

BIRDS IN FORT COLLINS



Presented to:
City of Fort Collins
Natural Areas Department
Master Naturalists

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THANKS FOR COMING TODAY!!



THE APPEAL OF BIRDS



- Certainly the “most watchable” group of animals
- Can be attracted for close looks
- Many colorful and interesting species
- Present in all habitats and seasons

BIRDS BY THE NUMBERS

- ~10,000 species in the World
- 1112 species in N.A.
- 507 have occurred in CO
- 375+ species on the Fort Collins/Larimer checklist
- 250+ species breed in CO
- 100+ spp. could be found in an average FC yard over a period of years with diligence
- Probably about 110 species present today somewhere in Larimer County



JUST THE RIGHT NUMBER

- You'll see more kinds of birds on a walk (maybe 15-30) than herps or mammals (maybe 3-5)
- You'll see more insects but they are too many, too small, too hard to identify



HORNED LARK

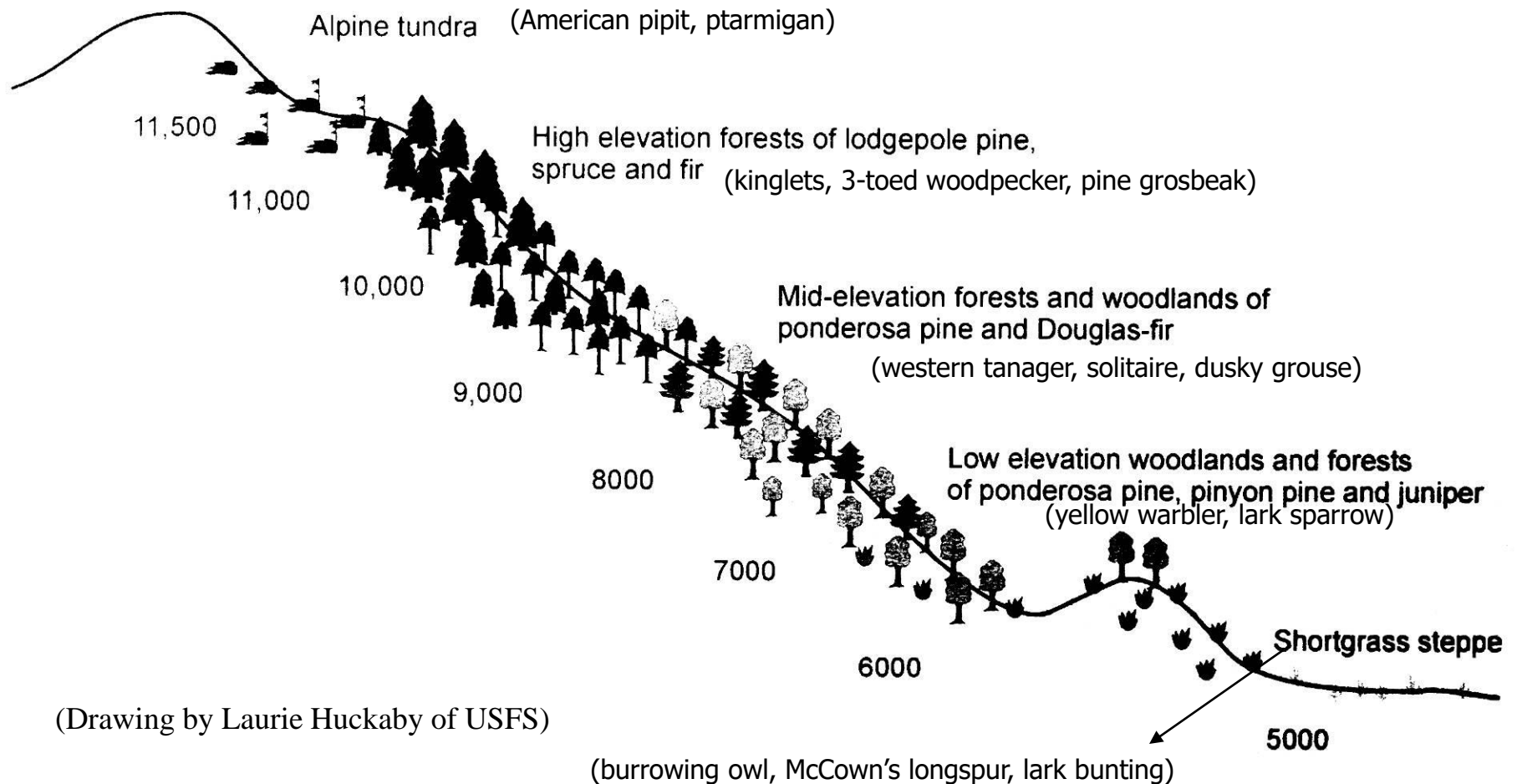


- Have you seen this bird?
- It is the most abundant breeding bird in Colorado (robin is #2)
- Estimated 1-4 million breeding pairs
- Likes prairie and tundra areas (i.e., short vegetation), not much else

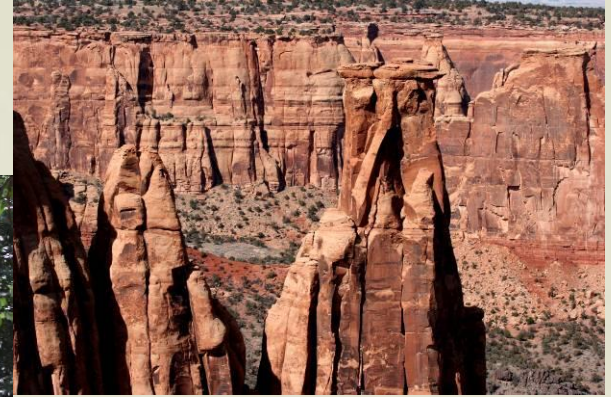
WHY IS COLORADO A GOOD PLACE FOR BIRDS?

- Little bit North, East, South, & West
- Wide range of elevations
- Many habitat/vegetation types
- Varied topography (plains/desert all the way to mountain tops above timberline)
- Location in relation to migration flyways and weather systems
- Abundant public land
- 1000s of miles of riparian habitat
- Many impoundments, some of them quite large

INFLUENCE OF ELEVATION ON BIRDS & THEIR HABITAT



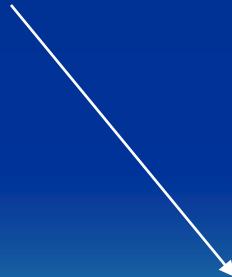
COLORADO'S ECOSYSTEM VARIETY



QUOTE FROM GILLETE AND BAKER'S (1895) OPENING PARAGRAPH TO THEIR PUBLICATION "PRELIMINARY LIST OF THE HEMIPTERA (true bugs) OF COLORADO": "Probably there is no state in the Union offering a richer field for the student of natural history than Colorado,"

MOUNTAINS

PLATEAUS



EASTERN PLAINS

-GRASSLANDS

-LOWLAND RIPARIAN

You are here
(in Choice City,
"Nebraska")





“UTAH”



“
C
O
L
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O
”



“NEBRANSAS”

“OKLAHOMA”



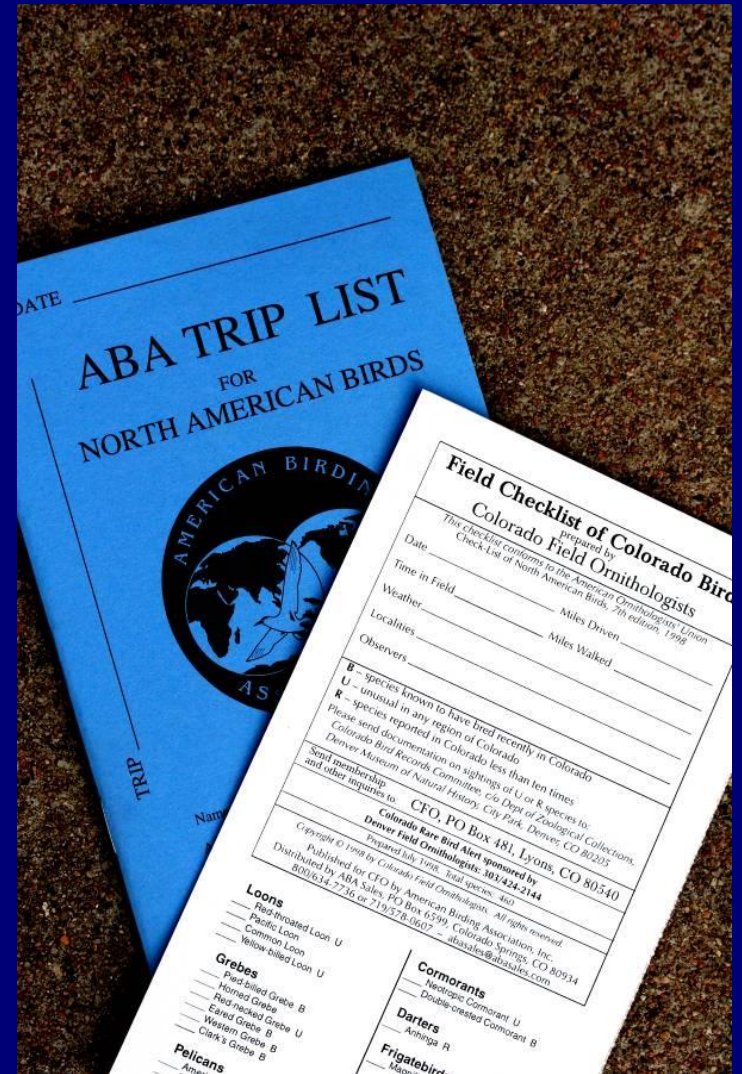
BIRDING LISTS:

KEEPING TRACK OF WHAT YOU SEE

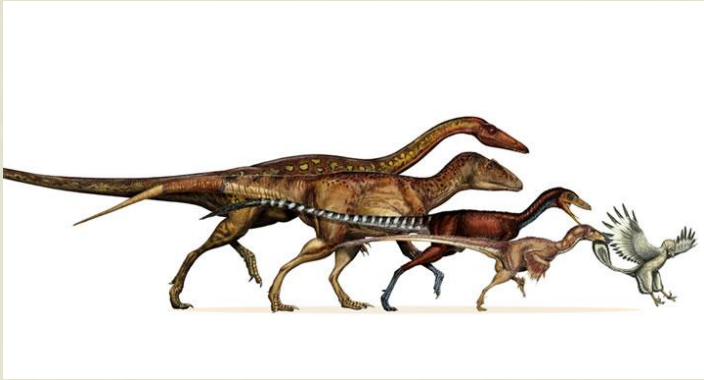
- A partial list of lists:
 - Life list (determines your social class, your destination in the afterlife, & more)
 - Year list
 - County list
 - Yard or special place (your “patch”) list
 - Species-seen-flying-north-on-Tuesday list
 - Other lists (many, many other lists)

CHECKLISTS

- A fun way to keep track of what you see, where
- Usually arranged in taxonomic order (determined by the American Ornithological Union which, since the advancement of DNA techniques, seems to change frequently)
- Often contain info about seasonal status and abundance



BASIC FACTS ABOUT BIRDS



- Descended from theropod dinosaurs, “modern” orders going back 65 mya (early Cenozoic)
- Most can fly (hollow bones)
- “Ground up” or “tree down” origin of flight?
- Many migrate long distances
- Key activities involve food and reproduction, also roosting, maintenance

ZHENYUANLONG

In the Dromeosaur group of dinosaurs.

Discovered in China in 2015.

Illustration by Emily Willoughby.



Halzkaraptor escuilliei



Found in Mongolia,
half velociraptor,
half swan,
semi-aquatic,
ostrichlike on land,
bird precursor,
probably feathered.

THE MARVEL OF FEATHERS!



- Best insulation material known
- Having feathers requires birds to have ingenious cooling methods (big bill, bare legs, panting, etc.)
- What was the initial purpose of feathers?*
- How did flight evolve?
- Great read: Feathers by Thor Hanson

*answer: probably temperature regulation

ISSUES OF FOOD, WATER, AND COVER



- Like all wildlife species, birds need food, water, and cover
- Study of bird behaviors can be addicting and add great enjoyment to your birding

"MILK, BUTTER, AND EGGS"

(key Colorado food items)

- Aphids
- Midges
- Conifer bark beetle larvae
- Juniper berries
- Conifer seeds
- Crayfish
- Gizzard shad
- Russian-olive fruits
- Millers (both larvae & moths)
- Grass seed
- Grasshoppers
- Flying ants
- Mice/Voles
- Roadkill (carrion)
- Feeding stations (including feedlots)







BILLS, BILLS, AND MORE BILLS



A bird's bill (beak)
tells you a lot about
what they eat



FEEDERS

- Feeding is for us, more than the birds
 - Black oil sunflower seed is best
- Keep feeders clean
- Provide water
- Cover nearby helps
- Accipiters are OK



SQUIRRELS & BIRD FEEDERS



- Squirrels are probably best considered “part of the deal” (they will inherit the Earth)
- Grandpa Leatherman
- Very few “squirrel-proof” feeders are

YUM, BUGS FOR LUNCH



- Insects are common food for birds in summer
- Lack of insects in winter is a major reason for migration
- At left: Chipping Sparrow feeding one of its recently fledged young



BLACK-TAILED PRAIRIE-DOG: KEY FOOD RESOURCE

- Ferruginous Hawk
- Golden Eagle
- Other benefits
 - Holes used by Burrowing Owls
 - Mountain Plovers, Horned Larks and others feed on “mowed” prairie



BERRIES, FRUITS

- Crabapple
- Juniper
- Mountain-ash
- Hawthorn
- Rose
- Russian-olive
- Buckthorn
- Cotoneaster
- Honeysuckle
- Highbush Cranberry




SCAVENGERS



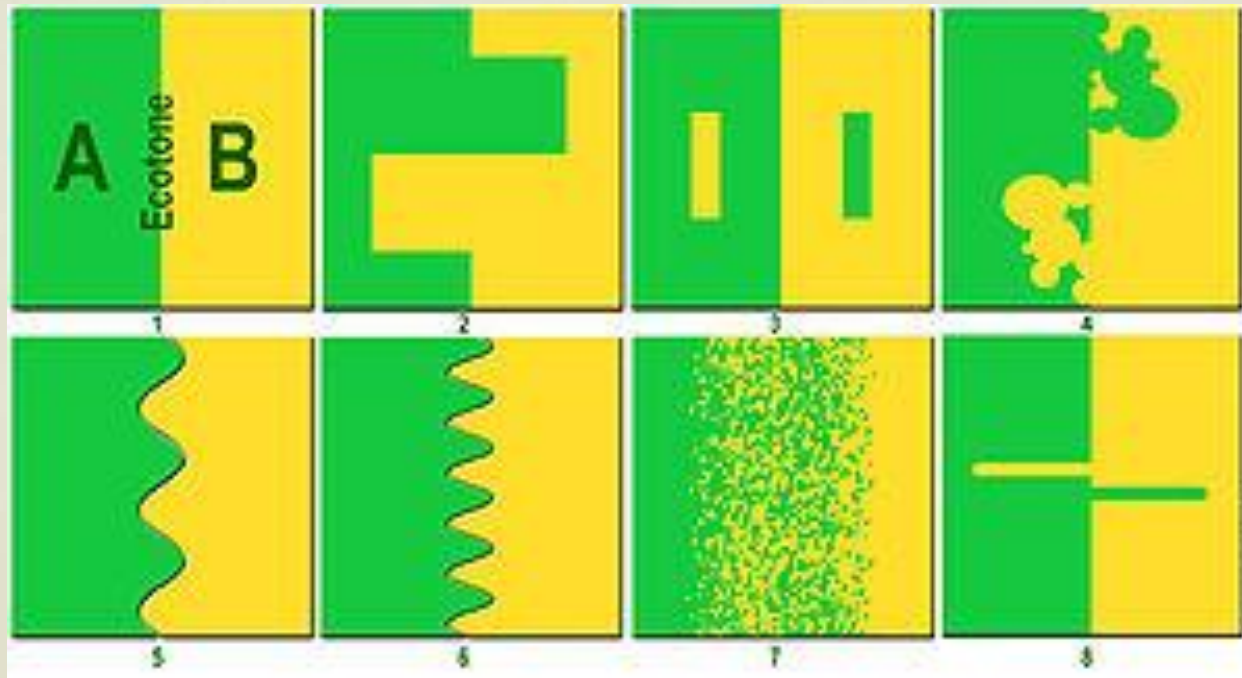
- Thank goodness they exist
- "Ice-off" time in Feb-March exposes dead fish
- Vultures and other spp. clean up roadkill
- Ravens are now a dominant bird along highways

ECOTONES = BIODIVERSITY

- ◆ An ecotone is where two habitats come together
 - ◆ In such areas, sum can be greater than parts
 - ◆ During migration, a woodland by a lake is very likely to be species-rich (for example Pineridge NA)
 - ◆ Riparian areas are richest in terms of diversity (DPW estimates 70+% of large species use cottonwood part of the time)
 - ◆ Ft. Collins is where prairie meets foothills
 - ◆ Bobcat Ridge NA is a great example of an ecotone
- 

ECOTONE

- A transition area between two adjacent but different patches of landscape.
- Barr Lake is a great example (Great Plains/Rocky Mts, shortgrass prairie/foothills, lake/riparian woodland)
- The configuration of their boundary influences things



FRAGMENTATION OF HABITAT

- One truth about habitat is that species needing a certain type also need a certain minimum amount of it
- If the habitat is so small as to be all “edge”, it will not function well for “interior” species (the secret to why cowbirds are doing so well)

ATTRIBUTES OF WILDLIFE HABITAT THAT PROMOTE DIVERSITY

- Diversity of plants
(both vertical and horizontal)
- Mostly native species
- Clumps of plants
- Open areas
- Migration corridors
- Water
- Edges
- Interiors
- Cover (rest & escape)
- Nesting resources
(including sites, materials, and access to food for young)
- Heterogeneity

ISLAND BIOGEOGRAPHY

- Pieces of habitat are like islands
- # of species on island is the result of subtraction (extinction) vs. addition (immigration)
- Extinction and immigration are most influenced by two variables:
 - 1) size of island (big = slower extinction)
 - 2) nearness to other islands (near = more likely immigration)

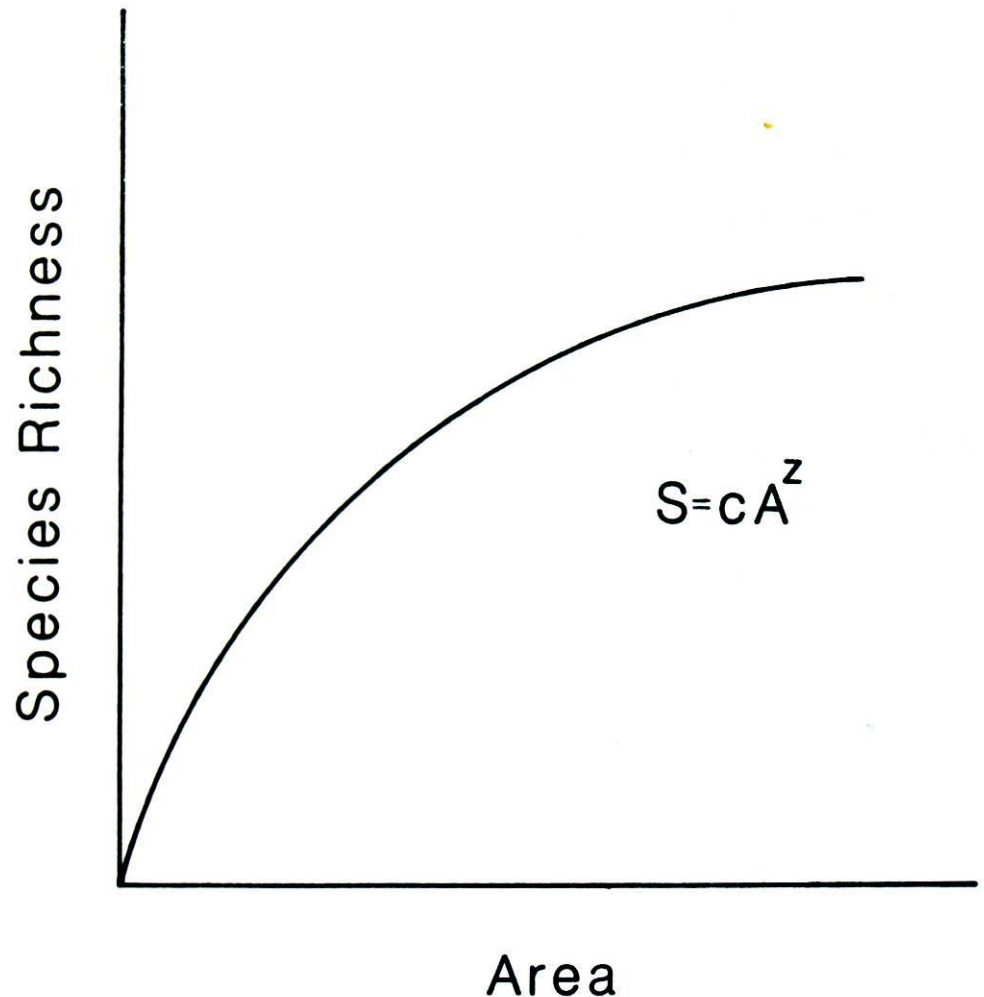
If you look at the Fort Collins area from an airplane, or drive backroads from here to Greeley, you will quickly realize Fort Collins' Natural Areas are islands in what will soon be a sea of development.

THE RELATIONSHIP OF AREA SIZE TO # OF SPECIES

S = the number of
species

A = the area

c and Z are
constants

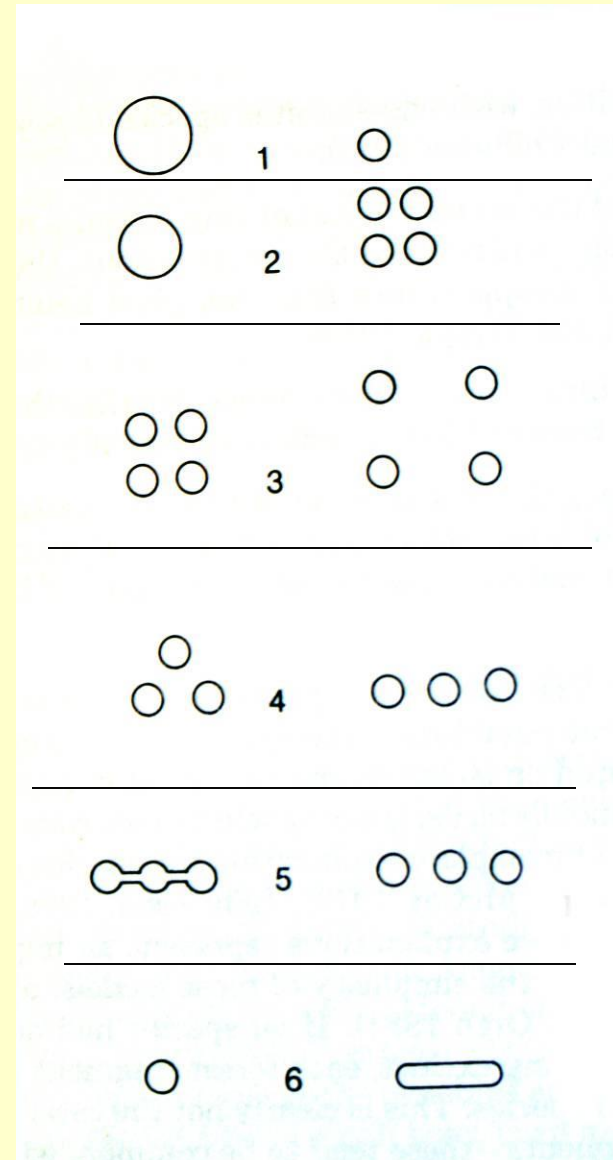


(From Conner and McCoy/Boeklen)

NATURE RESERVE DESIGN

(in all cases, the design in the left column is better than the one in the right column)

- 1 - Large has more species than small
- 2 - Single large better than several small
- 3 - Grouped small better than scattered small
- 4 - Grouped cluster better than grouped linear
- 5 - Reserves linked by corridors better than isolated reserves
- 6 - Circular shape better than oblong



ANIMAL MOVEMENTS

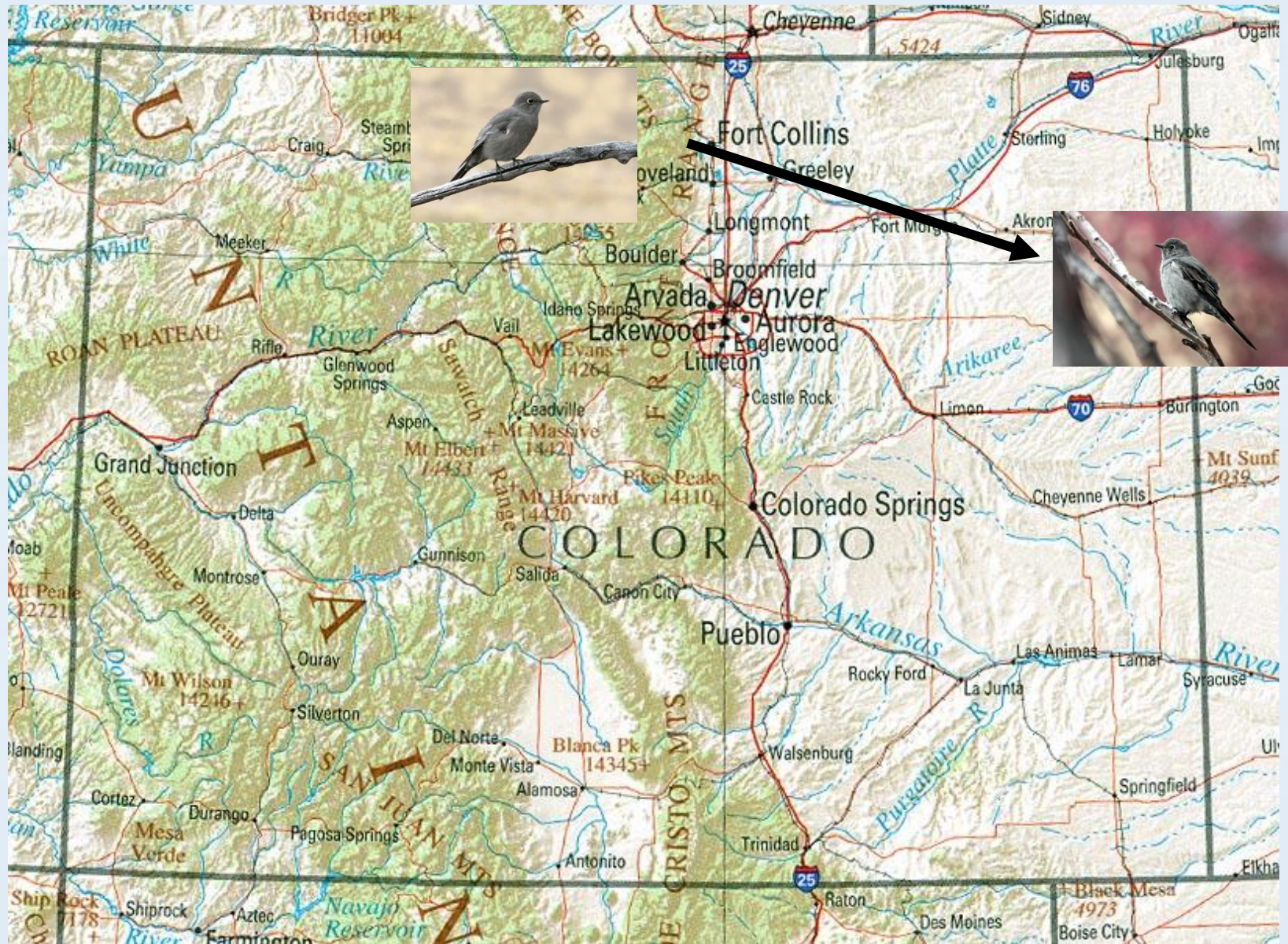
- Longitudinal (north-south, usually spring-fall in response to food needs)
- Altitudinal (high-low)
- Opportunistic (usually short-lived response to food or water issues)
- Long-term range shrinkage or expansion (in response to gradual changes in climate or habitat quality)

SEASONAL MOVEMENTS

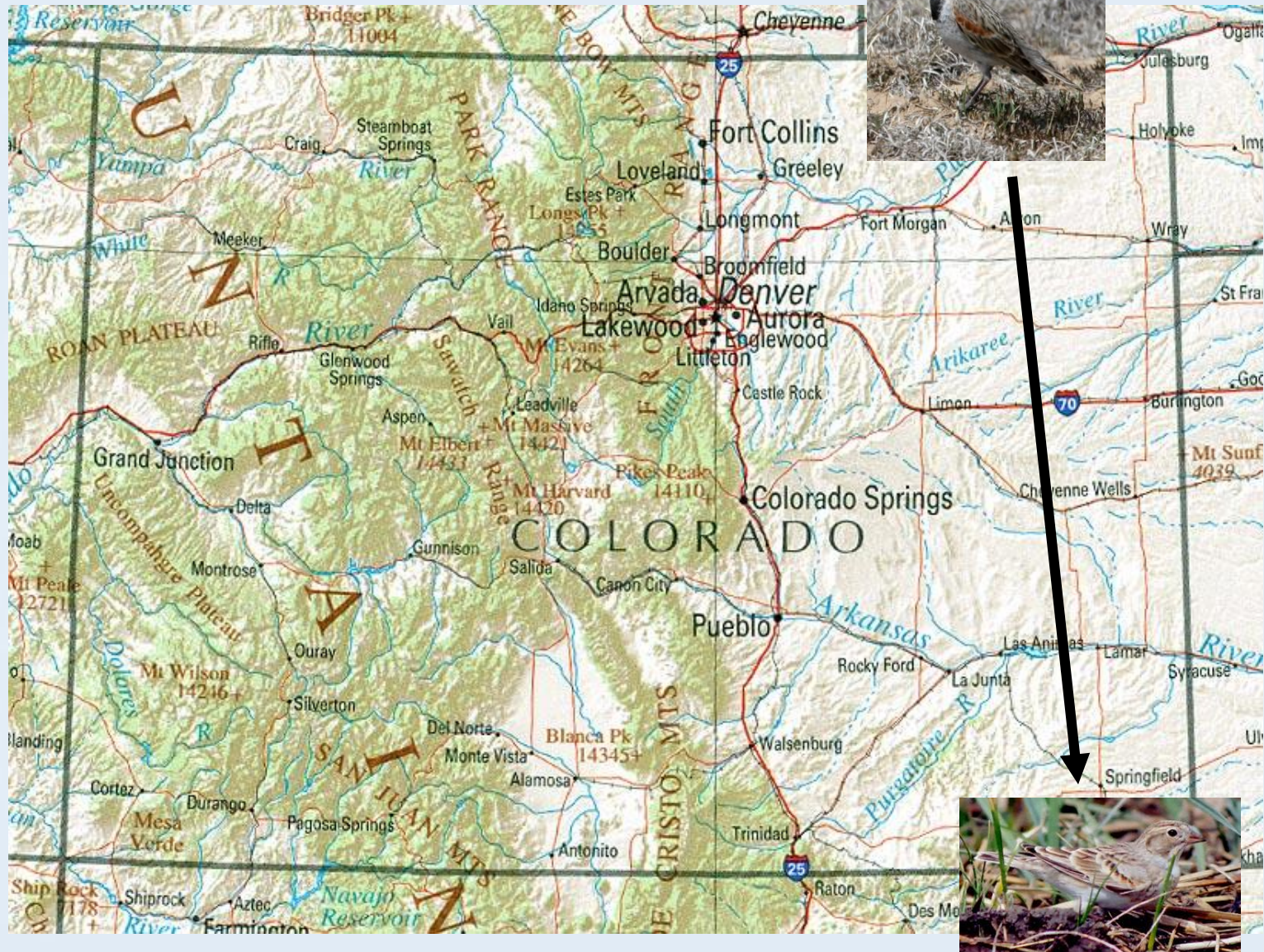
(examples from CO)

- Some species are long-distance migrants, for example from Canada in summer to Mexico in winter
- Some species are short-distance migrants moving only a few hundred miles between breeding and wintering grounds
- Some species are altitudinal migrants, going from the higher mountains to the plains
- A few species are residents (occur all year)

TOWNSEND'S SOLITAIRE – ALTITUDINAL MIGRANT (goes from mountains to plains)



McCown's Longspur – north to south (in fall), moderate distance



**LONG-DISTANCE
MIGRANT:
ROUGH-
LEGGED HAWK
BREEDS IN
ALASKA &
NORTHERN
CANADA,
WINTERS IN
COLORADO**



LONG-
DISTANCE
MIGRANT:
BULLOCK'S
ORIOLE –
BREEDS IN
COLORADO,
WINTERS IN
MEXICO/
GUATEMALA

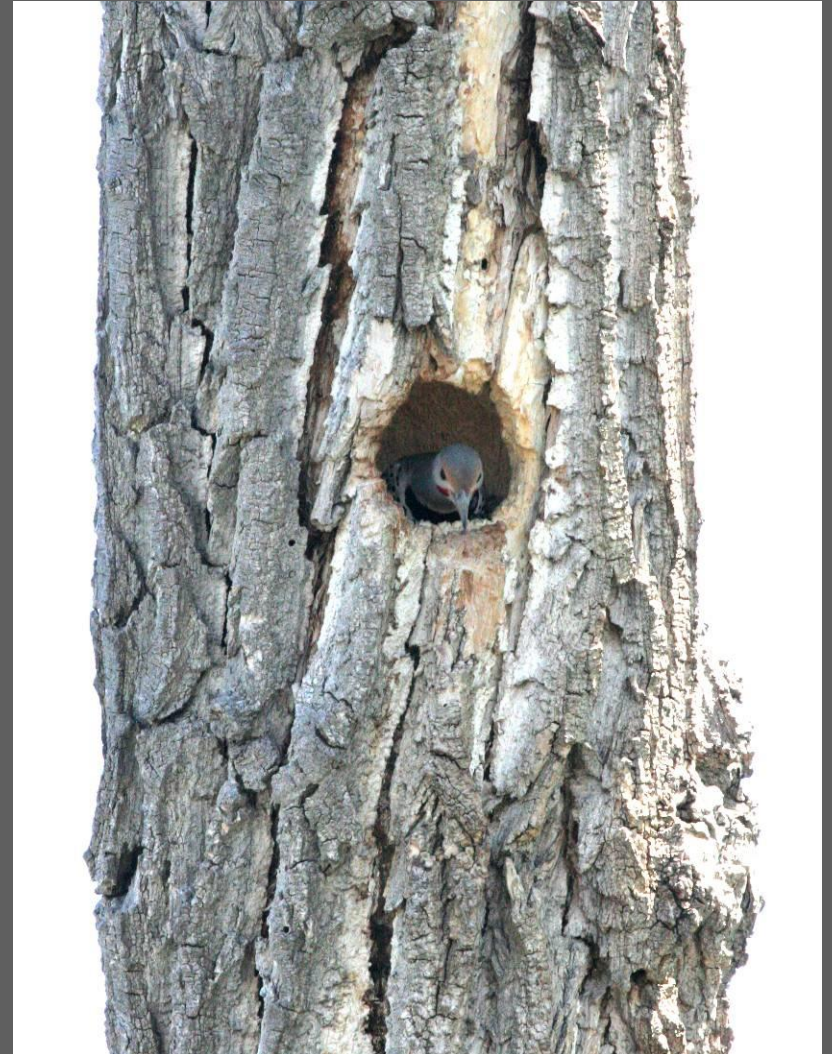


FACTORS OF BIRD MIGRATION

- Day-length
- Earth's magnet fields
- Topography
- Night sky features (stars, etc.)
- Reproductive hormones and other physiological cues
- Food acquisition issues

CAVITIES

- About 50 species of CO birds nest in holes
- Also used for roosting
- Not permanent
- Can indicate “hazard” in some situations
- Woodpeckers make almost all of them



NEST BOXES



- Boxes can mitigate natural cavity shortages
- This common “scout” project has pluses and minuses
- Dimensions are critical
- Expect surprises

YOU CAN LEAD A FLICKER TO A BOX, BUT YOU CAN'T MAKE IT NEST



TERRITORIAL MALE
USING ROOF OF BOX AS
PERCUSSION
INSTRUMENT



FLICKER-MODIFIED
BAT BOX (“BUT,
HONEY, THERE’S NO
FLOOR IN HERE”.)



WREN BOX REMODELED
BY FLICKER,
BUT NOW WHAT?



Fox Squirrels in our area not only dominate the situation with natural cavities but do the same with larger boxes designed for flicker, kestrel, screech-owl and wood duck.

THE EXCEPTION,
NOT THE NORM.

THE RATIO OF
BOXES TO
SUCCESSFUL
NESTINGS BY THE
DESIRED SPECIES IS
PROBABLY IN
EXCESS OF 25 TO 1



UNNATURAL HAZARDS TO BIRDS



- Domestic pets
- Windows
- Fishing line
- Motor vehicles
- Unclean feeders
- Poaching
- Pollution
- Habitat loss



“TIMMY” HUNTING THE DITCH AT GRANDVIEW CEMETERY.
“OUTDOOR” CATS KILL AN AVERAGE OF 33 BIRDS/YEAR PLUS SMALL MAMMALS, REPTILES, AMPHIBIANS, FISH, AND INSECTS. THE TOLL THEY EXTRACT FROM THE WILD HAS BEEN CALLED “THE SECOND SILENT SPRING”. THERE IS NOTHING NATURAL OR TRIVIAL ABOUT THEIR “JUST DOING WHAT COMES NATURAL”.

REFLECTIVE WINDOWS

- Lots of birds die this way
- Can be prevented by placing hawk silhouettes on glass, changing type of glass, increasing overhang, etc.



VEHICLES



- Roadkilled birds are common
- If possible, do not put feeders or plantings near roads
- Salt, insects, carrion, and blown seeds attract birds to roads
- Also, birds have learned to forage on car grills
- On the positive side, a car is a good photo blind

WEST NILE VIRUS

- Major impact on birds in CO beginning about 2002
- Among the groups affected: corvids, chickadees, screech-owls
- Vectored by *Culex* mosquitoes



UNNATURAL NEST MATERIALS



- Bailing twine, monofilament fishing line, and other very durable materials get added to nests by birds and can be fatal
 - Feet get entangled
 - Fish hooks impale

BABY BIRDS OUT OF THE NEST

WHAT SHOULD YOU DO?

- Basically, leave them alone
- Parents are probably nearby and will be back
- If not, that's life (and death) in the city
- Don't call DOW or Humane Society (or Charlotte)



SPECIAL BIRDS OF THE FORT COLLINS AREA

- We have the best of north, south, east, west, high and low.
- Out-of-state birders seek our prairie birds, small owls, certain woodpeckers, “chickens”, and rosy-finches.



WHITE PELICAN



- Largest span of any NA bird (9 ft!)
- In flight, often mistaken for cranes
- Fishes cooperatively
- Only 3 nesting colonies in CO



MOUNTAIN BLUEBIRD



- Breeds in the mountains
- Winters south of FC
- One of the earliest spring migrants (what do they find to eat?)
- Nest box trail benefactor

CANADA GOOSE

- At least 3 subspecies in our area (not to be confused with the newly split-off species - Cackling Goose)
- Like to feed (and poop) on bluegrass, making them a “pest” in the eyes of some



GURNEY CRAWFORD



DOW EMPLOYEE IN 1950'S CREDITED WITH ESTABLISHING
RESIDENT POPULATION OF CANADA GEESE IN FORT COLLINS

WILSON'S WARBLER

- Nests in willow carrs in the mountains
- An ABUNDANT migrant in FC in the fall, uncommon in the spring (i.e., “circular migration”)
- Similar to Yellow Warbler except for cap



EURASIAN COLLARED-DOVE

- Came to U.S. from Bahamas
- Spread across entire Lower 48 quickly
- New arrival in CO (early 1990's)
- Now common in FC
- Breeds year-round
- To imitate call, say, “Hoo-hoo-hoo” and repeat 4 million times



CEDAR WAXWING



- Very “classy” look
- They love berries
- Related to the more northern Bohemian Waxwing
- Sometimes get “drunk” on old fruit

NAME "WAXWING" COMES FROM
RED FEATHER TIPS OF ADULTS
LOOKING LIKE RED SEALING WAX



BLACK-CROWNED NIGHT-HERON

- Relatively short, thick neck for a heron
- Indeed, feeds a lot after dark
- Most migrate by the time of our late fall ice-up



AMERICAN DIPPER



- Characteristic of fast-moving streams and rivers of the West
- Dives in to capture aquatic insects
- Has its own “swim goggles”
- Also called “Water Ouzel”

BLACK-BILLED MAGPIE



- One of the corvids (jays and crows)
- Long, streamer tail feathers make it easy to ID
- This species hard hit by West Nile Virus
- Loud and raucous but beautiful

AMERICAN KESTREL



- Smallest falcon in NA
- Eats grasshoppers in summer, rodents in winter
- Hovers in one spot to watch for prey
- Our only hawk that's a true cavity-nester

TURKEY VULTURE



- Bald is beautiful (and functional)
- Major consumers of carrion
- Big roosts can occur in residential areas
- Called "buzzards"
- Hold wings in a "V" while soaring

WESTERN TANAGER

- Should be our state bird (a knock-your-glasses-off beautiful species)
- Breeds in ponderosa pine forests
- Highly migratory
- Eats insects and fruit



NORTHERN HARRIER



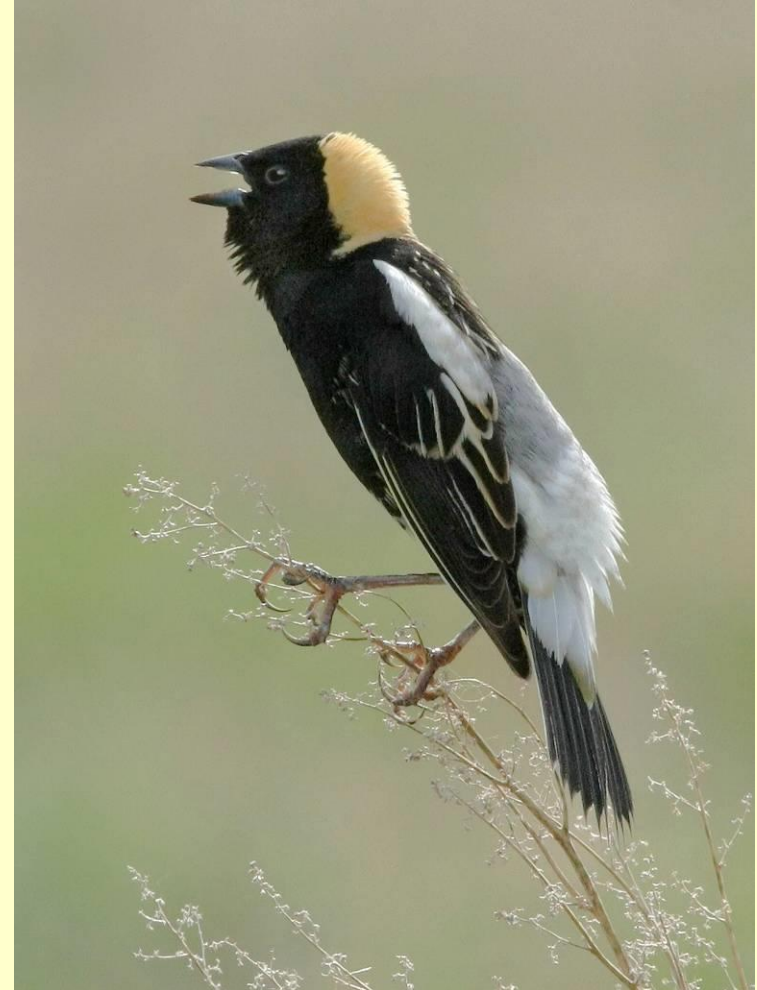
GREEN-TAILED TOWHEE

- Not that well-known to casual observers
- Breeds in montane sage-juniper areas
- Seen in our NAs during migration/summer
- A type of sparrow
- One of its calls sounds like a cat “mew”



BOBOLINK

♀



♂

“Quality” grassland species that has nested west of Reservoir Ridge NA parking lot and a tribute to how the City NA Department is restoring these fields.

BULLOCK'S ORIOLE



- Very closely-related to Baltimore Oriole (they sometimes hybridize)
- Makes the typical hanging-bag nest
- Prefer willows and cottonwoods

SHARP-SHINNED HAWK



- The smallest of the accipiters or “chicken hawks”
- Eat mostly birds
- Commonly terrorize bird-feeding operations
- Amazing aerial “dog-fighters”
- When consuming prey, start with “sweetbreads”

ROCK WREN

CANYON WREN



- ◆ Their favorite letter is "A"?
- ◆ Both are more often heard than seen

HUMMINGBIRDS



- Does anyone not like hummingbirds?
- Nectar at tubular flowers: salvia, catmint, trumpetvine
- 4 species to be expected in FC
 - Broad-tailed (nests in the mountains, west edge of town)
 - Rufous (migrant, shows up about 4th of July)
 - Calliope (migrant, mostly August-September)
 - Black-chinned (new arrival in our area, gift of climate change)

GREAT BLUE HERON



- Our most-common “wader”
- Flies with neck kinked
- Nests in colonies called “heronries” (not “rookeries”)
- Mostly migratory (a very few winter here)

WESTERN MEADOWLARK

- Common bird of grasslands and the prairie
- Often sings when a car passes thru its territory
- Very similar to the Eastern Meadowlark
- Somewhat migratory



LARK BUNTING



female



male



- Colorado State Bird
- Found exclusively in shortgrass prairie (PNG)

FERRUGINOUS HAWK

- In the “buteo” group of hawks
- Highly-associated with prairie-dogs
- Mostly white
- One of the most charismatic species of local open spaces and Pawnee Grasslands



WOOD DUCK

- Common in summer near the Poudre River
- Nest in tree cavities
- Like to eat Russian olives and other “mast”
- Great example of “sexual dimorphism”



Female wood duck with brood of 11 young.

GREAT HORNED OWL

- Our default “big” owl
- Ferocious
- Can nest as early as December-January
- “Squab, it’s what’s for dinner.”
- Mostly utilizes old crow and hawk nests



NORTHERN PYGMY-OWL (can occur at foothills NAs like Bobcat, Reservoir Ridge, Gateway)



AMERICAN WOODCOCK

- “Star” of the winter when found by Fawn in Jan 2015, then David Wade in 2016 (2!), 2 more in 2017!
- Denizen of swampy woods
- Eastern, very rare in CO, wintering or early migrant?
- Seen by 100s of birders thanks to City Ranger Karl



BAIRD'S SPARROW

- Historically found in summer nw of CO (Dakotas, MT, Sask)
- Likes “quality” prairie
- Small population found n of FC a few years ago and now suspected of breeding at Soapstone NA!
- Will summer of 2017 confirm breeding?

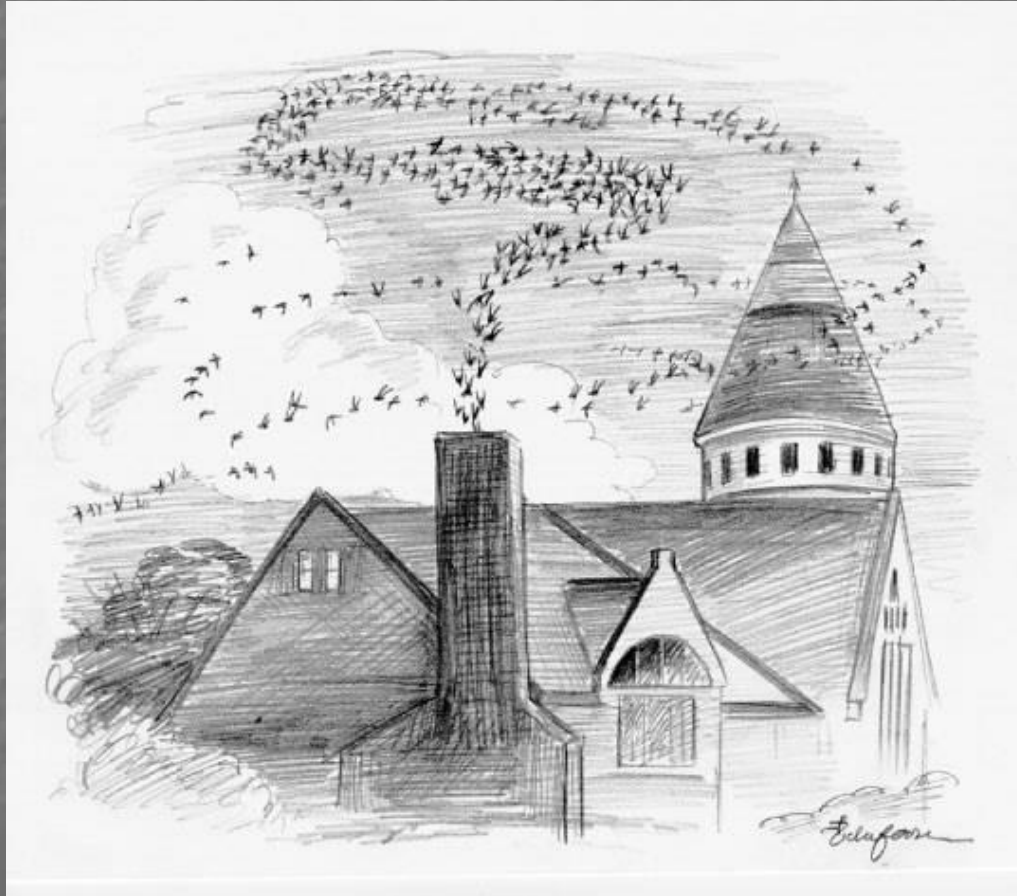


BELTED KINGFISHER



- Noisy resident of the Poudre River corridor
- Plunges in the water for small fish
- Nests in deep holes in river banks
- Punk hairdo
- Lots of personality
- Is bird in photo a male or female?

CHIMNEY SWIFTS IN OLDTOWN



BALD EAGLE



- Not uncommon in and around FC, especially winter
- Mostly scavenges dead fish and waterfowl
- A few pairs nest in our area (including Fossil Creek Res.)

NORTHERN FLICKER



- Western ones “red-shafted”, eastern ones “yellow-shafted”
- Mostly eat ants and R. olives
- Wannabe jazz drummers?
- The main woodpecker guilty of putting holes in structures

WHITE-WINGED CROSSBILL

- Shows up at Grandview Cemetery in winter (5 times in the last 35 years), nested there in 2010 (which is crazy and why we go birding)



HARRIS'S HAWK



- A hawk of the desert Southwest
- One has been in the eastern part of town for over a year (1st found near Running Deer NA)
- Normally hunts in groups
- Liked the rodents near Hageman's Recycling on east Prospect Road by the Welcome Center

GREATER ROADRUNNER



- At Coyote Ridge, Bobcat Ridge or Lory SP someday?
- Historically occurs only in southeastern CO, but one spent the winter near Red Rocks in Denver in winter of 2011-12, others seen recently Adams County & Ft. Morgan
- Climate change is real and causing many "southern" species to extend their ranges northward

OPTICS



- Binoculars are a birder's best friend (leave the dog at home)
- Spotting scopes of 20-60 power are useful for far-off, stationary birds (ducks, for ex.)
- Camera (used to capture the moment and for documentation)



MEMO TO SELF:
FIRST
CASE OF FIRE

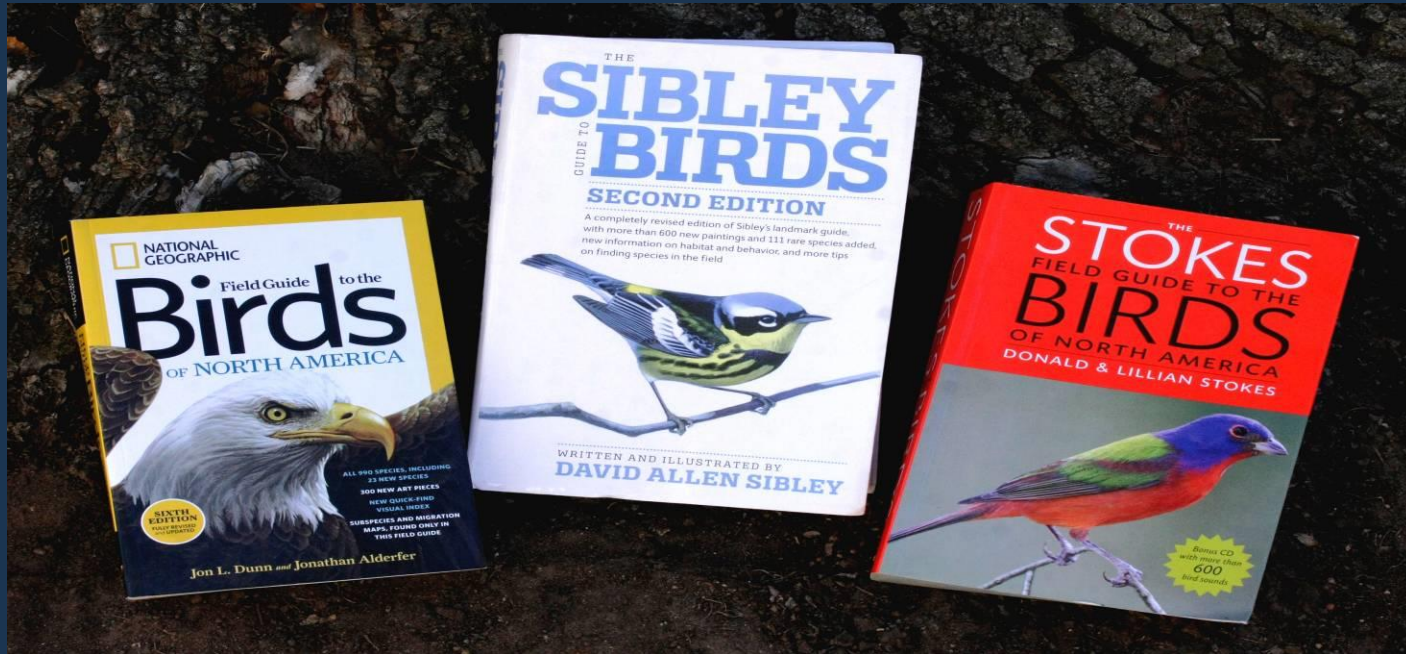
GRAB
IN

BINOCULAR FEATURES

- Field of View
- Brightness (light gathering ability)
- Power (7-8X is best, 10X at most)
- Weight
- Close focus
- Eye relief
- Feel in your hands
- Waterproofing
- Lens coating
- Armor
- Cost (\$250-\$3000)
- Brand (no cheepos)



FIELD GUIDES



Lots to choose from (paintings better than photos)

Sibley generally considered the best, a bit big to carry

National Geographic is good, and more pocketable

Most birders have several

BEST* BIRD BOOKS

- FIELD GUIDES

- Sibley (1st & 2nd editions)
- National Geographic Guide
- Kaufman
- Peterson (West)
- Smithsonian Field Guide
- Stokes Field Guide to the Birds of NA (new)
- The Crossley ID Guide
- Brian Small guides
- * in general avoid books with “Colorado” in title



- REFERENCES

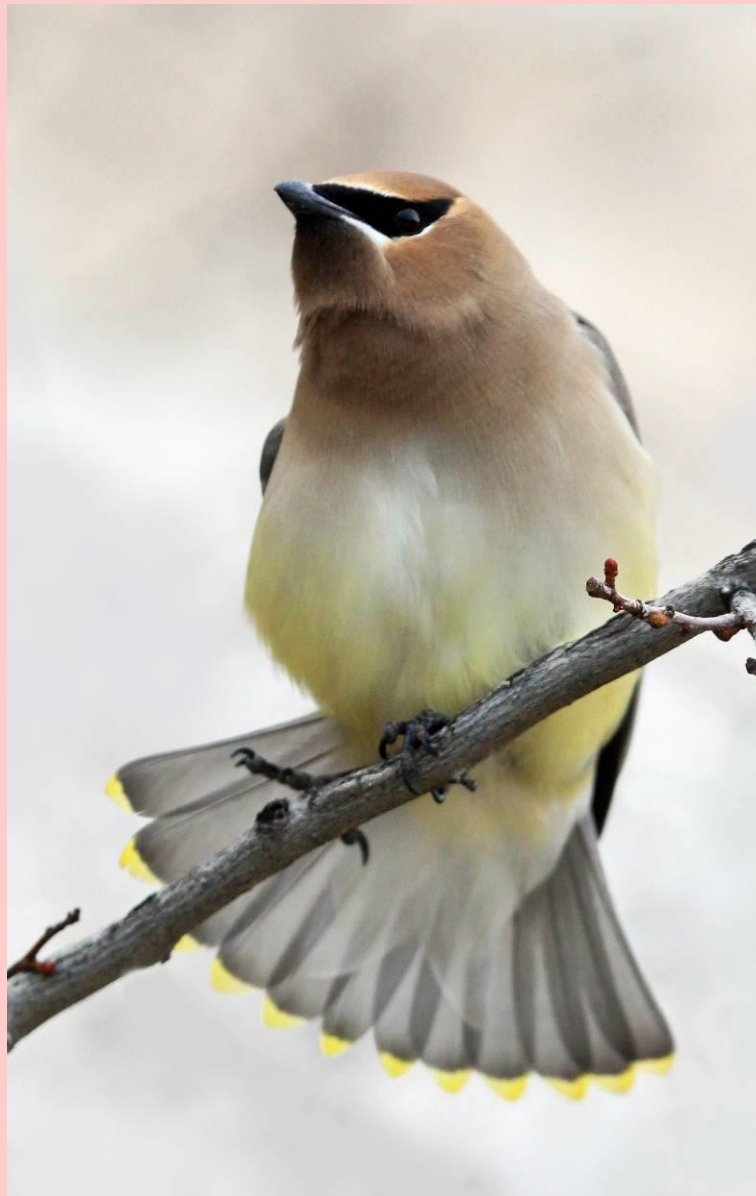
- Terres' Encyclopedia of N.A. Birds
- Ehrlich's The Birder's Handbook
- The Sibley Guide to Bird Life & Behavior
- The Stokes guides to behavior (various)
- Specific group guides
- Birds of N.A. (on-line)
- Many others!

BEST LOCAL AREAS FOR BIRDS & SHOWING BIRDS TO VISITORS

- Bobcat Ridge
- Gateway
- N. Shields Ponds
- Cattail Chorus –
Riverbend Ponds
- Windsor Lake
- Soapstone
- Pawnee Grasslands (esp.
Crow Valley CG)
- Rigden Reservoir
- Pineridge
- Kingfisher Point – Nix –
Springer Williams
- Arapaho Bend/Rigden Res
- Grandview Cemetery
- River's Edge – Martinez –
Gustav Swanson
- Rocky Mt. NP
- Moose VC in Gould
- Lory State Park

ON-LINE RESOURCES

- The listserv called “COBIRDS”
- Colorado Field Ornithologists’ (CFO) website (has a great guide to good places to bird in each county, plus much more)
- eBird (huge database of sightings managed by Cornell University)
- CFO Facebook page
- Cornell Laboratory of Ornithology website



ENJOY BEING A MASTER NATURALIST!!!