

Maryland Farmland Raptor Program

A Citizen Science Program for Barn Owls and American Kestrels,
Two of Maryland's *Species of Greatest Conservation Need*



Rob Fowler/The American Kestrel Partnership



Paul Newton/BTO/PA, www.virginmediatelevision.ie

A Conservation Partnership of:



Natural Resources
Division



Maryland Bird
Conservation
Partnership



How do raptors benefits farmlands?

Birds are indicators of environmental health, and raptors are no exception. Raptors found in agricultural areas—**Farmland Raptors**—benefit farmers by eating mice, voles, and grasshoppers. These species require large areas of grassland or agricultural fields to nest successfully. In Maryland, the **Barn Owl** (*Tyto alba*) and **American Kestrel** (*Falco sparverius*) show widespread, long-term declines.

Farmland raptors reduce common pests. The American Kestrel and Barn Owl are a farmer’s friend. 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. Attracting farmland raptors can significantly reduce the need for pesticides, which often kill non-target animals in addition to intended rodents. And the sight of a kestrel or Barn Owl hunting in your field adds an element of the wild back into your fields.



Wikimedia Commons

Population declines have occurred due to many reasons, including habitat loss, changes in farming practices, increased use of pesticides that reduces prey availability, and development.

The Maryland Farmland Raptor Program seeks to engage and educate private landowners to help slow and reverse population declines of farmland raptors. The program also seeks to create and improve suitable habitat and provide additional nesting opportunities

Installing a Barn Owl or American Kestrel nestbox is fun. Nestboxes provide suitable nesting sites when natural cavities or open barns are not readily available. Instructions are available online, via the Farmland Raptor partners, or you can also purchase pre-made boxes from various sources.

For information, visit <https://marylandbirds.org/farmland-raptors> or contact Chris Eberly, director@maylandbirds.org.

Barn Owl

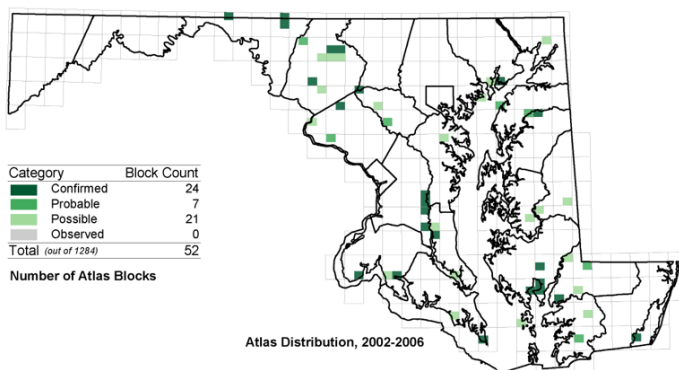
The **Barn Owl** (*Tyto alba*) is a species of open areas, found around farms, marshes, grasslands, and other similar habitats. It has the widest distribution of any owl (and perhaps any bird species), occurring on every continent except Antarctica. At least 28 subspecies have been identified, mostly differing in size and color. Barn Owls are essentially nonmigratory, although young birds may move some distance in search of new breeding grounds. The Barn Owl is also considered the oldest of all owls in the world. In fact, the oldest known species of Barn Owl is 25-20 million years old. They are known for their pale-cream coloring, heart-shaped face, and blood-chilling screams in the dead of night.

Barn Owls are year-round residents that are found throughout Maryland, especially in rural areas in the Piedmont and Coastal Plain where there are grasslands, marshes, hayfields or abandoned fields. They can also be found in brackish and saltwater marshes. Conversely, Barn Owls are rarely found in areas covered with row crops.

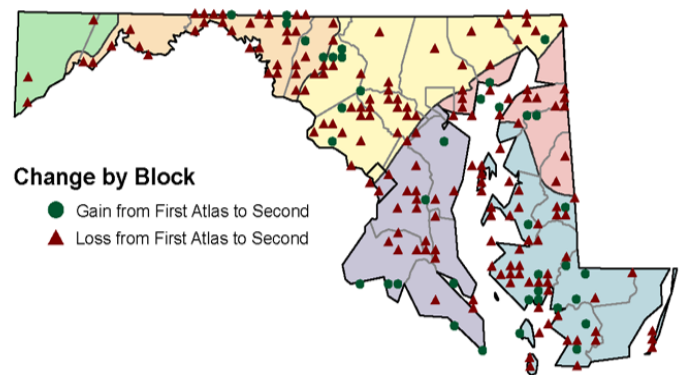
Barn Owls nest within easy reach of the fields where they find their favorite food - meadow voles. Nest sites include abandoned buildings, barns, silos, duck blinds, hollow trees, rock walls, and holes in banks and cliffs. If you have large, open grasslands or marshes on your property, then you may want to put up nest boxes to encourage Barn Owls to visit your property.¹ 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.²

Conservation Status: Although listed on the IUCN Red List as a species of "Least Concern" and believed to have a steady worldwide population, Barn Owls have not fared well everywhere. In the northeastern and north-central United States, 10 states list the species as Endangered and 11 others (including Maryland) as a Species of Greatest Conservation Need. Despite their widespread distribution across Maryland, Barn Owl occurrences have declined dramatically in Maryland.

Its nocturnal habits make estimating Barn Owl populations notoriously difficult. There is insufficient data from Breeding Bird Survey routes to provide trend information, and eBird similarly does not have enough data to provide insights on Barn Owl populations.



Atlas Distribution of Barn Owl, 2002-2006



Change in Atlas Distribution, 1983-1987 to 2002-2006

¹ <https://dnr.maryland.gov/wildlife/Pages/habitat/wabarnowl.aspx>

² Adapted from The Pennsylvania Farmland Raptor Project, Hawk Mountain Sanctuary, www.hawkmountain.org/farmlandraptors

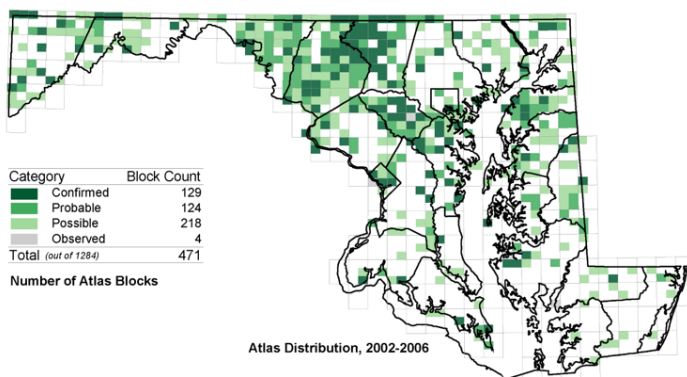
American Kestrel

The **American Kestrel** (*Falco sparverius*) is Maryland's most common falcon. Kestrels are common, year-round residents throughout the state. However, they are seen more often during the winter months. Kestrels are found in a variety of habitats including parks, suburbs, open fields, and forest edges. Kestrels can easily adapt to urban environments, and sometimes, sports fans are treated to shows from these colorful birds attacking moths in the glow of stadium lights. In Maryland, males and females predominantly use open areas and edge habitats.³ Grasshoppers are their preferred prey during the summer. Kestrels will hunt from roadside utility lines or by hovering (“kiting”) over a field.

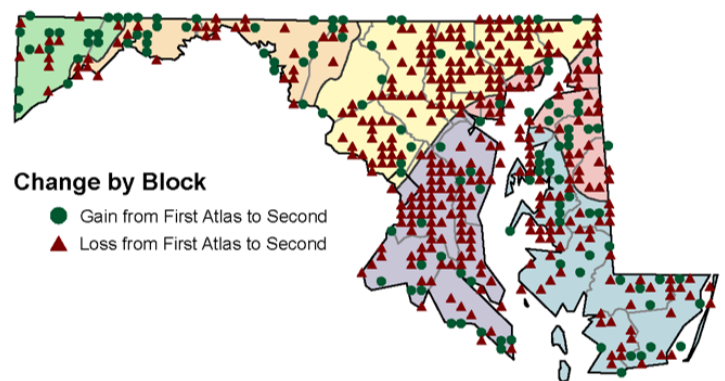
Unlike other raptors, male and female American Kestrels differ in appearance as well as size. The smaller males are more colorful, with blue-gray wings, orange tail with one black bar, and crisp black spotting on a white belly. Females are rufous and cream with brown barring overall.

Nesting begins in late March and extends through late August. Kestrels nest in cavities selected by both the male and female. Since they are unable to construct their own cavities, kestrels rely on those excavated by woodpeckers, or they find nooks in buildings. Kestrels will also use artificial nest boxes.

Conservation Status: American Kestrels experienced a 48% population decline between 1970-2014. The overall distribution of kestrels in Maryland declined drastically between the first and second Breeding Bird Atlas projects (right map, below). The greatest losses occurred in counties experiencing rapid growth in the bedroom communities of Baltimore and Washington, DC. Farmland and other suitable habitat have been lost over the last few decades to this development and urbanization.



Atlas Distribution of American Kestrel, 2002-2006



Change in Atlas Distribution, 1983-1987 to 2002-2006

³ <https://dnr.maryland.gov/wildlife/Pages/habitat/wakestrel.aspx>