



Unveiling the Mysterious Movements of Owls

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Owls of Ontario

Let's Learn
more about
them



Northern Saw-whet Owl

Vision

- Highly developed sense of sight
- Can see well in low-light conditions
- Large eyeballs – fixed in eye sockets
- To compensate, owls have 14 vertebrae in their necks
- Thus owls can swivel their heads up to...
270 - degrees



Eastern Screech Owl

Hearing

- Highly developed hearing
- Evolved adaptations:
 - Facial discs that direct sound



American Barn Owl

Hearing

- Highly developed hearing
- Evolved adaptations:
 - Flap of skin in front of their ear opening
 - One ear positioned higher than the other



Great Gray

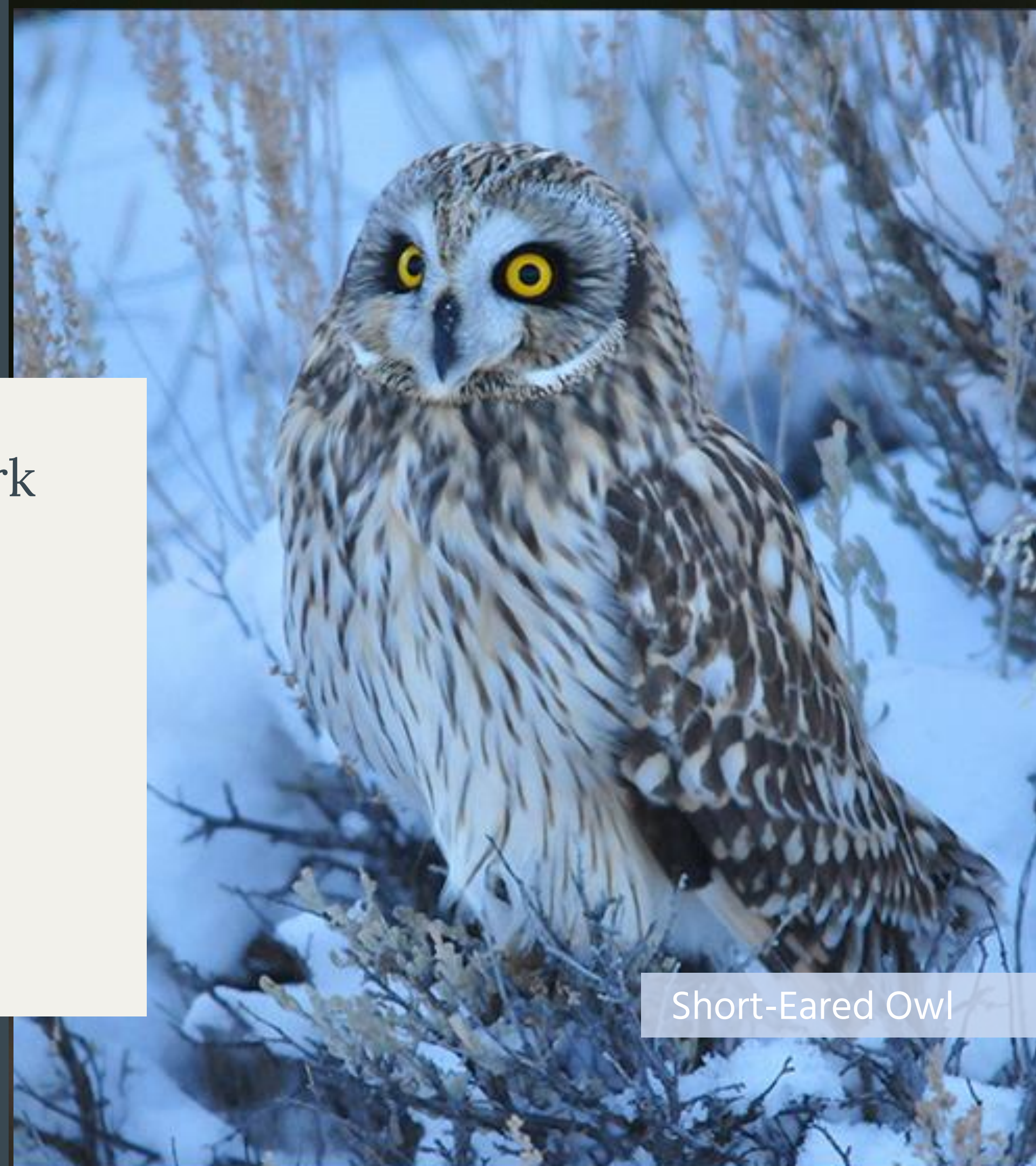
Video: How Does an Owl's Hearing Work? | Super Powered Owls | BBC Earth

Link: <https://www.youtube.com/watch?v=8SI73-Ka51E>



Nocturnal Habits

- Specially adapted for life in the dark
- Adapt:
 - Food shortage
 - Shorter days
 - Type of prey
 - Full nest



Short-Eared Owl

Video: What Makes Owls So Quiet and So Deadly? | Deep Look

Link: <https://www.youtube.com/watch?v=a68fIQzaDBY>



Silent Hunters

Movement Ecology

- Birds move or 'migrate' in large groups
 - Food availability
 - Breeding
 - Nesting and raising young
 - Habitat Changes
- Low resources → High resources



Resident Owls

- “Homebodies”
- Adapted to survive
- Find adequate supplies of food year-round.



Barred Owl



Long-eared Owl

Migratory Owls

- Regular seasonal journeys
- Separate breeding & wintering grounds
- Take advantage of seasonal resources

Nomadic Owls

- Respond to fluctuations in food availability
- Unpredictable
- Difficult to track



Boreal Owl



Case Study

Barred Owl

- Large, stocky owls with rounded heads
- Roost quietly in forest trees during the day
- Mature forests of deciduous and coniferous trees
- Young may disperse up to 600 miles from their birth site

Video: **Barred Owl Studies. From the ground, air and SPACE!**
Link: <https://www.youtube.com/watch?v=ilCyThfRMFU>





Case Study

Northern Saw-whet

- Smallest of owls in Canada
- Breed in coniferous forests
- Winter in the S. United States and Mexico
- Can travel up to 2,000 miles between breeding and wintering grounds



Coded VHF (Radio Tags)

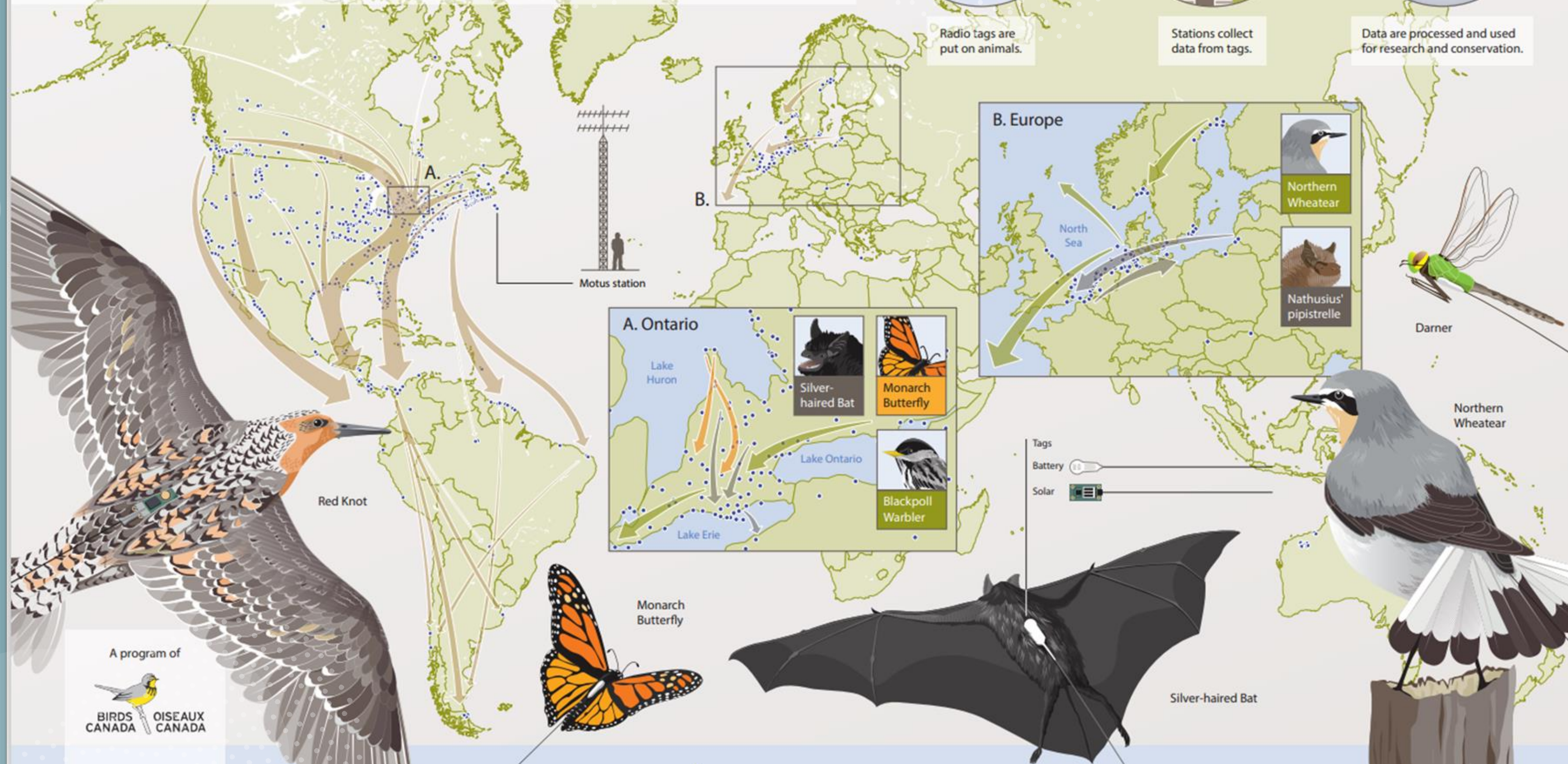
- NanoTags transmit unique coded radio signal
- 1000's of tags on same frequency
- Longer life spans than traditional radio tags

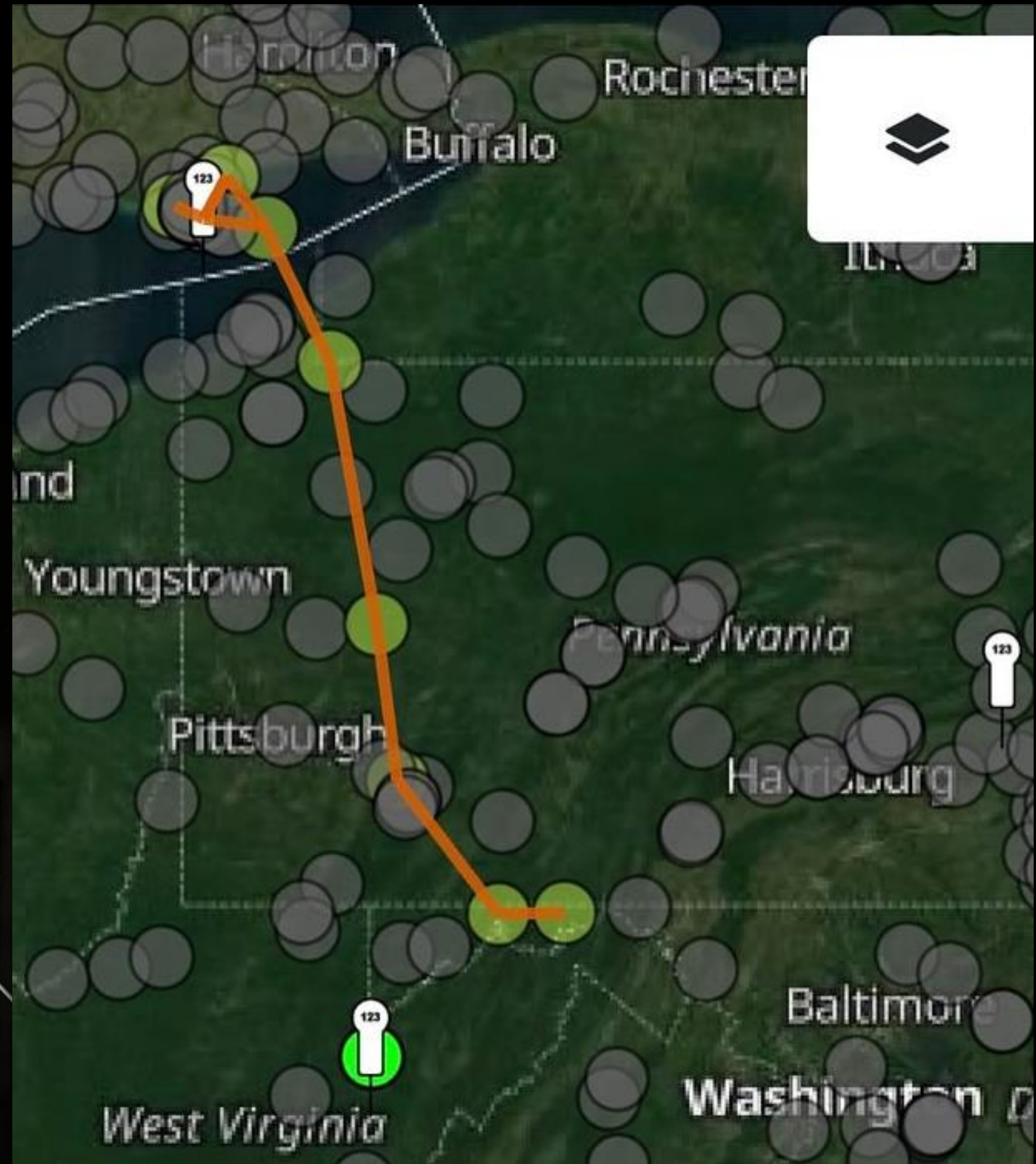




Motus

A collaborative research network tracking wildlife movement for conservation



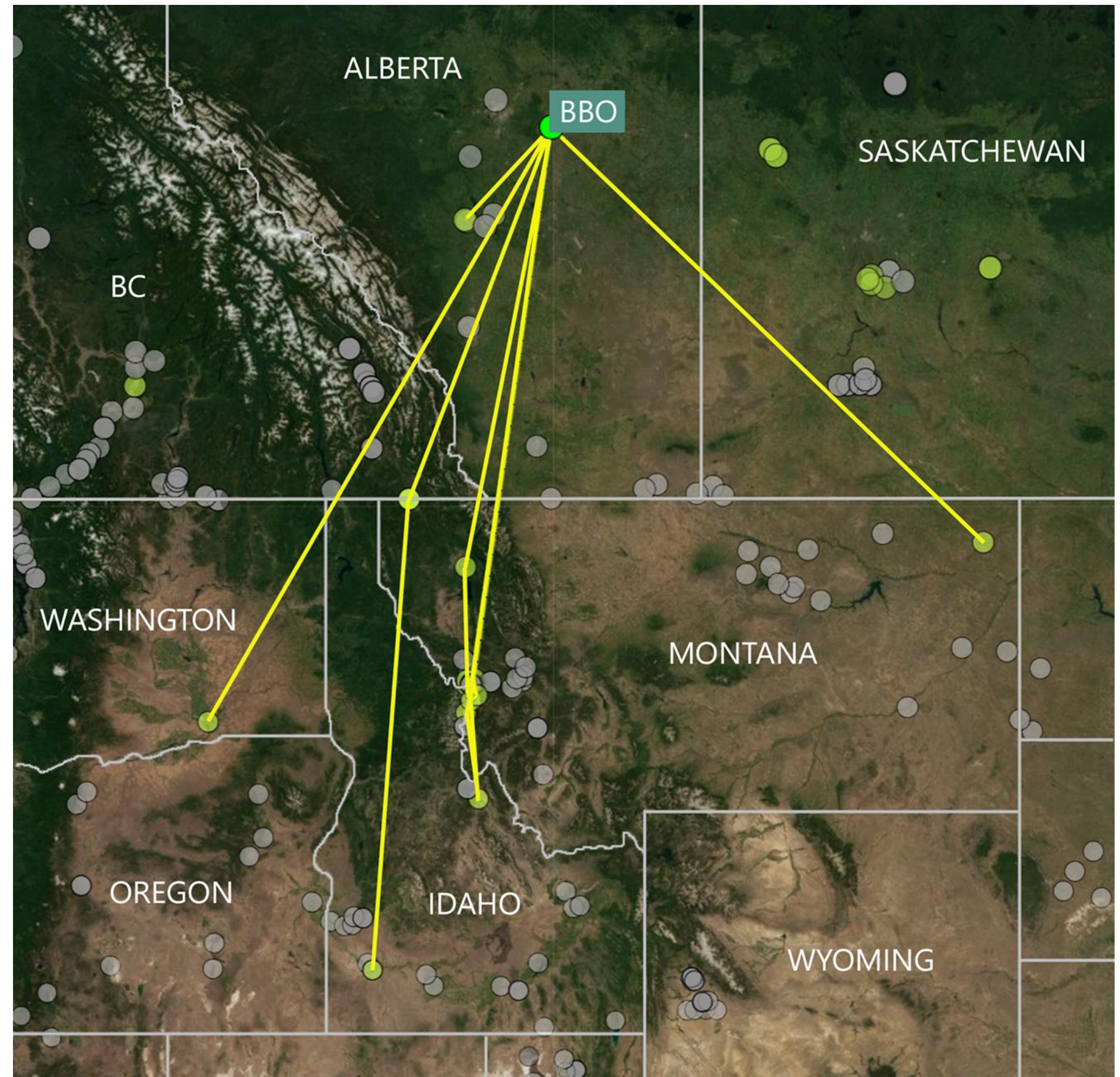


 Brock and Sherri Fenton
 Emma Buck

In the fall of 2023, the BBO fitted 48 northern saw-whet owls with Motus nanotags.



Partial Migration tracks of 6 saw-whet owls fitted with nanotags.



Case Study

Snowy Owl

- Breed in the Arctic tundra
- Winter movements highly variable, depending on lemming populations
- Can travel thousands of miles during “irruption” years
- Some individuals may remain in the Arctic year-round if food is plentiful



TRACKING THE MOVEMENTS OF *SNOWY OWLS* AT THEIR SOUTHERN RANGE LIMIT

How are Snowy Owls moving around in the winter? What drives their movements?

To answer these questions, we analyzed fine-scale telemetry data (GPS/GSM) from 50 Snowy Owls tagged in eastern and central North America from 2013–2019. We compared flight patterns during the winter season to landscape features, with owls grouped by sex and age. We classified owl movements into 2 categories: *resident* (staying in one area) and *nomadic* (travelling across a wide area).



In the agricultural areas of the Prairies, where rodents are likely abundant, owls were more often resident (i.e. small winter areas).

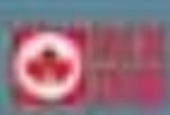
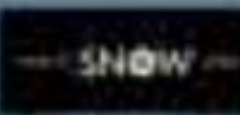


In the Great Lakes regions, many owls were again resident, but others were nomadic. Resident owls were typically in agricultural areas and nomadic owls in cities and near lakes, where resources are fragmented and variable.

We found that Snowy Owls are incredibly variable in their movements, from resident to nomadic. Our data suggest movement patterns are driven by the distribution and availability of prey, rather than age or sex.

Designed by Forest Studio Ltd.

McCabe, RA, JF Thomson, K Wake, G Gauthier, D Brinker, S Weidensaul, and KJ Elliott. 2021. Landscape cover type, not social dominance, is associated with the winter movement patterns of snowy owls in temperate areas. *Oryzology* 13B: 1–12.



Video: **Secrets Of The Snowy Owl** | NPR's SKUNK BEAR

Link: <https://www.youtube.com/watch?v=HXwrB216bgE>





How do I find them?

Looking for owls



**Scanning
Fields &
Fence Posts**



**Look for
Droppings**



**Search for
Owl
Pellets**



**Check
eBird or
iNaturalist**

What can we
do to help?



American Barn Owl

Citizen Science

eBird

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Greater Flamingo *Phoenicopterus roseus* © Ali Atahan Macaulay Library | eBird

FEATURES



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Video: Learning about eBird Video

Link: <https://youtu.be/-t-0xAjxakw?si=dwbGZyxVjpBHgRfZ>



Plant Native Species

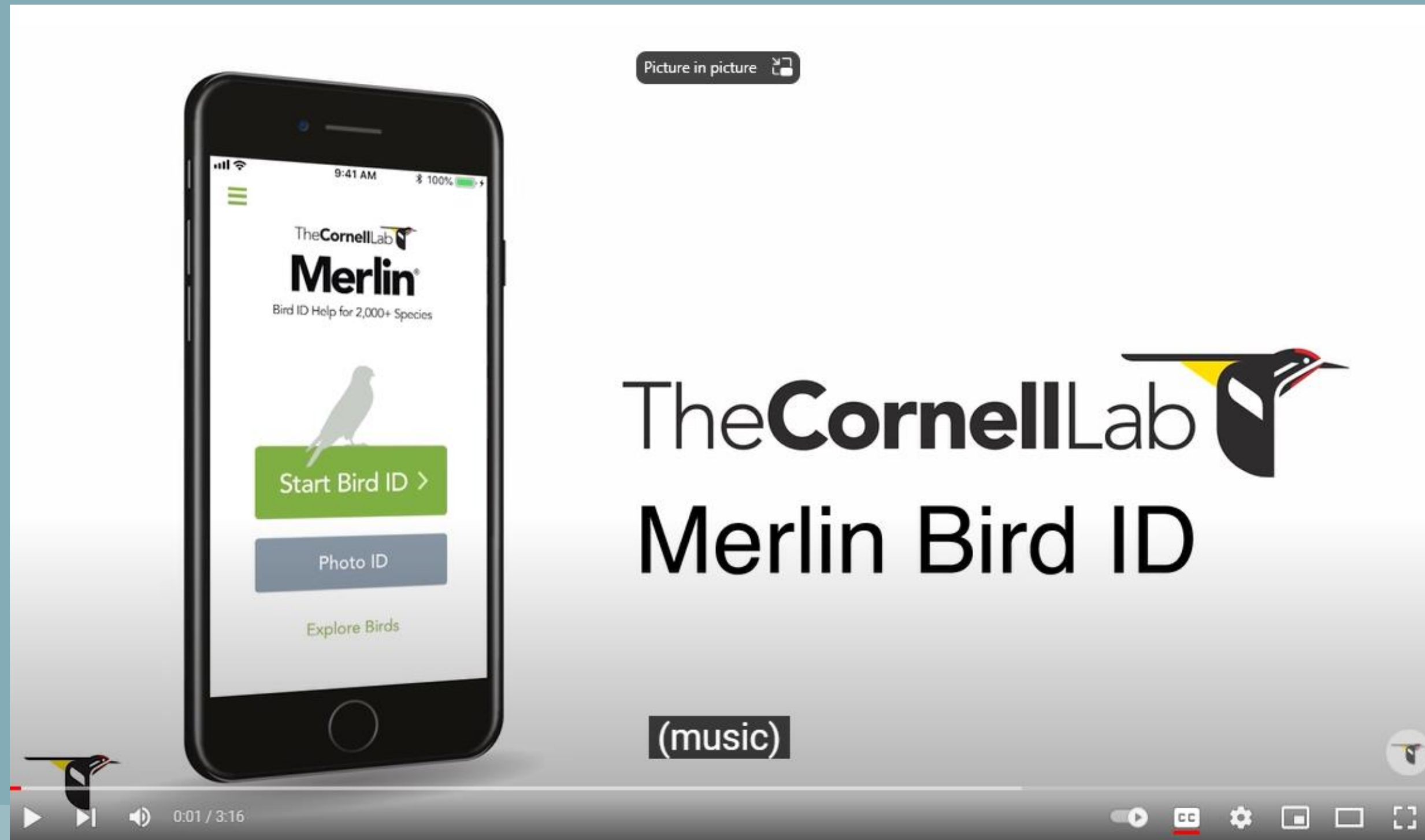
- Trees, shrubs and flowering plants.
- Leave larger trees and deadfall
- Shelter – to roost in and raise young
- Cover – to hunt from
- Food source – invites mice, voles and small birds

*Learn more at:

[Bird Gardens - Birds Canada | Oiseaux Canada](#)



To Identify Birds by sound, download the Merlin app on your phone. There is a free version available.



Video: Project FeederWatch

Link: <https://www.youtube.com/watch?v=OavEZDLF5AA>



Resources

Boreal Owl vs. Northern Saw-whet

[Similar Species to Boreal Owl, All About Birds, Cornell Lab of Ornithology](#)

The Super Powers of Owls

<https://dev.blog.ontarioparks.ca/creatures-of-the-night-owls/>

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