

AMPHIBIANS OF SPENCER POND & SURROUNDING RIPARIAN AREAS

Spencer Pond and the surrounding riparian areas together form an ephemeral wetland ecosystem. An ephemeral wetland is one which fills with water each winter and which, in most years, dries by mid to late summer. Ephemeral ponds cannot support populations of predatory fish or bullfrogs and therefore provide safe habitat for a diverse group of amphibians and invertebrates. Often ephemeral wetlands are shallow and warm up quickly in spring allowing many insect and amphibian larvae to grow quickly and reach metamorphosis. Many amphibians and insects depend on these ephemeral ponds as favourable breeding sites for maintaining healthy and abundant populations across the landscape.

Unfortunately, ephemeral wetlands such as Spencer Pond are a rapidly vanishing ecosystem feature in British Columbia's urban and agricultural landscapes. These small ponds do not have the same protection as permanent ponds or lakes in the municipal, provincial or federal legislation and are often drained and filled in. Sometimes these ponds are dredged and converted to permanent ponds and stocked with fish. These changes have resulted in the loss of prime breeding habitat for many amphibians. Many amphibian populations have been declining rapidly in developed areas of BC.

In the Greater Victoria Area, Spencer Pond is one of the last remaining examples of a well functioning ephemeral wetland. High species diversity in Spencer Pond is due not only to the characteristics of the pond itself but also to the integrity of the surrounding upland areas. Although surrounded by developments, there are still remnant patches of riparian and forested habitats close to Spencer Pond. Spencer Pond has two frogs that are found nowhere else in Canada but in BC: the Red-legged frog (*Rana aurora*) and the Pacific Chorus (Tree) frog (*Pseudacris regilla*).

Mature Red-legged frogs live secretive lives in the riparian areas of the forest. In February, when ready to breed, they return to the pond. The males attract their mates by singing underwater! [Check it out <http://web.uvic.ca/bullfrogs/page3.htm>]. Once breeding is complete many Red-legged frogs disperse into the surrounding riparian areas to forage. Due to loss of habitat and introduced predators such as sunfish and bullfrogs, Red-legged frog populations are declining. The Red-legged frog is 'Blue listed' in the province and is considered a species of 'Special Concern' nationally.

In March, Pacific Chorus frogs with their well-known breeding songs appear at the pond edge. Their calls are often used in Hollywood movies as typical frog calls (<http://web.uvic.ca/bullfrogs/page3chorus.htm>). These frogs lay their eggs from March to May. Within weeks of being laid, the eggs develop into small tadpoles, which fill the shallows of the pond. In June the shoreline is alive with many small jewel-like metamorphic Chorus frogs that range in colour from bright green to metallic bronze. These metamorphs soon move into the bushes and riparian areas surrounding Spencer Pond where they spend the rest of the year foraging, and hibernating in winter.

Roughskin newts and one or two species of *Ambystoma* salamanders (Northwest salamander and/or Long-toed salamander) breed in the pond. Again Roughskin newts and Northwest salamanders are found nowhere else in Canada but in BC. Although the

salamanders breed in the pond, like the frogs, they spend most of their lives in the surrounding forested and riparian habitats.

Introduced American Bullfrogs are also found in Spencer Pond but they cannot breed in the pond. Bullfrog tadpoles cannot complete metamorphosis within a season and so need permanent water to be able to survive until the following summer. However, young bullfrogs migrate into Spencer Pond from surrounding source populations in fall and remain at the pond until it dries in mid-summer. During this time, the bullfrogs can prey on the native amphibians that are found close to the pond but the native amphibians can escape this predation pressure to some degree by dispersing into the surrounding forested and riparian areas.

Spencer Pond and the contiguous upland area is an increasingly rare ecosystem providing refuge for native amphibians in a rapidly developing urban landscape. As more areas become urbanized, pockets of natural habitat such as Spencer Pond become increasingly important in conserving biodiversity. They are also important as they provide an opportunity for humans to observe, understand and connect with the natural rhythm of the ecosystems around them.