

## BC's Coast Region: Species & Ecosystems of Conservation Concern

### Townsend's Mole (*Scapanus townsendii*)

Global: G5 Provincial: S1 COSEWIC: E BC List: Red



Notes on *Scapanus townsendii*: A member of the family Talpidae (“moles, shrew moles”). The largest mole in North America, it is one of two species in the genus *Scapanus* in BC, the other being the more common Coast Mole. Moles are generally distinguished by their fossorial (sub-surface) nature and much maligned for the complex tunnel networks they generate in agricultural and landscaped areas.

#### Description

**Length:** 17.9-23.7 cm **Tail:** 3.5-5.5 cm **Weight:** males 142 g; females 119 g. The body is stocky and cylindrical with flat, paddle-shaped front feet with five strong, straight claws used for digging. The feet, tail and snout are pink or whitish and almost hairless except for the vibrissae (whiskers) which are used instead of visual cues for navigation and foraging. The pads or palms on the front feet face outwards. The fur is characteristically short, with a soft velvety or silky texture. Colour is dark grey to black with a pronounced sheen. Most moles are not truly blind, but as a genus that spends much of its time digging underground through soil the tiny eyes and small ears are hidden and protected by fur.

#### Diet

Earthworms comprise over 70% of the diet. A daily intake of food roughly equal to 70% of the mole's body weight is required each day. Other invertebrates such as snails, slugs, millipedes, centipedes and crane fly larvae are consumed. Unlike Coast Mole, this species has also been known to consume roots and bulbs.

#### Look's Like?

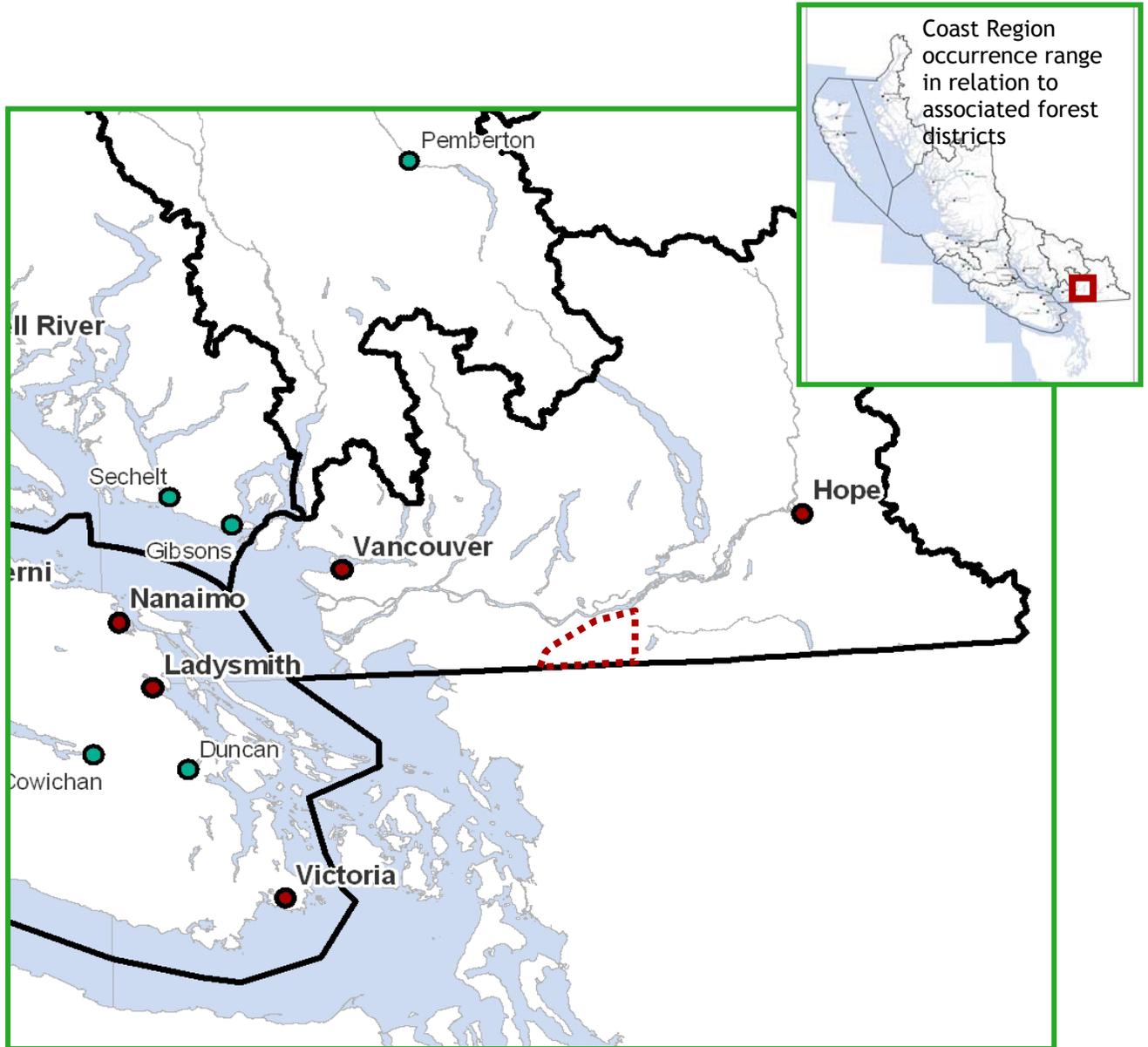
This species is most likely to be confused with the more common and widely distributed Coast Mole. The smaller size of Coast Mole (14-18 cm) and shorter tail is a key distinguishing feature as is the smaller size of tunnels and mounds. Coast Mole tunnels are ~3.6 cm in diameter with 11 x 30 cm mounds compared to 5.2 cm diameter tunnels and 18x44 cm mounds for Townsend's Mole. Though overlaps do occur, Coast Mole can be found in riparian habitats and deciduous woodlands not typically favoured by the *townsendii* species.



Coast Mole

**Distribution**

Townsend's Mole is one of the rarest small mammals in Canada, restricted to a narrow occurrence range on the extreme southwest of the Coast Region. In BC it is known from only two identified locations in the Abbotsford area near the Trans-Canada Highway (Ledgewiew Golf Course and Marshall Road), and the Huntington-Sumas (Canada-US) border.



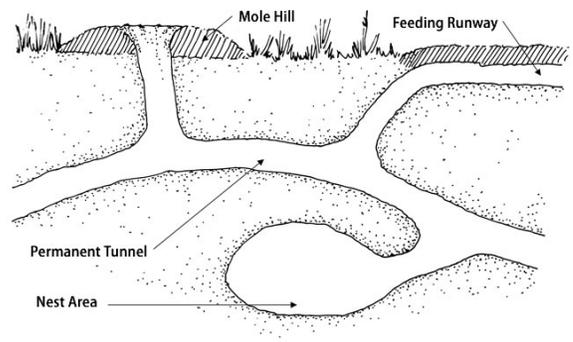
Townsend's Mole (*Scapanus townsendii*), known occurrence range for the Coast Region

**Habitat Preferences** Townsend’s Mole prefers moist meadows, lowland cultivated fields and open shrub thickets where soil is loamy, deep and fairly loose with little gravel content. This species has been known to burrow beneath highways and buildings, and is capable of swimming across rivers and canals.



Townsend’s Mole is a grassland specialist that benefits from open soil agricultural land uses and low impact tillage practices.

**Critical Features** A spherical nest cavity is excavated 7-50 cm below ground level containing a grass breeding nest with 3-11 lateral maternity tunnels. This species may be more abundant in pastures fertilized with solid cow manure, which improves conditions for earthworms. Townsend’s Mole are highly territorial. Movements are restricted to a distance of approximately 38 m in length in suitable habitat and 116 m in poorer habitats. A cluster of hills with a gap before the next cluster clearly defines a territory. Longer distances (13-856 m) are traveled above ground by dispersing young in late spring and summer. Dispersal distance appears dependent on habitat quality rather than population density. Overall habitat requirements and food requirements for Townsend’s and Coast Mole appear to be similar, but it is not readily apparent why Coast Mole is more widely distributed in BC.



**Seasonal Life Cycle**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Breeds in February, one litter of 3 pups born March-April.			Pups disperse early summer. Sexually mature at 10 months.							
Active all year, lifespan similar to most moles (~ 3 breeding seasons)											

**Threats**

- ◆ Heavy tilling and other industrial farming practices (e.g. fertilizers and pesticides applications) create soils with poor structure and less earthworm biomass as well as contributing to direct mortality for moles.
- ◆ The tunnels and mounds of this species are considered to be a nuisance or threat to livestock and moles are often removed as pests.
- ◆ While this species has been known to tunnel under roadways, road corridors that cut through core habitat areas and lack wildlife passage structures increase vehicle mortality impacts and population fragmentation. Migration across roadway surfaces also leaves individuals prone to predation by predators.
- ◆ Distribution coincides with areas under significant pressure from development especially conversion from agricultural to urban uses or industrial gravel mining. Such activities may contribute to damage or disruption to nests, litter abandonment and contribute to local extirpations or creation of isolated populations.
- ◆ Predation by feral or free ranging domestic pets (e.g. dogs and cats) may impact local populations.

**Conservation & Management Objectives**

- ◆ Pending finalization of the draft “National Recovery Strategy for Townsend’s Mole *Scapanus townsendii*, apply conservation and management recommendations as set out in the “COSEWIC assessment and update status report on Townsend’s mole *Scapanus townsendi* in Canada”. Integrate complimentary best practices found in the Washington State Department of Wildlife’s “Living With Wildlife - Moles.”
- ◆ Assess, inventory and monitor using methodology set out in the RISC standards # 26 Inventory Methods for Moles and Pocket Gophers (Version 2.0).

### Specific activities should include:

- ◆ Inventories specifically aimed at this mole species are needed to determine extent and range preferences. Reliable estimates of population size are difficult because of the fossorial (underground) nature of moles. Population density may be as high as 12/ha. While somewhat fragmented, present populations appear to be somewhat expanding in range (possibly benefiting from agricultural activity).
- ◆ Recover populations to previously occupied sites as opportunities arise and monitor for colonization success. Moles displaced 100-200 m by natural flooding reoccupy their original territories when floodwaters subside. Those relocated artificially for distances up to 450 m also return to their previous territories.
- ◆ Restore the quality of old-field and cultivated habitats and maintain connectivity corridors that have been impacted by development, intensive tilling and other activities. Implement agricultural land set-asides and stewardship agreements, work towards covenant and acquisition opportunities to maintain existing populations.
- ◆ Wildlife underpasses should be installed at appropriate intervals where high road densities and potential for vehicle interactions occur. Clear-span crossings are preferred. Culvert crossings should be a minimum 2 m diameter with open bottoms with natural substrate, no longer than 30 m and should not have large drops that would impede small mammal (or fish) movement. On long culverts that are dark in the middle, consider the use of grates that will allow light and rain to enter.
- ◆ Implement Integrated Pest Management programs (IPM's) to reduce impacts from industrial agricultural practices (pesticide use, heavy tillage practices) and pest control activities which may result in unnecessary mortalities to non-target species.
- ◆ Education and outreach regarding free ranging and feral domestic pet impacts should form part of overall conservation approaches.

This species is listed under the Federal Species at Risk Act (SARA) and subject to protections and prohibitions under the BC Wildlife Act. Habitat for this species may also be governed under other provincial and federal regulations including the Fish Protection Act and Federal Fisheries Act as well as Regional and local municipal bylaws.

### Content for this Factsheet has been derived from the following sources

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Every effort has been made to ensure content accuracy. Comments or corrections should be directed to the South Coast Conservation Program: [info@sccp.ca](mailto:info@sccp.ca). Content updated August 2010.

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