



The Pennsylvania Farmland Raptor Project



Barn Owl



American Kestrel



Short-eared Owl



Northern Harrier

How do raptors benefit farmlands?

Raptors are important indicators of environmental health and when found in agricultural areas they benefit farmers by preying on mice, voles and insects. In Pennsylvania, the Northern Harrier, Short-eared Owl and Barn Owl show widespread, long-term declines, while the American Kestrel has declined particularly in southern counties. All four species require large areas of grassland or agricultural fields to nest successfully.



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Male Northern Harrier



Raptors Benefit Farms

Building a nestbox is fun and easy!

Kestrels and Barn Owls reduce common pests.

The American Kestrel and Barn Owl are a farmer's friend. These raptors dine on many farm pests, including mice, insects and voles. In fact, they can effectively and cheaply contribute to pest management, especially in fields. For example, some grape growers encourage nesting kestrels because they help control or disperse flocks of grape-eating birds that move into vineyards. Barn Owls can control rodent populations without the cost of expensive pesticides. A family of Barn Owls can consume up to 3,000 rodents during a breeding season!

Why are Pennsylvania's farmland raptors declining?

Declines have occurred partly due to habitat loss, increased development, changes in farming practices and increased use of pesticides reducing their prey items, such as rodents and insects.

What is the Pennsylvania Farmland Raptor Project?

Hawk Mountain Sanctuary with support from the Pennsylvania Wild Resource Conservation Program has launched The Pennsylvania Farmland Raptor Project. The goal is to engage private landowners to help conserve farmland raptors and to learn more about these birds and their distribution. We are also encouraging landowners to improve or enhance suitable habitat to help boost numbers of these important grassland species. Landowners who identify these species on their property can complete a simple form and submit their observations. Sightings and nesting locations will be compiled to provide us with more information on significant breeding and wintering sites across Pennsylvania.

What does this mean for Pennsylvania landowners?

With an increasing number of Pennsylvania wildlife on privately owned property, landowners are important conservation partners. Property owners can enhance their land to provide nesting opportunities for these raptors and other declining grassland species. Landowners can also participate in voluntary financial aid programs such as the Conservation Reserve Enhancement Program (CREP) that assist farmers who conserve vital wildlife habitat.

Installing a Barn Owl or American Kestrel nestbox

Barn Owl and American Kestrel nestboxes provide suitable nesting sites when natural cavities are not readily available. These boxes are fairly simple to build and easy to install. Instructions to build these boxes can be found online or you can purchase pre-made kestrel nestboxes directly from Hawk Mountain Sanctuary. Nestbox building instructions can be found at www.hawkmountain.org/farmlandraptors.

Barn Owl (*Tyto alba*)

CAVITY NESTER

Description: The Barn Owl is one of the most secretive and nocturnal, yet widely distributed owls in the world. They are a medium-sized owl and white or mostly white on the underside. The back is tawny and marked with black and white spots. Barn Owls have a distinguishing heart-shaped face with dark eyes and no ear tufts. Females are often more heavily spotted on the breast than males.

Diet: Mainly nocturnal, they forage in pastures, marshes, hay fields, and other agricultural areas, primarily in search of voles and small rodents.

Habitat and Nesting: Barn Owls are cavity nesters, using hollow trees, cliff cavities, buildings, grain silos or artificial nestboxes to raise young. Barn Owls typically require about 150 acres of fields for suitable nesting habitat.

Conservation Status: In Pennsylvania, there are 60-70 confirmed active nests each year, with an estimate of an additional 30 or more unknown active nests. They are classified as near threatened and a Species of Greatest Conservation Need in Pennsylvania. The widespread use of rodenticides in agricultural areas and loss of large blocks of farmland habitat has reduced nesting pairs within the state. Loss of nesting sites due to barn conversion, and removal of standing dead trees are a problem. Additionally, changes in farming practices are causing a decline in the meadow vole population, which may have an impact on the owls reproductive potential. A recent Barn Owl Conservation Initiative launched by PA Game Commission biologists is helping to compile breeding information and provide safe nesting sites for populations in southern and central counties.



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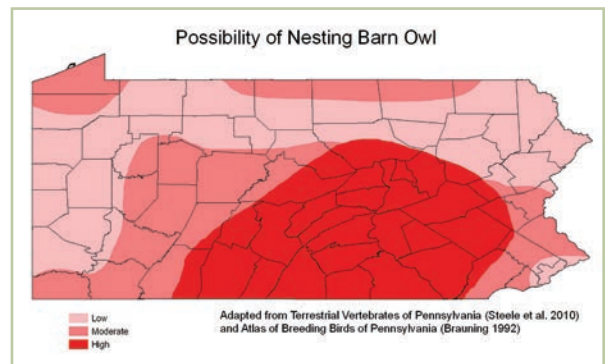
The Barn Owl is a species of greatest conservation need.



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Barn Owls benefit farms: An average family of Barn Owls can consume up to 3,000 rodents during one breeding season.

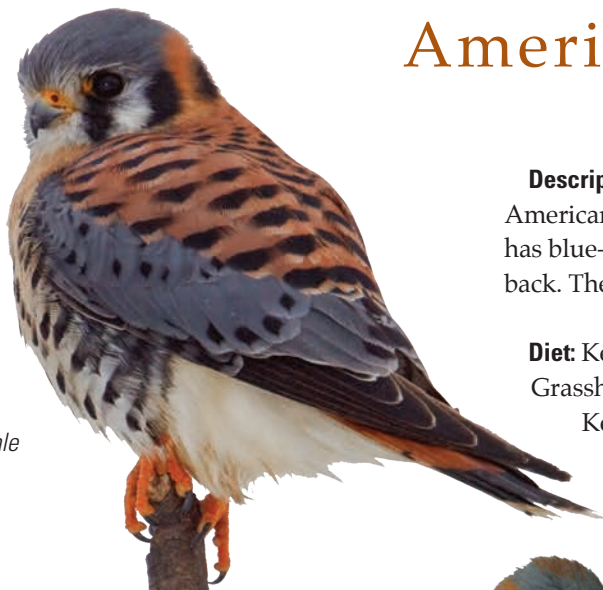
Tips for Installing a Barn Owl Nestbox

- Boxes can be mounted on the inside or outside of a barn or grain silo, or placed on a tall tree, post or other sturdy structure.
- Abandoned buildings work best as they offer minimal disturbance during the breeding season.
- Boxes should be a minimum of 20 feet above the ground.
- The box opening should face an adjacent field for foraging and hunting.
- Barn Owls prefer habitat that is a mixture of tall vegetation (warm and cool season grasses) that have not been recently mowed.

American Kestrel (*Falco sparverius*)

CAVITY NESTER

Male



© Shawn P. Carey



Female

Description: Sometimes called the Sparrow Hawk or killy hawk, the American kestrel is a small falcon about the size of a Blue Jay. The male has blue-gray wings and cap and a rufous back, the female has a rufous back. The female has wings with black bars.

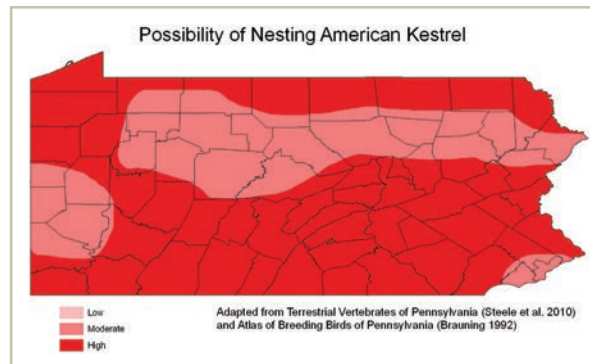
Diet: Kestrels feed primarily on insects, small rodents and small birds. Grasshoppers are the preferred prey in summer months. American Kestrels commonly hunt from roadside utility lines or hover in mid-air above fields.

Habitat and Nesting: Kestrels do not build nests, instead preferring cavities in large trees, barns or buildings. Kestrels are common in agricultural areas where scattered trees and woodlots provide woodpecker holes adjacent to foraging areas. Kestrels will readily accept artificial nestboxes when natural cavities are scarce.

Conservation Status: American Kestrels are considered common across Pennsylvania, however they have been in decline over the last 10 years, particularly in southern regions. Sanctuary biologists have been monitoring nesting kestrels since the mid 1950's and to a greater extent since the 1980's when the Kestrel Nestbox Program was expanded. By providing nestboxes in appropriate habitat, Pennsylvania landowners in agricultural communities can play an important role in the future of this small falcon.



© Steven Berkowitz



Tips for a Successful Kestrel Nestbox

- Place the nestbox 8-20 feet from the ground.
- The front of the box should be clearly visible from a distance.
- Ensure the box is surrounded by a minimum 1 acre of open space.
- Orient the box so it faces away from the roadside.
- Kestrels prefer boxes mounted on barns or isolated trees.
- Place boxes at least a half mile apart.
- Place nestboxes at least 50 yards from wooded areas to discourage squirrels from using them.



American Kestrel nestbox mounted on the side of a barn.

Short-eared Owl (*Asio flammeus*)

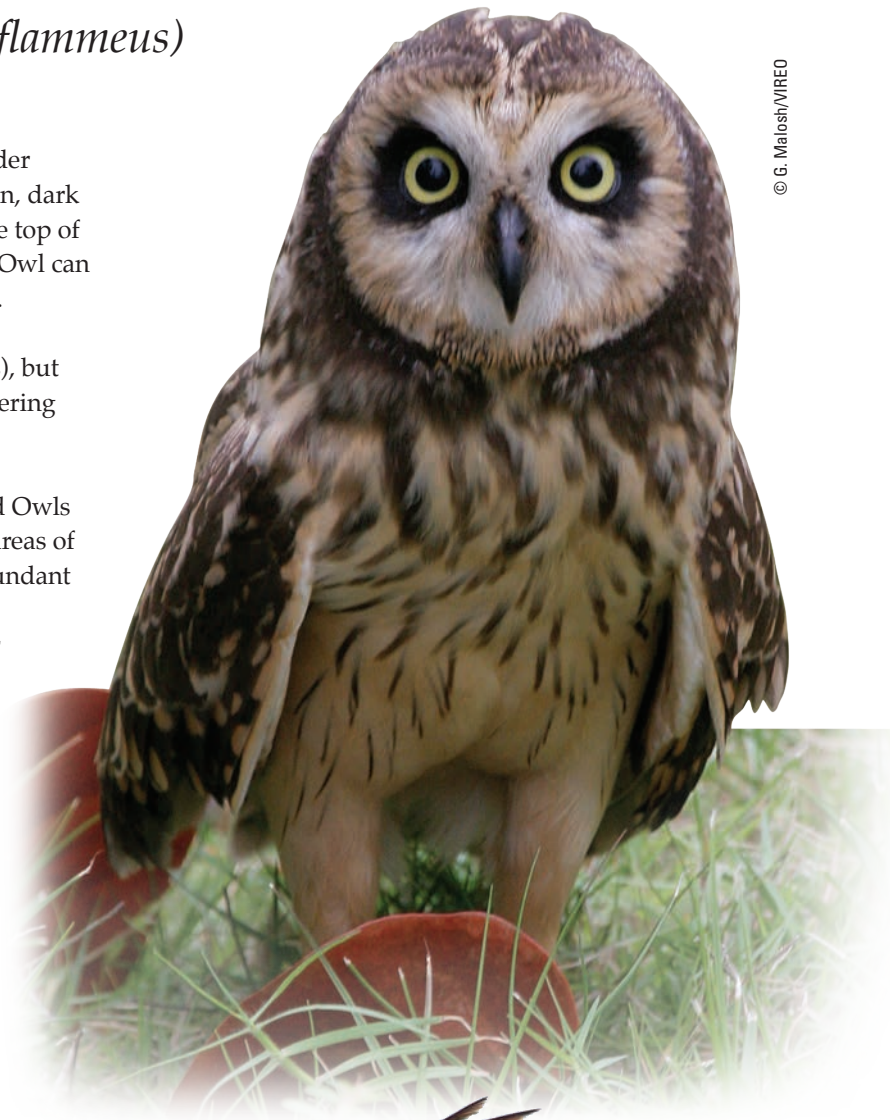
GROUND NESTER

Description: The Short-eared Owl is a medium-sized, slender owl. Its back is mottled brown and the chest is pale with thin, dark streaks. It gets its name from the small, short ear tufts on the top of their head. Less nocturnal than other owls, the Short-eared Owl can sometimes be seen at dawn and dusk flying low over fields.

Diet: Primarily small mammals (voles, shrews and rabbits), but birds and insects are also taken. They can often be seen hovering and hunting low above the ground at dawn and dusk.

Habitat and Nesting: Like the Northern Harrier, Short-eared Owls roost and nest on the ground. They depend on large, open areas of undisturbed grassland or wetland habitat where prey is abundant to nest successfully. Their nest is located on the ground in a shallow scrape surrounded by tall grasses, weeds and other vegetation. Open fields larger than 100 acres are typically considered potential breeding or wintering habitat.

Conservation Status: The Short-eared Owl is listed as endangered in Pennsylvania and uncommon across the United States. Recent Breeding Bird Atlas records found only a few nests in Pennsylvania. Habitat loss due to development, changes in farming practices, reforestation and natural succession and loss of wetland habitat have lead to recent declines. The Short-eared Owl will occasionally use reclaimed strip mines for nesting, which provide additional habitat and may help increase their populations in Pennsylvania.

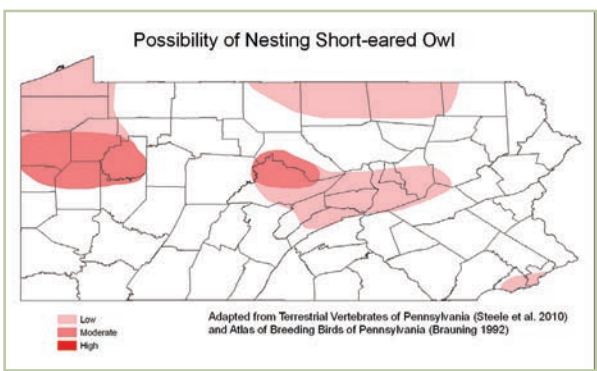


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The Short-eared Owl is endangered in Pennsylvania.



© Laura C. Williams/VIREO

Northern Harrier (*Circus cyaneus*)

GROUND NESTER

Description: Formally known as the Marsh Hawk, the Northern Harrier is a long-winged, long-tailed raptor of open grasslands and marshes. The male has a pale or white belly with a light gray back and head. The female is brown with a lighter, brown-streaked breast. Other distinguishing characteristics include an owl-shaped face and white rump patch at the base of the tail. The rump patch can often be easily seen when the bird is in flight.

Diet: Northern Harriers forage during the day by flying slowly just above the ground looking for small to medium sized mammals, primarily mice. They also feed on small birds, reptiles and frogs.

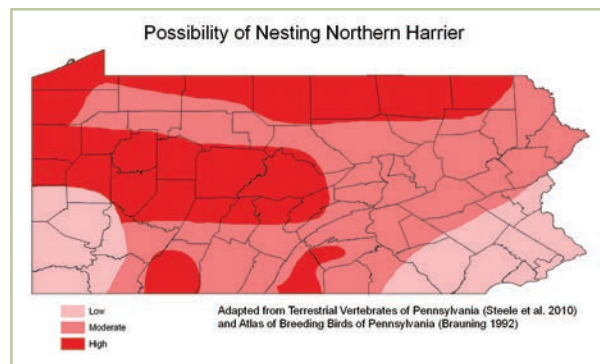
Habitat and Nesting: Harriers prefer extensive open wetlands and upland habitats. Their nest is a platform of grasses on the ground in thick, dense vegetation in an open field or meadow.

Conservation Status: The Northern Harrier is listed as a Special of Special Concern in Pennsylvania. Today, breeding Northern Harriers are most common in extensive grasslands, reclaimed strip mines in the west and open wetlands or pastures in the north and southeastern parts of Pennsylvania. Loss of large wetlands and open fields due to development, reforestation, and changes in farming practices have led to recent declines. Pesticide and herbicide use in wetlands and grasslands could also affect breeding success of the harrier.

Male



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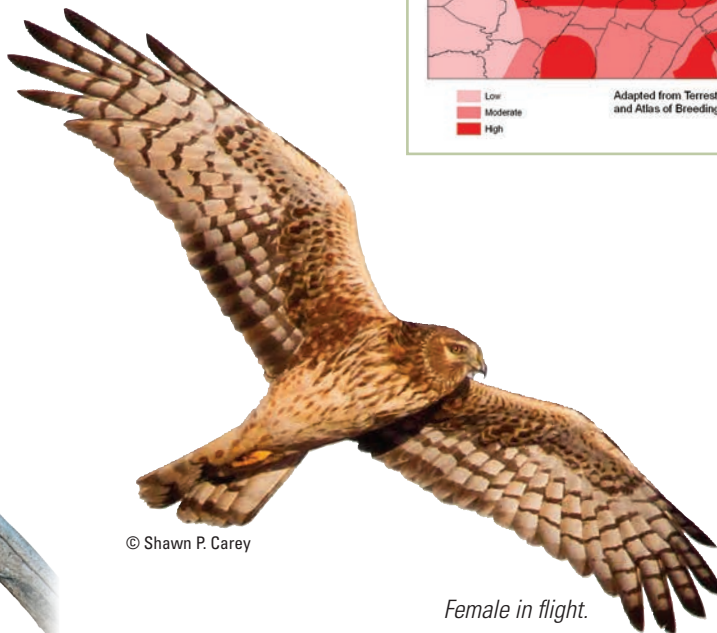


Female

© J. Schumacher/VIREO



© Shawn P. Carey



Female in flight.

© B. Steele/VIREO



Male in flight.

How can you help?

Thank you for your interest in Pennsylvania's wild birds.

One of the most important things you can do is report your sightings of these species.

Reporting your sightings is easy.

You can either enter information online or complete the following form and return to: Hawk Mountain Sanctuary, Attn: Farmland Raptor Project, 1700 Hawk Mountain Road, Kempton, PA 19529. If you would like more information about these raptors, the habitat they need, or providing nest boxes for Barn Owls and American Kestrels you can visit our website to learn more.

To receive additional blank forms, or for questions or comments on the project, please contact Dr. Laurie Goodrich, Senior Monitoring Biologist, at goodrich@hawkmtn.org or 570-943-3411 ext. 106.

Species seen _____

Location/Habitat _____

Bird's behavior _____

Date(s) seen _____ How often _____

GPS Coordinates (Lat./Long.) _____

Road seen _____

Nearest crossroads or additional information to help us locate bird(s) _____

Landowner Information (if known)

Name _____

Address _____

City _____ Zip _____

Township _____ County _____

Observer Information (if different from above)

Name _____

Address _____

City _____ Zip _____

Township _____ County _____

Phone _____ Email _____

Yes, please send me more information on Pennsylvania's Farmland Raptor Project



www.hawkmountain.org/farmlandraptors

info@hawkmountain.org

phone: 610-756-6961 fax: 610-756-4468

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