

BEGINNING BIRD WATCHING

In Boulder County

Volunteer Naturalist: Cathy Cook

March 3, 2020



BCPOS Volunteer Naturalist Training

OUTLINE

I. INTRODUCTION

1. Goals:
 - a. All become bird *watchers*
 - b. Learn tips/tools for observation & how to include birds in interpretative programs
 - c. Gain confidence in sharing information on birds with others
 2. Timeline: Three-hour session; break halfway through
 - a. How to become a bird watcher – *interactive discussion*
 - b. Information on common birds of Boulder County – *slide program*
 - c. How to include birds in interpretative programs – *resources/ideas*
- Three **SUGGESTED** homework assignments – one for each section

II. BECOMING A BIRD WATCHER

1. Five steps to learning anything:
 - Awareness – first step in learning anything
 - Observation – a different way of seeing
 - Curiosity – arouse interest – what do you see? – what is happening?
 - Learning – interactive Q&A
 - Sharing – knowledge & stories
2. BCPOS and county resources – books, bird guides, programs, bird clubs
3. **SUGGESTED HOMEWORK:** Spend time in your favorite spot and vow not to go home until you *see* 10 different birds. *Awareness & observation*

III. INFORMATION ON BIRDS OF BOULDER COUNTY

1. Birds are found on all BCPOS properties – in all life zones & in all seasons
2. Common Boulder County birds – facts & stories (*slide presentation*)
3. **SUGGESTED HOMEWORK:** Find your favorite spot where you might find birds. Sit quietly and observe. Write down five or more questions you can ask a group about what you are seeing. *Observation & curiosity*

IV. TIPS AND TOOLS FOR INCLUDING BIRDS IN PROGRAMS

1. BCPOS resources – books, programs, field outings, puppets, mounts, nests, etc.
2. Teachable moments - *Awareness, observation, curiosity*
3. Share interconnections between birds and other parts of nature – predator/prey relationships, symbiotic relationships (e.g. bird-insect-plant), spreading seeds, eating insects, etc. Something about the importance of birds can be included in many topics. *Learning, interactive Q&A, sharing*
4. **SUGGESTED HOMEWORK:** Pick at least one bird in each of the life zones – plains, foothills, montane, subalpine, and alpine (5)...and pick one bird likely to be seen in each season (4) and an extra bird you want to learn about (1) = 10 total. Study/research to learn one interesting fact or a story you can share about each of these birds.

V. QUESTIONS AND ANSWERS - *Interactive Q&A, learning, sharing*

Excerpted from an article titled, **The Garden, Reconsidered**, by Jason Mark, October 21, 2017. Printed in **Sierra**, The National Magazine of The Sierra Club.

[*Portions of this essay are adapted from Satellites in the High Country: Searching for the Wild in the Age of Man.*]

“Consider the songbirds. They still call to each other even as emails are piling up. They offer us nothing except the thrill of their song. Which is to say, their own selves. By resisting our entreaties and our flatteries, the songbird asserts its wildness, its sovereignty. In the wilderness, unlike in the garden, other critters are as autonomous as we are. Just as important, they can make a greater claim to ownership. After all, the wild is their home; we’re just visitors passing through.

“Among the most common observations people make when confronted with wild nature is that the landscape makes one feel small. Another way of describing this sensation would be to say that in the wild we are *right-sized*. The wild puts us in our place, a spot somewhere beneath the pinnacle of all existence.

“Solidarity begins with a recognition of equality. To be confronted by the inhuman of the wild is to remember that we are animals. And when we are reminded of our animal condition, we return to a more equal plane with the other inhabitants of Earth. ...

“...It’s time, then, to reforge the old faith in wilderness. Here, now, at the edge of the Anthropocene, we need wildness and wilderness more than ever before. We need some spaces free of human intention, places where the herds still freely roam and the rivers are undammed. We need to keep those lands where the minor events are quite major: the alchemy of photosynthesis occurring a billion times over, snowmelt fueling rivers, wind changing the shape of a forest. “



Black-capped Chickadee © www.audubon.org

BECOMING A BIRD WATCHER

STEPS FOR LEARNING ANYTHING:

1. Pick a topic you want to understand and start studying it – write down what you know about the topic and add to it every time you learn something new.
2. Practice teaching your topic to a group – make sure you present the topic in simple terms.
3. Go back to the resources when you get stuck – Revisit gaps in knowledge until you gain confidence in explaining the topic.
4. Simplify and use analogies - Repeat this process while simplifying your presentation and connecting facts with analogies/stories.

- **Awareness** – first step in learning anything
- **Observation** – a different way of seeing
- **Curiosity** – arouse interest – what do you see? – what is happening?
- **Learning** – interactive Q&A
- **Sharing** – knowledge & stories

Become a Bird Watcher

“For a long time, the knock on birds was that they’re stupid. Beady eyed and nut brained. Reptiles with wings. Pigeon heads. Turkeys. They fly into windows, pick at their reflections, buzz into power lines, blunder into extinction.

“Our language reflects our disrespect. Something worthless or unappealing is “for the birds.” An ineffectual politician is a “lame duck.” To “lay an egg” is to flub a performance. To be “henpecked” is to be harassed with persistent nagging. “Eating crow” is eating humble pie. The expression “bird brain,” for a stupid, foolish, or scatterbrained person,…” “That view is a gone goose.”

~ from *The Genius of Birds* by Jennifer Ackerman

You may not appreciate this now, or even next year.

Perhaps not for years to come...but

Someday

A bird will cross your path

Or you’ll hear a bird song in the brush

And wonder...

What was that bird?

Bird watching is a hobby and a passion

That can be a part of your entire life

A way to meet other people

An excuse to travel and get outside

And a cause to fight for

Because what we do to the birds

We do to ourselves.

AWARENESS

Awareness is the first step in learning anything. You must be aware that something exists.

1. Change your focus – seeing, hearing, and looking for clues.
2. Change your intention – go outside with the intention of finding birds.
3. Join a bird club (Boulder Bird Club, Boulder County Audubon).
4. Find a mentor to help you learn about birds.
5. Give yourself challenges – find evidence of birds without seeing the actual bird.
6. Start a Field Checklist.

SUGGESTED HOMEWORK:

Spend time in your favorite spot and vow not to go home until you *see* 10 different birds. You don't have to ID them, just be aware that they exist. *Awareness*

OBSERVATION

Tools for Observation:

1. Binoculars - <http://www.birdwatching.com/optics/binoculars1.html>

Test the binoculars before you buy and buy the best binoculars that you can afford. Compare several makes and models to see what feels good in your hand and what fits your eyes. The quality of the optics in a pair of binoculars is far more important than the power of the magnification.

Understand binocular labels – What do the numbers mean?

Example: *Eagle Optics 8x42, 6.25 degrees (AoV), 19 oz., waterproof, fully multicoated lenses, eye relief of 14mm provides full field of vision when used with eye glasses, close focus distance is 9.8 feet.*

Most binoculars are labeled with two numbers, such as 8x42. The first number is the magnification. A binocular labeled with an 8 as the first number magnifies the image by 8, or makes you feel like you're 8 times closer to the object than you actually are. The second number is the size of the front lens. An 8x42 binocular magnifies the image by 8 with a front lens of 42 millimeters. Generally speaking, a larger front lens produces a clearer, brighter image, but it also makes the binoculars heavier and more difficult to use.

6.25 degrees is the degrees of arc visible in the angle of view (AoV) at a distance of 1,000 yards.

A close focus feature may be important, especially if you also like to use binoculars to watch butterflies.

Focusing your Optics - Diopter Adjustment

To focus binoculars, stand about 30 feet away from a sign with clear lettering. Note that the two binocular barrels pivot on the central hinge post, permitting the eyepieces to fit your eyes comfortably. Facing the sign spread the barrels as wide as you can. Then, with the binoculars at eye level, press both barrels together until the two images converge into one.



The diopter adjustment on binoculars is a control knob which lets you compensate for differences between your two eyes. Once you set the diopter, then the two barrels should stay in proper alignment. From then on you can focus just by turning the central focusing knob.

Here is how to set your binocular's diopter adjustment.

Diopter adjustment on the right eyepiece -

You use the binocular's central focusing knob to focus both barrels at the same time. Then, to adjust for differences between your eyes, you use the diopter adjustment *one time* to fine-tune the focus for the right barrel only. From then on the two sides will stay focused together, whether you're looking at objects near or far.

- a. You will notice the right eye piece has a plus (+) and minus (-) scale. Begin by putting the diopter setting to the zero, or center, position.
- b. Cover the barrel which the diopter affects, usually the right, with a lens cap.
- c. Look at a stationary object in middle distance and **keep both eyes open** while you focus the binoculars, using the regular center focus knob, until the image is sharp.
- d. Once you have the focus correct for the left eye using the central focusing knob, you can use the diopter adjustment to focus the right eye. Keep the focus wheel in the same position you set. Switch the lens cap to the left barrel so you can only see through the right barrel.
- e. To fine-tune the focus for the right eye, turn *just the diopter setting* back and forth, until the object is in sharpest focus. Don't turn the center focus wheel at all.
- f. When the image through the right eye is sharp, remove the lens cap and look through both eyepieces at once. The image should be in sharp focus in both eyes. Now you only need to bring an image into focus by turning the center focusing wheel.

Under ideal conditions, it's best to locate a bird with your naked eye and then, without looking away, slowly raise your binoculars and focus the image with the center focus wheel.

2. Field Guides - (see Resources list)

3. **Birding apps** – *(a few examples)*

iPhone birding apps, which are also available on Android phones and tablet format:

- Audubon Birds Field Guide
- iBird Pro
- National Geographic Birds
- Peterson Birds
- Sibley eGuide to Birds of North America
- BirdsEye (North America)
- Merlin Bird ID
- Birding in North America
- eBird
- The Warbler Guide

4. **Websites** – *(a few examples)*

- Boulder County Birds - <http://www.boulderaudubon.org/birds-of-boulder-county/> (Boulder County Audubon Society)
- Audubon - <http://www.audubon.org/birding> (National Audubon Society)
- eBird - <http://ebird.org/content/ebird/> (Report your sightings on this website)
- All About Birds - <https://www.allaboutbirds.org/> (The Cornell Lab of Ornithology)
- American Birding Association - <http://aba.org/>
- The Cornell Lab of Ornithology - <http://www.birds.cornell.edu/page.aspx?pid=1609>
- Interactive Bird Guide - <https://www.whatbird.com/>
- Colorado Birding Trail - <http://coloradobirdingtrail.com/>

5. **Spotting scope** - <http://www.birdwatching.com/optics.html>

6. **Camera** – Many choices; buy what works best for you

7. **Checklists** -

- Walden/Sawhill Ponds – by Boulder County Parks and Open Space (BCPOS)
- Caribou Ranch/Mud Lake – by BCPOS
- Walker Ranch – by BCPOS
- Birds of Boulder County – by Boulder County Audubon Society (BCAS)
- Field Checklist of Colorado Birds – by Colorado Field Ornithologists (CFO)
- ABA Trip List for North American Birds – by American Birding Association (ABA)

8. **Bird clubs** *(see Resources list)*

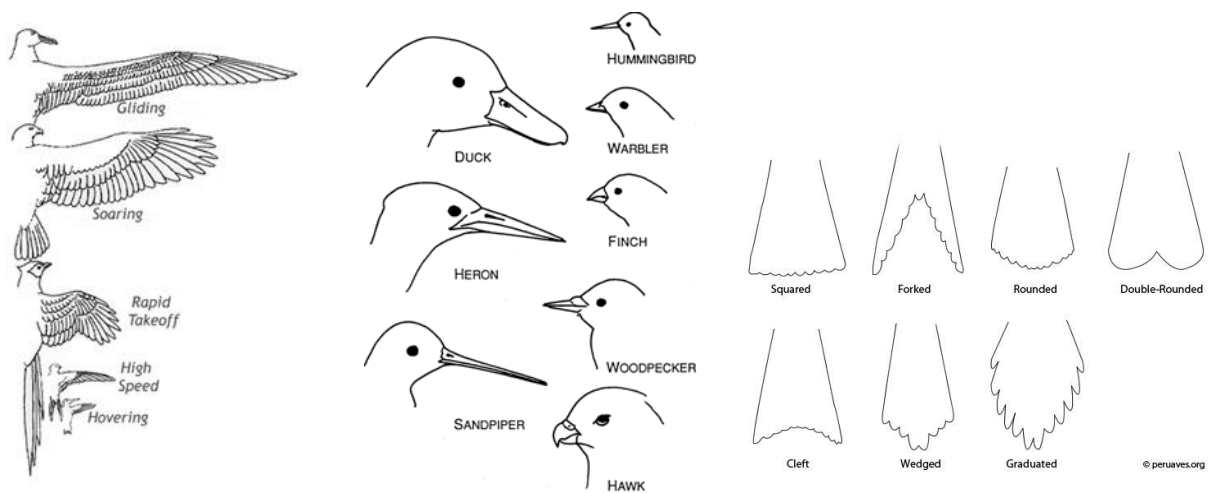
- Boulder Bird Club – <http://www.boulderbirdclub.org/>
- Boulder County Audubon Society – <http://www.boulderaudubon.org/>
- Denver Field Ornithologists – <https://dfobirds.org/>

9. **Mentors** – Find someone who has more experience and spend some time bird watching together. Many mentors are willing to give tips for observation and ID, and share stories.

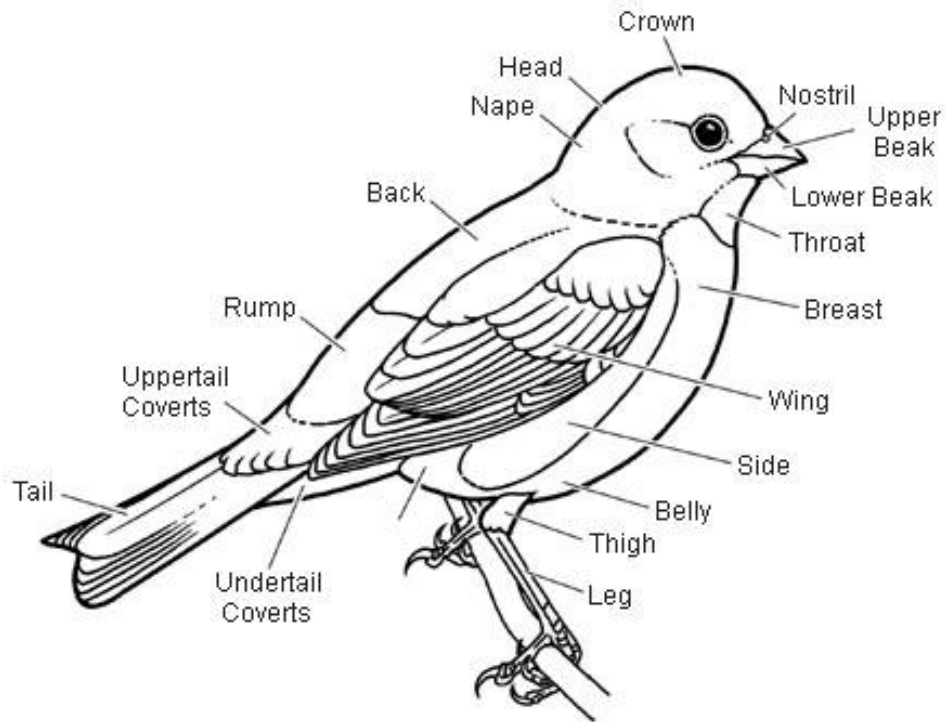
10. **Practice and patience** – Learning to identify birds will take practice and a lot of patience. However, you can still give bird programs successfully and include birds in other BCPOS programs that you lead in the future.

Tips for Observation: G*I*S*S – General Impression, Size & Shape

1. **Look at the bird** – Observe the overall size, silhouette, posture, and color of the bird. Are there any differences, similarities, unique features.
2. **What is its size?** – Larger than a Robin or smaller than a House Sparrow?
3. **What is its shape?** – Is the bird stocky, or slender? Are the wings slender or wide? Are there wing bars? In flight, check the shape and spread of the wing. When observing raptors, look for a dihedral (the angle at which the bird holds its wings above the horizontal plane). Is the bill small or large, long and narrow, or conical? Is the tail long or short? Is it notched, rounded, or squared? Does it have a crest? Observe the length and color of the legs. Are the feet taloned, webbed or lobed?



4. **How does it act?** – What is it doing? Feeding? Nesting? Flying? Swimming? Does it have distinctive habits? Walk, wade, or swim? Diving or Dabbling? Tail bobbing?
5. **Where & when is it found?** – Habitat/season? Is it on the ground, in a tree? On the water? Flying over a field? Located in a forest? What life zone?
6. **How does it fly?** – Undulating up and down like a northern flicker or goldfinch or a straight line like a dove or duck? During flight, is the neck extended like an Ibis, or tucked in like a Great Blue Heron? Does it hover? Is it gliding or soaring? Is the wing beat slow or fast? Is it traveling in a flock?
7. **What is its color?** – Breeding plumage? Non-breeding plumage? Where are colors located?



8. What are its field marks? – Breast plain, spotted, or streaked? Does the tail have a band, white spots, white sides, or rump patch? Do the wings have wing bars or plain? Is there a stripe over the eyes or an eye ring? Crown striped, plain, or with patch?

9. How does it sound? – Does the bird make a sound, either vocally or with its wings?

Six key observations:

1) Size, 2) Shape & Posture, 3) Habitat, 4) Behavior, 5) Color Pattern, and 6) Vocalization

THEN...check the field guide

BEAKS

SHAPE TYPE ADAPTATION [*Props can be used to demonstrate these adaptations*]

Cracker - Seed eaters like sparrows and cardinals have short, thick conical bills for cracking seed.

Shredder - Birds of prey like hawks and owls have sharp, curved bills for tearing meat.

Chisel - Woodpeckers have bills that are long and chisel-like for boring into wood to eat insects.

Probe - Hummingbird bills are long and slender for probing flowers for nectar.

Strainer - Some ducks have long, flat bills that strain small plants and animals from the water.

Spear - Birds like herons and kingfishers have spear-like bills adapted for fishing.

Tweezer - Insect eaters like warblers have thin, pointed bills.

Swiss Army Knife - Crows have a multipurpose bill that allows them to eat fruit, seeds, insects, fish, and other animals.

FEET

Another characteristic that can be used to learn more about birds is feet shapes! The shape of the feet reflects the habitat that the bird will be found in and the type of food it might eat. Here are some common feet shapes and the environment they are especially adapted to live in:

SHAPE TYPE ADAPTATION

Grasping - Raptors like Osprey use their large curved claws to snatch fish from the water.

Scratching - Pheasants and other birds that scratch the soil for food have nail-like toes.

Swimming - Ducks and other webbed lined swimming birds use their feet like paddles.

Perching - Robins have a long back toe, which lets them grab a perch tightly.

Running - Many fast-running birds have three toes rather than four.

Climbing - A woodpecker's hind toes enable it to climb without falling backward.

Bird Feet and Beaks:

- **Swimming** – Webbed feet help birds like ducks paddle through the water more efficiently.
- **Filtering** – Some ducks have long, flat bills that strain small plants and animals from the water.
- **Swimming/walking** – This shape helps birds like shorebirds move through water and also walk along the edge to feed.
- **Spearing/Probing** – A long, pointed bill helps a bird spear for fish (herons & kingfishers), probe for insects (shorebirds), or probe for nectar (hummingbirds).
- **Walking/Running** – For running, birds like ostriches and emus have three toes all of which face forward.
(NOTE: Roadrunners have four toes, two facing forward and two facing backward)
- **Tweezers/Catching insects** – Insects eaters like warblers have thin, pointed bills.
- **Perching** – Feet with four toes, one of which is in the back, are useful for perching on tree branches. Birds like blue jays wrap their toes around the branch to help balance.
- **Cracking Seeds** – Seed eaters like sparrows and jays have short, thick conical bills for cracking seed.
- **Seizing Prey** – Predatory birds like hawks and eagles have claw-like feet called talons for grabbing their prey.
- **Tearing/Shredding** – Birds of prey like hawks and owls have sharp, curved bills for tearing meat.
- **Climbing** – Two toes in front and two in back help birds, like woodpeckers, climb trees. Sharp nails dig into the wood and the two backward toes prevent the bird from falling backward.
- **Chisel/Drilling holes** – Woodpeckers have bills that are long and chisel-like for boring into wood to eat insects.

SUGGESTED HOMEWORK: Go out to your favorite spot with the *intention* of watching birds. Sit quietly and observe. Challenge yourself to carefully observe 10 different birds (or set your own # goal). Write down five or more questions you can ask a group about what you are seeing to help them learn more about the bird. E.g. In what habitat is this bird? What is it doing? Is it nesting? Feeding? Alone or in a group? Migrating? What's the GISS? Try to remember one distinctive feature about each bird.

Awareness & Observation

CURIOSITY

Curiosity is connected to Awareness and Observation. Curiosity is seeking and exploring. Curiosity is not about finding, but is the process of inquiry and exploration.

Tips for increasing curiosity among participants –

1. Instead of simply identifying the bird, ask questions of the group.
What do you see? What is the bird doing? What habitat is it in? What can this nest tell us about the bird that uses it? What kind of beak... tail... feet? What do you think it eats?
2. Engage as many senses as possible. Sight, hearing, touch, etc.
3. Include ways to involve younger participants. Games, detective work, assistants.
4. Include as many participants as possible and not just the few who raise their hands.

LEARNING

Learning follows Awareness, Observation, and Curiosity.

1. These birding materials are only a beginning resource. Add your own information and ideas.
2. Take advantage of the resources available (*see Resource list*) to learn more about birds and learn more than just identification. Does the bird migrate? What kind of nest does it use? What season is it found in Boulder County? Learn some interesting facts about the bird.
3. Find a mentor, join a bird club, go on birding field outings, attend BCPOS bird programs (*indoor and outdoor*), get a good field guide, give yourself challenges, start a checklist.
4. When giving bird programs, make sure to include interactive Q&A. Participants can learn from you and you can learn from others.

SHARING

Sharing is MORE than just identifying each bird. Sharing information is enhanced by engaging the participants, sharing interesting facts, stories, and your enthusiasm for the topic.

1. Share personal stories about your interactions with birds. Let a few others do the same.
2. Learn some interesting facts that you can give about some of the Boulder County birds.
3. Always include information on other BCPOS birding opportunities – programs, field trips.
4. Even if you can't ID the bird, you can engage the audience by sharing your own curiosity about the bird and asking questions.
5. Help participants determine the G*I*S*S (*general impression, size & shape*) of the bird.
6. Talk about the bird's behavior and habitat.
7. Share information about interconnections between birds and other parts of nature – predator/prey relationships, symbiotic relationships (e.g. bird-insect-plant), spreading seeds, eating insects, etc.
8. Show the group how field guides are organized and what information is in most guides.
9. Take advantage of all 'teachable moments' that may arise during indoor or outdoor programs.
10. At the end of a program, ask the group, "What is the most interesting thing you learned about birds from this program/field trip?" This helps reinforce a 'take away' bit of information.

TIPS AND TOOLS FOR INCLUDING BIRDS IN PROGRAMS

1. BCPOS programs are designed to be flexible. With that in mind, before you give a program on birds or anything else, give some thought to the following:
 - a. What is the makeup of the group? (*If you know it ahead of time*). Is the group primarily adults? Seniors? Kids? What grade level? Is it a school group? General public?
 - b. If an outdoor program, what BCPOS property will be the program location? What life zone?
 - c. In what season is the program being given? Depending on the season, you can look for different birds and evidence of birds. Nests? Tracks? Migrating birds?
 - d. If a school group, are there any goals from the teacher as to specific topics to cover?
 - e. If it's a mixed age group, make sure to find ways to engage the younger participants. This is true for both indoor and outdoor programs.
2. Make use of appropriate BCPOS resources in your programs. (*See Resources list*)
 - a. Nests - Spring nesting behavior; Fall can more easily see nests with leaves gone.
 - b. Mounts – *Remember no touching by participants.*
 - c. Feathers, talons, skulls – allows participants to clearly see details of a bird.
 - d. Silhouettes of raptors – Ask the smallest in the group to help hold up the largest silhouette for size comparison.
 - e. Storyboards – Provides a visual to enhance your program.
 - f. Laminated bird photos and posters.
 - g. Migration map – Helps clarify bird migration flyways and distance traveled.
 - h. Puppets – A good way to get younger children involved.
 - i. Children's bird books - read a story about birds.
 - j. Games - Include games for the younger members of the group (*see Resources list*)
 - k. Boulder County Living Map – talk about the birds found in each life zone
 - l. Encourage participation in other BCPOS bird programs. Refer to: *Quarterly Images*
3. Take advantage of teachable moments by following the process listed above – *awareness, observation, curiosity, learning, & sharing*. Help the group become aware of the birds. Once found, encourage them to observe carefully and talk about what they see. Ask questions. Share information and also give the group an opportunity to share.
4. Talk about the interconnections between birds and other parts of nature – predator/prey relationships, symbiotic relationships (e.g. bird-insect-plant), spreading seeds, eating insects, pollination, etc. Something about the importance of birds can be included in many topics. Include stories and analogies – jigsaw puzzle of nature with one piece missing (birds).
5. Remember that sharing information is the last part of the process. Help others become better bird watchers by increasing their awareness of birds, giving them tips for observation, asking questions to enhance curiosity, sharing something you have learned about the bird, and finally **help the group** identify the bird.

SUGGESTED HOMEWORK: Pick at least one bird in each of the life zones – plains, foothills, montane, subalpine, and alpine (5)...and pick one bird likely to be seen in each season (4) and an extra bird you want to learn about (1) = 10 total. Study/research to learn one interesting fact or a story you can share about each of these birds.

Learning & Sharing

BIRD WATCHING RESOURCE LIST

Field Guides (*A few of the more popular field guides*)

1. National Geographic Field Guide to the Birds of North America, 7th Edition, by Jon L. Dunn and Jonathan Alderfer, September 2017.
2. Sibley Birds West: Field Guide to Birds of Western North America, by David Sibley, March 2016.
3. The Young Birder's Guide to Birds of North America (Peterson Field Guides), by Bill Thompson III, April 2012.
4. National Geographic Backyard Guide to the Birds of North America (National Geographic Backyard Guides), by Jonathan Alderfer and Paul Hess, March 2011.
5. Peterson Field Guide to Birds of Western North America, 4th Edition (Peterson Field Guides), by Roger Tory Peterson, March 2010.
6. The Stokes Field Guide to the Birds of North America (Stokes Field Guides), by Donald Stokes and Lillian Stokes, October 2010.
7. Peterson Field Guide to Birds of North America (Peterson Field Guides), by Roger Tory Peterson and Lee Allen Peterson, August 2008.
8. National Wildlife Federation Field Guide to Birds of North America, by Edward S. Brinkley and Craig Tufts, May 2007.
9. Kaufman Field Guide to Birds of North America, by Kenn Kaufman and Rick Bowers, April 2005.
10. The Sibley Field Guide to Birds of Western North America, by David Allen Sibley, April 2003.
11. Birds of North America: A Guide to Field Identification (Golden Field Guide) by Chandler S. Robbins and Bertel Bruun, April 2001.
12. A Field Guide to Hawks of North America (Peterson Field Guides), by William S. Clark and Brian K. Wheeler, November 2001.
13. National Audubon Society The Sibley Guide to Birds, by David Allen Sibley, 2000.
14. National Audubon Society Field Guide to North American Birds, Western Region, by Miklos D. F. Udvardy and Jr. John Farrand, September 1994.
15. Owls of Boulder County, by Stephen R. Jones, Boulder County Nature Association, 2003.

BCPOS Resources (*these resources change regularly as new ones are added or retired*)

Walden Ponds Resource Center – books, puppets, raptor silhouettes, nests, mounts, feathers, talons, wings, storyboards (turkeys, birds of prey, what makes a bird a bird?, owls), bird posters, owl resources (skull, pellets, etc.), laminated bird photos, program packets, bird bingo, flash cards, file with miscellaneous information about birds.

BCPOS Programs on Birds –

Current Powerpoint bird programs: Birding Boulder County through the Seasons, Owls of Boulder County, Raptors of Boulder County, The Mystery of Bird Migration, The Wonder of Winter (*birds are included in this general program on winter ecology*), Canada geese, pelicans.

Some current outdoor bird program topics: Nests, migration, wild turkeys, birds of prey driving tours, meet the woodpeckers, Canada geese. Birds can also be included in the monthly hikes for seniors, wildlife in winter hikes, prairie winter hikes, nature detectives in the field, high country winter hikes, and many others (*see IMAGES for a list of seasonal BCPOS birding programs*).

Some Birding Apps

For information on birding apps, check out Boucher's Birding Blog:

<https://blog.nature.org/science/2013/05/27/boucher-bird-blog-apps-smart-birder/>

iPhone birding apps, which are also available on Android phones and tablet format:

- | | |
|--|-----------------------------|
| 1. Audubon Birds Field Guide | 6. BirdsEye (North America) |
| 2. iBird Pro | 7. Merlin Bird ID |
| 3. National Geographic Birds | 8. Birding in North America |
| 4. Peterson Birds | 9. eBird |
| 5. Sibley eGuide to Birds of North America | 10. The Warbler Guide |

Some Birding Websites -

(Boulder County Audubon Society)

2. Audubon - <http://www.audubon.org/birding> (National Audubon Society)
3. eBird - <http://ebird.org/content/ebird/> (Report your sightings on this website)
4. All About Birds - <https://www.allaboutbirds.org/> (The Cornell Lab of Ornithology)
5. American Birding Association - <http://aba.org/>
6. The Cornell Lab of Ornithology - <http://www.birds.cornell.edu/page.aspx?pid=1609>
7. Interactive Bird Guide - <https://www.whatbird.com/>
8. Colorado Birding Trail - <http://coloradobirdingtrail.com/>
9. Colorado Birding by County - <https://coloradocountybirding.org/>

Some Bird Checklists -

1. Caribou Ranch/Mud Lake – by Boulder County Parks and Open Space (BCPOS)
2. Walden/Sawhill Ponds – by BCPOS
3. Walker Ranch – by BCPOS
3. Birds of Boulder County – by Boulder County Audubon Society (BCAS)
4. Field Checklist of Colorado Birds – by Colorado Field Ornithologists (CFO)
5. ABA Trip List for North American Birds – by American Birding Association (ABA)

Some Bird Clubs -

1. Boulder Bird Club – <http://www.boulderbirdclub.org/>
2. Boulder County Audubon Society – <http://www.boulderaudubon.org/>
3. Denver Field Ornithologists – <https://dfobirds.org/>