



**Wildlife rehabilitator Maria Colby releases a Broad-winged Hawk back to the wild at a Pack Monadnock Raptor Release Day.**

© Andre Moraes @ravendotdigital

**About the Harris Center for Conservation Education**

The Harris Center connects people to the natural world through land protection, education of all ages, conservation research, and programs that encourage active participation in the great outdoors. Learn more at [harriscenter.org](http://harriscenter.org).



**About New Hampshire Audubon**

Protecting New Hampshire's natural environment for wildlife and for people through education, conservation research, land stewardship, and environmental policy. Learn more at [nhaudubon.org](http://nhaudubon.org).



*This brochure was made possible in part through HMANA's Hawk Watch Fund. Learn more at [hmana.org](http://hmana.org).*

Harris Center for Conservation Education  
**PACK MONADNOCK RAPTOR OBSERVATORY**



**Miller State Park  
Peterborough, New Hampshire**

**PACK MONADNOCK RAPTOR OBSERVATORY**

**The fall hawk migration**

is one of the great wonders of the natural world, and we're fortunate to have one of New England's premier locations for watching this spectacle right here in our backyard: the Pack Monadnock Raptor Observatory, celebrating more than a decade of hawk migration data collection near the summit of Pack Monadnock in Miller State Park in Peterborough.

The Observatory not only provides valuable, long-term data on migrating raptors, but it also reaches thousands of people annually as the Monadnock Region's most vibrant outdoor classroom. We welcome you during the fall migration season (September 1 to November 15), when Harris Center biologists and volunteers staff the observatory daily to count raptors and talk to visitors about the project. You're also invited to join us for special events, including our annual Raptor Release Day, when we return a rehabilitated bird of prey to the wild.

**What Are Migratory Raptors?**

Diurnal (or day-active) raptors are sometimes referred to simply as "hawks." However, in addition to hawks, this group also includes eagles, falcons, ospreys, vultures, kites, and harriers. Of the 32 raptor species that occur in North America, at least 20 are migratory – moving seasonally in search of food. We regularly observe up to 15 of these species at the Pack Monadnock Raptor Observatory.



**Bald Eagle** © Lillian Stokes



**Harris Center teacher-naturalists introduce students to the excitement of hawkwatching.**

© Katrina Fenton

**Why Study Raptors?**

Raptors are particularly good indicators of environmental health because they inhabit most ecosystem types, occupy large home ranges, feed at the top of the food web, and are highly sensitive to chemical contamination and other human disturbance. Spring and fall are ideal times to collect data on raptors because they congregate during migration along coastlines, prominent mountain ridges, and river valleys, making it easy to tally them. Conducting standardized long-term counts of migrating raptors can provide important information on their migration patterns and behaviors, as well as changes to their populations.



**Hawk counter updates the daily tally.** © Brett Amy Thelen

# The Raptors of Pack Monadnock



Merlin © Andre Moraes @ravendotdigital

## Why Pack Monadnock?

Many raptors migrate long distances to their wintering grounds in South and Central America. In order to conserve energy for the journey, they soar on updrafts created by favorable winds and thermals produced by heat rising from the landscape below. (With the wind at their backs, many raptors can travel distances of 250-300 miles in a single day!) It is this combination of geography and weather patterns that brings raptors to Pack Monadnock.

Because of its high elevation, location along a north-south ridgeline, and prominent views to the north and west, Pack Monadnock has long been known as an excellent vantage point for observing raptor migration. The formal Observatory was founded by Iain MacLeod and NH Audubon in 2005, and has been staffed each fall since then.

## What Have We Learned?

Accurate knowledge of population status and trends is fundamental to wildlife conservation,

but reliable information is lacking for many raptor species. Counts of migrating raptors may be the key to filling these gaps.

The Pack Monadnock Raptor Observatory's long-term data set provides vital information on migratory raptors, as well as other bird species and even monarch butterflies and dragonflies. On average, more than 11,000 raptors are tallied from Pack each fall. The vast majority of these are Broad-winged Hawks, which migrate in large groups known as "kettles" during mid- and late September.

Our data have demonstrated healthy rebounds in Bald Eagle and Peregrine Falcon populations, which were once in decline due to the use of DDT. We have also recorded population declines in the American Kestrel and the Northern Harrier, signaling the need for local and regional conservation actions on behalf of these species.

## Follow the Migration on HawkCount!

During the migration season, detailed daily reports are posted on [hawkcount.org](http://hawkcount.org), an online database managed by the Hawk Migration Association of North America (HMANA).



## You Can Help

The Observatory relies on donations from individuals and community partners, as well as the support of many volunteers who help with everything from tallying raptors to teaching visiting school groups. To volunteer or donate to the Pack Monadnock Observatory, visit [harriscenter.org](http://harriscenter.org).



Hawkwatching © Brett Amy Thelen

## Visiting the Pack Monadnock Raptor Observatory

**Dates** The Observatory is staffed every day from September 1 through mid-November. Peak hawk migration runs from mid-September through mid-October, but raptors move through early and late in the season, as well.

**Location** The Observatory is located at Miller State Park, near the summit of Pack Monadnock Mountain in Peterborough, NH.

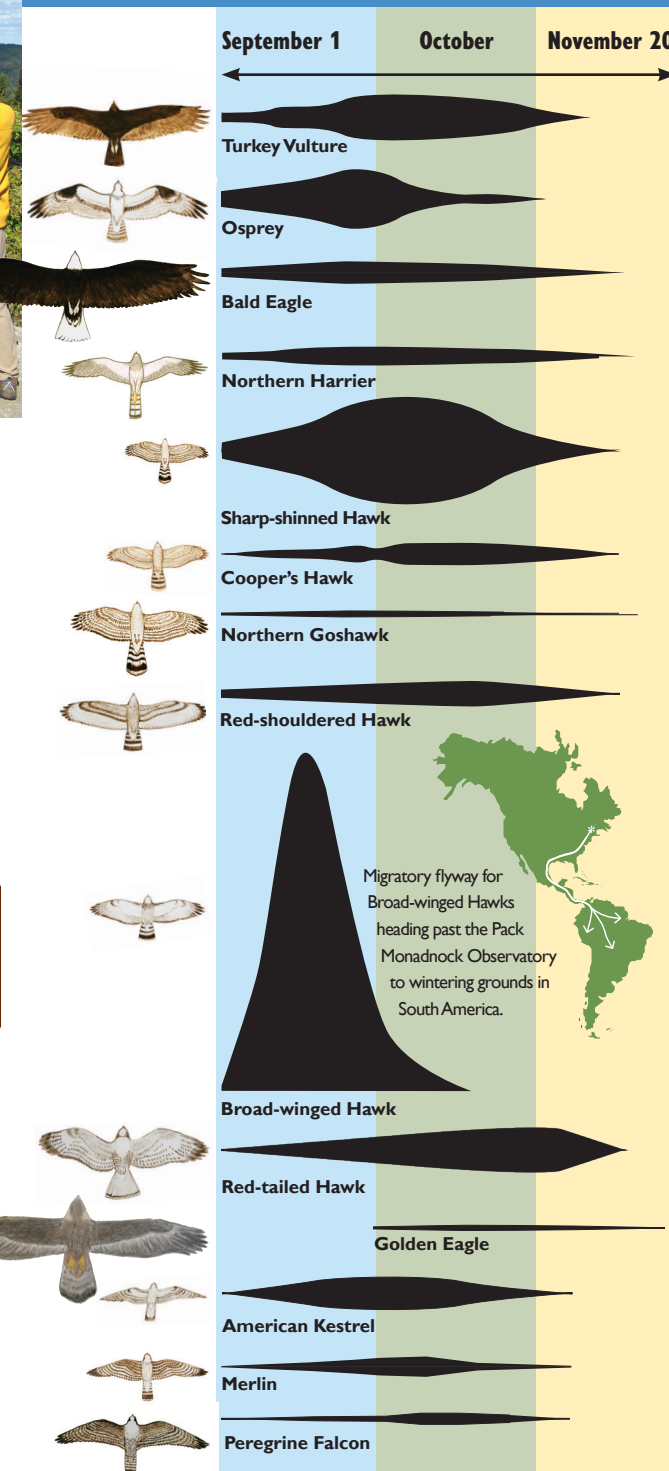
**Reservations** The Observatory operates in partnership with NH State Parks and the Department of Natural and Cultural



A Kettle of Broad-winged Hawks

© Lillian Stokes

## Fall Migration Patterns



map illustration and chart: Dyanna Smith, NH Audubon