



## Great Basin Gopher Snake

**Scientific name:** *Pituophis catenifer deserticola*

The Gopher Snake is a handsome species commonly found in the hot, dry interior of B.C. The subspecies present in B.C. is the “Great Basin” Gopher Snake. A second subspecies, the “Pacific” Gopher Snake (*Pituophis catenifer catenifer*), originally thought to range in the southern most part of B.C., is believed to be extirpated (no longer found in Canada, but still found elsewhere).

The Great Basin Gopher Snake is B.C.’s largest snake – adults range in total length from 90 cm to a maximum of 2.4 m! The background colour for these handsome snakes is creamy yellow to greyish yellow, which highlights their distinctive markings. A series of dark, square-shaped blotches run down the back, and they also may have a series of smaller blotches running along each side. In addition, Gopher Snakes wear a roguish black ‘mask’ – a band of black that goes from one corner of the mouth to the other and around the eyes, and smaller vertical bands from the bottom of each eye to the mouth.

Unfortunately, the non-venomous Great Basin Gopher Snake is commonly misidentified as a Rattlesnake because of its superficially similar colouration and more importantly, its behaviour when feeling threatened. A scared Gopher Snake will flatten its head, hiss loudly, and shake its tail rapidly, doing a convincing Rattlesnake imitation. The whole act is enhanced when the Gopher Snake shakes its tail in leaves, dried grasses or other debris. This charade may be useful when facing most natural predators, but all too often is deadly when facing a scared human armed with a shovel or hoe. As with all snakes, the best reaction when you encounter a snake is to back off, give it space, and walk around!

### **Making a living**

The Great Basin Gopher Snake life cycle begins in spring, when snakes emerge from their over-wintering hibernacula (dens) to mate. To stimulate females to mate, male snakes line their bodies up with the females, and may bite them on the back of the neck. The Great Basin Gopher Snake is an oviparous species, which means that they lay eggs and the young develop mainly outside of their mother's body. Usually in late June or early July, the pregnant females lay their eggs (between 2 and 8 eggs on average, but occasionally as many as 20!). Good egg-laying sites are necessary for the eggs to develop, as females do not incubate their eggs. These sites often are shared with other Gopher Snakes, and even with oviparous snakes of other species.

If summer conditions are good, hatchling snakes emerge from their eggs in August or early September. Hatchling Gopher Snakes still have some yolk attached to them; usually they do not eat before going into hibernation, so the yolk is a critical food source. Hatchlings may not over winter in traditional hibernacula with older snakes because traditional dens may be too far away for them to travel to in their first few months. Instead, they may over winter in old rodent burrows and rock crevices close to their birth site.

### **What's for dinner?**

These snakes specialize in small mammals like mice, voles, moles, rats, ground squirrels, and small rabbits. They may also enjoy the occasional lizard, insect, bird, or nest of eggs. Gopher Snakes are true constrictors, and subdue their prey before swallowing them by squeezing the prey item until its heart stops and it can't breathe. They also are very active hunters, and will vigorously seek out food across land, underground in rodent burrows, or even in nests in trees and shrubs. Because of their preference for rodents, biologists feel that the Great Basin Gopher Snake may be an important pest control agent for farmers, and that their presence on farmland should be encouraged!

## **Places and spaces**

The Great Basin Gopher Snake is found in patches within the Thompson, Okanagan, Similkameen, Kettle Creek, Fraser and Nicola valleys, mostly in the dry hot belt of the Southern Interior. Gopher Snakes like open areas, and are commonly found in Bunchgrass, Sagebrush, and open Ponderosa Pine forests.

Gopher Snakes need three critical habitats – hibernacula, egg-laying sites, and summer foraging areas. In B.C., biologists discovered that some gopher snakes have very large home ranges – up to 25 ha in size! This may be because these critical habitats are few and far between. Hibernacula typically are in rocky outcrops or at the base of loose rocky slopes, where the snakes can burrow down into the earth through the cracks and crevices in the rock. A good den protects the snakes from freezing and dehydration. Often these dens are shared with other species like Rattlesnakes, Rubber Boas, Garter Snakes, and Sharp-tailed Snakes.

Egg-laying sites typically are on south facing slopes and are covered by sand or loose rocks that allow the female to burrow out a shallow nest. Gopher Snakes often reuse the same hibernacula and egg-laying sites year after year.

## **Past, present, and...future?**

Little is known about the abundance or population trends of the Great Basin Gopher Snake. Southern B.C. is rapidly undergoing development, both urban and agricultural, and because relatively few critical habitats like hibernacula have been identified, the Great Basin Gopher Snake could be in danger. Because their hibernacula usually are in rocky slopes, these snakes are affected by extraction of rock for road building or landscaping. Other sources of mortality are cars and trains, as they like to bask on asphalt and between train tracks.

For all these reasons, the Great Basin Gopher Snake is on the provincial blue list. This means that the species is considered vulnerable to habitat loss and populations may be in decline. Because of this vulnerability and because this subspecies occurs only in B.C., the federal government has listed this snake as threatened. The good news is that biologists feel that immediate action, good management, and further research could ensure the presence of the Great Basin Gopher Snake for generations to come!