



Bird Migration: Motus Tracking

Environmental Studies Department
Glover's Ledge
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At the top of the hill, sits a thin metal tower with several sensor arrays extended in four directions. This tower (called a Motus tower) is actually one of a huge network across the Americas and Europe and it is busy tracking wildlife migrations!

Glover's Ledge gained this tower unit through a partnership with UMass Amherst and Dr. David King established by AUNE faculty member Mike Akresh.



AUNE faculty Dr. Mike Akresh, UMass and Antioch graduate students installing the Glover's Ledge tower unit in 2019.



Worldwide network of Motus tower units

The Motus Network

Since 2014, the Motus Wildlife Tracking System has been collecting and sharing data about migrating flying animals and insects. Through a collaboration between the Canada Foundation for Innovation, Acadia University, Western University, The University of Guelph, and Birds Canada, over 900 towers just like this one have been deployed across the US, Canada, South America, Australia, and Europe.

Notable species picked up by our tower

Shortly after the tower was installed, it picked up a surprising visitor. A Red Knot was recorded passing within sensing distance of the tower (5km) on July 23, 2019. Red Knots are shorebirds famous for an annual migration route that takes them from the Arctic to Tierra del Fuego and back – a distance of over 9,000 miles one way!

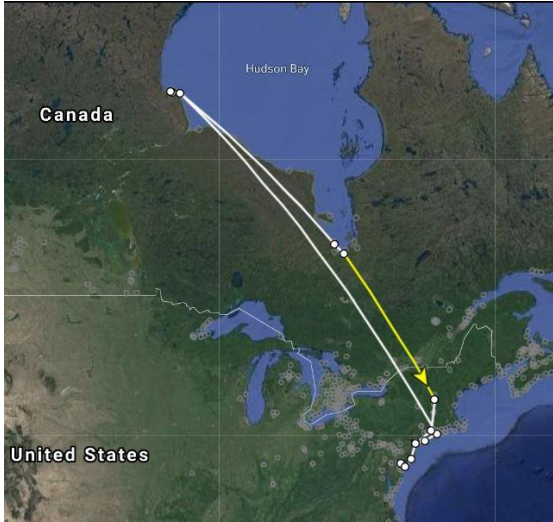
The purpose of such an extensive network is to better understand the routes migrating animals take and create a shared database for conservation organizations and universities to consult when writing conservation plans. The towers have recorded information on tracked birds, bats, and even some large insects like dragonflies!



An adult Red Knot. Photo from Wikimedia Commons.

This particular Red Knot was tagged in Delaware Bay in southern New Jersey as part of a Red Knot migration project run by Environment Canada, New Jersey Fish and Wildlife, and the Conserve Wildlife Foundation of New Jersey. Since the tag was

deployed in May of 2019, the bird has been detected again in New Jersey, New York, Connecticut and made a trip from Hudson Bay down towards us here in southwestern New Hampshire.



Tracked flight pattern of the Red Knot our tower recorded. Dots indicate areas where this same bird was identified by tower units.

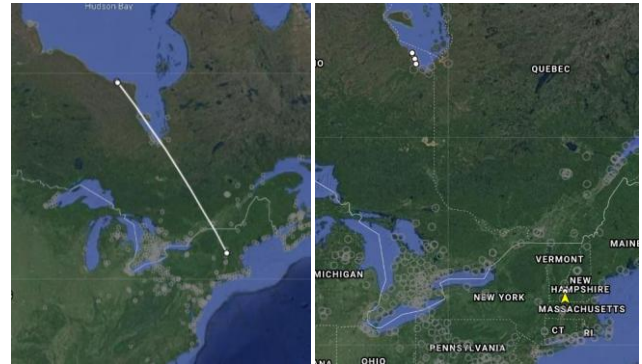
The tower has also picked up a Pectoral Sandpiper and a Semipalmated Plover since it has been deployed – both shorebirds with long migration routes!



Wikimedia Commons.

Landscape Perspective

Tracking migratory routes reminds us that birds require diverse habitats all over the world for continued breeding success. Through the database of Motus towers, Glover's Ledge joins a network of ornithologists sharing data to better understand the birds using our property during migration and ways we can better manage our land to support them.



Pectoral Sandpiper (left) and Semipalmated Plover (right) detection maps. Both also made a trip from the Hudson Bay area down towards Glover's Ledge!

Shorebirds such as these are likely not stopping at Glover's Ledge, since we lack the mudflats and open waterways they need to forage. But data on their migration routes will be useful for the planning of any future wind power developments so turbines can be kept out of high-trafficked areas.

In New England, funds from the State Wildlife Grant have been approved to create long east-west fences of tower units to provide a more complete picture of migratory pathways.

Things to look for:

The tower remains active from late spring through fall, recording any tagged wildlife that passes by. If you see it in winter, the tower will still be up but winterized (solar panel covered and equipment waterproofed for protection from the snow and cold).

Each antenna is aligned with one of the cardinal directions (N, S, E, and W). See if you can determine which one points which direction!

Learn more about the Motus project and explore data collected around the world

www.motus.org

Track the Red Knot we detected at motus.org/data/track?tagDeploymentId=22712