



## Finally Fall: Red-tailed Hawk

*Learn more about the most common raptor in our parts.*

If you've ever tuned in to the [Duke Farms Eagle Cam](#), then you are well acquainted with the fierce family of birds known as raptors. The word raptor is derived from the Latin word *rapere*, which means to seize or plunder. Raptors are powerful birds with sharp curved talons and beaks for seizing prey. They are unbelievably strong and often incredibly fast fliers. Some can attain speeds of 200 mph when diving. Some migrate all the way from North to South America making journeys that are thousands of miles long. Fall is the time when hawk enthusiasts gather along the mountain ridges and southern coast of New Jersey to watch and count the thousands of hawks that are on the move.



There are sixteen species of raptors that regularly pass through or take up residence in New Jersey. They include bald eagles, golden eagles, red-shouldered hawks, broad wing hawks, rough-legged hawks, northern goshawks, cooper's hawks, sharp-shinned hawks, northern harriers or marsh hawks, ospreys, American kestrels, merlins, peregrine falcons, turkey vultures and black vultures. The most common of them all is the red-tailed hawk.

The red-tailed hawk (*Buteo jamaicensis*) gets its name from the deep russet color of the adult bird's tail feathers. It is one of the largest raptors of fields, meadows, and suburban landscapes in North America. There are three classes of hawks based on body type, wing form and flight style; they are [buteo](#), [accipiter](#), and [falcon](#). The red-tailed hawk is a classic buteo. This means it has a chunky body, broad, rounded wings, and a shortish tail that is often spread or fanned in flight. Red-tails are soarers. They can be seen circling in the sky in all months of the year. In the fall during migration, they often occur in flocks called [kettles](#) where they circle together on warm thermal currents. This hawk is often seen perched out in the open on telephone poles or highway light posts where they watch for small mammals, small birds, reptiles, and even insects. When soaring, red-tails typically hold their wings in a shallow dihedral (V shape) which sometimes makes them resemble turkey vultures from afar. In North America, the red-tail impresses hawk watchers by kiting (hovering) while facing into the wind with their wings outstretched.

The second group, the accipiters includes the stream-lined sharp-shinned hawks and cooper's hawks. All accipiters have long tails and short rounded wings relative to other birds of prey which makes them well adapted for pursuing other birds. This combination enables these hawks to zip through woodlands after their winged prey. The long tail acts like a rudder that lets them change direction on a dime, and the short, rounded wings makes it possible to fly through slivers of space in-between branches without smashing into tree trunks.

The third group of hawks are the falcons. They have long, narrow, pointed wings and are super-fast flyers for chasing down smaller birds and insects in mid-air. Some can dive-bomb at speeds so fast that it is impossible to follow their dives (stoops) with the naked eye. Peregrine falcons are the fastest animal on the planet being able to drop out of the sky at over 200 mph. The American kestrel, merlin, and peregrine falcon are falcons that nest or have been observed at Duke Farms. They have protective

structures in their nostrils to prevent too much air from entering their system at one time when flying at high speeds which would kill them without this protection.



Unlike the accipiters and falcons, red-tails are big, robust birds of prey. They are about one and a half to two feet tall with wide wings that span about four feet. Their plumage varies a great deal depending on their age and where they live in North America. Feather colors vary from brown to black on their upperparts, with white to streaked brown breasts and a brown and white bellyband. In adults, the tail is a rich cinnamon color above and usually pale underneath, so it may not appear red when viewing the bird from directly below. The adult tail has a narrow, dark band at the tip. Juveniles have narrower wings and longer tails that are brownish with seven to nine dark brown bands of equal width with a white band at the tip. The underwings are pale with dark, rectangular [patagial bars](#) at the “shoulders”.

The red-tailed hawk is one of 26 raptors in North America that are considered partial migrants. That means that some red-tails migrate long distances while others may only move within a region or a state or just one open area to another. Juveniles tend to travel farther than adults. Many red-tails living in Canada and the northern United States migrate to the southern U. S., Mexico, or even Central America for the winter. However not all of them migrate that far. A few of the most northern hawks just stay put on their far north breeding grounds even in the most severe winters. Throughout the rest of the U.S., lots of red-tails live in the same areas for both breeding and wintering. In the southern part of the country and in Mexico and Central America, breeding birds are resident year-round too. As a result, winter populations of red-tailed hawks can increase a lot when migratory birds move in with the residents in the south.

In the fall, juveniles are usually the first to [move](#) and they typically migrate farther than adults. Adults tend to winter closer to their breeding grounds. In the eastern portion of North America, red-tailed hawks are on the move between August and early January. In spring, the migration can stretch from February all the way to early June.

Red-tails frequently find thermal air currents to assist with soaring during migration and avoid long water crossings that require energy zapping powered flight. The birds favor routes with landscape features like long mountain ridges where updrafts occur and over cities which concentrate heat and create spiraling thermals. One favored route follows the Kittatinny Ridge in the central Appalachian Mountains of eastern Pennsylvania. When soaring on ridge and valley updrafts, red-tails travel at about 30 to 40 miles per hour. Hence people flock to places like Sunrise Mountain in New Jersey and [Hawk Mountain](#) in Pennsylvania to observe thousands of hawks on the wind from September through November every year.

Perhaps the best place for fall hawk watching is Cape May, New Jersey. Cape May is a peninsula that is bordered on the west by the Delaware Bay and to the east by the Atlantic Ocean. This geography is a natural funnel for migrating birds that are reluctant to head out over open water. Hawk watchers have counted thousands of individuals of every species of raptor in a day in the skies at the end of New Jersey. Birders often call [Cape May](#) the raptor capital of the world.

Whether they migrate or stay close to where they were born for their whole lives, red-tails can be found in just about every type of open habitat including desert, grasslands, roadsides, wetlands, agricultural



fields, parks, and low-density woodlands. This is part of the reason that red-tails are our most common hawk. In all habitats, red-tails are diurnal hunters feeding mostly on small mammals including voles, mice, wood rats, rabbits, snowshoe hares, squirrels, and chipmunks. The hawks also eat birds as well as snakes and carrion. They can handle prey that weigh anywhere from less than an ounce to more than 5 pounds!

Red-tails court in late winter and early spring. During courting a bonded pair can be seen soaring high in the air together, making wide circles in the sky. The male makes steep dives followed by a rapid ascension back up to the heavens to impress the female. After repeating this show several times, the male will approach the female, extend his legs, and briefly touch the female while in midair. Sometime both will clasp talons and spiral down before parting near the ground. Once they begin nesting the male often brings the females gifts of prey.

In early spring, Red-tailed hawks typically build their nests in tall trees where they have a clear view of the world around them. They may also nest on a cliff ledge or on high human-built structures. Both the male and female build the nest, or simply refresh one of the nests they've built in previous years. Nests are huge piles of dry sticks with the inner nest bowl lined with bark strips, fresh foliage, and dry grass and leaves. Red-tails lay from one to 5 white eggs with speckles and incubate them for a little over a month. Nestlings fledge about a month and a half after hatching, but parents continue to feed them through the season.

Red-tails nest at Duke Farms and can often be seen hunting in the meadows and the western farm fields. They are easily to spot, especially in late fall when the leaves have fallen from the trees and they look like big stuffed toys sitting high in the branches. Next time you ride along a highway or take a drive through the countryside, keep a look-out for these majestic birds scanning for food along the roadsides of America. They never cease to fill us with wonder and respect.

### **Important Note**

Although populations of red-tailed hawks are stable, such is not the case with many other species of raptors. Land use change, climate change, increase in severity of storms, droughts, increased pesticide use, and human abuse continue to take their toll on all our birds including raptors. It is imperative that we find ways to make our lives more sustainable so that wildlife may continue to survive and thrive on our one shared planet.

All hawks are protected by state and federal laws. It is illegal to capture or kill a hawk, or to possess a hawk, alive or dead without permits from the State of New Jersey and the U.S. Fish and Wildlife Service. Throughout history they have been persecuted because they are hunters. Fortunately, we now know that hawks have an important ecological role as a predator at the top of the food chain and must be respected for the role it plays. If you ever encounter a hawk or raptor that is injured, contact your local wildlife rehabilitation center. Here in central New Jersey that would be the [Raptor Trust](#).



**Activity: Watch Red-tailed Hawks Nest and Raise a Family**  
**How many of the eggs hatched?**

The Cornell University Laboratory of Ornithology in Ithaca New York is a world-renowned authority on all things bird. Like the Duke Farms [Eagle Cam](#), Cornell maintains several birdcams that provide incredible views of the lives of birds, including the red-tailed hawks. Watch the following five minute [video](#) of Cornell's resident red-tails and review this article, then **test your knowledge** about the hawks that nest there and red-tails in general.



1. The red-tailed hawks that are observable on the Cornell Lab of Ornithology webcam have mated for a few seasons. When did they begin to refurbish their nest in 2020?  
*Answer: They began in March.*
2. How many eggs did they lay? How many eggs are normal for red-tails?  
*Answer: They laid 3, but red-tails can lay anywhere from 1 to 5 eggs.*
3. How long was the incubation period?  
*Answer: 40 days.*
4. Does the male or female incubate the eggs?  
*Answer: They both do.*
5. Whose main job is it to hunt and bring food to the nest?  
*Answer: The male.*
6. How many of the eggs hatched?  
*Answer: All three.*
7. How are the chicks fed?  
*Answer: The parents rip apart the flesh of prey and feed it to the chicks with their beaks.*
8. What kind of food do the hawks eat?  
*Answer: Mostly small mammals like squirrels, rabbits, and chipmunks but they will eat birds and insects too.*
9. How many weeks pass before the juveniles prepare to fledge from the nest?  
*Answer: Six weeks.*
10. Do the young fledglings have cinnamon colored-tails? What colors are the tails of the young hawks?  
*Answer: No, the tails of the young hawks are striped with rows of light brown and dark brown with a white band at the tip.*



### Additional Resources

[All About Birds, Red-Tailed Hawk](#)

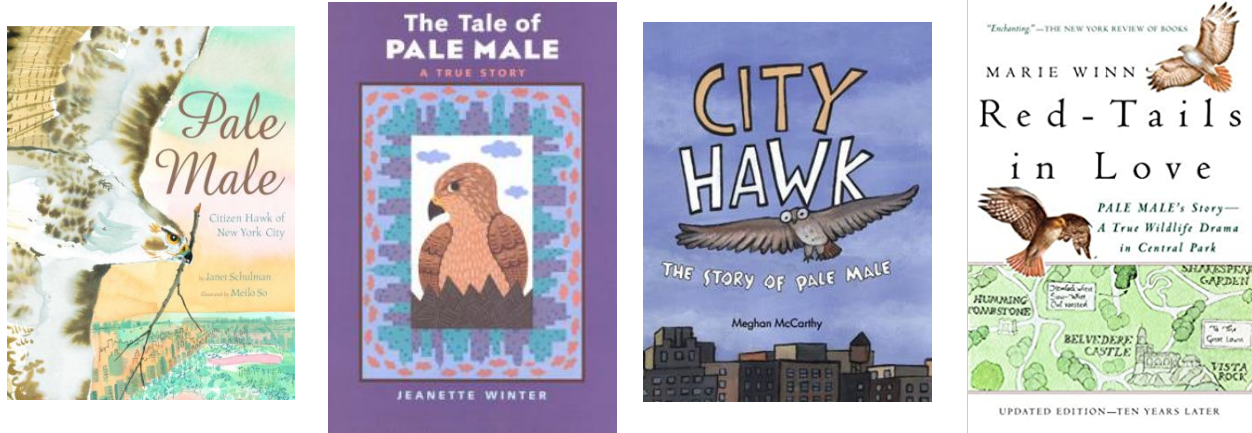
[Raptor types](#)

[Hawk Facts from The Raptor Trust, Millington NJ](#)

[Red Tailed Hawk](#)

[Nat Geo Red Tailed Hawk slideshow](#)

### Extensions for more learning ...investigate the story of Pale Male.



There are several books written about Pale Male, a red-tailed hawk that nested with his mate atop a Fifth Avenue high rise in NYC. Named Pale Male because of his lightly colored head feathers, not typical to the species, he is said to have lived there for about 9 years and fathered 23 chicks.

To hear a book about Pale Male read aloud and to access a lesson about red-tailed hawks offered by a member of the University of Minnesota's Raptor Center, (<https://raptor.umn.edu/>) click [here](#).

### Other Educational Resources

- [Cape May Hawkwatch 2020 season educational videos and lessons](#)
- NJ Audubon has 8 videos posted and each is partnered with questions and activities organized by the content areas of science, social studies, math and LA. Examples include: create your own raptor, identifying hawk watch sites using maps, using weather and wind data to predict what days might have high migration numbers, and using Trektellen to work with osprey data.

*For more ideas on ways to teach about red-tailed hawks using multi-disciplinary strands, contact Kate Reilly, Manager of Education, Duke Farms at [kreilly@dukefarms.org](mailto:kreilly@dukefarms.org)*

*Some photos courtesy of Cornell University Macaulay Library, Ithaca, New York.*