrink and get absorbed for nutrients. The frog finishes absorbing the tail on land and then disperses into woods and meadows.

Males reach sexual maturity 1-2 years after metamorphosis. Females reach it after 2-3 years.

Predation

- Tadpoles and eggs are preyed upon by leeches, fish and aquatic insects. As the tadpoles grow, they develop toxins on their skin making them foul-tasting to some aquatic predators. larvae.
- Adult green frogs are eaten by foxes, coyotes and birds.

Relation to humans

In Newfoundland they are listed as an **exotic species**.

Interesting facts

- Wood frogs are found in the Arctic circle. They have the most northern distribution of all frogs in the family Ranidae.
- Adult and juvenile frogs hibernate underground on land, near the soil surface. They survive cold arctic winters as they can tolerate about 70% of their body water being frozen.
- Wood frogs go into a deep hibernation where their breathing, blood flow and heartbeat stop. The frogs increase the amount of glucose in their body which acts like an anti-freeze in winter.
- This species was introduced to Corner Brook in 1963 using tadpoles from Toronto, ON.
- "Project Frog" in the early 1980's was a collaboration between The Natural History Section of the Newfoundland Museum (St. John's) and forty junior high schools throughout Newfoundland and Labrador. They documented the occurrence and distribution of frogs and toads in the province.

At The Suncor Energy Fluvarium

- See wood frogs in our terrariums on our fluvarium level.
- Listen to the male's mating call.

Additional resources

Tyning, T.F. 1990. A guide to amphibians and reptiles. Stokes Nature guide. Little, Brown and Company: Boston. pp. 400.

Maunder, J.E. 1983. Amphibians of the province of Newfoundland. Canadian Field Naturalist, 97: 33-46.

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