



Photographs: Dr. Michael McTavish

# Non-native earthworms in Canada: Entering the second wave of invasion

## NON- NATIVE EARTHWORMS IN CANADA

Most of the earthworms that we have in Canada are relatively recent arrivals – European species have been arriving since the earliest days of overseas colonization and we are now entering a second wave of invasion by species from Asia. Non-native earthworms are highly influential ecosystem engineers that fundamentally change the habitats that they invade. The biological invasion of non-native earthworms is a major challenge to conservation and restoration as there are currently no practical, large-scale options to control them.

### First Invasion- European Earthworms ~1500-1600s (ongoing)

- Abundant and widespread invasion with no control measures
- Spread through human-assisted processes, such as ship ballasts, bait disposal, road work, and vehicle and shoe treads
- Alter the soil profile and create cascading effects on soil organisms, over and understory vegetation, and function
- Most large European earthworms occur at a low density, and high density earthworms tend to be small



Jumping worm

### Second Invasion- Jumping Worms ~mid 20th century and growing

- 16 species of Pheretimid earthworms from 12 genera, native to east and southeast Asia
  - Have many names, such as jumping worms, snake worms, and crazy worms
- Recent invasion that is not yet widespread (4 species found in Ontario)
- Spread through the horticultural trade (e.g. transported soil)
- Abundant in gardens but also present in natural areas
- Have large bodies, high density, and rapid invasion causes dramatic impacts on soil structure and function



Jumping worm modified soil

## WHAT YOU CAN DO

- Learn more about non-native worms and the signs of an invasion by reading the Invasive Species Centre's [Jumping Worm Species Profile](#), and Cornell University's [Invasive Species for Homeowners: Jumping Worms](#) factsheet
- Refrain from moving mulch, soil, and plants from invaded areas. Use small-scale control by bagging and disposing of or solarizing infested material.
- Report sightings of non-native earthworms to [EDDMapS](#).