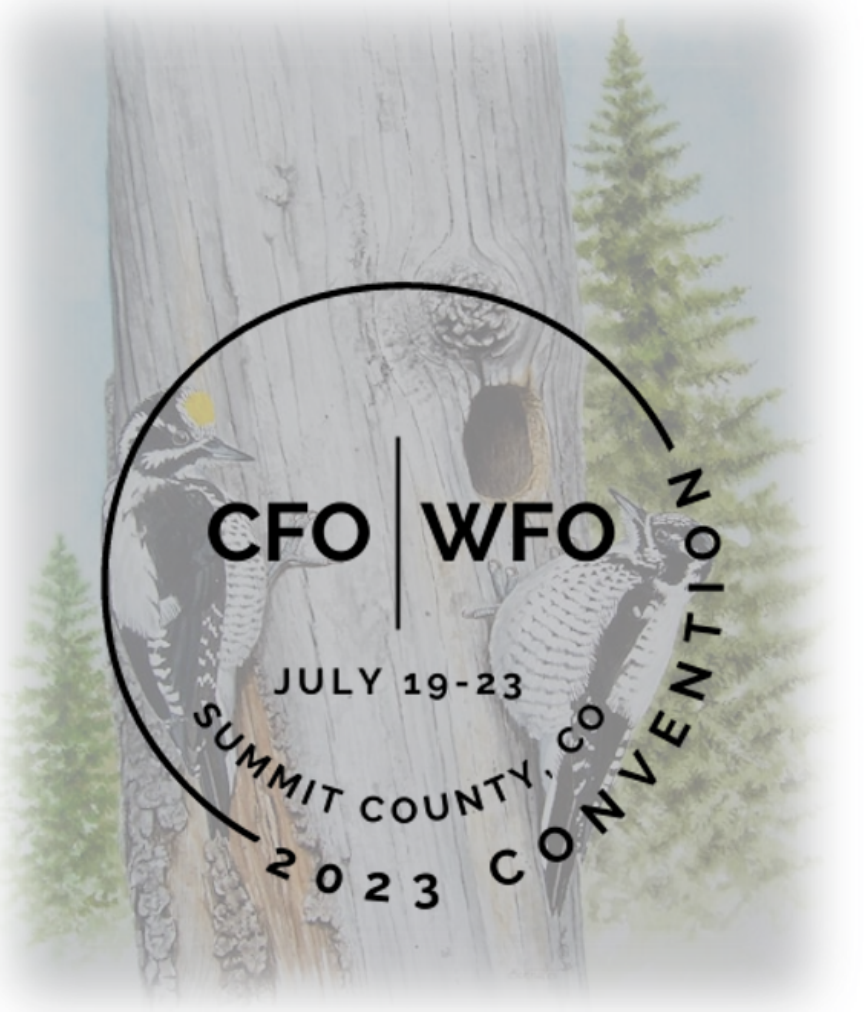

CFO & WFO Joint Convention
Summit County, Colorado
July 19-23, 2023

Convention Program

Schedule

Schedule is subject to change. Check for updates immediately prior to the convention.

Monday/Tuesday July 17/18, 2023

All Day	Youth/Student Camping Trip	Windy Point Campground

Wednesday July 19, 2023

5:30 pm - 8:00 pm	Welcome picnic w/ packet pick up	Jack's Slopeside Grill

Thursday July 20, 2023

4:45 am - 7:00 am	Pre-ordered breakfast/lunch pick up	Ptarmigan Foyer
5:00 am - 7:00 am	Registration/packet pick up	Ptarmigan Foyer
5:00 am - 7:00 am	Field trips depart	Ptarmigan Foyer
4:00 pm	Field trips return	
4:00 pm - 8:00 pm	Registration/packet pick up	Bighorn Ballroom C
4:00 pm - 8:00 pm	Silent Auction Open	Bighorn Ballroom C
4:00 pm - 8:00 pm	Vendors Open	Bighorn Ballroom C & Kokopelli's Trail
5:30 pm - 8:00 pm	Social with No Host Bar	Kokopelli's Trail
	Sponsored by Bird Conservancy of the Rockies	
	Appetizers served 5:30-7:00, bar serving to 7:30	

Friday July 21, 2023

5:00 am - 8:00 am	Pre-ordered breakfast/lunch pick up	Ptarmigan Foyer
5:00 am - 8:00 am	Registration/packet pick up	Ptarmigan Foyer
5:00 am - 9:30 am	Field trips depart	Ptarmigan Foyer
8:00 am - 11:00 am	Workshops	Bighorn B, Ptarmigan A
11:00 am - 12:00 pm	Field trips return	
12:00 pm - 8:00 pm	Silent Auction Open	Bighorn Ballroom C
12:00 pm - 8:00 pm	Vendors Open	Bighorn Ballroom C & Kokopelli's Trail
1:00 pm - 3:15 pm	Plenary and Science Session	Bighorn Ballroom B
1:00 pm - 4:00 pm	Workshops	Ptarmigan A
2:00 pm - 2:30 pm	Coffee Break	Kokopelli's Trail
3:30 pm - 5:00 pm	Bird Sound ID Challenge	Bighorn Ballroom B
4:00 pm - 8:00 pm	Registration/packet pick up	Bighorn Ballroom C1
5:15 pm - 8:00 pm	Presidents' Social with No Host Bar	Kokopelli's Trail
	Sponsored by CFO & WFO Past Presidents	
	Appetizers served 5:15-6:45, bar serving to 7:15	
5:15 pm - 8:00 pm	Youth/Student Pizza Party	Jack's Slopeside Grill
9:00 pm - 9:45 pm	Stargazing	Jack's Slopeside Deck

Saturday July 22, 2023

5:00 am - 8:00 am	Pre-ordered breakfast/lunch pick up	Ptarmigan Foyer
5:00 am - 8:00 am	Registration/packet pick up	Ptarmigan Foyer
5:00 am - 9:30 am	Field trips depart	Ptarmigan Foyer
8:00 am - 11:00 am	Workshops	Bighorn B, Ptarmigan A
11:00 am - 12:00 pm	Field trips return	
12:00 pm - 4:00 pm	Vendors Open	Bighorn Ballroom C & Kokopelli's Trail
12:00 pm - 6:30 pm	Silent Auction Open	Bighorn Ballroom C
1:00 pm - 3:15 pm	Science Session	Bighorn Ballroom B
2:00 pm - 2:30 pm	Coffee Break	Kokopelli's Trail
1:00 pm - 4:00 pm	Workshops	Ptarmigan A
3:30 pm - 5:00 pm	Bird Photo ID Challenge	Bighorn Ballroom B
6:00 pm - 8:00 pm	No-host Bar	Kokopelli's Trail
6:30 pm - 9:15 pm	Banquet with Keynote Presentation	Bighorn Ballroom B
9:15 pm - 9:45 pm	Silent auction pickup & payment	Bighorn Ballroom C

Sunday July 23, 2023

4:45 am - 7:00 am	Pre-ordered breakfast/lunch pick up	Ptarmigan Foyer
5:00 am - 7:00 am	Silent auction pickup & payment	Bighorn Ballroom C
5:00 am - 9:00 am	Field trips depart	Ptarmigan Foyer
4:00 pm	Field trips return	

Venue Locations

All convention activities will occur at or immediately adjacent to the Copper Mountain Conference Center in Summit County, CO. A map of the resort can be found under Convention Logistics on the CFO website: https://cobirds.org/current-convention/

- Conference Center: 184 Copper Cir, Frisco, CO 80443
    - Includes the Kokopelli Trail (lobby area in front of Bighorn), Bighorn Ballroom, and Ptarmigan rooms.
- Jack's Bar & Slopeside Grill: Adjacent to Convention Center
- Cambria Hotel (formerly Element 29)l: 670 Copper Rd, Frisco, CO 80443

All Copper parking lots are free during the summer season.

Transportation to/from the Convention
You can find information on shuttle services or public transportations to/from the Copper Mountain Resort under Convention Logistics on the CFO website: https://cobirds.org/current-convention/

High Elevation in the Rockies

Summit County, in the heart of the Rocky Mountains, is at a high elevation. The Conference Center at Copper Mountain Resort is at 9,712 ft. Field trips will be going to lower and higher elevations. Weather can change dramatically from day to day and the thinner, drier air means that temperatures drop rapidly once the sun sets. Please take precautions while packing and during your visit to ensure a safe and enjoyable trip.

- Drink plenty of water - the air is thinner and drier than you may be used to. You will likely need to consume more water than you normally would. Bringing a reusable water bottle to carry on field trips and fill at the convention center is highly recommended.
- Wear layers so that you can adjust to changing temperatures. Be prepared for wind as it can have a significant chilling effect.
- If coming from a low altitude, consider avoiding alcohol for the first 48 hours of your visit. A common rule of thumb is that every two drinks feels more like three drinks at lower elevations.
- Allow for plenty of rest to recuperate.
- Avoid overexertion before your body can adapt to the lower oxygen and dryness in Colorado. Recognize that you will likely need to walk slower than you may be used to – luckily we're birding so this probably won't be an issue.
- With a less protective atmosphere between you and the sun, sunburns are common at elevation. Consider wearing sunscreen, sun shirt, and a hat even if you do not normally do so.

Vendors

Don't miss the wonderful collection of vendors that are in attendance at the Convention in Bighorn Ballroom C.

Optics

Swarovski Optiks
Opticron
Maven Built Optics
Zeiss
Kowa Sporting Optics
Front Range Birding Company

Travel & Guiding

Crescentia Expeditions Costa Rica
Holbrook Travel Birding & Nature Tours
Partnership for International Birding
Tranquilo Bay Eco Adventure Lodge
Reefs to Rockies
Valley Nature Center/ Spring Chirp Festival

Community & More

Environment for the Americas
Bird Conservancy of the Rockies
Colorado Crane Conservation Coalition
Colorado Wildlife Council
Nature's Educators

Silent Auction

Support student research and youth development while snagging yourself some new optics, artwork, travel awards, books, and more! The silent auction is held in Bighorn Ballroom C on Thursday, Friday, and Saturday. Final bids are at 6:30pm. Check out the Convention webpage to preview some of the items that will be available.

All proceeds are split between WFO and CFO to support their respective grants and scholarships programs. Learn more about WFO's program. Learn more about CFO's program.

BioBlitz

During the 2023 CFO-WFO Joint Convention, we will be holding a bioblitz using iNaturalist to see how many total avian and non-avian organisms convention attendees can collectively document in Colorado.

What is a BioBlitz? The goal of a BioBlitz is to document as many types of living organisms as possible within a specified time period. Our specified time period will be Tuesday, July 18 at midnight to Saturday, July 22 at 5 pm.

How do I participate?

1. Download the iNaturalist app for free on your smartphone or tablet.
2. Search for and join the iNaturalist project "CFO-WFO 2023".
3. Start observing!
4. To create an observation, take pictures or audio recordings of whatever non-human organism catches your eye and upload this evidence as an observation to the app.

There are prizes!? The top five participants who upload the most iNaturalist observation to the CFO-WFO 2023 project while in Colorado between Tuesday, July 18 and Saturday, July 22 at 5 pm, will receive prizes. A prize will also be rewarded to the participant who uploads the highest diversity of taxa during the same window.

Learn More: https://cobirds.org/bioblitz-at-cfo-wfo-joint-convention/

Youth And Student Events

There are a variety of activities specific for youth and student participants at the joint WFO-CFO convention. Learn more about these activities on the convention website.

Pre-convention camping trip: July 17-19 at Windy Point Campground.
Free camping during the convention: July 19-24 at Prospector Campground.
Thursday youth/student field trip: Grand County Big Day (THFT12).
Friday youth social: Relax with friends old and new.
Saturday youth/student field trip: Kite Lake Ptarmigan & Rosy-Finches (SAFT9).
Youth teams: Compete with your peers during the Bird Sound and Bird Photo ID Challenges.

Food

Welcome Picnic

The picnic will be a burger, veggie burger, and all-beef hotdog buffet served with baked beans, buns, salads, watermelon, iced tea, lemonade, and desert. There will be a no-host bar as well. All registered attendees are invited.

Breakfasts & Lunches

If you ordered Grab & Go breakfasts and/or lunches, these are available for pickup in the Ptarmigan Foyer. Check your individual schedule to confirm what you ordered. There is no option to order on site.

Banquet

If you purchased a Convention Banquet ticket this is indicated on your name badge (*). You must bring your badge as your entry to the banquet. In addition, within the name tag will be a colored slip of paper to indicate your menu selection. Please place this above your place setting so the servers know which option to bring you.

There will be a no-host bar at the banquet.

Menu

All dinner entrees are served with an appetizer and chef's selection of seasonal vegetables, fresh baked rolls and butter.

Appetizer: Goat Cheese Bruschetta

Entrée Choices:

1. **Kurobuta Pork Chop** with grilled Apple Quinoa and Tart Cherry Jus Lie *(Pink ticket)*
2. **Parma Wrapped Chicken Breast** Stuffed with Roasted Tomatoes, Gouda, Fresh Basil Chévre, Roasted Red Pepper Polenta and Roasted Tomato Jam *(Blue ticket)*
3. **Grilled Vegetable En Croute**- Zucchini, Squash, Asparagus, Eggplant, Onion, Roasted Red Pepper, Goat Cheese, Wild Mushroom Quinoa Balsamic Drizzle, Fresh Tomato Relish *(Green Ticket)*
4. Special Dietary Request - if you made a special dietary request in your registration, you will have a *yellow ticket* and the server will ask about the specific, pre-ordered meal.

Dessert: Lemon Raspberry Tart

Beverages: Lemonade and Iced Tea, Coffee, Decaffeinated Coffee and an Assortment of Fine Teas

Science Program

This Science Program schedule and abstracts are available as a separate PDF on the convention website if you would like to print just the Science Program.

Friday, July 21, 2023: Bighorn Ballroom B

1:00–1:10 Welcoming remarks by WFO President JOHN HARRIS and CFO Past-President NICK KOMAR.

1:10–1:40 *Plenary presentation by CHRIS WOOD. eBird Science to Conservation Action.*

1:40–1:55 *SAMUEL BRESSLER, ELEANOR DIAMANT, and PAMELA YEH. Patterns, Processes, and Drivers of Novel Nesting Behaviors in Urban Dark-eyed Juncos.*

1:55-2:10 *MATTHEW MOELLING and RENÉE DUCKWORTH. Opposing Selection Pressures Produce Fluctuating Optima for Reproductive Timing in a Passerine Bird.*

2:10–2:25 *Break.*

2:25-2:40 *PETER GENT. Recent New Species in Colorado.*

2:40–2:55 *AMY SEGLUND and KATHRYN BERNIER. Population Assessment and Resource Selection of Brown-capped Rosy-Finches in Colorado.*

2:55–3:10 *HENRY INGERSOLL. Survival of Avian Species in Urban Habitat Fragments in San Diego.*

3:10–3:30 *Break.*

3:30–5:00 *Bird Sound Identification: Team Challenge, moderator NATHAN PIEPLOW.*

Saturday, July 22, 2023: Bighorn Ballroom B

1:00–1:05 Welcoming remarks by WFO President JOHN HARRIS and CFO President NICK KOMAR.

1:05–1:20 *CASEY WEISSBURG. Mountain Plovers Select Breeding Habitat Dependent on Local Vegetation Structure at Two Differing Colorado Sites.*

1:20–1:35 *DREW BENDER, LAURA FARNSWORTH, and CHRISTY CARELLO. Habitat Parameters that Promote Group Aggregate Feeding in Non-breeding Northern Shovelers.*

1:35–1:50 *TED FLOYD. Descriptive Natural History in the Era of #DigitalTaxidermy: a Bushtit,* Psaltriparus minimus*, Case Study.*

1:50–2:05 *KAILY TAYLOR-MEEK, TYLER IMFELD, and GARTH SPELLMAN. Historical Dynamics of the Northern Flicker (*Colaptes auratus*) Hybrid Zone in Response to Urbanization of the Colorado Front Range.*

2:05–2:20 *Break.*

2:20–2:35 *THOMAS BENSON. 2023 Update from the California Bird Records Committee.*

2:35–2:50 *JOHN T. DOMEIKA, BRIAN D. LINKHART, CHRISTINE M. RAYNE, CHRISTEN BOSSU, and MAYBELLENE P. GAMBOA. Gene flow and genetic diversity in Flammulated Owls (*Psiloscops flammeolus*) in Colorado.*

2:50–3:05 *SUSAN BONFIELD. Conserving our Mountain Gems: The Western Hummingbird Partnership's Efforts to Safeguard Migratory Hummingbirds.*

3:05-3:20 *BRETT L. WALKER, AARON A. YAPPERT, COURTNEY L. BRENNAN, and ANDREW W. JONES. Solving the Mystery of Colorado's Alpine Brewer's Sparrows.*

3:20–3:30 *Break.*

3:30–5:00 *Photo Identification Challenge, moderator ED HARPER.*

Banquet and Keynote Presentation – Bighorn Ballroom B

6:30–9:15 *Keynote address by JESSIE BARRY. Merlin - Sharing the Magic of Birds with the World (During the Banquet)*

Abstracts

BENDER, DREW, LAURA FARNSWORTH, and CHRISTY CARELLO. **Habitat Parameters that Promote Group Aggregate Feeding in Non-Breeding Northern Shovelers.** *Metropolitan State University of Denver; Campus Box 53, P.O. Box 173362, Denver, CO 80217-3362; dbender6@msudenver.edu, lfarnsw2@msudenver.edu, carello@msudenver.edu.*

Northern Shovelers (*Spatula clypeata, NSHO*) are a type of dabbling duck with resident and migratory populations that winter throughout Colorado. NSHO in Colorado have been observed performing a type of group aggregate feeding behavior in the winter where multiple ducks gather and form a vortex in the water to aid in group feeding called “spinning”. While “spinning” has been reported at various waterbodies across Colorado, the exact conditions that facilitate this behavior are still unclear and are the focus of our research. We have evaluated 65 waterbodies located throughout the Denver Metro Area to determine what parameters are important for winter foraging and promote large group aggregate feeding behavior. Biotic data such as bird and plant observations along with abiotic factors such as weather, ice coverage, and water properties were recorded. In addition, we documented the interactions of other aquatic birds with NSHO spinning behavior. Our results show that water composition between waterbodies where NSHO are spinning versus where NSHO are not feeding have different abiotic properties along with differences in waterfowl species richness. Waterbodies with NSHO spinning activity had higher levels of pH and greater species richness compared to waterbodies without NSHO spinning activity. Understanding the habitat parameters that NSHO rely on for feeding, and their association with other waterfowl in the non-breeding season, will provide useful information for species and habitat conservation management.

BENSON, THOMAS A. **2023 Update from the California Bird Records Committee.** *California Bird Records Committee, secretary@californiabirds.org*.

This presentation will provide a summary of the activities of the committee and highlights from records reviewed in 2022–2023. At its annual meeting in January 2023, the CBRC elected three new members (Kimball Garrett, Marky Mutchler, and Peter Pyle) to replace three members rotating off the committee (Debbie House, Guy McCaskie, and Ryan Terrill) and voted to remove Slaty-backed Gull and Great Crested Flycatcher from its review list. The committee received reports of four potential first state records in 2022: Small-billed Elaenia, Wood Warbler, Willow Warbler, and Siberian Rubythroat. Other notable records from 2022–2023 include Tundra Bean-Goose, Oriental Turtle-Dove, Gray-tailed Tattler, Wood Sandpiper, Swallow-tailed Gull, Red-flanked Bluetail, and above-average numbers of Ruby-throated Hummingbird, Winter Wren, and Wood Thrush.

BONFIELD, SUSAN. **Conserving our Mountain Gems: The Western Hummingbird Partnership’s Efforts to Safeguard Migratory Hummingbirds.** *Environment for the Americas, 5171 Eldorado Springs Drive, Suite N, Boulder, CO 80303; sbonfield@environmentamericas.org*.

Alarming evidence of steep declines in certain populations of hummingbirds has raised concerns among conservationists, land managers, and researchers. These unique avian species, known for their dietary requirements as nectivores and insectivores, undertake extensive migrations across diverse landscapes, posing challenges for studying and understanding their conservation needs. To address these critical barriers, the Western Hummingbird Partnership (WHP) was established. Lack of knowledge regarding hummingbird migration patterns, flowering plant preferences, phenology, and the availability of suitable plants for restoration have emerged as significant obstacles in conservation efforts. Traditional survey methods used for monitoring other bird species are ill-suited for hummingbirds due to their distinctive characteristics. Hummingbirds' lack of vocalizations renders them undetectable in aural surveys, and their capture and banding require specialized permits that are not commonly held by biologists. Moreover, their reliance on a diverse array of flower species necessitates botanical expertise to identify plants crucial for their survival. The WHP aims to bridge these knowledge gaps by fostering collaboration among biologists, researchers, land managers, educators, and other stakeholders. By

collectively addressing the gaps in understanding related to the seven species of North American western migratory hummingbirds, the partnership strives to develop effective solutions to reverse troubling population declines observed in specific species. This conference presentation will delve into the world of western migratory hummingbirds, shedding light on the Western Hummingbird Partnership's initiatives in Mexico, the United States, and Canada. Through its collaborative approach, the WHP seeks to unite people in safeguarding these mesmerizing birds and their migratory routes. Join us to explore the latest findings and learn how the WHP is working diligently to protect the future of migratory hummingbirds.

BRESSLER, SAMUEL[1], ELEANOR DIAMANT[2], and PAMELA YEH[2,3]. **Patterns, Processes, and Drivers of Novel Nesting Behavior in Urban Dark-eyed Juncos.** [1]*LSA Associates, 3210 El Camino Real, Suite 100, Irvine, CA 92602; Samuel.Bressler@lsa.net.* [2]*Department of Ecology and Evolutionary Biology, University of California, Los Angeles, CA 90095; eldiamant@ucla.edu.* [3]*Santa Fe Institute, Santa Fe, NM 87501; pamelayeh@ucla.edu.*

As urbanization continues and accelerates worldwide, cities have increasingly become host to a diverse and distinctive urban avifauna. For these urban bird communities to survive and thrive in the urban environment, they must adapt to novel conditions and challenges, including human disturbance and synanthropic predators, and understanding how these birds adapt to these novel conditions is critical to managing our cities as urban biodiversity oases. As urbanization acts on a short biological timescale, phenotypic plasticity plays an important, yet understudied role in urban adaptation. We studied plasticity in the nesting biology of one such 'urban-adapter' species, the dark-eyed junco (*Junco hyemalis*), to understand the role of plasticity in adapting to city life. We examined (i) whether the use of novel nest sites is adaptive, (ii) whether pairs modify nest characteristics in response to prior outcomes, and (iii) whether the use of novel nest sites was impacted by the rapid collapse in human activity due to the COVID-19 pandemic. We monitored 164 junco nests in urban Los Angeles in 2019 and 117 in 2021 during the pandemic, and found that nests placed in ecologically novel locations (off-ground and on artificial surfaces) increased fitness, and that pairs practiced informed re-nesting in nest site selection. However, the use of off-ground and artificial substrates did not decrease with decreasing human activity during the pandemic, suggesting that while this novel nesting behavior is adaptive, it is likely not driven by human disturbance, and is more likely driven by other factors such as predation or nest site availability.

DOMEIKA, JACK T.[1], BRIAN D. LINKHART[1], CHRISTINE M. RAYNE[2], CHRISTEN BOSSU[2], and MAYBELLENE
P. GAMBOA[1]. **Gene flow and genetic diversity in Flammulated Owls (*Psiloscops flammeolus*) in Colorado.** [1]*Colorado College Dept. Organismal Biology & Ecology, 14 E Cache La Poudre St. Colorado Springs, CO 80903; j_domeika@coloradocollege.edu.* [2]*Colorado State University College of Natural Science, Fort Collins, CO 80521.*

Research into the movements of migratory indicator species across space and time is crucial for the inference of ecosystem health and future stability. Understanding the population dynamics and connectivity of migratory birds allows for the development of more robust and impactful conservation management strategies. However, while most efforts have focused on small, widespread passerines, little is known about the movements of migratory raptors like the Flammulated Owl. The Flammulated Owl (*Psiloscops flammeolus*; hereafter owl) is a small, migratory, and insectivorous raptor that serves as an indicator species to infer old-growth ponderosa pine forest health in western North America. Habitat conversion and extreme climate events have altered ponderosa pine forests, suggesting a potential impact on owl populations. Here, we aim to infer gene flow, genetic diversity, and fitness of two owl populations located in the Manitou Experimental Forest in Colorado. Specifically, we utilized whole-genome sequencing data from hundreds of owls spanning 8 years to estimate temporal changes in population genomic statistics and individual fitness. Our results provide insight into the intergenerational movements of this migratory raptor, on both a temporal scale as well as across a population and range. Further understanding of the behaviors and challenges facing these owls will allow for a greater understanding of ecosystem stability as it pertains to the impacts of climate change on this indicator species.

FLOYD, TED. **Descriptive Natural History in the era of #DigitalTaxidermy: a Bushtit, *Psaltriparus minimus*, Case Study.** *American Birding Association, 2009 South Fork Drive, Lafayette, CO, 80026; tfloyd@aba.org*.

During the 16-year period 2006–2023 I have been chronicling the natural history of an invading and increasing population of the Bushtit, *Psaltriparus minimus*, at Greenlee Wildlife Preserve in Lafayette, eastern Boulder County, Colorado, USA. My study of this population has established some basic details of diet, phenology, and microhabitat, and also yielded surprising discoveries regarding rectrix molt, eye color, territoriality, and song in the population. Observations in the early 2020s documented an influx of Bushtits, including adult females, with phenotypic characters corresponding to those of the *melanotis* group, the "Black-eared" Bushtit. The Bushtit, rapidly expanding in northeastern Colorado and southeastern Wyoming, is a bellwether of anthropogenic climate change. The species also exhibits considerable geographic variation, with recent work by Bob Zink and colleagues indicating significant genetic differentiation between Interior *plumbeus* and nominate Pacific Slope *minimus* populations. Basic descriptive natural history—especially clarification and revision of our knowledge of plumages, bare parts, and vocalizations—will critically inform our understanding of species limits, local adaptation, phenotypic plasticity, and other aspects of the fundamental biology of Bushtits and other birds. In this regard, I note that my studies of Bushtits have been conducted in the digital age, which has equipped us with analytical methods that simply did not exist a generation ago. So much of what we have learned has been powered by access to staggering online databases of crowdsourced media, belying a felicitous paradox: The "oldest profession" in natural history, *viz*., taxidermy, has come roaring back to life in the digital age. Accordingly, I make the case that birders and field ornithologists enthusiastically embrace #DigitalTaxidermy going forward.

GENT, PETER. **Recent New Species in Colorado.** *Colorado Bird Records Committee, 55 South 35th Street, Boulder, CO, 80305; pgent@cobirds.org*.

This talk will present species that have been documented in Colorado for the first time over the past few years. It will analyze where the normal ranges of these species are located, and thus speculate on what new species can be expected to be found in Colorado in the near future. The talk will also speculate on the status of Yellow Rail and Cassia Crossbill in Colorado.

INGERSOLL, HENRY. **Survival of Avian Species in Urban Habitat Fragments in San Diego: A Follow-up of the Soule Study.** *2043 via Ladeta, La Jolla, CA 92037, hankingersoll@gmail.com*.

In 1988, Soule et al. (*Conservation Biology* Volume 2, No. 1, March 1988) published a manuscript about the effects of habitat fragmentation in San Diego County on eight sedentary chaparral-specialists bird species. The chaparral habitats were mostly undeveloped canyons dissecting coastal mesas. They found that the eight species had a high rate of extinction in these isolated canyons. The rate of extinction was positively related to canyon age since isolation, and inversely related to canyon area. This study is a 37 year follow up of 11 of the 37 habitat fragments in the original Soule study. The hypothesis tested is whether there is a continued decline in the number of target species in the isolated canyons. The study sites were surveyed at least once in November 2022 and April 2023, and appropriate eBird reports were reviewed. The age since isolation of the 11 study sites varied from 42–94 years (mean 54) at the time of this study, and fragment area from 1–84 hectares (median 7.6).In the 11 study sites in 1986, Sole found 4.73 (+/- 2.41) species. In my 37 year follow-up, I found 3.45 (+/-1.63) species in the same sites, a difference that is not statistically significant (p = 0.16). Thus in this subset of the original Soule data, the null hypothesis is confirmed. The 3 largest canyons in the current study (average 48 ha.) had 6 (+/-0.0) species in each in 1986, and 5.33 (+/- 0.58) species in the current study. This decline is due to the disappearance of a single species, the Greater Roadrunner *Geococcyx californianus*. There is recolonization of a single species in two other sites that had no species in 1986. Wrentit *Chamaea fasciata* and Spotted Towhee *Pipilo maculatus* seem to be doing particularly well overall, with the former species found in 9 of the 11 sites, and the latter found in 10 of 11 sites. This study is not a long enough follow-up to prove or disprove Soule's prediction that virtually all chaparral-requiring species will disappear within a century after canyon isolation. However, in this study of average canyon age of 54

years, 4 of the 8 species seem to be in a stable condition and doing well.

MOELLING, MATTHEW and RENÉE DUCKWORTH. **Opposing Selection Pressures Produce Fluctuating Optima for Reproductive Timing in a Passerine Bird.** *Department of Ecology and Evolutionary Biology, University of Arizona, 1041 E. Lowell St, Tucson, AZ 85719; mhmoelling@arizona.edu, rad3@arizona.edu*.

Breeding phenology is a fundamental concept in life history evolution, as the decision of when to breed is closely tied to an organism's fitness. Under global climate change, various environmental cues and selection pressures that influence breeding decisions are being altered and may produce fluctuating selection on breeding date. While advances in egg laying due to warming springs have been frequently documented in birds, the influence of global warming is expected to produce more variable effects which will impact species in less predictable ways. Birds in temperate regions typically experience consistent selection for earlier breeding, however, earlier breeding can potentially expose offspring to late spring 'cold snaps' during their time of maximal resource need. This can result in nest failure, potentially reversing the direction of selection and maintaining variation in breeding timing. Using a combination of long-term breeding data and a supplemental feeding experiment in nest box populations of Western Bluebirds (*Sialia mexicana*) in western Montana, we examine the ongoing tension between opposing selection pressures and their impact on the evolution of breeding date. We found a striking pattern of fluctuating selection between years with evidence that cold snap occurrence can reverse the direction of selection in some years, thus opposing general background selection for earlier breeding. These findings have significant implications for encapsulating the complex ways in which birds experience selection on breeding date and how they will be able to adapt to the increasingly variable impacts of climate change in the coming decades.

SEGLUND, AMY[1] and KATHRYN BERNIER[2]. **Population Assessment and Resource Selection of Breeding Brown-capped Rosy-Finches in Colorado.** [1]*Colorado parks and Wildlife 2300 South Townsend Montrose, CO; amy.seglund@state.co.us.* [2]*University of California Santa Cruz, kmbernie@ucsc.edu.*

The Brown-capped Rosy-Finch (*Leucosticte australis*) is a small, hardy songbird that resides in high elevation alpine habitats where it nests in steep cliff faces and rocky talus slopes. Its range is predominantly restricted to Colorado. The Brown-capped Rosy-Finch is a Tier 1 species in Colorado's State Wildlife Action Plan and the recent State of the Birds Report identified the Brown-capped Rosy-Finch as one of 70 tipping-point species that will be considered next in line with threatened or endangered species status. This project was designed to provide information on the current population status of the bird and examine habitat use during the breeding season. Using distance sampling within randomly selected alpine basins, we estimated the statewide population of Brown-capped Rosy-Finches for the three years sampled (2018–2020) to vary from 116,421–148,546 individuals, with between-year overlap in 95% confidence intervals encompassing 85,889–208,959. Abiotic factors that appeared to be important to breeding Brown-capped Rosy-Finches were proximity to cliffs and snow patches. Cliffs are often used as nesting substrate and birds commonly forage on snow patches. Land cover classes used by Brown-capped Rosy-Finch were composed of rocky areas with sparse vegetation. The more densely vegetated areas were normally avoided by birds. Brown-capped Rosy-Finches were detected most often at elevations ranging from 3543–4046 m. The baseline data collected from this survey effort will help inform future monitoring techniques and identify conservation efforts that could be implemented as environmental changes become more prominent and human use of the alpine increases.

TAYLOR-MEEK, KAILY[1,2], TYLER IMFELD[1], and GARTH SPELLMAN[2]. **Historical Dynamics of the Northern Flicker (*Colaptes auratus*) Hybrid Zone in Response to Urbanization of the Colorado Front Range**. [1]*Regis University, 3333 Regis Blvd, Denver, CO 80221*; *kmeek@regis.edu*, *timfeld@regis.edu.* [2]*Denver Museum of Nature and Science, 2001 Colorado Blvd, Denver, CO 80205; Garth.spellman@dmns.org.*

Hybrid zones play notable roles in ecological and evolutionary processes and can be impacted by environmental and anthropogenic factors. Increased anthropogenic disturbance is expected to spatially shift these zones and alter hybridization frequencies in many avian taxa, including the red- and yellow-shafted Northern Flickers. These taxa have low levels of genomic divergence and distinct plumage

characteristics that vary between red-shafted, yellow-shafted, and hybrid individuals, allowing hybrids to be effectively scored genetically or morphologically. The Flicker hybrid zone has been extensively studied across the Great Plains from a historical and contemporary perspective, however, urbanization and human influences on Flicker hybridization are unknown. Our study evaluated how hybridization frequencies and dynamics of the flicker hybrid zone have changed in the last century along the Colorado Front Range. We quantified historical hybridization by scoring plumage characteristics using existing scoring methods from study skins and assessed this hybrid zone's spatial and temporal dynamics in conjunction with historical land-use data. Using ordination tools, Northern Flickers displayed a major gradient of plumage variation between pure red- and pure yellow-shafted individuals that correlated nearly perfectly with established hybrid index scores. Additionally, we observed nuanced sex biases in major plumage characteristics, where crown coloration covaried with differing plumage characteristics between sexes on the next greatest axis of variation. Hybridization frequency and plumage dynamics did not significantly change over time or in response to increased urbanization in the Colorado Front Range. Our study demonstrates that anthropogenic habitat conversion has not notably altered the Northern Flicker hybrid zone since the late 1800s, emphasizing the long-term stability of hybridization in this region.

WALKER, BRETT L.[1], AARON A. YAPPERT[1, 2], COURTNEY L. BRENNAN[3], and ANDREW W. JONES[3, 4]. **Solving the Mystery of Colorado's Alpine Brewer's Sparrows.** [1]Colorado Parks and Wildlife, 711 Independent Ave., Grand Junction, CO 81505; brett.walker@state.co.us. [2]Current address: Department of Natural Resource Ecology and Management, Iowa State University, Ames, IA 50014. [3]Cleveland Museum of Natural History, Cleveland, OH 44106. [4]Current address: Spring Island Trust, 40 Mobley Oaks Lane, Okatie, SC 29909.

Documenting previously unknown breeding populations of declining wildlife species is important for assessing their conservation status. The Brewer's Sparrow (*Spizella breweri*) is a declining migratory songbird with two closely related subspecies. The nominate subspecies (*S. b. breweri*) breeds in sagebrush-dominated shrublands across western North America. The "Timberline" subspecies (*S. b. taverneri*) breeds in treeline shrubs and krummholz in mountain ranges from Alaska to Montana. Brewer's Sparrows have also been reported in summer in shrubs and krummholz at alpine sites south of *S. b. taverneri* range across the western U.S., including in Colorado, but their taxonomic identity and breeding status remains unclear. We compiled historical records and identified and surveyed for Brewer's Sparrows at 20 alpine and 26 sagebrush sites in May–July 2021–2022 in western Colorado. We recorded short songs at 30 sites and captured, measured, photographed, and collected blood and feather samples at 12 alpine and 14 sagebrush sites. At alpine sites, we detected singing males in patches of willows 0.9–1.8 m tall, or willows mixed with sparse conifer krummholz 1.3–5.0 m tall. Habitat and breeding phenology at alpine sites closely match those of *S. b. taverneri*. However, songs, morphology, plumage, and mitochondrial DNA haplotypes overlapped between alpine and sagebrush birds and more closely matched those of range-wide *S. b. breweri*. Our results indicate that Colorado supports a widely distributed, but poorly documented, high-elevation population of *S. b. breweri* nesting in alpine willows and conifer krummholz. Whether alpine birds are simply *S. b. breweri* in atypical habitat, itinerant breeders, or possibly a distinct demographic and genetic subpopulation within *S. b. breweri* remains unknown. Additional surveys and research are needed to fully understand this species' alpine breeding ecology and distribution. Our results suggest differences in breeding habitat and timing of breeding are unreliable criteria for distinguishing between Brewer's Sparrow subspecies.

WEISSBURG, CASEY. **Mountain Plovers Select Breeding Habitat Dependent on Local Vegetation Structure at Two Differing Colorado Sites.** *Colorado State University Pueblo, 2200 Bonforte Blvd, Pueblo, CO 81001-4901; casey.weissburg@pack.csupueblo.edu.*

The Mountain Plover (*Charadrius montanus*) is a declining species of concern in the State of Colorado. Chick survival has been shown as the vital rate that affects population growth the most after adult survival during migration, yet little is known about how plovers select habitat during the brood-rearing phase or the effects on survival. Our research investigated habitat selection during the nesting and brood-rearing phases at two different breeding sites in Colorado, in shortgrass prairie and high plains. We monitored nests and broods during the 2021 and 2022 breeding seasons, and evaluated environmental covariates of predation risk, forage availability, and vegetation structure. We hypothesized that nest habitat selection would depend on vegetation structure, while brood habitat selection would depend on variation in predation risk, mediated by vegetation structure. Results suggest that the plover

habitat selection is best explained by vegetation structure during the breeding season, regardless of breeding stage or site. Nesting plovers selected for higher bare ground coverage and shorter vegetation height, regardless of study site. Brood habitat selection strategies varied by site. In shortgrass prairie, broods selected for high bare ground and short vegetation, as well as higher grasshopper availability and low densities of shrubs. Broods in high plains had variable strategies; some selected for low bare ground coverage or taller vegetation, while others selected the opposite extremes, in a quadratic association with vegetation density. Overall, results suggest that the Mountain Plover places the most importance on vegetation structure when selecting for habitat during the breeding season, but the features they select for during the brood-rearing phase vary according to local conditions. These results have implications for management of this near-threatened species, as maintenance of a landscape for breeding plovers may require different approaches depending on the local environment.

Presenter Bios

Jessie Barry is a Program Manager at the Cornell Lab of Ornithology, and helps lead efforts at the Macaulay Library and development of the Merlin Bird ID project.

Drew Bender and Laura Farnsworth are both seniors at Metropolitan State University of Denver and are currently researching habitat selection and feeding behaviors of Northern Shovelers in the Denver Metro Area under Dr. Christy Carello.

Tom Benson is the current (since 2015) Secretary of the California Bird Records Committee and an active birder in southern California. He tries not to let his day job as a lab technician at California State University San Bernardino interfere with his birding (and other wildlife observing) pursuits.

Susan Bonfield is the founder and Director of Environment for the Americas, a multinational organization based in Boulder, Colorado. She also facilitates the Western Hummingbird Partnership and collaborates with over 80 individuals and organizations for the conservation of western migratory hummingbirds in Canada, the U.S., and Mexico.

Samuel Bressler is a Biological Consultant with LSA Associates, Inc., specializing in the birds of Southern California. He received his Master's in biology in 2020 from UCLA, where he studied nesting behavior in Dark-eyed Juncos. He is also a long-time volunteer and former board member of Sea and Sage Audubon Society, and compiles the organization's Puente-Chino Hills Christmas Bird Count.

Jack Domeika recently graduated from Colorado College with a degree in Biology & Ecology, and a focus on gene flow, bioinformatics, and migration. Currently working with Flammulated Owls, his interests include remote sensing, conservation genomics, and animal ecology.

Ted Floyd is the longtime Editor of *Birding*, the American Birding Association's flagship publication. He has written several hundred magazine articles and technical papers, and he is the author of five bird books. Ted has served on the boards of directors of both Western Field Ornithologists and Colorado Field Ornithologists, and he has contributed to the journals of both societies.

Peter Gent has birded in Colorado and the western USA for over 46 years. He has twice been President of Colorado Field Ornithologists, and once been president of Western Field Ornithologists. He is currently serving as
Chairman of the CFO Colorado Bird Records Committee for the third time.

Henry Ingersoll is a retired Physician. He started birding as a youth with his father in Maryland. He is interested in the status and distribution of common birds. Henry lives with his wife, Marsha in La Jolla, California.

Matthew Moelling is a second year Master's student in the Ecology and Evolutionary Biology department at the University of Arizona. Matthew's current research revolves around understanding changes in

breeding phenology of passerine birds amidst climate change. Specifically, Matthew investigates the effect of breeding timing on fitness and the impact of extreme weather events during critical life history stages.

Amy Seglund has worked for Colorado Parks and Wildlife for over 16 years. Much of her work has focused on alpine habitats in Colorado where she has studied the white-tailed ptarmigan and the American pika. Amy has recently been active studying pinyon jays. Amy received her MS degree from Humboldt State University where she studied the Pacific fisher.

Kaily Taylor-Meek is an Environmental Biologist with expertise in Ornithology. With an MS in Environmental Biology, she is dedicated to providing people with the information they need to make informed decisions about their environment. Passionate about bird conservation, Kaily combines her love for nature and scientific research to protect avian species. Her work aims to foster sustainable practices and promote environmental awareness.

Brett Walker is a researcher in Colorado Parks and Wildlife's avian research group based out of Grand Junction, Colorado. He completed his MS and PhD at the University of Montana-Missoula. His current research focuses on the ecology, conservation, and management of Greater Sage-Grouse in oil and gas fields in western Colorado and the ecology, behavior, and distribution of Brewer's Sparrows.

Casey Weissburg conducted the research presented at the conference as a Master's student with Dr. Claire Ramos at Colorado State University Pueblo, and defended her thesis in April 2023. Casey has already launched into her first field season as a doctoral student, supervised by Dr. Michael Wunder at CU Denver, continuing her research on the Mountain Plover in Colorado.

Chris Wood is the Director of eBird and Engineering and the co-Director of the Center for Avian Population Studies at the Cornell Lab of Ornithology. He, his team, and a network of partners around the world have developed a novel approach to citizen science by engaging diverse communities interested in watching birds while developing collaborations with scientists and conservationists in a wide variety of fields. eBird has become a major source of biodiversity data, increasing our knowledge of the dynamics of species distributions, and having a direct impact on the conservation of birds and their habitats. Participants have collectively spent more than 125 million hours collecting effort-based checklists, amassing more than 1.2 billion records, from every country in the world. He is widely recognized as a leading authority on engaging the public in science, bird identification, distribution, and abundance. He has written and consulted on various books, popular literature and scientific literature on birds and biodiversity.

ID Challenges

Photo and Sound ID Challenges are informal educational events oriented around bird identification. All registered convention attendees are welcome to attend and participate.

Bird Sound ID Challenge, Friday 3:30-5:00pm. Nathan Pieplow will host this game show style challenge for bird identification by sound. Teams and the audience will be kept guessing and learning.

Bird Photo ID Challenge, Saturday 3:30-5:00 pm. Ed Harper will present a series of photos to a panel. The photos are usually organized by habitat or taxonomic groupings, and each set has a photo problem ranging from easy(ish) to hard. Audience members try to make their own ID and listen in on the panel discussing the key characteristics they are looking at.

Field Trips

All field trips will meet Ptarmigan Foyer (in the convention center). Anyone planning on driving a carpooling vehicle should park in the Flyer Lot or at Element 29 Hotel. Please arrive to meet your group 15 minutes prior to the listed trip departure time. Make sure you have picked up or brought your breakfast and/or lunch prior to meeting your group.

Plan for the carpool group to reimburse the driver at the rate of 50 cents per mile. The driver is included in the calculations when figuring out the per person costs.

Trips denoted by *** visit state parks or state wild areas and have additional requirements for drivers or participants. Please review the descriptions for details.

Thursday

THFT1 The Best of Jackson County **Easy**
Chuck Hundertmark
5:00 am - 4:00 pm
Explore North Park, the fourth least populated county in Colorado. It is home to breeding Greater Sage-Grouse, California Gulls, American White Pelicans, Willets, and a great place to look for Moose. This elevated basin is surrounded by mountains which offer a great variety of birds. Over 275 species have been recorded in this northern county. We will visit Walden Reservoir, Arapaho National Wildlife Refuge, several sloughs and wetlands, sagebrush elevated prairie, and spruce fir forest. Target species include California Gull, Veery, Canada Jay, Sage Thrasher, Willet, other breeding shorebirds, ducks, flycatchers, and 9 species of sparrows. Don't miss this trip!

THFT2 Antero Reservoir and the Best of Park County **Medium easy**
Nick Komar
THFT13 Antero Reservoir and the Best of Park County 2
Don Marsh
5:15 am - 4:00 pm
The picturesque Park County, which is larger than the state of Delaware, is in the geographical center of Colorado. It is known as South Park. (not that South Park) This high elevation valley is surrounded by mountains and full of wildlife. Antero Reservoir is shallow and rimmed by mudflats. We should see every duck, grebe, and shorebird nesting in this type of habitat. High Creek Fen Preserve, owned by The Nature Conservancy, is the most ecologically diverse, floristically rich fen known to exist in the southern Rocky Mountains. The flowers should be in full bloom. Mountain Plovers breed in the uplands which we will try to find. To round out our day, we will head up Boreas Pass Road looking for mountain species including American Three-toed Woodpecker and many others. Be ready for birds, flowers, and fun!

THFT3 Grand County Big Day **Easy**
Helen Butts & Marcel Such ***
THFT18 Grand County Big Day 2
Debbie Barnes & Scott Shaum
5:15 am - 4:00 pm
Join us for a big day for species in this stunning county north of Frisco. Target birds include a combination of mountain, high plain, and riparian species. Grand County houses the headwaters of the Colorado River, the entire west slope of Rocky Mountain National Park,

several large reservoirs, the largest natural lake in the state, a superb patch of road-accessible tundra, and a fantastic representation of Colorado species. Pine Grosbeak, American Three-toed Woodpecker, Red-naped and Williamson's sapsuckers, Cassin's Finch, Canada Jay, Red Crossbill, Woodhouse Scrub-Jay, Black-throated Gray Warbler are all possible. We may not get them all, but the day will be grand! ***This trip will include a visit to a State Wildlife Area. Colorado requires that all individuals 16 years and older have a valid SWA pass, hunting, or fishing license for entry. SWA Info.

THFT4 Red Rocks and Genesee Mountain Park **Medium easy**
Kayla Henry & Debbie Jordan
5:30 am - 4:00 pm
This trip is perfect for adjusting to Colorado's elevation. Where the prairie meets the Rocky Mountains, that is where Red Rocks Park is located. This premier foothills habitat offers not only beautiful scenery, but amazing birds. As we stroll around the park, be prepared for Peregrine Falcon, Canyon Wren, Lazuli Bunting, Black-headed Grosbeak, and Woodhouse's Scrub-Jays among many others. Genesee Mountain Park sits in the middle of montane habitat and even has a Bison herd, our national mammal. Expect to see Green-tailed Towhee, Williamson's Sapsucker, Western Bluebird, flycatchers, and all three nuthatches. History, scenery, lower elevation, and great birds, how can you go wrong with this trip?

THFT5 Sylvan Lake SP, Crossbills, and Hummingbirds **Medium** ***
JoAnn Potter Riggles & Diana Beatty
5:30 am - 4:00 pm
Starting in Eagle, we stop at our trip leader's house where four species of hummingbirds are possible. (Black-chinned, Broad-tailed, Rufous, and Calliope) After our hummingbird fun, we head up to Sylvan Lake SP. The 1.5 mile trail circumvents the lake with views of the White River NF and Sylvan Lake. Aspen groves, open fields, riparian edge, Douglas Fir, Juniper, Spruce, and Lodgepole Pine habitats are all accessible on this trip. We will add about another 1.5 miles walking along the road edge to maximize species. Cassia Crossbills were seen here last summer in small numbers so keep your ears open. State Park Pass required for entry. Targets include Cassia Crossbill, American Three-toed Woodpecker, MacGilivray's Warbler, Golden-crowned Kinglet, Hammond's Flycatcher, Red-naped Sapsucker, and lots of hummingbirds. ***This trip visits a start park with an entry fee. The driver must have a Colorado State Park pass, or pay an entry fee.

THFT6 Independence Pass and Twin Lakes **Medium easy**
Peter Burke
5:45 am - 4:00 pm
The beautiful Independence Pass, Lost Man Reservoir, Twin Lakes, Mt. Elbert Forebay, and Hayden Meadows Recreation Area are all located in Pitkin and Lake counties. The pass is on the continental divide at 12,095 feet and hugs the Roaring Fork River as it winds up, over, and around. This road is steep, narrow, and twisty so mountain drivers are needed. Rocky cliffs, aspen groves, mountain lakes, grassy meadows, amazing scenery, and great birds are your reward. Targets include Brown-capped Rosy-Finch, Dusky Grouse, Sapsuckers, California Gull, Green-tailed Towhee, Mountain Bluebird, Sage Thrasher, Fox Sparrow, plus many others.

THFT7 Cassia Crossbill Hunt **Medium**
Jessie Barry & Chris Wood
5:45 am - 4:00pm
Last summer Cassia Crossbills were first documented in Colorado in several mountain counties around the convention site. Crossbills move around depending on available food sources.

Colorado birders will be looking and listening for these rare birds in the early summer. As a result, the locations of this field trip will depend on where the crossbills are being seen. More than likely, we will need to do some hiking up-slope to a beautiful spot. In this habitat, any montane and subalpine species could be possible. The trip leaders will add other interesting hotspots to fill out the itinerary.

THFT8 Ptarmigan and Rosy-Finches oh my! Hard
Tyler Cash
6:00 am - 4:00pm
To find White-tailed Ptarmigan and Brown-capped Rosy-Finches, we will drive up to the top of Loveland Pass. At 11,990 feet and on the continental divide, we are sure to have great views of the Rocky Mountains. We will look closely at every rock to see if it moves. If it does, BINGO. American Pipits won't disappoint as they often sing from perches or give their flight call overhead. Rosy-Finches often scratch on open ground looking for seeds. At this elevation, we do a lot of standing. About 100 yards from the parking area is a small lake, Pass Lake Trail, that some might want to check out. Soda Creek Inlet, Dillon Nature Preserve, and the Wildernest feeders will round out our adventure.

THFT9 Berthoud Pass and the Colorado River Medium easy
Ted Floyd & Rebecca Weiss
6:45 am - 4:00 pm
Join Ted Floyd & friends for birding and butterflying at various spots along U.S. 40 in Grand County. Our route will take us from the continental divide at Berthoud Pass (el. 11,307 ft.) to Windy Gap Reservoir at the confluence of the Fraser & Colorado rivers (el. 7,935 ft.). We will go through great habitat for American Three-toed Woodpecker, Canada Jay, and Pine Grosbeak. We'll take extra time with any crossbills, and we'll get an appreciation for geographic variation in western birds like Swainson's Thrushes, White-crowned Sparrows, Wilson's Warblers, and more. The butterflying is superb, and moose sightings are possible.

THFT10 Mount Evans and the Elusive Ptarmigan Hard
Sue Riffe & Colin Woolley

THFT17 Mount Evans and the Elusive Ptarmigan 2
Ned Bohman
7:00 am - 4:00 pm
Mount Evans Scenic Byway climbs 7,000 ft. on your way up to simply amazing views of the Rocky Mountains. It is the highest paved road in the U.S and a great spot to find subalpine and alpine species. We will slowly walk about one mile on the Summit Lake Trail, visit an alpine lake, and scan alpine tundra for our targets. In addition, we have a better than average chance of seeing Yellow-bellied Marmots, Mountain Goats, Bighorn Sheep, and prime time for alpine flowers. Bird targets include Brown-capped Rosy-Finch, White-tailed Ptarmigan, American Pipit, subalpine species and many others. The extra $10 trip fee will cover entry to Mt. Evans.

THFT12 Grand County Big Day (Youth/Students) Medium
David Tønnessen & Nathan Pieplow ***
5:00 am - 4:00 pm
Here we'll bird a great diversity of habitats all within Grand County to see as many species as possible while targeting Rocky Mountain species like American Three-toed Woodpecker, Pine Grosbeak, American Dipper, and crossbills. We start the morning in Berthoud Pass, then bird the Fraser River Trail for riparian species, bird some reservoirs including Windy Gap Reservoir and end the day in lower-elevation pinyon-juniper habitat for species such as Juniper Titmouse and Black-throated Gray Warbler. This trip is open to youth and student participants ages 12-22 (and accompanying parent/guardian, if desired).

Friday

FRFT1 Red Rocks and Genesee Mountain Park **Medium easy**
Kyle Carlsen & Scott Shaum
5:15 am - 11:00 am
See Thursday for full description.

FRFT2 Independence Pass and Twin Lakes **Medium easy**
Edward Landi & Chuck Hundertmark
5:30 am - 11:00 am
See Thursday for full description.

FRFT3 Rafting the Upper Colorado River **Medium**
Megan Jones Patterson
6:30 am - 12:00 pm
This gentle 3-hour float down the scenic Colorado River provides beauty, a little adventure, and fun birds. Beginning rafters will be right at home on this river section. 'Upper C' offers mild rapids, spectacular wildflowers, sheer granite canyon walls, a riparian corridor, and forests of spruce and Douglas fir. You will get wet so plan your gear and clothing carefully. Bring dry clothes for the ride back to Copper. Wetsuits, helmets, and life jackets are included in the cost. This half day trip might return a little late.

FRFT4 Cassia Crossbill Hunt **Medium**
Diana Beatty
FRFT11 Cassia Crossbill Hunt 2
Helen Butts & Kayla Henry
5:45 am - 11:00 am
See Thursday for full description.

FRFT5 Newman Ranch and lots of Hummingbirds **Medium**
JoAnn Potter Riggle & Sue Riffe
5:45 am - 11: 00 am
Pinyon Juniper habitat is the prize for picking this field trip on the private Newman Ranch. Juniper Titmouse, Rock Wren, Black-throated Gray Warbler, Gray, and Ash-throated Flycatchers should be tallied. Open field sparrows should be abundant with Mountain Bluebirds and Bullock's Orioles providing lots of color. A 3-mile loop hike will give us access to these hard to see species. Bring plenty of water. Finally, we head to the trip leader's house for a hummingbird party where four species are possible (Broad-tailed, Black-chinned, Rufous, and Calliope).

FRFT6 Ptarmigan and Rosy-Finches oh my! **Medium Hard**
Peter Burke
FRFT12 Ptarmigan and Rosy-Finches oh my! 2
Marcel Such & David Tønnessen
6:00 am - 11:00 am
To find White-tailed Ptarmigan and Brown-capped Rosy-Finches, we will drive up to the top of Loveland Pass. At 11,990 feet and on the continental divide, we are sure to have great views of the Rocky Mountains. We will look closely at every rock to see if it moves. If it does, BINGO. American Pipits won't disappoint as they often sing from perches or give their flight call overhead. Rosy-Finches often scratch on open ground looking for seeds. At this elevation, we

do a lot of standing. About 100 yards from the parking area is a small lake, Pass Lake Trail, that some might want to check out. We conclude our trip at the Wildernest area feeders.

FRFT7 Mount Evans and the Elusive Ptarmigan **Hard** Nick Komar
7:00 am - 11:00 am
See Thursday for full description.

FRFT8 Accessible Birding for All **Easy**
Peter Gent
6:45 am - 11:00 am
Clear Creek Greenway offers 39 miles of paved trail spanning all across Clear Creek county. We will explore the Oxbox section with elevations 6,850 down to 6,790, a 10 foot wide ADA paved path, along the Clear Creek River. Foothill birds are the target. Additional stops include Georgetown Lake and the lower part of Guanella Pass Road. All birding locations are on ADA accessible paved trails or standing/sitting along the road with all abilities welcomed. Targets include White-throated Swift, swallows, Black-chinned Hummingbird, American Dipper, Green-tailed Towhee, Lesser Goldfinch, Bullock's Oriole, Lazuli Bunting, Black-headed Grosbeak, Cordilleran Flycatcher, Warbling Vireo, Western Tanager, and Yellow Warbler.

FRFT9 Chairlift to the Top of Copper Mountain **Easy**
Don Marsh & Debbie Jordan
FRFT14 Chairlift to the Top of Copper Mountain 2
Debbie Barnes
9:30 am - 12:00 pm
Enjoy a relaxing morning of birding with amazing views up Copper Mountain. We take a chairlift ride on the Woodward Express leaving from the West Village, walking distance from the hotel. This quad lift goes up 1009 feet where we can explore a nice mix of upper montane and subalpine species. We should see a mix of wildflowers so bring your camera. Feel free to come down the mountain any time.

Saturday

SAFT1 Red Rocks and Genesee Mountain Park **Medium easy**
Sue Riffe & Colin Woolley
5:15 am - 11:00 am
See Thursday for full description.

SAFT2 Independence Pass and Twin Lakes **Medium easy**
Eward Landi & Tyler Cash
SAFT17 Independence Pass and Twin Lakes 2
Chip Clouse, Adrian Lesak
5:30 am - 11:00 am
See Thursday for full description.

SAFT3 Rafting the Upper Colorado River **Medium**
Megan Jones Patterson
5:30 am - 12:00 pm
See Friday for full description.

SAFT4 Cassia Crossbill Hunt **Medium**
Nick Komar
SAFT11 Cassia Crossbill Hunt 2
David Tønnessen
5:45 am - 11:00 am
See Thursday for full description.

SAFT5 Newman Ranch and lots of Hummingbirds **Medium**
JoAnn Potter Riggle & Linda Lee
5:45 am - 11: 00 am
See Friday for full description.

SAFT6 Ptarmigan and Rosy-Finches oh my! **Medium Hard**
Diana Beatty & Debbie Barnes
6:00 am - 11:00 am
See Friday for full description.

SAFT7 Mount Evans and the Elusive Ptarmigan **Hard** Don
Marsh & Helen Butts
7:00 am - 11:00 am
See Thursday for full description.

SAFT8 Chairlift to the Top of Copper Mountain **Easy**
Peter Burke
9:30 am - 12:00 pm
See Friday for full description.

SAFT9 Kite Lake Ptarmigan & Rosy-Finches (Youth/Student) **Medium Hard**
Doug Faulkner, Chris Wood, and Jessie Barry
6:00 am - 11:00 am
To find White-tailed Ptarmigans and Brown-capped Rosy-Finches, we'll hike the scenic Kite Lake trail in alpine tundra. American Pipits also breed here, and it is a great opportunity to find the many unique alpine butterfly and wildflower species found in this scenic environment. On our way back downhill we will bird forest roads for other Rocky Mountain species like American Three-toed Woodpecker, Canada Jay, Dusky Grouse, and crossbills. This trip is open to youth and student participants ages 12-22 (and accompanying parent/guardian, if desired).

Sunday

SUFT1 The Best of Jackson County **Easy**
Nick Komar & Rebecca Weiss
SUFT17 The Best of Jackson County
Chip Clouse
5:00 am - 4:00 pm
See Thursday for full description.

SUFT2 Antero Reservoir and the Best of Park County **Medium easy**
Sue Riffe
SUFT12 Antero Reservoir and the Best of Park County 2
Peter Burke
5:15 am - 4:00 pm

See Thursday for full description.

SUFT3 Grand County Big Day **Easy**
Kyle Carlsen ***
5:15 am - 4:00 pm
See Thursday for full description.

SUFT4 Red Rocks and Genesee Mountain Park **Medium easy**
David Tønnessen
5:30 am - 4:00 pm
See Thursday for full description.

SUFT5 Sylvan Lake SP, Crossbills, and Hummingbirds **Medium**
JoAnn Potter Riggles & Nathan Pieplow ***
5:30 am - 4:00 pm
See Thursday for full description.

SUFT6 Independence Pass and Twin Lakes **Medium easy**
Diana Beatty & Helen Butts
5:45 am - 4:00 pm
See Thursday for full description.

SUFT7 Cassia Crossbill Hunt **Medium**
Edward Landi
5:45 am - 4:00pm
See Thursday for full description.

SUFT8 Ptarmigan and Rosy-Finches oh my! **Hard**
Chuck Hundertmark
6:00 am - 4:00pm
See Thursday for full description.

SUFT9 Berthoud Pass and the Colorado River **Medium easy**
Ted Floyd & Don Marsh
6:45 am - 4:00 pm
See Thursday for full description.

SUFT10 Mount Evans and the Elusive Ptarmigan **Hard**
Doug Faulkner
7:00 am - 4:00 pm
See Thursday for full description.

SUFT11 Butterflies of the Rockies **Medium easy**
Christian Nunes
9:00 am - 4:00 pm
The Colorado high country is blessed with a variety of sub-alpine and alpine butterfly species. We will seek out species like Bog Fritillary, Northern Grizzled Skipper, and the Arctic Blue. We'll visit Shrine Pass, Julia's Deck, and explore additional environs along Shrine Pass Road. Bring your camera to work on your macro photography skills! Shrine pass is only 8 miles from Copper, along a well-maintained dirt road. Butterflies are slow to rise in the cool mountain mornings, so we'll depart after most of the bird trips. Some off-trail walking on uneven ground, but only short

forays from the car with small elevational changes. Some wet ground may be encountered; waterproof hiking shoes are recommended.

****SUWS1**** Sunday field portion of Saturday's workshop The Power of Pinyon Jay Community Science (SAWS2). If you register for SUWS1, do not register for a different Sunday field trip as the trips are concurrent.

Workshops

Friday AM Workshops

FRWS1 Ear-birding with Your Phone **Nathan Pieplow**
8:00-11:00 Bighorn B

In Friday morning's classroom session, Nathan Pieplow will discuss apps for recording and identifying birds with your phone, with special attention to Merlin Sound ID. If you have a favorite app for recording bird sounds, you can bring it and discuss; if you've never used your phone for recording, identifying, or making spectrograms of bird sounds, we will get you set up. All participants should bring an internet-enabled smartphone with them.

FRWS2 iNaturalist **Hannah Floyd**
8:00-11:00 Ptarmigan A

Join high school senior Hannah Floyd (inaturalist.org/people/hannahfloyd_naturalist) for a hands-on and interactive tutorial on iNaturalist, a crowdsourced community-science initiative for documenting and learning about life on Earth. We'll go over the basics in a quick classroom session; next, we'll go outside and "iNat" butterflies, wildflowers, and of course, birds. Then, back in the classroom, we'll discuss iNat "best practices" and get experience with the bells and whistles of this ever-evolving resource for chronicling and understanding biodiversity. No experience necessary. Recommended: smartphone, camera.

Friday PM Workshops

FRWS3 Digiscoping 101 **Clay Taylor**
1:30-2:30 Ptarmigan A

Join Swarovski's Clay Taylor for an introduction to the tools and techniques for digiscoping using your phone and scope.

FRWS4 Beginning eBird for iPhone and Android **Sue Riffe &**
2:30-3:30 Ptarmigan A **Megan Jones Patterson**

Bring your smartphones as we take you from zero to creating your first checklist using eBird. You can do it! Please download the free eBird app before the workshop. We will also take you on a brief tour of the webpage. You will be amazed at all the information at your fingertips. If you have used eBird before, we can answer some more advanced questions, time permitting.

Saturday AM Workshops

SAWS1 Ear-birding with Your Phone - field session **Nathan Pieplow**
8:00-11:00 Location will be provided during the Friday workshop.
On this follow-up trip to Nathan Pieplow's Earbirding With Your Phone workshop, participants will attempt to put their phones and apps to the test on real birds under field conditions.
Participants in this workshop are expected to also attend the Friday Ear-birding workshop.

SAWS2 The Power of Pinyon Jay Community Science **Ned Bohman, Kayla Henry**
8:00-11:00 Ptarmigan A **Elisabeth Ammon**
Pinyon Jays have been experiencing major population declines, and due to a variety of environmental factors, the reasons are still not completely understood. Because of their incredibly complex life history, standard survey techniques cannot capture the information land managers need to act on. Community Science is an increasingly used data collection technique that Great Basin Bird Observatory has employed to help leverage data collection capacity on Pinyon Jays. At this workshop, Great Basin Bird Observatory will cover Pinyon Jay natural history, conservation concerns, history of the community science program, and discuss how the program works. Participants will be able to attend a follow-up all-day field trip on Sunday. Details will be provided at the Saturday workshop.
Note: If you want to attend the Sunday follow-up field trip, sign up for the Sunday workshop - **SUWS1**. This trip is only open to participants of SAWS2 or those who attended the April 10 & 11, 2023 Pinyon Jay project online trainings.

Saturday PM Workshops
These workshops overlap with portions of the science session and the Bird Photo ID Challenge.

SAWS3 How to Start Learning Bird Songs **Sue Riffe**
2:30-3:30 Ptarmigan A
Do you have a hard time learning bird songs? Well, this is the introduction you need to begin your journey. Sue has picked some of the most common songs that you should hear at this convention. We approach songs using a variety of tools to find works best for you. Give it a try!

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