

# Counting Birds

BY ANTHONY GONZON *Photos by Dennis Murphy*



Pine warbler in Prime Hook  
National Wildlife Refuge

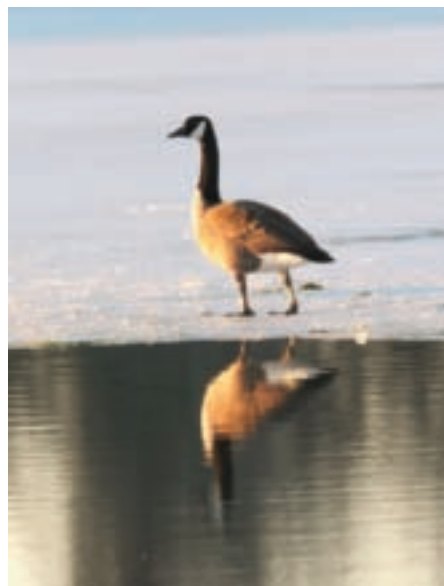
## A little more than halfway through Delaware's second Breeding Bird Atlas, some trends are beginning to emerge.



**Double crested cormorants, Fowler Beach**

**D**ELAWARE IS HOME to nearly 160 different bird species that nest in the First State every year. Between the Piedmont region in the north and the Coastal Plain that covers most of the state, there are many diverse habitats for nesting. Each year new habitats are created while others are lost. The future for the birds that use these habitats is uncertain. With any habitat gain or loss, some birds will do very well while others decline, possibly to the point where they will be lost from Delaware forever.

So how do we find out how birds are doing in Delaware's ever-changing landscape? How do we track all of this? How do we know where birds are nesting in Delaware? One ambitious project, organized and coordinated through DNREC's Division of Fish and Wildlife, is charged with finding out. The Division's Natural Heritage and Endangered Species Program is in the process of mapping all of Delaware's nesting bird species over a five-year period that began in January 2008.



**Canada goose, Cedar Creek Pond**

This second Delaware Breeding Bird Atlas (BBA) will be finished next year. It repeats an effort that covered 1983 to 1987. Comparing data from both atlases, biologists, researchers, educators, government agencies, conservation

organizations, bird enthusiasts, and many others can learn how Delaware's nesting bird populations have changed over the past 25 years.

Changes in bird distributions can then be further investigated to determine the cause for increases or declines. Many bird species act as indicators for other conditions including water and habitat quality, ecological services and resiliency, contaminant loads and disease – all of which can affect Delaware's human population.

### **Who's counting**

Collecting all of the data is a daunting task – one that would take an army to accomplish. As a matter of fact, an army is what we have – an army of volunteers. Every year since 2008, droves of volunteers have scoured the state looking for evidence that birds might be nesting. Without these knowledgeable and dedicated folks, the Breeding Bird Atlas would never be a reality.

Travelling to all corners of the state, birders are searching everywhere – not

just in “natural” habitats, but also in suburban and urban areas, gas stations, warehouses, old buildings and many other places you might think would be unsuitable for birds. Most of the volunteers search in one or more of the 265 “blocks” that we use to divide the state. These blocks – each of which is 9.6 square miles – help to focus efforts and obtain better and more uniform coverage.

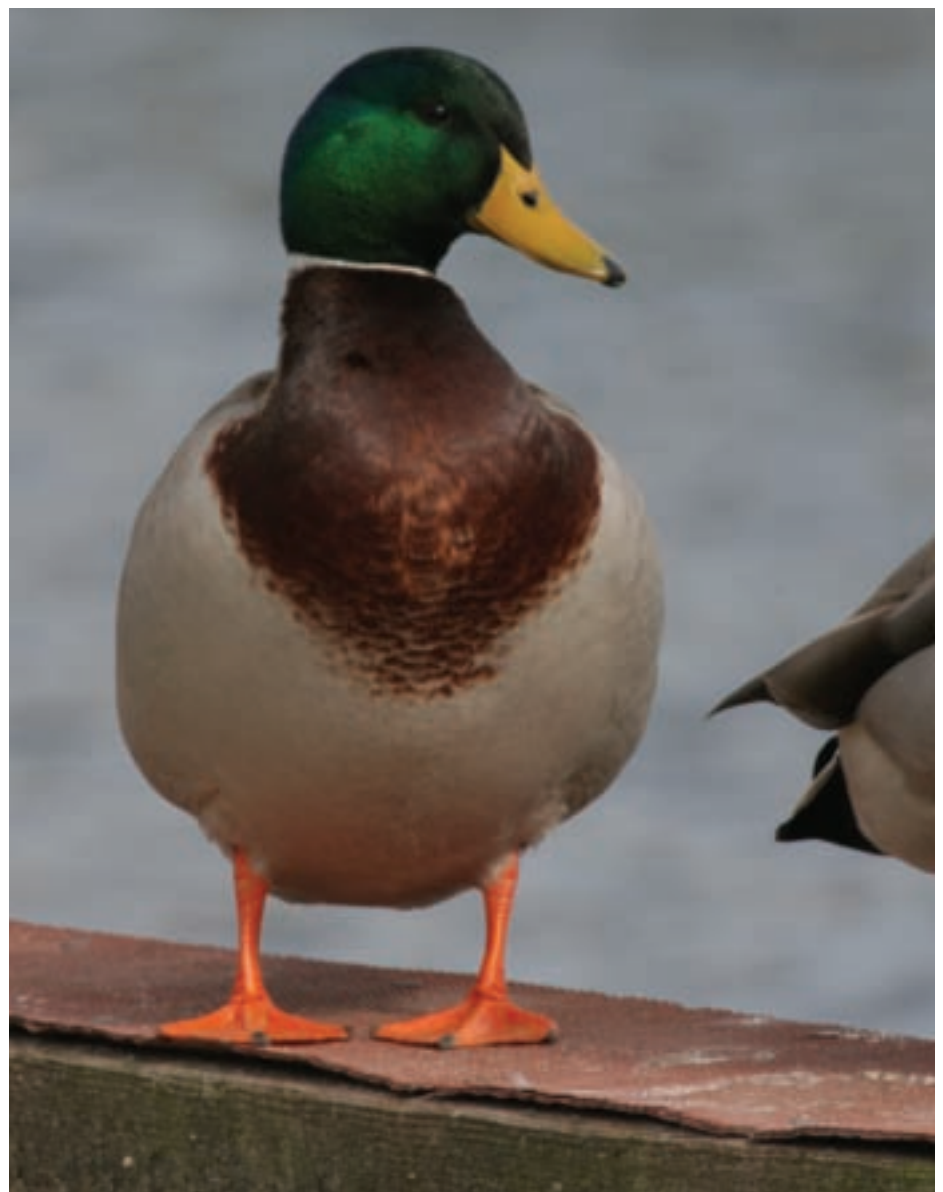
Once some nesting evidence is seen, a volunteer records it using a coding system on a field checklist. That observation is then entered into an online database. The codes used by volunteers place each observation in one of four categories that describe the confidence level that the bird is breeding.

The database, The North American Breeding Bird Atlas Explorer, is managed by the U.S. Geological Survey and provides even non-participants a chance to see what we have learned so far.

Four years into the atlas, we are already seeing some major changes in bird populations across Delaware. Some are very promising while others warn that something is not right across our landscape. Some once-common species no longer nest in Delaware, or nest very



**Osprey, Cape May-Lewes Ferry**



**Mallard, Millsboro Town Park**

rarely. Atlas volunteers are also reporting new state records, observing species never known or confirmed to nest in Delaware.

Here is a brief summary of what we have learned so far:

### **Waterfowl**

The most successful waterfowl species in Delaware is undoubtedly the Canada goose. During the first Breeding Bird Atlas (1983-1987), Canada geese were reported nesting in 69 atlas blocks. Today, four years into the second atlas, we have nesting evidence for the geese in at least 141 blocks – more than double the area in 25 years. Using nesting sites ranging from

streams and marshes, to golf courses and water retention ponds, the population has grown along with the rest of Delaware.

Non-migratory geese differ from those that arrive in fall. Our “residents” are often larger and only move around in search of food and roost sites. A result of the release of geese from the Midwest, resident Canada geese have even become a nuisance for some Delawareans by fouling ponds and greenways, becoming aggressive toward people, and even excluding other species from nesting near them.

In comparison, other waterfowl have much smaller breeding populations. Ducks such as hooded mergansers,



blue and green-winged teal and gadwall all have small breeding populations in Delaware – in some cases, they may not even be annual nesters. Other species like American black duck and mallard are a bit more common. Once the Breeding Bird Atlas is complete, we will see how their distribution has changed across our landscape.

### **Quail**

Many readers have probably heard the emphatic call of Delaware's only native quail, the northern bobwhite. In recent years, however, finding this summertime songster has become more difficult. The BBA is supporting recent findings that bobwhites are experiencing steep population declines; probably the most striking

decline of any species in the past 20 years. The original Breeding Bird Atlas recorded breeding evidence in 220 blocks – nearly the entire state. Now we can see that this is no longer the case, with only 76 blocks reporting evidence of nesting. Because northern bobwhites are so easy to hear and identify, it is unlikely they are going undetected by volunteers.

### **Raptors**

If you haven't yet seen a bald eagle in Delaware, just look up! During the first BBA, Delaware had only four confirmed nest sites in four blocks. Today we have more than 60 active nest sites covering 45 blocks. A true conservation success, the population continues to grow with new nests discovered each year. Red-shouldered hawks, once considered relatively uncommon, appear to be increasing as well. Osprey, an indicator species of water quality and habitat, continue to expand across Delaware's waters. Compared to the first atlas, the distribution of Cooper's hawks has also broadened, appearing in more than three times the number of blocks with breed-



**Carolina chickadee, Ted Harvey Conservation Area**



**Piping plover, Fowler Beach**



**Black necked stilt, Bombay Hook**

ing evidence. Almost all raptors are likely responding to how we protect them – limiting or banning certain pesticides, preventing indiscriminate killing and maintaining suitable nesting habitat.

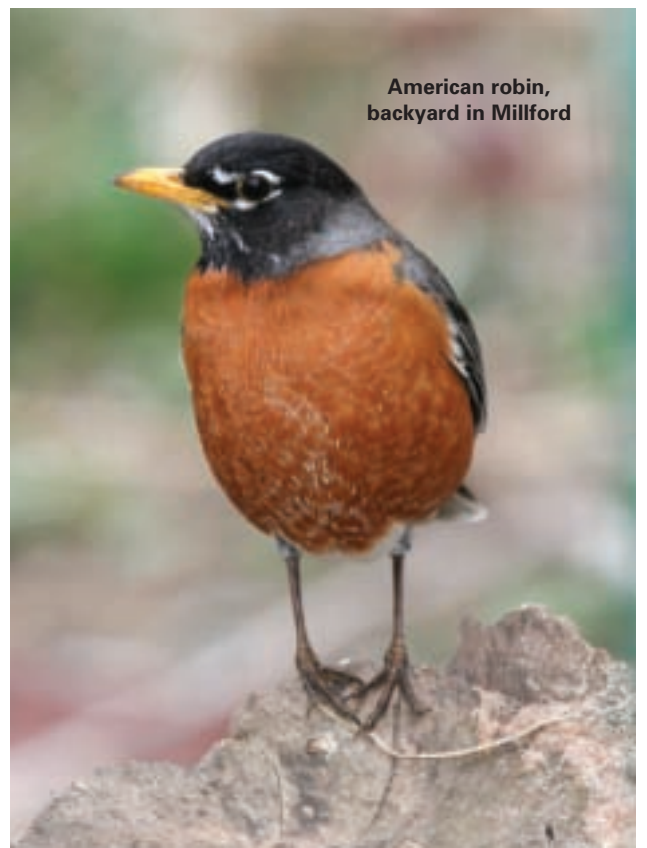
At the same time, the BBA is telling us that not all raptor species are faring so well. The American kestrel (also known as the sparrowhawk), is suffering from declines in its nesting population in Delaware. Kestrels are important, consuming small rodents and large insects across the countryside. Once very abundant in rural areas, breeding evidence was noted in 156 blocks during the first BBA. However, in the third year of the current BBA, only 26 blocks have any evidence of nesting and only five nests have been found.

Why has the American kestrel population declined so quickly? Habitat? Food? Predation? The BBA will show us where

they are and provide us with direction on where to direct our efforts to keep this species from disappearing completely from Delaware.

#### **Shorebirds**

Delaware has a very small number of nesting shorebird species. Some are very common in the right habitat, such as willet in salt marshes and killdeer in gravel driveways. Others are relatively rare. The federally-threatened piping plover once had a much larger distribution among our oceanfront



**American robin,  
backyard in Millford**



*“With any habitat gain or loss,  
some birds will do very well  
while others decline.”*



**Carolina wren, Fowler Beach**



**Blue grey gnat catcher, Redden State Forest**

beaches. Today, it's confined to only two nesting locations in the state.

Spotted sandpipers – birds of marsh edges, ponds, and streams – are common during migration but rare breeders in Delaware. Since the start of the second BBA, we have confirmed at least three nest records with more likely to be found.

Lastly, upland sandpipers have only been recorded a couple of times as a state nesting bird, limited to large expanses of open grassland. However, none has been reported as breeding since 2003. Has this species gone locally extinct from Delaware? If it is still present, it would turn up during the five-year atlas period. Perhaps it will before 2012.

### **Songbirds**

Nesting songbirds occupy a wide range of habitats. Habitats expand and contract – both naturally and as a result of things we do. As these habitats get larger or smaller, we might expect that the species using them for nesting would also expand or contract. In fact, we are seeing some early evidence of this during our atlas.

Some species, like the ubiquitous common grackle or the recognizable American robin can use a variety of habitats and their distribution does not appear to have changed much in the past 25 years. Other songbirds that were once much more common are obviously contracting their range in Delaware. For example, the vesper sparrow once occupied a broad range along Delaware's

western border in southern Kent and Sussex Counties. A field bird, it currently appears to be confined now to western Sussex. The question to ask is why did its range change?

In contrast, the dickcissel – another grassland bird – has only recently been confirmed to nest in Delaware. Since 2008, we have found evidence this species is nesting in all three counties.

Songbirds are our “canaries in the coal mine.” Many use very specific habitats, while others can be found almost anywhere. They can react positively or negatively to any change in our environment. They serve Delawareans by acting as indicators for the condition of many parts of our ecosystem. For example, some species, such as the ovenbird, nest

on or close to the ground in forested habitats. Declines in these species may be caused by changes in the microhabitat where they live as a result of invasive plant species, higher rates of predation or over-browsing by deer.

In addition, changes in land use can often result in a net loss of mature forest. This makes forest patches more susceptible to invasions by non-native species and increases the risk of predation on forest songbirds. Reductions in the ranges of forest songbirds, like the ovenbird, would indicate that the biological integrity of our forests may be in trouble.

### The work ahead

In 2012, the field work for the BBA will be complete and we will begin to examine changes that have occurred over the last 25 years. We still have two full field seasons to go and we want to get as much data as possible to make our results even stronger. Readers of *Outdoor Delaware* can help.

We are always in need of more



**American goldfinch, Bombay Hook**

volunteers. If you know of any nesting birds like owls, turkey, swifts, or robins, or if you would like to contribute some much-appreciated time to search for nesting, please contact us. We still have much to do, especially in lower Kent and Sussex counties, and we can use what-

ever you might be willing to provide. Exciting discoveries, like the first black skimmer nest in over 20 years found this year, wait only for someone to find them. The future of Delaware's bird populations rests in our hands and you can contribute to their future success. **OD**

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To find out more and/or volunteer to help with the Breeding Bird Atlas, please contact Anthony Gonzon at

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**Brown headed nuthatch, Cape Henlopen State Park**