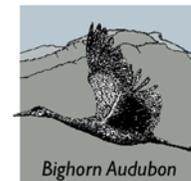




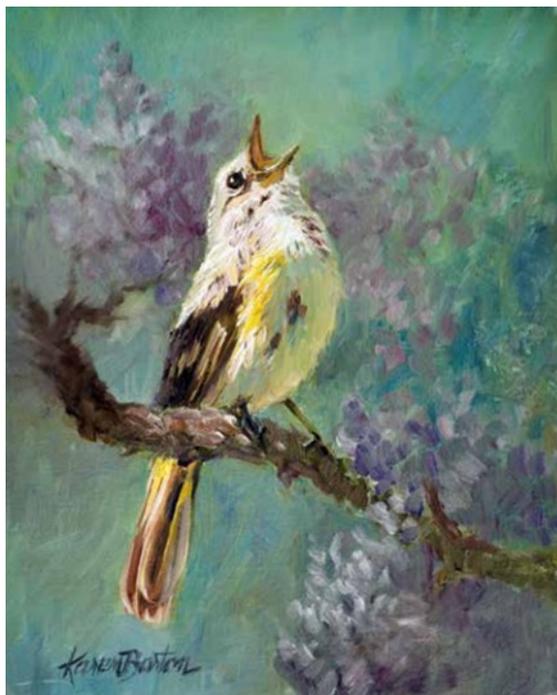
SPRING MIGRATION at THE BRINTON MUSEUM



Prepared by Bighorn Audubon in cooperation with The Brinton Museum

Since 1970, Bighorn Audubon has worked for the protection of birds and their habitats in our region.

Our members are united by a passion for wildlife and the outdoors. We recognize the unparalleled outdoor heritage that runs deep throughout Wyoming and are proud to work together to ensure a healthy natural world for future generations.



American Redstart
Hallelujah, oil, 10" x 8", 2022 Karen Barton
(Buffalo, WY)

Contents:

The Brinton, Birds & Bighorn Audubon

Bird Basics

Migration Overview

Birds at The Brinton

Bird ID

Why Care?

Native Plants

Resources

The Brinton Museum, Birds, and the Bighorn Audubon Society have been connected for over 55 years. Founding Bighorn Audubon Society board members have been longtime supporters of The Brinton Museum. This tradition proudly carries to this day.

Advisory board member Dr. Scott Johnson studied House Wrens and Mountain Bluebirds on and around The Brinton Museum grounds for about 30 years. He authored the chapters for Cornell University's Birds of the World series on the two species. Science Kids and Bighorn Audubon members began leading bird walks over 14 years ago. Birding at The Brinton continues every 3rd Saturday all year and is open to all who enjoy nature and an interest in birds. A full list of species observed can be viewed on eBird and on our website www.bighornaudubon.org

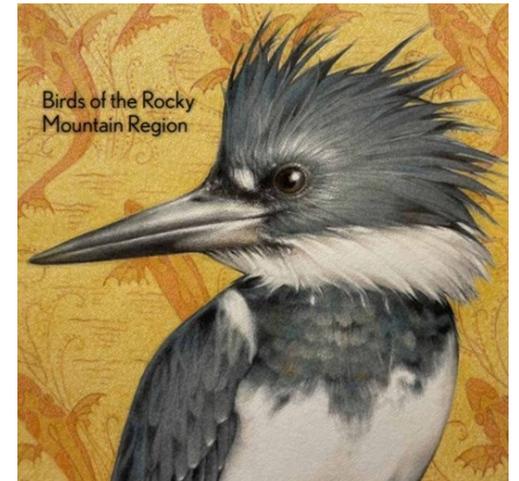
In 2016, former Bighorn Audubon president and current advisory board member Dr. Jackie Canterbury and the board of directors, in cooperation with Audubon Rockies and The Brinton Museum, formed a partnership to designate The Brinton's 620 acres as an Important Bird Area. This designation recognizes The Brinton Museum's biologically rich bird habitat.

These well-researched books are great resources and are available in The Brinton Museum Store: *Birds and Birding in Wyoming's Bighorn Mountains Region* and *Common Birds of The Brinton Museum and Bighorn Mountains Foothills* authored by Canterbury, Dr. Paul Johnsgard and Helen Downing. *Birds of North-Central Wyoming and The Bighorn National Forest* by Helen Downing, a historic study of birds in our region, was edited by Dr. Ariel Downing, (Helen's daughter and fellow board member) and republished by the Bighorn Audubon Society. Fellow board member Pamela Moore's *Wyoming Birds for Kids* was launched at The Brinton in 2023, and is also available in The Brinton Museum Store.



The Brinton Museum, in partnership with Bighorn Audubon, opened the second exhibition *Birds of the Rocky Mountain Region II*, a juried art competition in the S.K. Johnston, Jr. Family Gallery on April 19, 2025. This showed through June 29, 2025, with 52 remarkable art pieces. The first exhibition in 2023 featured 40 stunning pieces, some of which are included throughout this booklet along with pieces from the 2025 exhibition. We are grateful for the support of Carol and Sam Mavrakis of the Seidler Foundation, and Kay Wallick and D.J. Purcell on the 2023 and 2025 exhibitions, Jill Morrison in 2025 and the Fort Phil Kearny/Bozeman Trail Association in 2023.

As part of *Birds of the Rocky Mountain Region II* programming, conservation photographer Michael Forsberg presented *Into Whooperland, A Photographer's Journey with Whooping Cranes* to a large crowd at the WYO Theater in June of 2025.



Board members appreciate and thoroughly enjoy participating in The Brinton *Member Meet-ups* in and the *Welcome Spring* program held in March of 2026, and look forward to our second year presenting to children at The Brinton's *Nature Camp* in July 2026.

Plans are under way for the *Birds of the Rocky Mountain Region III*, scheduled for spring of 2028. We are confident this will be another outstanding exhibition!

Bighorn Audubon values partnerships especially with The Brinton Museum, deeply believing that birds and our communities benefit from working together.

What Makes a Bird a Bird

Origin

Birds are the only known living dinosaurs.

All birds descended from dinosaurs, but not all dinosaurs became birds.

“Birds are dinosaurs, the only lineage to survive to the present day. They arose in the Jurassic period, between 200 million and 150 million years ago.” *Scientific American*



Gone Fishin, scratchboard,
8" x 10", 2024 Deb Jenkins
(Thornton, CO)

Uniqueness

Birds, fish, reptiles, and all mammals are vertebrates.

Birds are the only vertebrate with feathers.

Other notable attributes: lightweight hollow bones (easier to fly with), complex respiratory systems, all lay hard-shelled eggs, and have high metabolisms, especially hummingbirds (smaller birds use more energy).

Diverse in size.

Smallest bird: Bee Hummingbird (only found in Cuba) weighs less than a dime, and about 2" long.

Largest flying bird: Albatross (12' wingspan)

Largest bird non- flying: Ostrich (as tall as 9')

Ancient Ostrich relatives found in Wyoming are believed to have roamed the American West ~50 million years ago.



Red-winged Blackbird
Wetland, linocut relief print, 7" x 13", 2015 Ginnie Madsen
(Laramie, WY)



Yellow Headed Blackbird
Watercolor, 14" x 12", 2022 Wesley Merritt
(Greentown, IN)



Raven head study, charcoal, 39" x 38", 2022 Doug Monson (Afton, WY)

Intelligence

Birds are highly intelligent with a wide range of abilities - crafting and use of tools, deception, play, parenting, communication, courtship, music, navigation, artistic, problem solving, reasoning, and survival. Use of probability, consequences and planning with complex cognitive powers and their spatial memories are also astounding.

They have super charged efficient brains, packed with neurons, many with large brains relative to their size.

The family Corvids which includes jays, crows, ravens, magpies, and nutcrackers, are considered the most intelligent birds studied. They also live longer with more socialization, passing on learned survival techniques.

Social

Birds have very complex social behaviors and hierarchies. And, yes, birds do play!



Caching Food – examples of amazing spatial memory

Birds like Black-Capped and Mountain Chickadees, Pinyon Jays, and Clark's Nutcrackers are among bird species who place thousands of hidden food stores and can recover them even after months and landscape changes of shifting soil, rock and snow.

Clark's Nutcracker, member of the Corvid family, will smooth the ground to remove signs of disturbances.

In one season alone a single Nutcracker can cache over 98,000 seeds in 2,000 locations and can potentially remember locations for up to 9 months.

Sources: *The Bird Way* by Jennifer Ackerman and The Science of Birds Podcast

Clark's Nutcracker, pastel pencil, 11" x 7", 2024 Jenny Zimmermann (Red Lodge, MT)



Mountain Chickadee, Colored pencil & pastel, 10" x 10", 2024 J.R. Hess (Loveland, CO)



Western Meadowlark *Songs of Wyoming*
prisma pencil, 10" x 8", 2023
J.R. Hess (Loveland, CO)

Vocalizations

Birds have sophisticated multiplex language communication. Science is just tapping into the complexities of bird songs and calls. Some beyond human hearing. Both male and female sing – some species more so than others. Brown Thrasher ~2,000 different songs. Some add to repertoire throughout life. Many species have different dialects, just like human accents, even county to county. Even American Robins makes more than 20 different sounds, most of which are mysterious to us. The honk of a Canada Goose contains levels of intricacy. Some are great mimics like Bluejays and Starlings, and will mimic predators like hawks, to cause other birds to drop their food and flee. Starlings and Mockingbirds will sound like car alarms, cell phones, barking dogs... Northern Flicker will make sound like bees to deter squirrels. Some wrens will make sound of snake to ward off intruders.

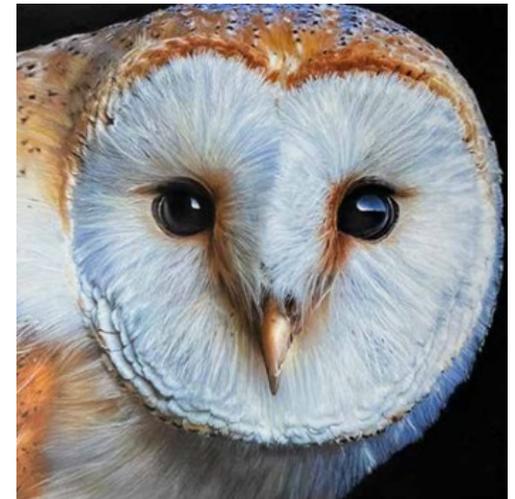


The Beautiful Bufflehead,
colored pencil & pastel, 10" x 10", 2025
J.R. Hess (Loveland, CO)

Vision

Birds arguably have the best eyesight of all animals. Large eyes relative to their body size, they see clearer, further, and process faster than humans and in greater detail. They have Tetrachromatic vision meaning they see in blue, red, green and ultraviolet colors. They see feather colors unimaginable to us and a massive color spectrum our brains are simply incapable of processing.

“They’re experiencing another whole dimension of color.....
It’s a complete reimagining of the color experience”
Caswell Stoddard



Barn Owl *In Dreams*,
prisma pencil, 12" x 12", 2023.
J.R. Hess (Loveland, CO)

Hearing

Most birds have an excellent hearing, with much wider range than humans.

Second most important sense after vision. Needed for communication, warnings, and for many species hunting prey.

Evidence suggests they hear infrasound to predict volcanos, and earthquakes, causing behavior changes to escape bad weather and other natural disasters.

Sense of Smell

Some birds, like vultures “aka bloodhound of the bird world” have an incredible sense of smell. As well as sea birds and other species.

Sense of smell can help birds to navigate, locate burrows and nests, courtship, avoiding predators, and seek food. House Finches can detect predators by smell, studies say.



Bohemian Waxwing, watercolor, 10" x 10", 2024 Joy Keown (Laramie, WY)



Great Horned Owl
Home Sweet Home, pencil, 16.25" x 12.5", 2023
Karmel Timmons-Machele (Big Horn, WY)

Species observed during Birding at The Brinton in May

Canada Goose
 Wood Duck
 Mallard
 Mourning Dove
 Calliope Hummingbird
 Broad-tailed Hummingbird
 Sandhill Crane
 Spotted Sandpiper
 Great Blue Heron
 Turkey Vulture
 Bald Eagle
 Great Horned Owl
 Eastern Screech Owl
 Red-naped Sapsucker
 Downy Woodpecker
 Hairy Woodpecker
 Northern Flicker
 Western Wood-Pewee
 Brown Creeper
 Least Flycatcher
 Say's Phoebe
 American Crow
 Black-capped Chickadee
 Mountain Chickadee
 Ruby-crowned Kinglet
 White-breasted Nuthatch
 House Wren
 Marsh Wren
 American Dipper
 European Starling
 Gray Catbird
 Swainson's Thrush
 American Robin
 Cedar Waxwing
 House Finch
 American Goldfinch
 Chipping Sparrow
 Dark-eyed Junco



Western Tanager - *Nice Spring Day*,
 pastel, 9" x 12", 2023
 Anne Montgomery (Big Horn, WY)

White-crowned Sparrow
 Song Sparrow
 Lark Sparrow
 Western Meadowlark
 Bullock's Oriole
 Red-winged Blackbird
 Common Grackle
 MacGillivray's Warbler
 Common Yellowthroat
 American Redstart
 American Goldfinch
 Yellow Warbler
 Yellow-rumped Warbler
 Yellow-rumped Warbler (Myrtle)
 Yellow-rumped Warbler
 (Audubon's)
 Wilson's Warbler
 Western Tanager
 Lazuli Bunting

Species Totals from Globally to The Brinton as of 2026

Approximately 11,017 bird species globally
 Clements Checklist.
 eBird *

North America 2,173*

United States 1,167*

South America 3,556*

Wyoming 458*

Sheridan and Johnson Counties 310*

The Brinton 151*



Ahead of the Storm - Snow Geese,
 acrylic, 16" x 20", 2020
 George Lockwood (Lompoc, CA)



Sandhill Cranes *Nebraska*, color woodcut with inkjet print chine colle, 28" x 28", 2019 Cheryl Hochberg (Florence, AZ)

Types of Migration

Over 350 bird species migrate long distances and most all birds migrate to some extent.

Permanent residents do not migrate. They are able to find adequate supplies of food year-round.

Short-distance migrants make relatively small movements, as from higher to lower elevations.

Medium-distance migrants cover distances a few hundred miles.

Long-distance migrants typically move from breeding ranges in the United States and Canada to wintering grounds in Central and South America, or, like the Rough-legged Hawk and others, migrate from the arctic to our region in winter.

Migration

Birds migrate seeking food and nesting opportunities.

The secrets of birds' amazing navigational skills aren't fully understood. Birds combine several different senses when navigating, and can get compass information from the sun, the stars by sensing the earth's magnetic field, and from landmarks seen during the day. *All About Birds*

Most birds migrate at night which has advantages including fewer predators such as hawks and falcons.

Studies show that some species use a star compass to navigate, meaning they learn north-south orientation from a rotational star pattern.

Nighttime migration helps birds avoid daytime thermals that usually make for rougher flights.

Smoother flights mean less energy spent during migration.

Migration is a behavior that produces a lot of heat from exerted energy. The cooler air at night allows birds to maintain a lower internal temperature during their journey. *World Migratory Bird Day*



Juvenile American Robin
Attitude,
oil, 5" x 7", 2022
Pat Trout (Sheridan, WY)

Birds have a remarkable homing instinct, allowing them to return to the same area year after year. First-year birds often make their very first migration on their own, despite never having seen their wintering home before, and return the following spring to where they were born.

All About Birds

Birds also face multiple threats during migration including weather, habitat loss, chemicals, collision due to lights, windows, tall buildings, communication towers, and polluted waters, wind energy, other manmade structures and development.

Migratory birds take four potential routes, called flyways, through North America:

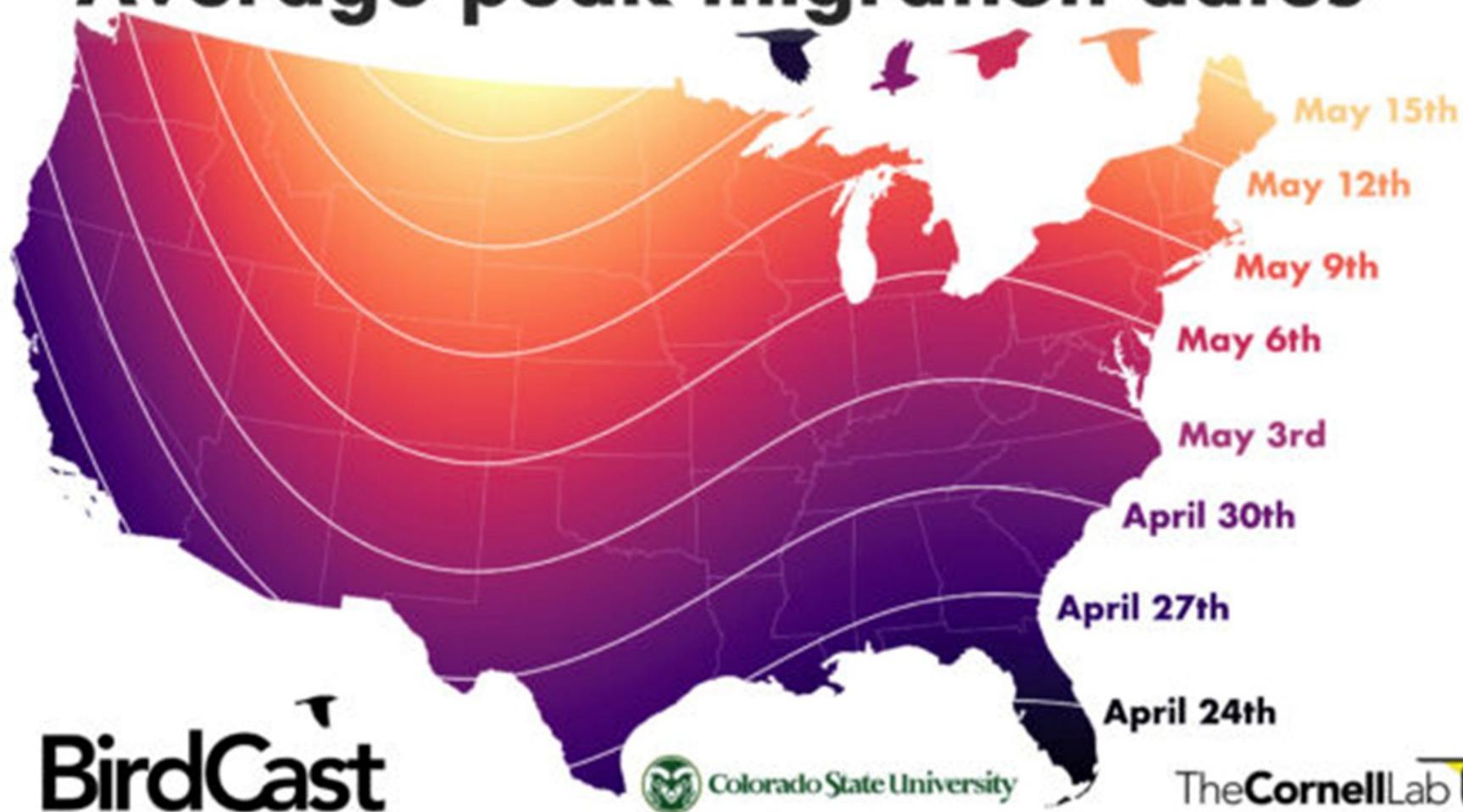
- Central
- Mississippi
- Atlantic
- Pacific

All the flyways, except for the Pacific, pass through the Gulf of Mexico. The diversity of habitats in the coastal areas of the Gulf, from marsh edges and mudflats to open bays and nearshore ocean waters, offer a variety and abundance of food sources for migratory birds.

USFWS



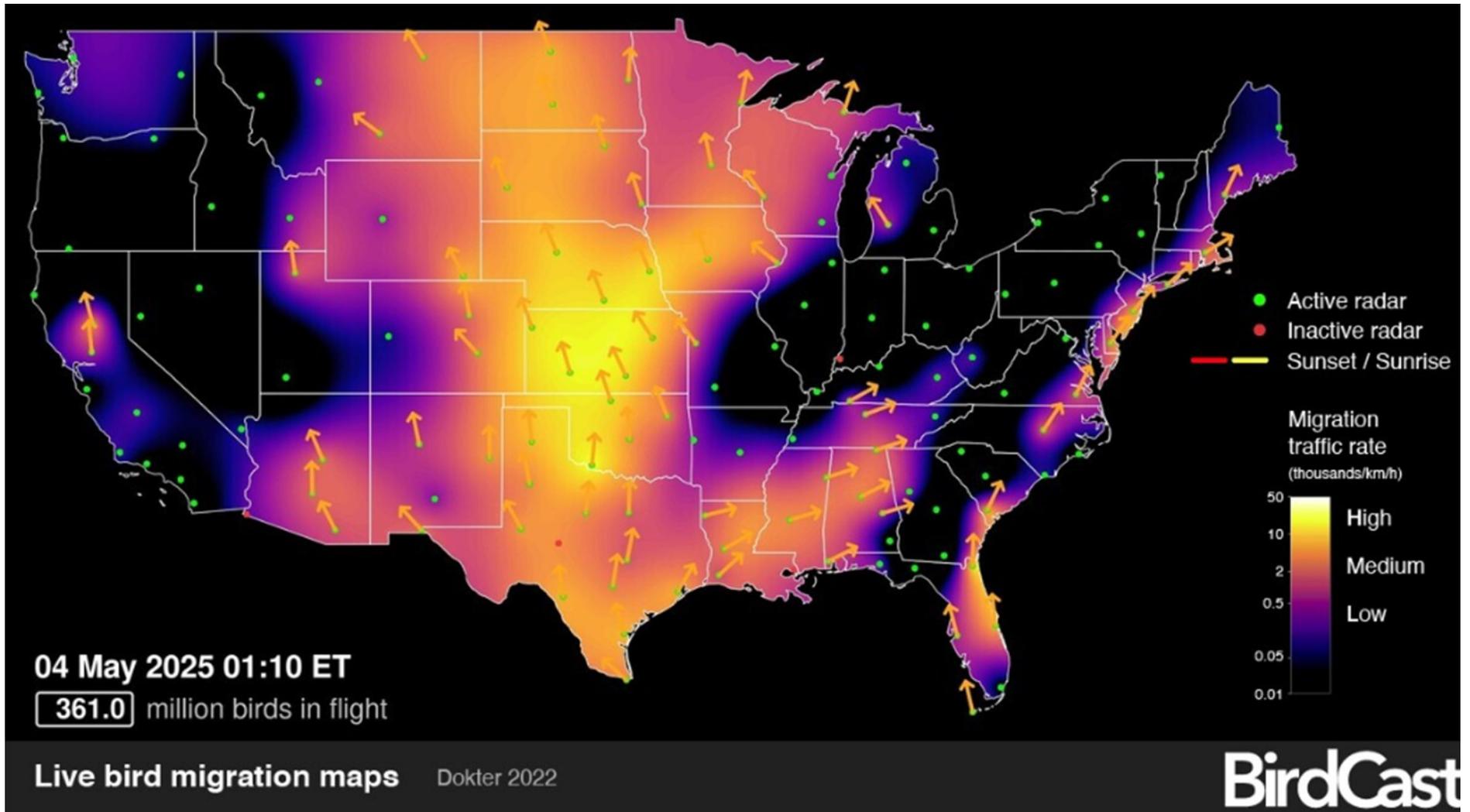
Average peak migration dates



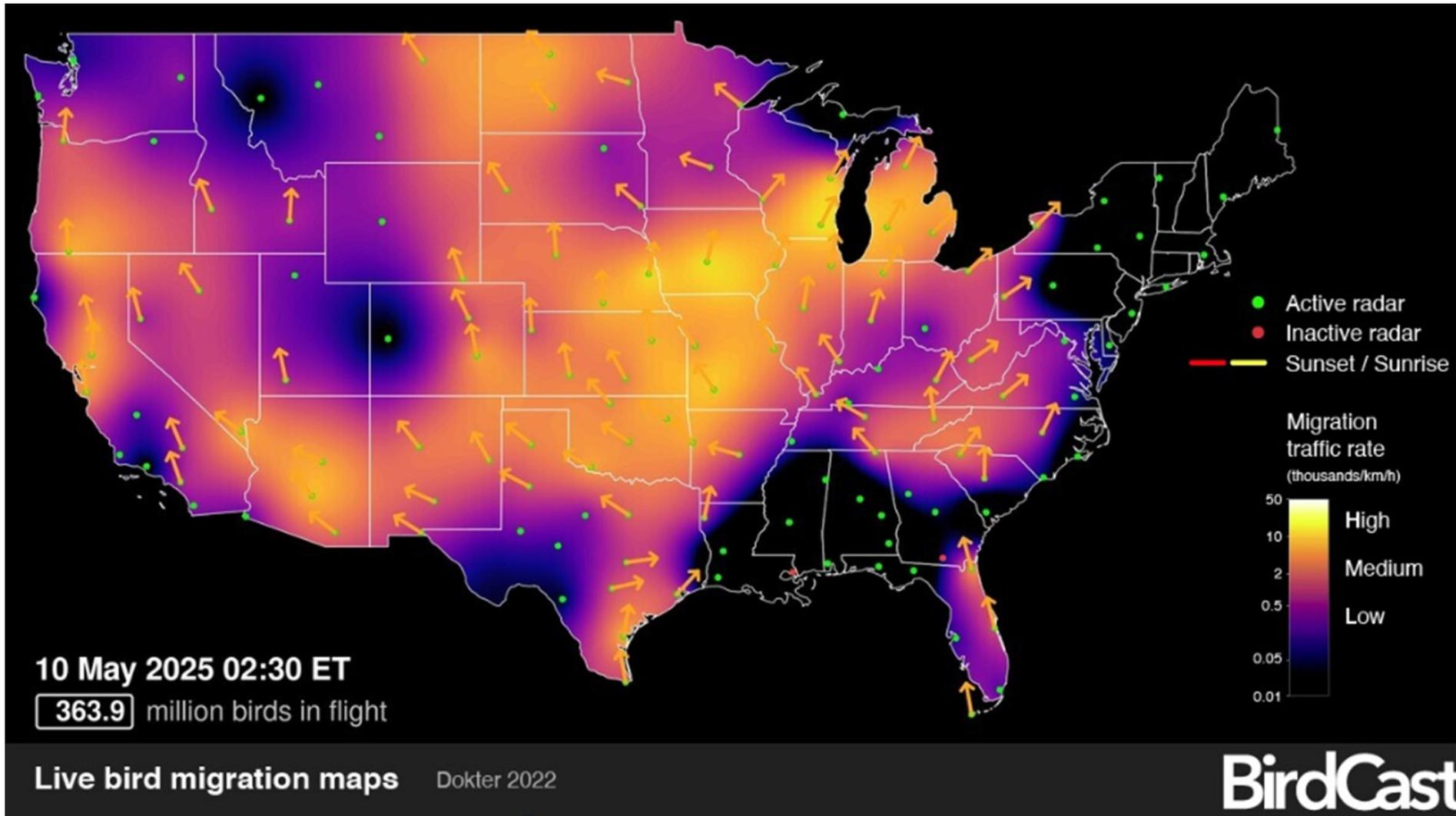
 BirdCast

 Colorado State University

The Cornell Lab 



BirdCast: Real-time analysis maps show intensities of actual nocturnal bird migration as detected by the US weather surveillance radar network between local sunset to sunrise.
<https://birdcast.info/migration-tools/live-migration-maps/>



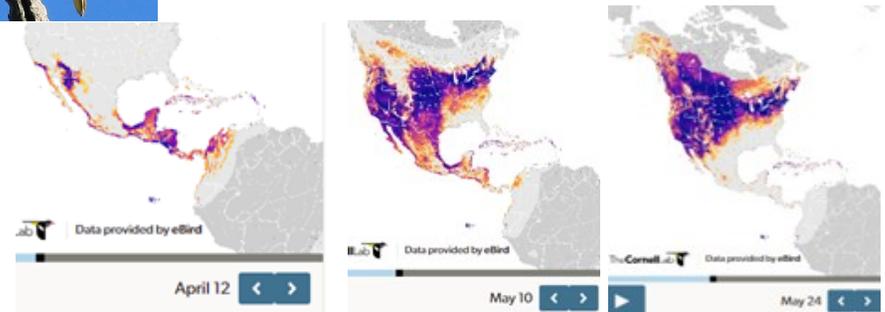
Some of the birds seen at The Brinton



The **Calliope Hummingbird** is the smallest North American bird.
70 wing beats per second – over 1 million in four hours of flying.
Over 5,500 miles round trip.



Yellow Warbler - Most northbound migrants apparently pass along the Mexico-Texas coast and cross W. Gulf of Mexico (Stevenson) ; some may fly directly north from the Yucatán Peninsula, making landfall from Louisiana to Alabama.



Yellow Warbler Migration April 12; May 10; May 24. *Birdcast*



The **American Dipper** is either non-migratory or altitudinal migrant. Birds with breeding territories with reliable (year-round) open water usually remain on their territories all year. Birds in upper sections prone to winter freezing move downstream.
Birds of the World

Photos Bighorn Audubon JP



Making a great rebound from 1970s DDT, the **Osprey** dives feet first to capture prey, accessing only about the top meter of water, so it is restricted to foraging for surface-schooling fish and to those in shallow water—the latter generally are most abundant and available. As a result, in many areas it tends to breed most densely where shallow waters abound. In many of these places, artificial nest sites, or nest platforms, have helped breeders enormously in recent decades. Historically, the Osprey built its bulky stick nest atop trees, rocky cliffs, promontories, and even on the ground on a few islands that lack mammalian predators. While some continue to use natural sites, many have shifted to nesting on artificial structures. The species now uses an astonishing array of artificial sites: channel markers in harbors and busy waterways; towers for radio, cell phone, and utility lines; and platforms erected exclusively for the species. This shift has been dramatic in many regions, with 90–95% of pairs choosing to nest at artificial sites; predation, loss of trees, and development of shorelines have been driving forces behind the change. *Birds of the World*

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Caleb Putnam, Macaulay Library

The Cliff Swallow was one of the first North American birds to be described by Europeans, first mentioned by the Spaniard Silvestre Velez de Escalante in 1776 while in the West. This species is known for its return to Mission San Juan Capistrano on 19 March each year. *Birds of the World*

One of the species that migrates by day, and in large flocks. Diet consists of flying insects.

Swallow numbers probably increased beginning in the nineteenth century as they expanded into new breeding habitats such as bridges, buildings, and culverts. At the same time, their breeding has been impeded by the spread of invasive House Sparrows, which often take over their nests. *All About Birds*



Evan Lipton, Macaulay Library

American Redstart male is black with vivid orange patches on the sides, wings, and tail. Females and immature males have more subdued yellow “flash patterns” on a gray background. These sweet-singing warblers nest in open woodlands and are a favorite at The Brinton during migration and summer.

Like most nocturnal migrant songbirds, American Redstarts can be killed by colliding with structures such as skyscrapers, cell-phone towers, radio antennas, and wind turbines. *All About Birds*



Andy Witchger, Macaulay Library

House Wrens have an affinity for open, shrubby woodlands, mimicked so well by small town and suburban backyards and city parks, a preference for human-made “bird houses,” and a very loquacious nature all combine to make the House Wren one of the best-known songbirds in North America. *Birds of the World*

Interesting Migration Facts

National Audubon

Whether it be in spring or fall, migration is a truly awe-inspiring phenomenon. In North America, most bird species migrate to some extent.

1. At least 4,000 species of bird are regular migrants, which is about 40 percent of the total number of birds in the world.
2. Birds can reach great heights as they migrate. Some at altitude over 6 miles.
3. The Arctic Tern has the longest migration of any bird in the world. Flying more than 49,700 miles in a year, and over it's lifespan of more than 30 years, the flights can add up to the equivalent of three trips to the moon and back.
4. Northern Wheatear travels up to 9,000 miles each way giving it one of the largest ranges of any songbird. It is a tiny bird that weighs less than an ounce, on average.
5. The fastest bird is the Great Snipe: It flies around 4,200 miles at up 60mph. Birds usually utilize tailwinds to help them go faster, but the snipe's speeds don't seem to be a result of that.

6. The Bar-tailed Godwit can fly for nearly 7,000 miles without stopping, making it the bird with the longest recorded non-stop flight. During the eight-day journey, the bird doesn't stop for food or rest.

7. Migration can be extremely dangerous for birds, and many don't often make it back to their starting point. Sometimes natural occurrences like harsh weather play a role, but many times, human activities are the cause of birds' untimely demise. Approx. one billion birds die each year in the United States alone from window collisions.. And approximately seven million die from striking communication towers in North America annually.

8. To prepare for the extremely taxing effort of migration, birds enter a state called hyperphagia, where they bulk up on food in the preceding weeks to store fat, which they'll later use for energy on their long journeys. Some birds, like the Blackpoll Warbler, almost double their body weight before flying 2,300 miles non-stop for 86 hours.

9. Birds that don't fly also migrate. Emus often travel for miles on foot to find food, and many populations of penguins migrate by swimming.

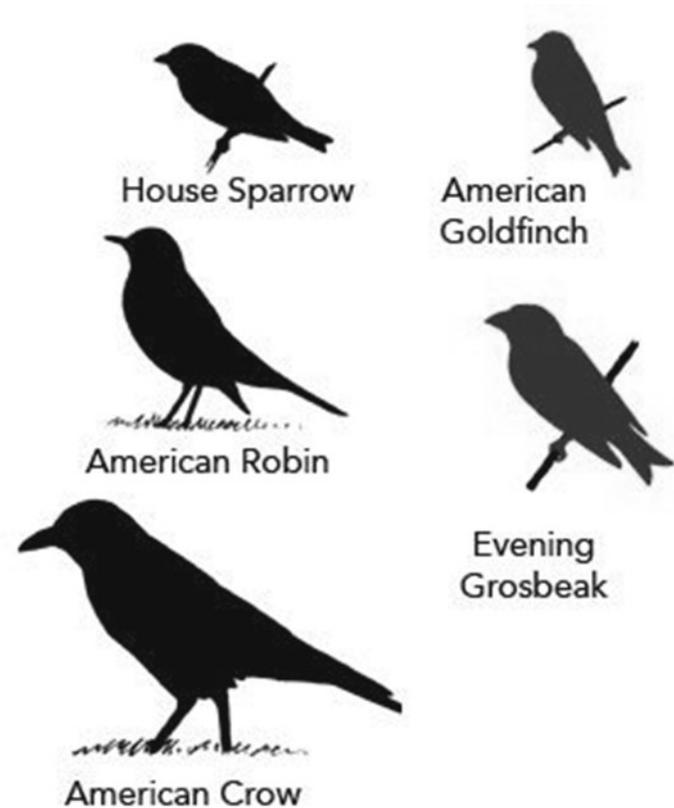


Spotted Towhee, watercolor, 11" x 9", 2023 Natalia Wilkins-Tyler (Holladay, UT)

Keys to Bird Identification

All About Birds

- Size and shape – become familiar with silhouettes which will quickly tell you a bird’s size, proportions, and posture, and quickly rule out many groups of birds – even ones of nearly identical overall size.
- Habitat – Bird by probability of geographic location, habitat and time of year.
- Color Pattern - Some birds have very fine differences that take practice even to see at all. But don’t start looking for those details until you’ve used overall patterns to let the bird remind you what it is.
- Behavior - Bird species have unique ways of acting, moving, sitting, and flying. When you learn these habits, you can recognize many birds.
- Sound - Learning calls and songs helps in two ways: First, you can do a quick survey of what’s around before you even step foot on a trail. And second, when you hear something you don’t recognize, you know where to put your attention.



Great tools are available like the Merlin App (described on next page).

Keep your bird book handy.

Take photos and/or sketch the bird.

More resources are in following pages.

Please follow birdwatching ethics and do not disturb birds especially during nesting season

ABOUT the MERLIN APP

Explore Lists of Birds Near You.

Merlin is powered by [eBird](#), allowing you to build custom lists of the birds you're likely to spot wherever you are.

Identify Bird Songs and Calls

Sound ID listens to the birds around you and shows real-time suggestions for who's singing. Compare your recording to the songs and calls in Merlin to confirm what you heard. Sound ID works completely offline, so you can identify birds you hear no matter where you are.

Identify Birds in a Photo

Snap a photo of a bird, or pull one in from your camera roll, and **Photo ID** will offer a short list of possible matches. Photo ID works completely offline, so you can identify birds in the photos you take no matter where you are.



Ethics of using bird sound – please be aware that playing bird sounds might confuse birds around you.

Be mindful when playing sounds outside.

Why Care About Birds?

Birds are fascinating – the more we learn the more fascinating they become.

Birds are critical to our ecosystem. As pollinators and seed dispersers birds are invaluable to plants and propagation. They are regulators of pest and diseases by eating insects and rodents. Some are scavengers cleaning carcasses.

Recycle nutrients back into the earth.

Birds are the harbingers of the environment's condition.

Most of us have a deep connection to birds, many since childhood. Watching or listening to birds reduces stress, improves mood and overall mental health. Walking in nature has the added benefit of improving physical and mental health. Multiple scientific studies confirm the health benefits, but it's clear to most of us that birds do make us happy!

Inspiration for art, music, literature and help fill the gap between humans and the natural world.

Learning about birds by observing, reading, and listening help keep cognitive skills sharper.

In the last 500 years, ~ 180 bird species have become extinct.
~ 1200 species are in danger of extinction in coming decades.
Since 1970 well over 3 billion birds have been lost.

Everyone can do their part, large or small, to help birds.



Sandhill Cranes
I Wanna Dance With You, watercolor, 13.5" x 13.5", 2022
Gayle Barnett (Lander, WY)

Your garden is your outdoor sanctuary. With some careful plant choices, it can be a haven for native birds as well. Landscaped with native species, your yard, patio, or balcony becomes a vital recharge station for birds passing through and a sanctuary for nesting and overwintering birds.

Each patch of restored native habitat is just that—a patch in the frayed fabric of the ecosystem in which it lies. By landscaping with native plants, we can turn a patchwork of green spaces into a quilt of restored habitat.

Audubon Rockies



Native Plants

“Gardening is the way we believe in tomorrow” Doug Tallamy

- Benefits of native plants:
- Best for birds, humans and the environment
- Reduces maintenance
- Requires less water
- Requires fewer or no chemicals,
- Helps control flooding
- Naturally beautiful

Great resources available on-line and in print including Audubon Rockies Habitat Heroes and Doug Tallamy’s *Nature’s Best Hope*. To see Doug’s 4-minute video on benefits of Native Plants: https://youtu.be/xLn5UCM_tv8

Broad-tailed Hummingbirds

Garden Jewels, textile, 29.75” x 10”, 2023 Debra Zelenak (Lander, WY)

Suggested Resources

Phone Apps: Merlin and Audubon

On-line resources:

Audubon Rockies - Habitat Heroes and other info <https://rockies.audubon.org/>

Bighorn Audubon <https://www.bighornaudubon.org/>

Birds & Bloom Identify Birds <https://www.birdsandblooms.com/birding/birding-basics/identify-birds/>

Cornell Lab of Ornithology: All About Birds <https://www.allaboutbirds.org/news/>

Nests and Nest Boxes : <https://nestwatch.org/learn/all-about-birdhouses/>

Bird Cast Live Migration <https://birdcast.info/migration-tools/live-migration-maps/>

Birds of the World (paid subscription) <https://birdsoftheworld.org/bow/home>

USFWS Feather ID: <https://www.fws.gov/lab/featheratlas/index.php>

Checklists: Bighorn Mountain Region
<https://www.bighornaudubon.com/bighorn-forest-checklist>

Books too many to list here, short list include::

Nature's Best Hope by Douglas Tallamy

The Bird Way by Jennifer Ackerman

and great local books:

Wyoming Birds for Kids by Pamela Moore

Birds of North-Central Wyoming Helen Downing, Editor

Birds and Birding in Wyoming's Bighorn Mountains Region by Jackie Canterbury,
Paul Johnsgard, and Helen Downing

This booklet was prepared for Bighorn Audubon by JoAnne Puckett

Community Science:

eBird <https://ebird.org/home>

Feeder Watch <https://www.allaboutbirds.org/news/attract-birds-with-birdbaths/>

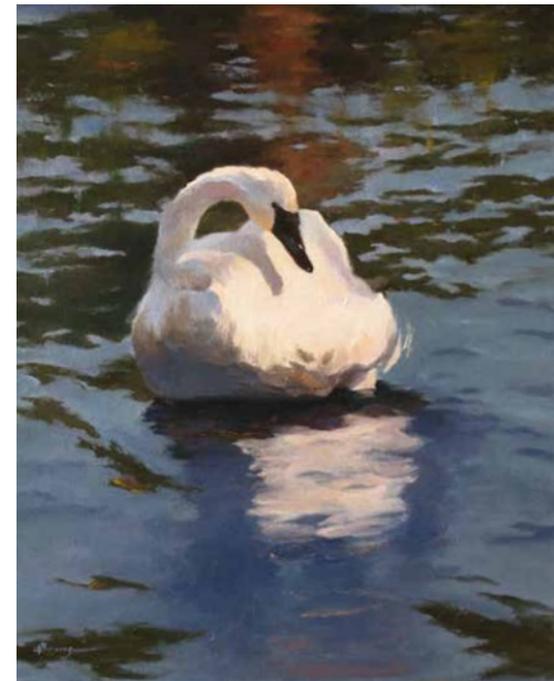
Christmas Bird Count <https://www.bighornaudubon.com/christmas-bird-count>

Great Backyard Bird Count <https://www.birdcount.org/>

Spring Count <https://www.bighornaudubon.com/spring-count>

Podcasts:

The Science of Birds and BirdNote



Ordinary Grace (Trumpeter Swan), oil, 20" x 16", 2022
Joanne Bornong (Sheridan, WY)