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NORTHWEST WILDLIFE PRESERVATION SOCIETY

Snowshoe Hare

Lepus americanus



Photo Credit: Dan Newcomb

By Kathryn MacDonald

The snowshoe hare, also known as the “varying hare,” is a remarkable species that is able to change its appearance in order to camouflage itself in each season. They have a fairly short life span and have a low chance of survival after birth and so make the most of their life by maturing quickly, and having multiple litters every year during breeding season. Found only in North America, the animal lives in a variety of habitats, but has a common preference for adequate cover. Although they live amongst other snowshoe hares, they are very independent and extremely agile. Although not currently threatened overall, the subspecies *washingtonii* is currently facing greater risks. We can all do our part to learn more about this adorable animal and support the protection of its habitat, while also supporting opportunities to view this animal in its element.

Characteristics

The snowshoe hare is a species that is well suited to be able to detect predators, get around in the snow, and is able to camouflage itself in every season. The animal undergoes moulting in order to change its fur from white with black tipped ears in the winter, to a mixed brown and white coat in the spring and fall, and a brown outer coat and white undercoat including white fur on the bottom of its feet in the summer. Although, not every snowshoe hare undergoes moulting. Its subspecies, *washingtonii*, lives in low elevation areas with less snow and so remains brown in the winter. There are three layers of the

NWPS Headquarters
720-1190 Melville Street
Vancouver, BC V6E 3W1

NWPS Vancouver Island
PO Box 39058
RPO James Bay
Victoria, BC V8V 4X8

t Vancouver 604.568.9160
t Victoria 778.967.3379
e info@northwestwildlife.com
w www.northwestwildlife.com

snowshoe hare's fur, which is very thick and insulating, including long and course hairs on its outer coat, long buff-tipped hairs, and dense and silky under fur. Remarkably, when young are born, they have full fur, open eyes and are able to hop around virtually right away. Large furry feet allow the hare to not sink through the snow, therefore, acting like a snowshoe. In comparison to similar looking animals, beyond its distinct moulting ability, its tracks are similar to a cottontail rabbit, but the snowshoe hare's tracks are larger and their toes are more spread out. Also, smaller ears help to reduce the amount of heat that the hare loses from its body in the winter, compared to other hares which have larger ears to reduce their body temperature in warmer climates.

Snowshoe hare's are between 38-53mm in length (15-21 in), but females are typically bigger than males. The discrepancy in weight between males and females, as well as the weight of offspring when they are born can be seen below:

	Males	Females	Young (*fully grown within 5 months)
Weight	900-1700g (2-3.7 lbs)	900-2200g (2-4.8 lbs)	45-75g (.1-.16lbs) when born

*Animals in eastern North America tend to be larger overall, with those in the Pacific Northwest tending to be smaller.

Life Cycle

Snowshoe hares do not live very long and therefore become sexually mature quite early. They usually live about 2 years, but they can live up to 5 years. Offspring become sexually mature by the following spring after they are born. Breeding season for the hares is usually between February and mid-August, but sometimes it can be anywhere from January to October. In order for mating to occur, a courtship parade happens. Females will accept males for a 24 hour period, first at the beginning of mating season, and then again one day after giving birth to a litter. During this courtship parade, males and females forage together, and have breaks to chase and jump over each other. The pair will not bond for life, rather, females and males have numerous mates.

After mating occurs, the mother takes over. The mother finds an area that is fairly undisturbed, usually in a depression in the ground that is covered, and after a 36-37 day gestation period, a litter is born with between 1-6 leverets (about 3 on average). The offspring are typically born between May and August and a mother can have anywhere between 1 and 4 litters per year. The leverets are weaned after about 4 weeks, but the last litter of the year can take a bit longer (up to about 6 weeks). Once the leverets can fend for themselves in about a month, they do not have a very high survival rate. Only about 1-40 percent of hares live through each year, and they will be lucky to make it to their second breeding summer.

Habitat

Snowshoe hares live in a variety of habitats, but prefer similar nesting conditions. They are often found in ecotone transition areas with full understories, which are often in second growth areas. They can live in agricultural pastures/fields, conifer and deciduous forests, grassland shrubs, riparian areas, and wetlands. In the daytime they can be found resting in dense cover, and they build a nest in depressions in the ground or in hollow logs.

They are found only in North America, and undergo population changes frequently. They live in the US and Canada from the northern Great Lakes area, to New England, the Sierra Nevada, and the Rocky Mountains, through a large part of Canada and into Alaska. There are also some sparse populations in the Appalachian Mountains and in Great Smoky Mountains National Park. They have also been introduced into Newfoundland and Anacosti Island. Their home range extends between 0.05-0.2 km

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NWPS Vancouver Island
PO Box 39058
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t Vancouver 604.568.9160
t Victoria 778.967.3379
e info@northwestwildlife.com
w www.northwestwildlife.com

squared (5-20 hectares), while male ranges are typically larger than females. Populations change over 10 year periods, which can be due to variations in food supply, disease, and predation.

Snowshoe hares are generally herbivores. Their diet consists of succulent vegetation, including grasses and leaves in the summer, and twigs, buds, bark and small trees in the winter. They sometimes feed on their dung in order to extract nutrients from difficult to digest food that had been missed the first time through their digestive system.

Behaviour

Snowshoe hares are very lively and fast and have multiple tactics to avoid predators. They can move up to 3m (10 feet) in one jump, and can travel up to 45 kph (28 mph)! They use a network of trails to get around their range, and they keep these trails well maintained in order to have an escape route to get away from predators. They are good swimmers and have been seen escaping from predators in the water. With good hearing, they are also very responsive to predators. If a threat occurs, they either stay still, using their colouration to camouflage themselves, or they flee. When making an escape, they can change direction, and make great vertical leaps. However, when they are not dealing with predators, in the day they can be found resting in sheltered areas and grooming themselves.

Usually fairly quiet animals, they have various sounds they can make. If they are pestered by something, they sometimes snort, and if captured they will let out a high-pitched squeal. Bucks (males) and does (females) make a clicking noise to attract each other during breeding season, and this noise can also be made by mothers to attract leverets during nursing. They can also thumb their hind feet when they are communicating with each other.

Snowshoe hares live amongst other hares in a group, called a band or a down. They usually live in areas with high densities of other snowshoe hares and overlap with the ranges of other individuals. But despite being close to other bands and being part of their own band, they live a mostly solitary life, except during breeding. Outside of breeding season, they do not hibernate, they are active all year round.

Threats

Many predators prey on the snowshoe hare. These includes, avian and mammalian predators such as lynx, grey wolves, martens, weasels, golden eagles, and great horned owls. Since they are a key prey species, they are a key part of ecosystem diversity, and fluctuations in populations impact the predators that prey on the animal by increasing or decreasing their food source. This is most acutely seen in the balanced relationship between the snowshoe hare and its chief predator, the Canada lynx.

Generally the species is stable. Worldwide, the IUCN lists the animal as of Least Concern (LC), in Canada they are not listed under COSEWIC, and in BC they are on the yellow list, or “apparently secure and not at risk of extinction.” However, the subspecies *washingtonii*, that lives in lower elevation areas, is on BC’s red list which includes extirpated, endangered and threatened species.

Although currently stable, there are many human threats that can put the animal at risk. Decline in the quality of their habitat, and a decrease in the amount of proper cover can impact the animal since they do not often go into open spaces. This can occur through activities such as clear cutting and urbanization (ex. the *washingtonii* subspecies range formerly covered the lower mainland, but due to urbanization the sub-species is in decline), and through human induced climate change causing increased occurrences of incidences such as forest fires or pest infestations. Also, thousands of hares are killed for their meat every year.

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Vancouver, BC V6E 3W1

NWPS Vancouver Island
PO Box 39058
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t Vancouver 604.568.9160
t Victoria 778.967.3379
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w www.northwestwildlife.com

What We Can Do To Help

- If you are interested in supporting habitat for the species in your own backyard, providing adequate cover with dense shrubs and trees to provide protection for the animal from predators, and providing native plants that can provide food for the hares all year round can support the animal in areas where habitat loss has occurred.
- Volunteer to help organizations working to protect the habitat of the snowshoe hare and other animals.
- Educate yourself about the animals that live around you and what you can do to help protect them.

Other Interesting Facts

- The snowshoe hare's range is larger than any other hare species in the Americas!
- Snowshoe hares can tolerate temperatures dropping to at least -45 degrees.

Where & When to view the snowshoe hare:

Typically the animal is in forest edges. You can look out for signs of the animal under dead trees or a tree base. Also, the animal is often seen in the summer at dusk feeding in ditches on the side of the road. In the winter, you can look out for their tracks in the snow. But as with any wild animal, keep a safe distance and be careful not to disturb the animal.

Bibliography

Web Resources:

BC Conservation Data Centre – a great overview of the animal:

<http://a100.gov.bc.ca/pub/eswp/speciesSummary.do?id=18449>

E-Fauna BC, Electronic Atlas of the Wildlife of British Columbia – provides information on appearance, size, reproduction, diet, predators, habitat, distribution, and conservation status:

<http://linnet.geog.ubc.ca/efauna/Atlas/Atlas.aspx?sciname=Lepus+americanus>

Nature Serve Explorer – information found on common names, conservation status and human threats to the animal:

<http://explorer.natureserve.org/servlet/NatureServe?searchName=Lepus+americanus>

Smithsonian National Museum of Natural History – provided information on population fluctuations, common names, camouflage, difference between males and females, and weight:

http://www.mnh.si.edu/mna/image_info.cfm?species_id=135

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t Victoria 778.967.3379
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w www.northwestwildlife.com

National Geographic – information on abilities, population fluctuations, and predator-prey balance:

<http://animals.nationalgeographic.com/animals/mammals/snowshoe-hare/>

Hinterland: Who's Who – information on abilities, sounds, response to threats, breeding, offspring, chance of survival, threats, and the role of the animal in ecosystems:

<http://www.hww.ca/en/species/mammals/snowshoe-hare.html>

Wildscreen Arkive – information on range, moulting, and threats:

<http://www.arkive.org/snowshoe-hare/lepus-americanus/>

Animal Diversity Web – information on diet, communication, abilities, and mating:

http://animaldiversity.ummz.umich.edu/accounts/Lepus_americanus/

The Website of Everything – the name of a group of snowshoe hares:

<http://thewebsiteofeverything.com/animals/mammals/Lagomorpha/Leporidae/Lepus/Lepus-americanus.html>

Timber Wolf Information – information on the hare's tracks and differences with other species:

<http://www.timberwolfinformation.org/kidsonly/wolfweb/hare1.htm>

Canadian Wildlife Federation – information on providing an adequate habitat for the hare in your backyard:

<http://cwf-fcf.org/en/discover-wildlife/flora-fauna/fauna/mammals/snowshoe-hare.html>

Environment Yukon – information on where to view the animal:

<http://www.env.gov.yk.ca/animals-habitat/mammals/snhare.php>

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w www.northwestwildlife.com