

BLACKBIRDS SINGING

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Ever wondered how many birds you saw in that seemingly endless flock of blackbirds? Well "millions" wouldn't have been an exaggeration. A single winter roost can hold up to 10 million birds.

"Where did they all come from?" "Will they stay all year?" "Can we get diseases from them?" "Gee, they make such a racket, do they ever shut up?" Businesses complain because they leave droppings on buildings, cars, anything in their path. Feedlots complain because they eat cattle feed and can spread disease. Farmers complain because they can ravish standing sorghum fields in a matter of days. And birders often say, "I have never seen so many birds in one spot!" My kids look with bewilderment and say, "Look at all those birds! They make the sky turn black. That is

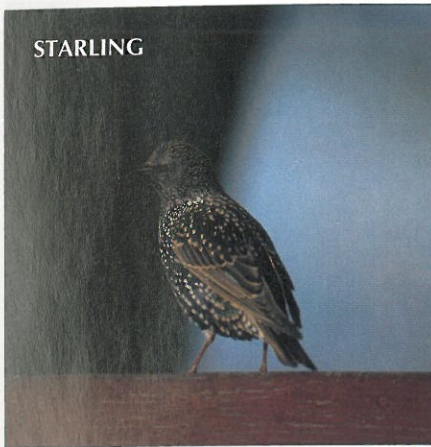
cool."

These are just a few questions, concerns, complaints, and comments I hear every year concerning the large blackbird roosts in Kansas. The interest usually starts in September and runs through March. Perhaps the best way to understand a seemingly endless accrual of blackbirds is to identify and recognize those species involved. While doing so, we can learn about their interesting life histories.

The old saying that "birds of a feather flock together" is certainly true for blackbirds. Many species join together in spectacular winter roosts that occur each year in Kansas. In flight, these flocks

appear as endless waves of smoke that rise and fall on tossed blankets of air as they approach the roost. At first they number in the hundreds, then thousands, then hundreds of thousands. Ultimately, they end up in the millions — as high as 10 million birds in a single roost.

People are intrigued with the flocks, and they ask interesting questions. The first is the inevitable, "What type of birds are they, blackbirds?" I reply they are not all blackbirds, and the head scratching begins. Many of these roosts, especially in urban settings, contain black-colored birds that are not true blackbirds. But each contributes to these flocks.



STARLING

THE STARLING

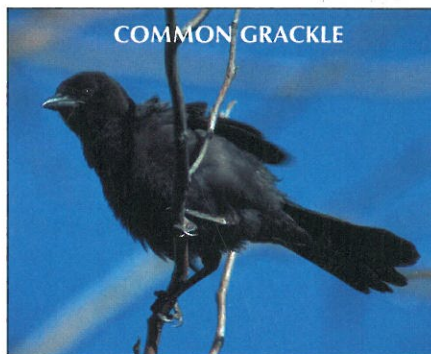
In urban settings, the European starling can be the most abundant species at a blackbird roost. Although starlings are generally black or dark in color, they are not related to blackbirds at all. Starlings are an introduced species from Europe. They were introduced into North America in 1890, in New York, and have since spread across the continent. They are gregarious by nature and commonly roost in cedar trees. Cedar berries have recently become one of their favorite food items. Unfortunately, these same roosts often attract the American robin. Large, dense cedar stands provide cover, warmth, many limbs for roosting, and they can also provide an enormous amount of food. In early fall, starlings frequently beat the robins to cedar berries, causing robins to move farther south and to seek another food source. Besides their presence in cities, starlings also occasionally roost with blackbirds in rural areas, usually in cattails and deciduous woodlands.

Like blackbirds, starlings leave their roost en masse in early morning, traveling up to 30 miles in search of food. This is where they become pests to the agriculture industry. Like blackbirds, they like to feed on grain. Ironically, starlings apparently first began feeding on sorghum in Kansas during the 1970s, when W. C. Royall, Jr. reported them feeding on a stand near Cheyenne Bottoms. Royall determined that the variety of

sorghum (DeKalb C42Y) being eaten was highly nutritional and palatable to both livestock and granivorous birds. Royall further predicted that sorghum would become a staple of the starling's fall diet. Indeed, his words proved true.

THE BLACKBIRDS

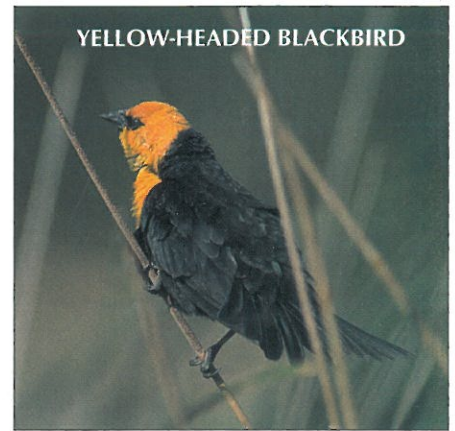
What are true blackbirds? Technically, blackbirds form a large family known as the *Icteridae*, which also includes meadowlarks and orioles. In North America, there are 23 species of blackbirds, 13 of which regularly occur in Kansas during some part of the year. The most common species observed at a roost are the red-winged blackbird, brown-headed cowbird, common grackle, brewer's blackbird, Rusty's blackbird, great-tailed grackle, and sometimes the yellow-headed



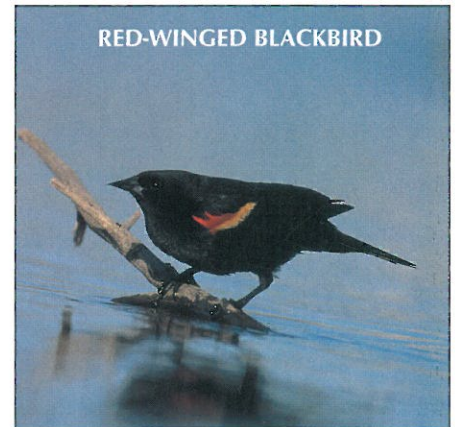
COMMON GRACKLE

blackbird. These species commonly roost together in urban and rural settings. Sometimes in urban environments, starlings and robins join the blackbirds. Red-winged blackbirds, cowbirds, and grackles can be considered year-round residents. However, winter populations likely consist mostly of breeding birds from more northerly latitudes. Studies of banded redwings at Cheyenne Bottoms show they breed as far away as Saskatchewan and Alberta. Others winter in central Oklahoma and northern Texas.

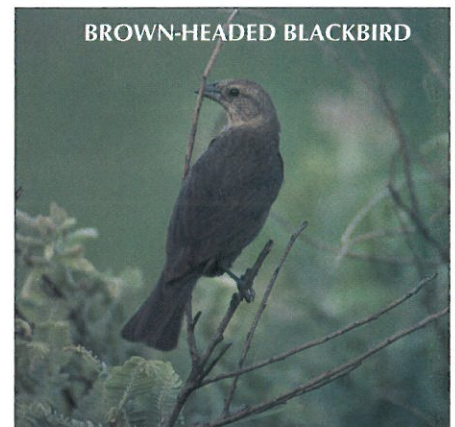
Brewer's and Rusty's blackbirds are unique in that their breeding ranges are north and west of Kansas, but they commonly migrate through the state with some individuals remaining throughout the winter. The yellow-headed blackbird is a rare winter resident, but a



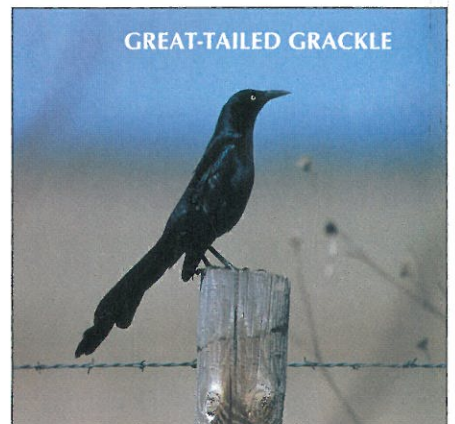
YELLOW-HEADED BLACKBIRD



RED-WINGED BLACKBIRD



BROWN-HEADED BLACKBIRD



GREAT-TAILED GRACKLE

common breeding resident in central and western Kansas, where it is perhaps most abundant at Cheyenne Bottoms.

WHERE DO THEY ROOST?

Throughout the state, blackbirds can be found roosting in cattail marshes and cedar groves, occasionally within deciduous woodlands and even in plum thickets. In cattails, the most common species is the red-winged blackbird, whose numbers alone can reach millions. In the 1970s, an estimated 2 to 12.5 million blackbirds roosted in cattails at Cheyenne Bottoms. From 1974 through 1977, they averaged a staggering 10 million per year. At Slate Creek Wetlands in Sumner County, we have estimated over 1 million birds annually since 1987.

The droppings of blackbirds release huge amounts of energy into the wetlands in the form of nitrogen or uric acid. Wayne Hoffman estimated that up to 108 tons of fecal matter was released at Cheyenne Bottoms in one winter. This fecal matter is eventually converted into a variety of plant and animal tissues as essential nutrients. Simply, the nitrogen is used for growth and development to build amino acids and proteins, essential molecules

that are the building blocks for life. This is part of what we describe in ecology as "nutrient cycling." The end result is an abundant invertebrate population the following spring. Perhaps the most important invertebrate depending on this cycle is the chironomid (midge) larva, which provides the essential food supply for the thousands of shorebirds that migrate through Cheyenne Bottoms each year.

In urban environments, where cedar groves and tall stands of deciduous trees are a favorite haunt, blackbirds, robins, and starlings can number in the millions also. At Arkansas City, the number of roosting birds has increased from hundreds of thousands in the mid-1980s to an estimated 4-6 million in the past few years. American robins used the same roost and numbered in the thousands, eventually peaking from one-quarter to 1 million during the same period. On Arkansas City's annual Christmas Bird Count, starlings averaged slightly over 2,000 from 1980-1998, increasing to a peak of over 1 million in 2000.

These birds have used two primary roosting sites that consist primarily of eastern redcedar, one in the southwestern part of town and

the other in the northern part. The southwestern roost was located in a small residential community, just west across the Arkansas River. The north roost, locally known as the Wal-Mart roost, was located near Wal-Mart, one of the City's water towers, an industrial building, and a couple of residential houses on a small ridge-top. In 1999, the blackbirds roosted at the south site and robins at the northern site. Most years though, species intermingle with the northern site being used more frequently. Recent development at the northern site has destroyed most of the roost. This will likely force the birds to the southwestern roost, or to seek suitable habitat elsewhere.

The northern roost was one of my family's favorite locations to watch sunsets. An hour or two before sundown, the birds would fly into the Wal-Mart roost from miles away. Most birds would come from the west, others from the northeast. They would fly in looking for "staging areas," usually deciduous trees around creeks, homes, and hedgerows. Here, small flocks would come in and sit, chattering away vociferously. As more small flocks assembled, the concentration grew ever larger. Eventually, thousands of birds would take flight with a thunderous roar and head toward the roost. Some of these birds would fly directly to the cedar trees in search of a prime roosting location — usually near the middle of the tree on a branch high enough to protect themselves from ground predators, and low enough to protect from aerial predators. Others would land in tall cottonwoods or hedgerows surrounding the roost before alighting in the cedars. Starlings usually congregated along nearby gravel piles where they gathered grit to help grind seeds consumed throughout the day. Wave after wave, after wave, the birds continued to gather and increase in numbers, further enhancing a blackening sky as the sun set in the west. As twilight fell, the birds shifted positions, jockeying for prime real estate. Then,



Huge wintering blackbird flocks cause problems when they roost near human habitation. Droppings soil buildings and cars, and noise and odor are troublesome.



Blackbirds travel many miles in search of food, returning to the same roost each night. Large flocks can mesmerize the observer, pulsating and shifting like clouds of smoke in the wind. Some flocks number in the millions, covering tree limbs like leaves.

shortly after dark, an eerie calm settled as the birds became subdued.

My kids, Brandon and Bailey, would frequently join me to watch this spectacle and would always laugh as I tried to dodge droppings while observing and counting. Many shirts and coats had to be washed after an evening of observation, not to mention frequent trips to the car wash. However, the impressions I remember most were their smiles as the birds blackened the sky. Often, bewilderment turned to curiosity as they developed questions concerning the birds. "Are the birds related?" "How do they know where to roost?" "Do they roost in the same tree every night?" "Why do the starlings roost on the outside of the trees?" "Where did the robins and blackbirds go?"

Potential Disease

Given their numbers and proximity to man, it is reasonable to wonder if blackbirds are a health threat. Much of the current concern

about bird-borne illness is related more to birds raised for food, agriculture, or as pets, where humans can get Histoplasmosis, Clamydiosis, Salmonellosis, Campylobacteriosis, or Cryptococcosis. In other illnesses, such as the West Nile Virus (which causes encephalitis, an inflammation of the brain) and St. Louis Encephalitis Virus, the birds are actually a secondary host for the virus (after being infected by mosquitoes). The virus spreads as birds migrate. Once a mosquito feeds on an infected host, the next host fed upon is inoculated with the virus. This is what we've been witnessing along the east coast the past couple of years with the spread of the West Nile Virus from New York.

Locally, I've asked a couple of doctors whether any increases in disease and infection could be attributed to the large communal blackbird roosts in Arkansas City. None have been noticed. A check of Kansas Department of Health and

Environment (KDHE) reports indicates few reportable bird-borne diseases in the state. No Kansas blackbird roost is implicated in any disease outbreaks. When I checked with Gail Hansen, Deputy State Epidemiologist with KDHE, she stated she "was unaware of any diseases associated with blackbirds in Barton, Sumner, or Cowley Counties" where large blackbird roosts have been documented the last five years.

It is possible for bird-borne illnesses to infect cattle in confined environments. An example is Coccidiosis. Often, these illnesses cause a reduction in livestock weight gain and could potentially increase mortality rates. There is also concern that human-animal interactions could allow for spread of some of these diseases to humans.

Blackbird Control: Why?

Occasionally, blackbird or other avian roosts (egrets, herons and

crows) are destroyed to "protect" humans from disease. However, it is more common to control blackbird numbers because of their impacts on agriculture. Ironically, in a weird twist of fate, blackbirds are persecuted for their unique ability to adapt to human activity at a time when many populations are being decimated by the same activities. Since blackbirds and starlings may travel 30 miles or more to obtain food, it implies that any ripening sorghum field or feeding operation within 2,827 square miles of a roost has the potential to be visited by a large number of birds. Obviously, farmers and feeding operators are concerned about potential losses.

To illustrate the possible severity of the problem to livestock feeders, Charles Lee, Wildlife Extension Specialist at Kansas State University, notes "a starling will consume about one pound per month of the higher-priced portions of a cattle ration directly from a bunk." Multiplied by thousands of birds, it is possible that some feedlot operations can lose as much as "\$75,000 . . . for the year." Additional costs can be incurred from hiring employees to clean livestock water systems that get covered with bird feces.

Certain operations around the Cheyenne Bottoms area have been able to poison blackbirds to help reduce the amount of money lost in feed and to control the potential spreading of diseases among cattle. The environmental problem may be two-fold since 1) the blackbirds eliminated from Cheyenne Bottoms can reduce the amount of beneficial nutrients made available to the wetland system, and 2) sick birds can make it back to the Bottoms only to die there.


A commonly used avicide, approved for use on starlings and blackbirds, is

DRC-1339. It is used because it breaks down fairly quickly into non-toxic compounds when exposed to air and water, reducing the likely impact on non-target species. This chemical also causes little secondary poisoning to predators and scavengers that might feed on sick or dead blackbirds. However, some argue that there isn't enough data to support either of these claims, especially when dealing with secondary poisoning among predatory species like owls and hawks.

There is a research need to examine the impact that dead and dying blackbirds have at their wetland roost (or any roost). It's commonly known that waterbird carcasses can contribute to major outbreaks of botulism under certain environmental conditions. These conditions have occurred at Cheyenne Bottoms in the past. However, little data is available on blackbird interactions or mortality associated with botulism. Current studies in North Dakota are addressing those issues. So far, impacts that these practices have on

wetlands like Cheyenne Bottoms have not been fully ascertained.

Aesthetics

While there is no dispute that huge concentrations of wintering blackbirds can cause problems, there is another side of the issue. To appreciate the beauty of large blackbird roosts in Kansas is to recognize that large spectacles of animal life are becoming rare. Rather than to be deplored for their droppings and contentious odor, they should be applauded for their mere presence. Imagine what it would have been like to cross the plains with the large bison herds, or never being out of sight of prairie dogs. What about the huge flocks of Passenger Pigeons that once flew across the Midwestern sky, with millions of pigeons from horizon to horizon? These moments are gone, lost forever, except for the thoughts and accounts left behind by those fortunate enough to bear them witness. Where can you see such phenomena today? Here in the plains, but a few short months of the year! 



Wintering blackbirds may be fascinating to watch, but they can be costly to cattle feeding operations and damaging to standing crops. Control measures may be needed.