

The Unique Olympic Marmot



Isolation

Over millennia, glaciers, changing sea levels and geography have been key forces in the isolation of the Olympic Peninsula. This isolation has fostered a kaleidoscope of unique plants and animals cut off from others of their kind. These unique species range from the Olympic mud minnow to Piper's bellflower. The Olympic marmot, which occurs in patches of subalpine meadows throughout the Olympic Mountains, is also unique—found nowhere else in the world.

Surviving Mountain Life

While mountain meadows can be warm and beautiful in July and August, winters can be harsh, with high winds and deep snow. Few mammals can survive year-round in these meadows, but the Olympic marmot is supremely adapted to its environment. Family groups hibernate in burrows deep beneath the snow for up to eight months. During the brief summer, they mate and bear 3-4 young. The young emerge in July. Feeding on a rich variety of mountain plants, marmots may double their weight in just three months and then lose much of it over the winter. At age two or three, marmots may leave their family groups, sometimes traveling over a mile before finding suitable habitat and a mate. This dispersal to other sites is essential to maintaining healthy marmot populations.



Marmot Facts:

- ▶ Marmots are large members of the squirrel family. There are 14 species of marmots worldwide, including six in North America.
- ▶ Adult Olympic marmots weigh 8 to 20 pounds and can live into their mid-teens.
- ▶ Once thought to breed in alternate years, research shows about 35% of females age 3 and up breed. There is no correlation between breeding one year and the next.
- ▶ Contrary to common belief, Olympic marmots rarely, if ever, die in hibernation.
- ▶ There may be fewer than 1000 Olympic marmots in the world.





Marmot Research at Olympic

During the 1980s and 1990s, some well-known Olympic marmot colonies declined or disappeared. In the same period, nearby Vancouver Island marmot numbers declined almost to extinction. In 2002, biologists began investigating the extent and causes of Olympic marmot declines. Much of the work consists of simple surveys of meadows for marmots or active burrows. At a few sites, biologists trap marmots, attaching small metal eartags and, in some cases, implant radio-transmitters. These tools allow them to census local populations, gather details about birth and survival rates, and track marmot movements. A complimentary study examined contents of predator feces to determine what animals eat marmots.

In 2010, volunteers began taking on the task of monitoring marmot populations in remote areas. Following a one-day training session, volunteers visit remote meadows throughout the park, noting the presence or absence of marmots. From these data, park biologists expect to detect changes in Olympic marmot populations. You may see research in action as you explore the park.

Researchers found that marmot numbers declined throughout the park in the 1990s and early 2000s. All evidence suggests that predation of breeding-age female marmots by non-native coyotes led to the declines. Coyotes may be more common in the high-country during years of low snowpack. But in 2008-2010, very snowy years, there was little predation by coyotes, and marmot numbers were increasing in some areas. However, these stories are never simple—recovery of marmot populations in the snowiest areas seems to be hampered by unusually low reproduction, probably associated with a lack of spring forage. But as the climate warms, decreases in snowpack and related shrinking of their subalpine habitat probably pose the biggest challenge to Olympic marmots.

Visitors and Marmots

Though most of the Olympic marmot's habitat is protected, these animals and others in the park are still affected by human actions. Please help us protect marmots by staying on designated trails and not feeding them. Human food may keep marmots from their natural foods and research shows consuming human foods can lead to poor hibernation survival. In addition, because marmots must be constantly alert for predators such as mountain lions and coyotes, distraction by humans can waste their valuable energy reserves.

Although marmots have declined or disappeared from many areas of high human traffic, disturbance by nearby humans does not appear to have played a role in the declines. Marmots that experience moderate levels of exposure to hikers, passing cars, and wildlife viewers produce offspring and die at rates comparable to marmots at remote locations.

However, as visitor numbers increase, disturbance may begin to harm individual marmots. Already challenged by non-native predators and facing declining snowpack in their mountain home, Olympic marmots can use your help. Please keep your distance from these unique residents and all park wildlife.

