

Earthworms in Alberta

Most of us think of fish bait when we think of earthworms, few of us appreciate that in Alberta earthworms are not native species.

In fact, there are no native earthworms in most of Canada and the northern United States because they were eliminated approximately 10,000 years ago during the last ice age. As a result, Canada's northern forest ecosystems developed over the last 10,000 years without earthworms.

Earthworms have only recently been seen in western Canada's remote forests. The first report of earthworms in Alberta's forests was published in the mid-1980s. Dermis Parkin, a University of Calgary professor, and his research team observed earthworms near Kananaskis, where no earthworms were previously found. Today, three species of earthworms are present in Kananaskis. Various other species of earthworms have been found in the boreal forests of northern Alberta.

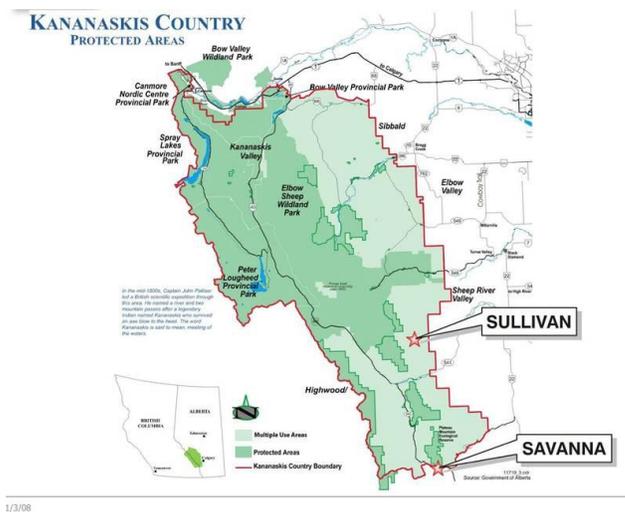


Image From:
<http://suncor.typepad.com/sullivan/2008/11/youre-doing-what-where-why-kananaskis-country-development.html>



Image From:
<http://resource.rockyview.ab.ca/rvlc/science7/Sci7%20Unit%201%20Interactions%20and%20Ecosystems/Sci7%20Unit%201%2>

Adapted From: Cameron, E. , Boyce, M. (2013) Don't dump your worms! Earthworms are trashing our forests. *Alberta Outdoorsmen*, Volume 15 (2), 16-18.

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There are three types of earthworms in northern Alberta forests and each has an effect on the forest ecosystem.

Litter dwelling worms, are small (<7 cm) and pigmented, these worms have no permanent homes and prefer to live in the leaf-litter layer of forests.



An example of a litter dwelling earthworm

Image From:
http://en.wikipedia.org/wiki/Eisenia_fetida

Soil dwelling worms are larger (up to 12 cm) and lighter coloured than litter-dwelling earthworms. These worms feed on soil, which helps to mix minerals and air into the soil. Mineral soil worms do not normally come to the surface unless there has been a heavy rainfall. Mineral soil worms are the species typically seen in gardens.



An example of an mineral soil earthworm

Image from:
<http://commons.wikimedia.org/wiki/Category:Allolobophora>

Deep-burrowing earthworm species live in burrows up to 1-metre deep but feed on leaves and organic material on the soil surface; adults are up to 15 cm long and are reddish-brown. Deep-burrowing worms deposit castings (made up of worm poop and decomposing plant matter) around the openings to their burrows, often creating bumps on lawns. These are the worms sold as night crawlers in bait shops.

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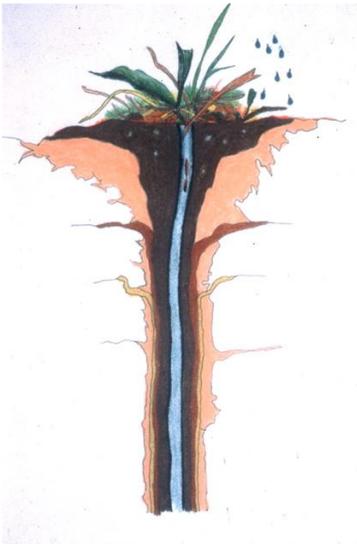
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An example of a deep-burrowing earthworm

Image from:
<http://www.nilesbio.com/prod289.html>



An example of a worm burrow. The burrow is capped by a worm “midden”, a pile of worm poop and organic matter that worms construct over their burrows.



In this image the black soil at the top of this slice of earth is the organic layer. Where leaf-litter dwelling worms live.

The middle brown layer is the mineral layer. Where mineral soil species live

The bottommost layer is the subsoil. A layer where deep-burrowing worms would inhabit

Image from:
http://us.dk.com/static/cs/us/11/clipart/earth/image_earth012.html

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