

Notes from a Naturalist

Allison Byrd

Detecting migration of small flying creatures

Nearly a year ago, on April 6, 2023, Tin Mountain Conservation Center's Motus station officially went live. "What is a Motus station?" you might ask. It is equipment that detects nanotags (tiny transmitting devices) that researchers attach to birds, bats, or even insects.

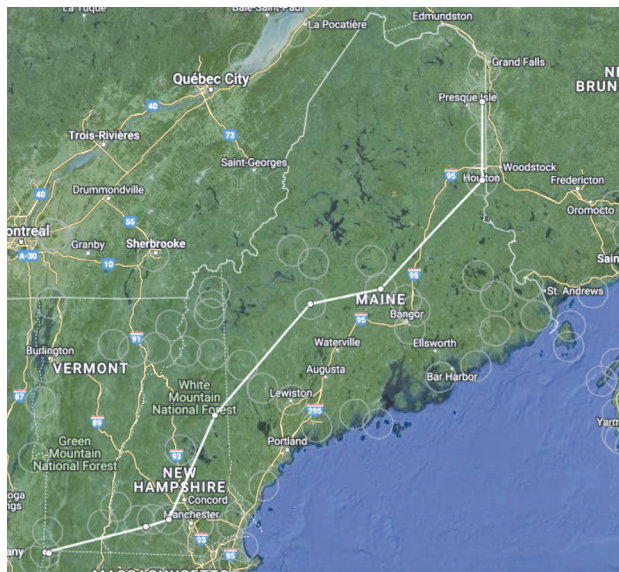
The goal of the Motus Wildlife Tracking System, facilitated by the nonprofit Birds Canada, is to provide critical information to preserve small flying animals. Individual sponsors, such as non-profits and universities, host Motus stations across the globe.

As of May 2023, there are 1,200 stations across 31 countries. That means, for example, that a Swainson's thrush tagged in its wintering ground in South America could be detected in Central America as it starts its spring migration, then in Louisiana after it crosses the Gulf of Mexico, and then here at Tin Mountain on its way to its final breeding grounds in Canada. The detail that Motus stations provide about small animal movements on both regional and continental scales is unprecedented.

Each Motus station is comprised of antennas, cables, a small receiver, and a power source. The receivers require minimal power, so stations can also be placed in remote locations run off a single solar panel. A nanotag can transmit signals anywhere from five to 450 days based on its size and battery life. More recently, some nanotags are outfitted with tiny solar panels so that they can last the life of the individual carrying it. The smaller the animal, the smaller the nanotag, with some even small enough to tag monarch butterflies.

The advantage of the Motus network is that any creature outfitted with a nanotag will be detected by any station it travels past. Before the Motus network was developed, only larger species, such as raptors, could handle the weight of a transmitter capable of tracking migratory journeys, while smaller species would need to be recaptured to download very coarse movement data.

Now, detections across the wide array of Motus stations can reveal migratory routes and speed, regional movement, and stopover duration (animals taking a break during migration). The downside of the network is that an animal will not be tracked if it does not pass within range of any station's antennas.



Track of the spring migratory path of the dark-eyed junco tagged in Massachusetts and detected by the Tin Mountain Conservation Center's Motus station on April 10, 2023. Dots along the path indicate other stations that detected the junco as it migrated north. (MOTUS.ORG IMAGE)

It goes without saying, then, that the more stations that are constructed and maintained, the better the chance is for detection for any given species. This is a great reason to continue investing in these stations and Tin Mountain is excited and honored to be a part of this international collaborative research network.

Since its deployment, the Tin Mountain station has detected two tagged birds, a dark-eyed junco and a rusty blackbird. Additional movement infor-

mation on the rusty blackbird is obscured, likely due to the sensitive nature of the project, but the detection information for the dark-eyed junco is available.

It was first tagged in far northwest Massachusetts on March 13, 2023. It remained in the area for several weeks before departing on migration. Like many migrants, juncos migrate at night and this individual was next detected on April 10 by a station near Hancock.

Then, that same night, it was detected at Tin Mountain's station. It continued on its northeasterly journey from there and in subsequent days was detected four more times in Maine, with its final detection on April 22 near Presque Isle. While Tin Mountain is not involved in the research on this particular junco, we did contribute to the effort through the presence of our Motus station.

If you're interested, you can visit Motus.org and see locations of stations, follow the paths of selected migratory species, and read more about this collaborative effort. At Tin Mountain, we certainly look forward to seeing what other small and mighty species make their way past our station. The two birds we've detected so far are reminders of the interconnectivity of our landscape and those who hope to protect and understand it.

Allison Byrd is the research manager at Tin Mountain Conservation Center.

 JOURNEY

Journey Church

Is Hosting an

Easter Egg Hunt



Please join us for the Easter story followed by an Easter egg hunt!

When?
March 30th at 10am

Where?
15 Hutchins Drive, Center Conway



JACKSON COMMUNITY CHURCH

UNITED CHURCH OF CHRIST
JACKSON VILLAGE • 603-383-6187



PASTOR • GAIL POMEROY DOKTOR

The Jackson Community Church is through the Covered Bridge in Jackson.
All are welcome.

Easter Week Activities

Maundy Thursday: March 28th
Worship & Soup Supper at 6:00 pm
Hosted by the Bartlett Congregational Church

Holy Friday: March 29th
Vigil & Stations of Cross 12-3pm in the Sanctuary.
Scripture Readings at Noon, 1pm, 2pm and 3pm
Service of Shadows 6:30pm Ecumenical Service
Nativity Lutheran Church, UCC North Conway NH

Easter Sunday: March 31th
Sunrise Service 6:15am
End of Presidential Drive, Jackson

Easter Service 10:30am
Virtual and In person worship service.
Music by Dominique Dodge, Flowering of the Cross
Followed by Community Easter Egg Hunt

More Info: www.Jacksoncommunitychurch.org



Our Lady of the Mountains Church
2905 White Mountain Highway
North Conway NH 03860
603-356-2535
www.ourladyofthemountainsnh.org

Come and join us this Easter!

Easter Vigil

March 30th
Easter Vigil Mass
7:30 p.m.



Easter Sunday
March 31st
8:30 a.m. & 10:30 a.m.