

# factsheet

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## Western Toad

*Bufo boreas*

LENGTH: 5.5 TO 14.5 CM

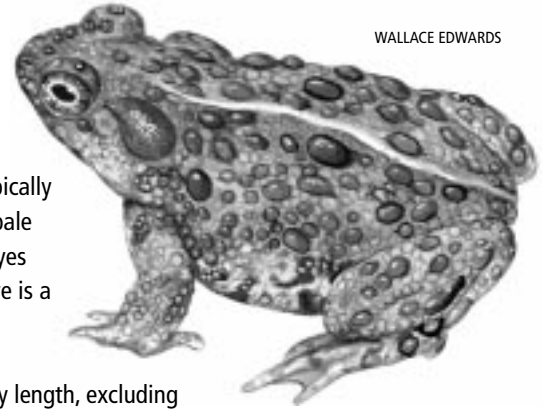
**YELLOW-LISTED SPECIES OF CONSERVATION CONCERN** ARE SPECIES THAT ARE APPARENTLY SECURE BUT THAT HAVE EITHER A RESTRICTED DISTRIBUTION, OR PERCEIVED FUTURE THREATS, OR THAT ARE ASSOCIATED WITH A HABITAT ELEMENT THAT IS RARE OR BECOMING RARE.

### At a Glance

Adult Western Toads have stocky bodies with short legs, and tend to walk rather than hop. Their thick skin appears dry and bumpy, and can range in colour from pale green to grey, dark brown, and red. They typically have pale-coloured bellies mottled with black, and a pale stripe down their backs. Their beautiful gold-flecked eyes have distinctive horizontal oval pupils. Behind each eye is a prominent oblong or kidney-shaped swelling called a parotoid gland.

Adults range from 5.5 to 14.5 centimetres in body length, excluding the hind legs. Males are generally smaller than females and have dark pads on their thumbs that help them cling to the female during mating. Their skin is also usually less rough and blotched than females' skin.

Western Toad eggs look like small black pearls laid single file in long strings in the water. Tadpoles are black or charcoal coloured, with a dark, rounded fin along the length of their tail. Tadpoles metamorphose into toadlets as small as 6 millimetres long that resemble miniature adults.



WALLACE EDWARDS

### Home Sweet Home

Western Toads use three different types of habitat: breeding habitats, terrestrial summer range, and winter hibernation sites. Preferred breeding sites are permanent or temporary water bodies that have shallow sandy bottoms. After breeding, adult Western Toads disperse into terrestrial habitats such as forests and grasslands. They may roam far from standing water, but they prefer damp conditions. Western Toads spend much of their time underground: though they are capable of digging their own burrows in loose soils, they generally shelter in small mammal burrows, beneath logs, and within rock crevices. They hibernate in burrows below the frostline, up to 1.3 metres underground.

### This is the Life

Adult Western Toads migrate to communal breeding sites in early spring. The males search the wetland for available females. Males clasp females from behind and fertilize the eggs as the female deposits them in the water. Male toads produce a quiet, twittering 'release call' if they are accidentally grasped by another male. They make this call at any time of year if they are grasped around the body, but most often during the breeding season. In some areas, male toads may also call to alert females to their presence.

Once laid, the eggs quickly develop into tadpoles that hatch and swarm in groups of hundreds or thousands of individuals through the warmest, shallowest water available. By the end of the summer, the tadpoles transform into toadlets and leave the water. Dense aggregations of toadlets are often found hidden along the shore of breeding sites, and clustered in piles when the weather turns cool. These toadlets grow to maturity in two to three years, and may live ten years or more.

After spring breeding, Western Toads spend the summer and fall foraging in warm, low lying areas. They are primarily nocturnal, but are active during the day at higher elevations and latitudes. As the weather gets cold in fall and winter, Western Toads retreat into hibernation to await spring.

### What's on the Menu

Western Toads are wonderfully adept at capturing a wide variety of insects and invertebrates. Over 95 percent of their adult diet consists of flying insects, ants, beetles, sowbugs, crayfish, spiders, centipedes, slugs, and earthworms. They will also take larger items if given a chance. Tadpoles are herbivores, feeding on aquatic plants, detritus and algae.



**Present range of the Western Toad in British Columbia**



## no kidding!

The “warts” on the **Western Toad** are not warts at all, but glands that produce a bitter, sticky, white fluid when the toad feels threatened. The fluid can cause an animal’s eyes or mouth to tingle or feel numb. This makes **Western Toads** unpleasant to eat, but will not give you warts!

**Western Toads** can identify predators by recognising the chemical cues they emit. Incredibly, tadpoles injured by predators release chemicals that warn others of impending danger. Some evidence even suggests that chemical cues enable **Western Toad** tadpoles to recognise their siblings!

Female **Western Toads** produce an average of 12,000 eggs, or as many as 16,500 eggs, in a single clutch! More than 99% of these won’t survive to adulthood. Those that do may live for several years, as their skin secretions are highly distasteful to would-be predators. In captivity individuals have survived for up to 36 years!



Although Western Toads are less tasty than other amphibian species, they are on the menu for a host of other animals. In B.C., garter snakes are a major predator of metamorphosed toads. Toads are also taken by birds, mammals and even other amphibians; adult Columbia Spotted Frogs have been seen feasting on newly metamorphosed toadlets. Western Toad tadpoles are vulnerable to birds, fishes and predaceous insect larvae.

## Where and When

Western Toads are found west of the Rocky Mountains, from Mexico to southern Alaska. They are found in semi-arid and wet forested regions of B.C., except in the north-east. They can be found at elevations from sea level to at least 2250 m.

Western Toads are active between January and October, depending on latitude and elevation. Breeding and egg deposition can occur between April and July, often after rains when local snow and ice have melted. Eggs hatch in 3 to 12 days, depending on water temperature. Tadpole development, also dependent on water temperature, takes six to eight weeks. Hibernation lasts from November through to April.

## How They’re Doing

Western Toads are relatively common in most of B.C., although population declines are suspected in the southwestern part of the province.

In the United States, Western Toad populations have suffered significant losses. They have disappeared throughout broad areas of their historic range, and are now a candidate for endangered species listing in the U.S. The centre of the world’s distribution of Western Toads has shifted from the U.S. to B.C.

The cause for such declines is still uncertain, but a combination of threats is suspected. One of the greatest impacts on Western Toad populations in B.C. is habitat destruction. Development in and around wetlands can destroy or isolate populations. Migrating toads are killed by traffic on roads. Pollution, the introduction of aquatic predators (e.g., stocking lakes with fish), and the spread of diseases are also harmful. Large-scale concerns such as global warming and ozone depletion can affect Western Toads by changing temperatures, affecting water levels, and increasing ultraviolet radiation.

Western Toads are on the provincial Yellow List, and are considered a species of conservation concern.

## How We’re Helping

We are aiming to learn more about the distribution and ecology of Western Toads in B.C. Identifying breeding sites and assessing terrestrial habitat requirements is particularly important in order to protect this species. Monitoring programs will help track Western Toad populations over the long term.

Western Toads are protected under the British Columbia *Wildlife Act*.

## How You Can Help

Learn about Western Toad ecology and share your knowledge of these fascinating creatures with others. Be an advocate for amphibians — protect toads and their habitat in your neighbourhood. Contributing Western Toad sighting information to BC Frogwatch and monitoring breeding sites are wonderful ways to support Western Toad conservation.

You can find out more about BC Frogwatch, the Biodiversity Branch and the Conservation Data Centre at

<http://wlapwww.gov.bc.ca/wld>

### BC Frogwatch

Ministry of Water, Land and Air Protection  
P.O. Box 9374 Stn Prov Govt  
Victoria, B.C. V8W 9M4  
email: [bcfrogwatch@victoria1.gov.bc.ca](mailto:bcfrogwatch@victoria1.gov.bc.ca)

### Conservation Data Centre

Ministry of Sustainable Resource Management  
P.O. Box 9993 Stn Prov Govt  
Victoria, B.C. V8W 9R7

### Biodiversity Branch

Ministry of Water, Land and Air Protection  
P.O. Box 9374 Stn Prov Govt  
Victoria, B.C. V8W 9M4



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