

Fluvarium Fact Sheets

Green frog

Lithobates clamitans (formerly *Rana clamitans*)



The green frog is native to most of Canada, but was introduced to Newfoundland in the 1840's. Since then, it has spread across the island naturally and with human help. It is commonly found around ponds on the Avalon Peninsula.

Description

A mid-sized frog that can range in colour from green, olive, bronze and brown. It is usually a mix of colours with a greenish head and brownish body. Brown and black splotches cover the back and dark stripes cover the hind limbs. Their undersides are white, but males have yellow throats.

The **tympanum** (see Box 1) or ear drum, is located just behind the eye. In males the tympanum is much larger than their eye and has a brown or green dot in the middle. In females it is a similar size to their eye and has no dot in the centre.

Size

Females are slightly larger than males. In Atlantic Canada:

- Female frogs range from 6.7-10.8 cm.
- Male frogs range from 7.0-9.8 cm.

Measurements are from head to tail and do not include the legs.

Lifespan

It is unknown how long green frogs live in the wild, however individuals in captivity live for about 10 years.

Habitat

Green frogs live on the shorelines of lakes and permanent wetlands (marshes, swamps, streams, springs and ponds) where sedges, cattails and rushes are found. However, frogs and tadpoles have been found in almost any

body of freshwater including puddles and ditches.

They seek cover under logs, rocks, moss underground or in water vegetation. Younger frogs are found in areas with less dense vegetation compared to older frogs.

Range

This species is naturally found in eastern North America. They are currently found throughout the island except for the Northern peninsula.

Box 1: Definitions

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.

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.

Diet

Adult frogs are carnivorous and will consume almost any animal that can fit in its mouth. It feeds during the day or night, catching prey that comes across its path.

- Adult green frogs eat mainly invertebrates including worms, snails, crustaceans, spiders, beetles, crickets, ants, moths and other flying insects. They also eat small fish and the eggs, larvae and adults of other frogs.
- Tadpoles are herbivorous and feed during the day on organic debris and other suspended matter in the water including algae, phytoplankton, aquatic plants, aquatic fungi.

Reproduction and development

Green frogs begin calling around late spring and breed between June to August. The male's call has a sound like a twangy "gung" of a loose banjo string and may be a single note or repeated 3-4 times.

Breeding sites are generally the shorelines of lakes or permanent wetlands that have

slow-moving to still, shallow, sheltered, fish free water.

Males become territorial during the breeding season, defending themselves against other males using vocalizations, posturing and physical combat. Their territories are usually centred around clumps of vegetation.

It is unknown how females choose their mates but it may be due to attractiveness of the male's call or the quality of breeding sites for egg and tadpole survival.

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 100-7000 eggs depending on her size and age.

The black (top) and white (bottom) eggs hatch after about a week. The tadpoles overwinter in the same area and about the next year, they start to metamorphose into frogs. 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, meadows and wetlands.

Males reach sexual maturity 1-2 years after metamorphosis and after 2-3 years in females.

Predation

- Tadpoles are preyed upon by giant water bugs, dragonfly nymphs, and trout.
- Adult green frogs are eaten mainly by birds including bitterns and crows.

Relation to humans

In the United States, green frogs are sold as pets. In Newfoundland they are listed as an **exotic species**. These frogs are not found in Labrador.

Interesting facts

- Green frogs were introduced to Bell Island by Reverend Oliver Jackson to "show the children".
- This species may have arrived on the island through hay bales shipped from Nova Scotia.
- "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.
- Young frogs can move about 200-4800 m away from their spawning site during their first season after metamorphosis.

At The Suncor Energy Fluvarium

- See green frogs in their development from tadpole to adult in our terrariums on our fluvarium level.
- Listen to the male's mating call.

Additional resources

Conant, R. 1958. A field guide to reptiles and amphibians of Eastern North America. Petersen Field Guide Series, Houghton Mifflin Company: Boston, MA, USA.

Frog Watch. 2010. Green frog. [Online] Available:

http://www.naturewatch.ca/english/frogwatch/species_details.asp?species=12.

(Accessed December 9, 2010)

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

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