



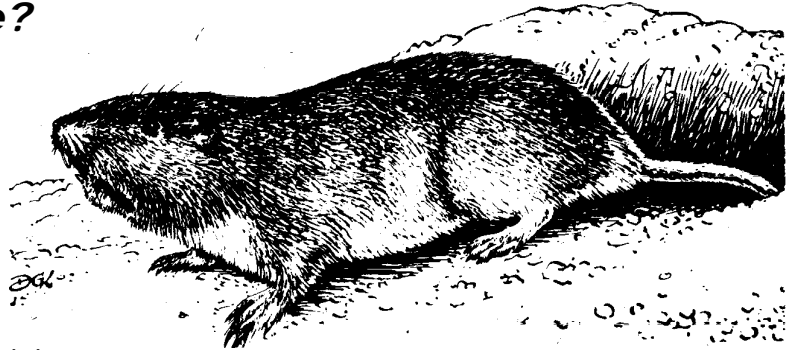
South Okanagan
Conservation Strategy

Living in Nature Series

POCKET GOPHERS Their Ecology and Management

What do they look like?

The pocket gopher is a thick-set rodent, measuring 6-9 inches in length. It has short, brownish fur, a lighter underbelly and some white on the chin, throat and chest. Its short, 3-inch tail is sparsely covered with tactile hairs. Pocket gophers have a wide, blunt head, small rounded ears and tiny eyes. Poor eyesight is compensated for by a keen sense of smell which alerts the animal to the presence of food and the whereabouts of nearby enemies. Long, protruding incisor teeth continue to grow an estimated two feet throughout the life of a pocket gopher. Constant wear keeps tooth length in check.



Pocket gophers have strong forelegs and long, curved front claws adapted for prolonged digging. In regions where soil is exceptionally hard, they will use their large incisors to gnaw and 'shovel' the earth. Hind legs are less developed, with short toes and claws and no distinguishable ankles.

Where do they live?

Fifty-four subspecies of the Northern Pocket Gopher (*Thomomys talpoides* (Richardson), Family Geomyidae) range throughout most of western North America. Of six subspecies in British Columbia, the one which occurs in the Okanagan is mainly *T. talpoides incensus*, although subspecies *fuscus* has been recorded west to Anarchist Mountain.

Pocket gophers are fossorial-animals. This means that they are especially adapted to a burrowing life. Only two other families of fossorial mammals occur in Canada: the Mountain Beaver and moles.

Pocket gophers are named for their deep, fur-lined, external cheek pouches, which are used to transport food. These pouches can be turned inside out for food removal and cleaning.

A single pocket gopher may excavate as much as 800 feet of tunnel in a network covering an acre or more.

At elevations ranging from sea level to several thousand feet, pocket gophers inhabit grasslands, fields, roadsides and river banks. Deep, heavy soils are ideal for constructing complex tunnel networks. These underground labyrinths consist of shallow feeding tunnels and deep storage and nesting chambers. Pocket gophers avoid each other by plugging connecting tunnels.

While excavating a tunnel, pocket gophers will continually push loose soil out to the surface. Flattened or fan-shaped mounds mark the tunnel entrance. An earthen plug is placed in

the tunnel opening on the side of the mound. Gopher mounds are easily distinguished from mole mounds, as moles create cone-shaped hills with no visible opening.

What do they do in winter?

Pocket gophers do not hibernate and their excavations continue under snow cover. Soil, shoved into snow tunnels, forms distinctive mud casts when the snow melts. Cylindrical rods of dried mud radiate out from tunnel openings in early spring. Ragged tooth marks etched on fallen limbs and the bases of small trees and shrubs are further evidence of their winter excursions.



How do they reproduce?

B.C.'s pocket gophers have one litter per year, while southern populations may breed several times in a year. Solitary by nature, pocket gophers associate with each other only during the mating season in April and early May. Males visit the burrows of the females during this time. Litters, averaging from five to eight young, are born in late May or early June. The nesting chamber is stocked with a small supply of green shoots and roots. A few days after giving birth, the female leaves the natal chamber to gather food for her offspring.

This continues for the first month until they develop cheek pouches. A closed-burrow system helps protect the young from predators. At about two months of age, juveniles leave the burrow to establish new territories. Often travelling long distances above ground before they dig their own shallow burrows, juveniles suffer high mortality rates from predation. Adult weight is reached at five months and they are sexually mature the following spring. The average life expectancy of a gopher is three years.

What do they eat?

Tubers, roots and bulbs are a large part of the pocket gopher's diet throughout the year. Gophers also gather surface vegetation, often pulling plants down through the soil into the burrow. Leaves and stems are eaten during the summer.

These rodents eat as much as one half their own weight each day and bring home extra food to store. Some of these food stores decompose, adding nutrients to the soil.

How are they beneficial?

Pocket gophers help to maintain productive soil. In areas where gophers are common, it is estimated that the soil is completely worked and turned every two years. Pocket gopher excavations improve soil aeration and soil texture. Their wide-scale burrowing also counteracts soil compaction caused by large mammals on uncultivated grasslands.

The survival of many species of animals and plants is dependent on the burrowing activity of these rodents. Pocket gophers enhance

the biodiversity of an area by providing an underground shelter for many species. Their burrows and mounds become havens for salamanders, toads, lizards, snakes, skunks, weasels and a host of invertebrates. Gophers provide an important food source for many predators, such as birds of prey, coyotes, snakes, weasels and badgers. Soil mounds also provide warm, loose-soiled germination sites for plant species that rely on early colonization to survive.

When are they a problem?

Despite their many ecological benefits, pocket gophers are often considered a problem, particularly for farmers. In cultivated fields, gophers consume crops and their mounds hinder harvesting.

On rangelands, the combination of large colonies of pocket gophers and heavy livestock grazing can expose soils and promote erosion. These disturbed soils also provide an ideal seedbed for invasive weeds.

What you can do?

if the damage caused by these active burrowers becomes excessive, several methods to control pocket gopher populations are available. The list of techniques outlined in the following section begins with the most environmentally friendly methods. Continuous control programs may be necessary if sites are re-populated.

Biological Control:

Attracting hawks and owls to your property provides an effective means for controlling pocket gophers. Nest boxes, platforms and perching poles will encourage birds of prey to frequent the area and pocket gopher numbers will be reduced safely and naturally.

Barriers:

Gardens, flower beds and orchards adjacent to natural habitats often become target areas for pocket gophers. Trenches or buried fences placed around gardens and the bases of young trees can help to stop pocket gopher nibbling. Barriers of mesh, sheet iron or concrete should be buried 24 inches into the ground, and extend 12 inches above the soil surface.

An effective and environmentally safe means for controlling pocket gophers is to encourage natural predators, such as hawks and owls, to frequent your property.

Flooding: In the past, farmers repeatedly flooded gopher-infested hay and grain crops in the early summer. This forced pocket gophers to leave their burrow system or drown. However, gophers often reinvade after flooding.

Tilling: Studies have indicated that pocket gopher damage can be reduced by deeply tilling the soil and disrupting their burrow system. This method is recommended only for agricultural or severely disturbed sites.

Trapping: Proper use of traps will help control small numbers of pocket gophers; trapping expansive areas can prove time consuming and impractical. The key to effective gopher trapping is to correctly place traps within the main tunnels. Several types of gopher traps are available. Two of the most commonly used traps are the 2-pronged pincher trap and the squeeze-type box trap. Traps should be wired to stakes to allow for safe and easy recovery and to prevent predators from dragging them away. Traps should be checked once or twice daily. Trapping also kills other animals that use gopher burrows.

Pesticides: Poison baits have been used to control pocket gophers. While this has traditionally been the most popular method, it has the biggest impact on other wildlife. Unfortunately, poisoned bait can cause secondary kill. This means that if a predator eats a gopher that has ingested strychnine-laced grain, then it too will likely die.

Wildlife pays a high price when
pesticides are used to control
pocket gophers.
Alternate methods are
strongly recommended.

Large numbers of gophers require intensive baiting and specialized equipment. There are currently thirteen different rodenticides registered in Canada for the control of pocket gophers. One rodenticide is a gas cartridge that releases oxides of sulphur when ignited and burned. The bait poisons contain either strychnine, zinc phosphide, anticoagulants or serum calcium elevators. Strychnine is classed as a restricted use rodenticide and requires a certified applicator to purchase and/or use it.

Funding for this project is provided by:



BC Environment



**HABITAT
CONSERVATION
TRUST FUND**



**Okanagan Region
Wildlife Heritage
Fund Society**



**Friends of the
Environment
Foundation**

The South Okanagan Similkameen Stewardship Program (SOS Stewardship) was set up by The Nature Trust of British Columbia, the Habitat Conservation Trust Fund and BC Environment to help private landowners protect and enhance natural areas on their lands.