

BC's Coast Region: Species & Ecosystems of Conservation Concern
Snowshoe Hare *washingtonii* subspecies (*Lepus americanus washingtonii*)
Global: G5T3T5 Provincial: S1 COSEWIC: N/A BC List: Red



Notes on *Lepus americanus washingtonii*: A member of the family Leporidae ("rabbits and hares. Little is known about this subspecies biology and much is inferred from the species in other areas of BC. Genetic research indicates that *L. a. washingtonii* appears to form part of a Pacific Northwest group distinct from other hare populations.

Description Length 39-58 cm. Unlike other populations in BC and North America, the *washingtonii* subspecies does not undergo a characteristic seasonal colour morph to white in the winter. The head, back and upper parts of the legs are covered in short, brown to cinnamon pelage (fur) with somewhat coarser, white tipped outer hairs on the back and sides. The tips of the toes, chest, belly, chin and insides of the legs have varying patches of white. The outer margins of the ears are lined with black and white. The hind feet (from which the species derives its name) are distinctively large and have thick fur on the undersides instead of bare toe pads. Hind foot length averages >11cm from heel to toe-tip. Leverets (young hares) resemble dwarf versions of adults.

Diet Snowshoe Hare utilize a range of low growing, seasonally available vegetation including tree bark, buds, grasses, and leaves.

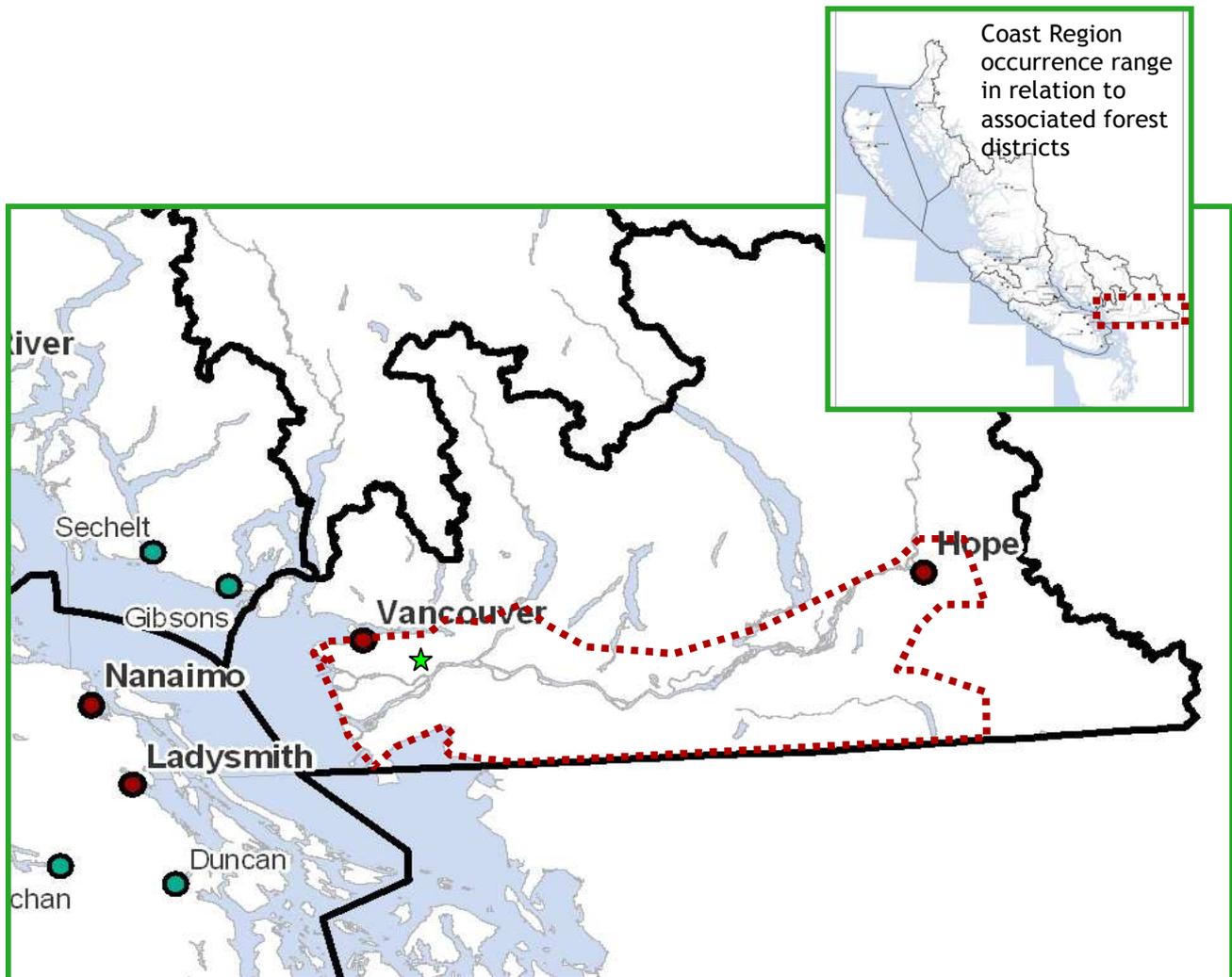
Look's Like? The *washingtonii* subspecies overlaps with the more widely distributed *americanus* species and is difficult to distinguish in the summer when both have similar colouration. However the *washingtonii* subspecies appears to have more patchy white on the toes and undersides of the body and legs and a slimmer head. Populations of the naturalized Eastern Cottontail overlap with the historic range of *L. a. washingtonii*. Eastern Cottontail lack the black and white lines on the outer ear margins as well as the robust hind feet. As their name implies cottontail also possess a well defined large white tail (much smaller in hares), as well as a triangular rufous nape patch lacking in hares. Rabbit kits (young) are blind for the first week, are born with a thin coat and do not leave the nest or burrow for ~ 12 days. Leverets are born with their eyes open, fully furred and become self-sufficient quickly.



Eastern Cottontail

Distribution

The *washingtonii* subspecies is restricted to the the Fraser Lowlands in the extreme southwest of the Coast Region. Occurrence records indicate historic populations from the U. S. border (Huntington in Aldergrove-Matsqui Prairie), Sumas Valley-Chilliwack as well as Surrey, Richmond, southwest Vancouver and Burnaby Lake. None of these occurrences have recently been assessed and some like those in Vancouver, Richmond (Lulu Island Bog) and Delta (Burns Bog) remain unconfirmed or may be extirpated. The most widely observed breeding population is at Burnaby Lake Regional Park in the Brunette Basin. Based on road mortality reports and environmental assessment inventories, other populations appear to occur in areas of intact connected lower elevation forests from Burnaby Mountain to Mission and south of the Fraser River east to the Chilliwack Valley. Distribution outside of BC appears limited mainly to the Puget Sound Lowlands and low elevation areas in western Oregon south to the California border.



Snowshoe Hare *washingtonii* subspecies (*Lepus americanus washingtonii*) potential occurrence range for the Coast Region.
Location of Burnaby Lake population - green star

Habitat Preferences Snowshoe Hare prefer the dense cover of coniferous or mixed forests, with abundant understory vegetation. Non-fragmented, adequately sized patches of forests, deciduous woodlands, orchards, tree plantations, and riparian woodlands provide the preferred range of foraging and breeding habitats.



Critical Features Preferred densities of shrub and small tree cover for Snowshoe Hare range from 4,600 to 33,210 stems per ha and vary with habitat type and stand age. Forests with open understories lack preferred thermal qualities and cover. Non-forested areas are usually avoided, as are stands of seedlings and very mature forests that have little undergrowth. Hares require relatively undisturbed areas in which to raise their litters, often a shallow depression (called a “form”) lined with belly fur under downed wood or a brush pile. Disturbance, especially from domestic pets and humans can lead to litter abandonment. Home range size ranges from 5-10 hectares and may be influenced by ecological factors such as population density, per capita food resources, habitat quality (e.g., availability of understory cover), and predation risk. Snowshoe Hare are non-migratory and generally occupy the same area throughout the year. Hares in some populations may either make short-distance seasonal movements between winter and summer foraging areas, or show pronounced seasonal habitat use patterns to. For Fraser Lowland populations such seasonal movements may increase mortality rates from vehicle and domestic pet interactions as juveniles from isolated populations disperse to seek new territories or mates.



Habitat around Burnaby Lake (top right), which has one of the best known urban populations of *L. a. washingtonii* includes open woodlands as well as the dense mixed forest cover. Populations in urban areas may adapt to some level of disturbance but become more vulnerable to road mortality and domestic pet predation as well as potential inbreeding from population fragmentation.

Seasonal Life Cycle

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Courtship / Breeding. Two to four young are born per litter; up to four litters per year. Both sexes can begin mating in their first spring											
Active year round, dispersal occurs shortly after weaning											

Threats

- ◆ While the genetic status of *L. a. washingtonii* as a subspecies has yet to be adequately determined, knowledge gaps in occurrence, population, and abundance contribute to ongoing conservation and management challenges.
- ◆ Distribution coincides with areas under significant pressure from development, land use conversion and resource extraction. Such activities may contribute to damage or disruption to nests, litter abandonment and have likely contributed to local extirpations or creation of isolated populations.
- ◆ Roadways that cut through core habitat areas and lack of wildlife passage structures increase vehicle mortality impacts and population fragmentation.
- ◆ While Snowshoe Hare can swim, they generally avoid water. Major waterbodies, in ice-free areas can be a barrier to dispersal.
- ◆ Predation by feral or free ranging domestic pets (e.g. dogs and cats) may impact local populations.
- ◆ Inter-species competition with naturalized Eastern Cottontails as well as domestic rabbits may be impacting remaining populations, particularly in conjunction with fragmentation effects.

- ◆ The range of introduced plant species exploited by Snowshoe Hare is unknown. Proliferation of non-native invasive plant cover (especially ground and shrub cover in urban areas) may reduce availability of preferred seasonal forage foods.

Conservation & Management Objectives

- ◆ In the absence of available conservation and management strategies, complimentary objectives for other associated species such as Pacific Water Shrew, Southern Red-backed Vole and Western Screech Owl would likely provide suitable interim conservation approaches for this subspecies until specific measures are available. At a minimum, planning should integrate practices found in “Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia”.
- ◆ Assess, inventory and monitor using methodology setout in the RISC standards # 23 Inventory Methods for Hares and Cottontails Version 2.0.

Specific activities should include:

- ◆ The validity of *L. a. washingtonii* as a subspecies needs to be determined through refined genetic analyses. Further inventories to determine distribution, abundance, and regional variability in habitat preferences are required.
- ◆ Permanently maintained core patches of forested stands with understory vegetation and downed wood features a minimum of 5 ha with limited access and disturbance, linkages via forested connectivity corridors will reduce isolation effects. A management zone of at least 2 ha around core areas will ensure adequate buffering and minimum population dispersal requirements are being met.
- ◆ Wildlife underpasses or adequate size are preferred and should be installed at appropriate intervals where high vehicular use corridors exist or are planned.
- ◆ Slash piles, snags, and downed logs should be left for cover and foraging areas after clearing to maintain refugia and habitat connectivity.
- ◆ Work towards covenant and acquisition opportunities to maintain forest patches and connectivity corridors.
- ◆ Develop outreach programs to raise awareness and address issues associated with free ranging and feral domestic pets.

L. americanus and the *washingtonii* ssp. are subject to protections and prohibitions under the BC Wildlife Act. Hunting and trapping may be closed in some areas. Their habitat may also be governed under 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. Content updated March 2012.

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