

TABLE OF CONTENTS

CONVENTION REMINDER.....64

NORTH AMERICAN MIGRATION COUNT.....64

UPCOMING CFO FIELD TRIPS.....65

COLORADO FIELD ORNITHOLOGISTS’ GUIDELINES FOR FIELD TRIPS.....66
Paul Hurtado

FIRST RECORD OF CURLEW SANDPIPER (*CHARADRIUS FERRUGINEA*)
 IN COLORADO.....69
Duane L. Nelson

CONSERVATION FOCUS — SNAGS: THE IMPORTANCE OF STANDING
 DEAD TREES.....72
Dave Hallock

PROJECT COLONY WATCH.....83
Rich Levad

KANSAS BREEDING BIRD ATLAS: A REVIEW.....84
Alan Versaw

WINTER RAPTOR USE OF PRAIRIE DOG TOWNS IN THE DENVER,
 COLORADO VICINITY.....86
Dave Weber

CFO BOARD MEETING MINUTES: 10 FEBRUARY 2001.....92

NEWS FROM THE FIELD: FALL 2000 REPORT (AUGUST–NOVEMBER).....94
Peter R. Gent

REPORTING SIGHTINGS TO *NORTH AMERICAN BIRDS* MAGAZINE FOR THE MOUNTAIN
 WEST REGION (COLORADO & WYOMING).....103
Brandon K. Percival and Van A. Truan

CFO PROJECT COMMITTEE REPORT 2001.....104
Pearle Sandstrom-Smith

A RECONSTRUCTED CHRONOLOGY OF COLORADO’S FIRST SUCCESSFUL NESTING BY
 VERMILION FLYCATCHER.....105
David Leatherman

**COLORADO FIELD ORNITHOLOGISTS’
 MISSION STATEMENT**

The Colorado Field Ornithologists exists to: promote the field study, Conservation, and enjoyment of Colorado Birds; review sightings of rare birds through the Colorado Bird Records Committee and maintain the authoritative list of Colorado birds; publish the *Journal of the Colorado Field Ornithologists*; and conduct field trips and workshops, and hold annual conventions.

Cover photo: First state record Curlew Sandpiper, by Chris Wood



SING IT WITH ME!

**“RE-MEM-MEM, RE-MEMBA-MEMBA, RE-MEM-MEM,
RE-MEMMBA-MEMMBA...” CFO CONVENTION 2001
IN PUEBLO, MAY 18TH–20TH, RE-MEM-BA!**

The convention brochure should be in your hands by now. IF NOT, let me know. If you need extra brochures, let me know. If planning on attending, let me know. Fill out your form, invite a friend, and join CFO in 2001. This will be another great convention: fantastic field trips, fascinating paper sessions, and meritorious speaker Tom Schultz.

For information call Pearle Sandstrom-Smith at 719-543-6427.
Check out our Web site at: <http://www.cfo-link.org>

NORTH AMERICAN MIGRATION COUNT

The North American Migration Count is just around the corner. The spring bird count held every year on the second Saturday in May is one of the largest volunteer bird censuses in the world, and everyone can participate. You do not have to be an expert—you just have to be willing to spend some time birding in your favorite spot on that day. This year’s count day is May 12. There are coordinators in virtually every state and many Canadian Provinces, and the coverage now extends to nearly 1,000 counties. If you want to help and want an excuse to spend a lovely May day afield, call or e-mail Linda Vidal, 970-704-9950 (vidal@rof.net). This is a great way to celebrate International Migratory Bird Day and a great way to conduct your Birdathon, by adding one more dimension to a special spring day.

Correction: In the “Report of the Colorado Bird Records Committee: 1999 Records” (*JCFO* 35:23–39), the observer of the Common Ground-dove was **Gail Evans**, not Gail Owns.

UPCOMING CFO FIELD TRIPS

5 May 2001: “A Day in the Life of a Shrike Bander”

Susan Craig, who’s banded over 1,000 shrikes, is a 25-year master bander from Colorado Springs. Using a trap of her own design, Susan will demonstrate how shrikes are captured, measured, and banded before being released. Join Susan for a morning of Loggerhead Shrike banding on the plains east of Pueblo. This half-day trip is strictly limited to **five** participants, two in Susan’s car and three in another vehicle. Meet at 8 A.M. at the Quik Stop in La Junta. Call for reservations and information at 719-591-0322 (evenings). You’ll have the chance to meet a shrike up close and personal (bandages will be provided). Note: this trip will be canceled if the weather is rainy.

12 May 2001: International Migratory Bird Day!

Join your local Audubon group for Count Day, or take part in the North American Migration Count (see notice elsewhere in this issue). Please participate in “citizen science” and keep gathering important data on the distribution of migrating birds. Contact your local Audubon or other groups planning IMBD events; online, check out <<http://www.americanbirding.org/imbd/imbdgen.htm>>

18–20 May 2001: CFO Convention in Pueblo.

If you need a convention brochure, contact Pearle Sandstrom-Smith at 719-543-6427, or go to the CFO web site: <<http://www.cfo-link.org>>

18 June 2001: Castlewood Canyon with Urling Kingery

Share Urling and Hugh Kingery’s “back yard” at Castlewood Canyon. If you haven’t been to bird this area you’re missing a hidden treasure. Plus, below the canyon, Bobolinks may still be breeding in the alfalfa fields off I-25. Take Exit 182 from the north or Exit 181 from the south, go through downtown Castle Rock following the signs for Hwy 86 towards Franktown. Turn south on Road 51 (also called Castlewood Canyon Road) into Castlewood Canyon State Park. Meet at 8 A.M. on the west end parking lot near the restrooms. For information, call Urling at 303-814-2723.

15 July 2001: The Elusive Three-toed Woodpecker

Join Bill Fink in Rocky Mountain National Park as he searches for the nemesis bird for many of us: the Three-toed Woodpecker. Other mountain birds are on the agenda, also, on this half-day trip. Meet at 7:30 A.M. at the Wild Basin Entrance. Call Bill Fink at least a week in advance, at 303-776-7395.



COLORADO FIELD ORNITHOLOGISTS' GUIDELINES FOR FIELD TRIPS

Paul Hurtado
Pueblo, CO
hu5478pa@uscolo.edu

The following Guidelines were compiled to help ensure that all CFO Field Trip participants have a safe and enjoyable experience while on CFO Field Trips. To comment or contribute to these Guidelines, please feel free to contact Paul Hurtado or the CFO Field Trip Chair.

Guidelines for Field Trip Leaders:

Leaders should keep the following in mind prior to the trip:

Equipment & Fees:

Try to bring along any group gear such as a good 1st Aid Kit, road maps and/or location maps (such as state park maps), jumper cables, etc., and a cell phone for emergencies.

Any extra gear such as water, snacks, sun screen, bug spray, binoculars and scopes, two-way radios, batteries, field guides and check lists would also be appreciated by inexperienced and/or forgetful participants.

Check for entrance fees and facilities at areas that may be visited on the trip.

Set a Schedule

Try to plan the trip ahead of time and stick to the schedule. This way people who will arrive late or get separated from the group can (re)join the trip. Include times and locations for gas stops, restroom breaks and lunch breaks as well.

Get Contact Numbers

Make sure you have phone numbers for regional emergency services, State Patrol, county sheriff, landowners, any check-points or lunch stops, etc.

Let participants know you have these numbers the day of the trip.

Weather Conditions, Clothing and Related Gear

Make sure you know what type of environment you will be leading the group into. Let everyone know what weather to expect and what terrain-specific gear (e.g., waterproof boots or mosquito repellent) they may need to bring.

Let it be known before-hand what conditions will cancel a trip.

Inform the Participants

Make the attempt to let the participants know about all the details in

advance. This can be done using e-mail, phone calls, etc.

Also let participants know of the level of birding involved with the trip and be prepared to facilitate the participants by providing park maps, contact numbers so that car-pooling can be arranged, etc.

Share your knowledge of birding ethics as well as any available publications (such as the ABA Code of Birding Ethics) with participants.

Leaders should keep the following in mind during the trip:

Equipment and Resources

Make sure you have all the necessary equipment mentioned above.

Check with the group and see what else people have to offer. It is good to know of any available items such as cell phones or extra binoculars. Knowing what each individual has to offer personally to the group (i.e., doctors, mechanics, gull ID experts, etc.) may also come in handy.

Keep a record of birds seen and send it to the participants after the trip! A list of participants and any other relevant information or photographs could also be sent along with bird log.

Introductions

Make sure everyone knows one another and make newcomers feel welcome.

Double-check that everyone knows the day's itinerary before the trip gets going. Include gas stops, etc. and share any other pertinent information.

Have participants sign a Trip Log with names, phone numbers, and e-mail addresses.

Birding Ethics

Be very familiar with the ABA Code of Birding Ethics and any other applicable rules or regulations. Make sure that participants are aware of these, and teach them birding ethics by example.

If you have to confront someone about knowingly practicing poor birding ethics, just politely explain the situation to them and encourage them to set a good example for the other birders on the trip. Bringing a copy of the ABA Code along on the trip is a very good idea.

Moving the Group

Keep track of the number of vehicles on the trip, and wait until *everyone* is ready to go before leaving. This is especially important when driving through towns.

Tell everyone where the next stop is—*do not assume they know the way*. Consider car-pooling. Check with property owners to make sure it is OK to leave cars at your location and make sure that any cars left behind

are safe and secure. Be certain that people know how to get back to their cars after the trip ends.

If two-way radios are available, give the last car a radio to communicate with you while driving from place to place. This helps prevent participants from getting separated from the group.

Guidelines for Participants:

Participants should keep the following in mind prior to the trip:

Get all of the Info!

Make sure to contact the trip leader before-hand so you know where you are going, what to bring, what to wear, etc.

Transportation and Equipment

Consider car-pooling, especially if your vehicle will have problems with mud, ice, or 4WD roads on the trip. Make sure you arrange a ride with someone in advance.

Remember: dress appropriately, bring gas money, lunch, etc., and share any extras!

Participants should keep the following in mind during the trip:

Itinerary

Know the schedule for the day as well as where and when to meet back with the group in case you get separated.

Birding Ethics

Be familiar with the ABA Code of Birding Ethics and share it with the rest of the group.

If other participants or the leader violate the code, politely remind them of some good birding ethics and encourage them to set an example for the others.

Share With the Group

Make it known to the group if you have any resources to share! This includes food, water, field guides, cell phones, batteries, etc., as well as expertise!

Notify the leader at the start of the trip if you are going to be leaving the trip early or need to break away from the group for a while.



**FIRST RECORD OF CURLEW SANDPIPER
(*CHARADRIUS FERRUGINEA*) IN COLORADO**

Duane L. Nelson
342 East 6th Street
Las Animas, CO 81054
(719)456-6098

On the afternoon of 30 June 30 1998, I completed regular surveys for nesting activity by Piping Plovers and Least Terns at Neesopah and Neenoshe Reservoirs in Kiowa County, Colorado, as a part of my duties with the Colorado Division of Wildlife. On a lark, I decided to stop at Upper Queens (referred to less frequently by its proper name of Neeskah) Reservoir to check out a bay on the west side of the lake about 100 yards south of the west-side boat ramp. This bay had been one of the few migration stopover locations available region-wide in that exceptionally wet summer, and had attracted northbound shorebirds well into June.

I was delighted to see a few southbound migrants on the narrow beach. I saw approximately 30 Wilson's Phalaropes, a handful of Least and Semipalmated Sandpipers, three Stilt Sandpipers and a Willet, as well as staging (and presumably local) Killdeer and Long-billed Curlews. I scanned through the flock a total of three times with my binoculars, and on the third pass, caught a glimpse of a bright rusty breast on one bird. My first thought was of a Short-billed Dowitcher, in which the breast color is similar, and bright adults migrate early. The bird in front of me seemed too small to be a dowitcher, so I fumbled to get my spotting scope up as quickly as possible for a better look. While I was fumbling, I allowed the thought of a breeding-plumaged Curlew Sandpiper to enter my mind. I knew that the species was regularly found far from coasts, and that it migrated early, usually in the company of Western Sandpipers. In fact, I had long felt that it was my destiny to turn up a Curlew Sandpiper in Colorado, as I have access to public and private lakeshores, and make countless return visits to possible tern and plover nest sites.

Description of the Bird

Size

The overall size of the bird was almost identical to a Wilson's Phalarope, a shorebird much larger than typical "peeps." The few similarly sized shorebirds lack strong rufous coloration. Red Knots and Dowitchers are significantly larger. When viewed head-on, it was much thinner than the adjacent phalaropes, recalling the expression "thin as a rail."

Bill and head pattern

The bill, which was entirely black, was long and strikingly decurved, with a more pronounced and deeper droop than seen in a Dunlin. The reddish face was marked by a large whitish patch at the base of the lower mandible, and a slightly more diffuse whitish area behind the base of the upper mandible. A bold white superciliary line extended from in front of the eye, tapering to a point behind the eye. A darker rusty line extended through the eye to the back of the head. The crown was finely streaked, slightly darker than the rest of the head.

Body plumage

The rich rusty breast was somewhat mottled in appearance, though a distinct pattern to the mottling was not evident. There were no dark feathers on the belly or the sides. The flanks were lightly barred with alternating areas of rust and whitish color. The undertail coverts were white, flecked with a few bold triangular markings. The upperparts were richly mottled with dark, whitish, cream-colored, and bright rusty areas.

Leg color

The legs were fairly short, compared to those of phalaropes, and were dark greenish; in poor light they appeared almost black.

Posture

The bird had a peculiar horizontal posture, unique to this species. It appeared to be small-headed, short-necked, long-billed, and hunch-backed.

In flight

A prominent, sharply-defined white rump with a dark terminal band was apparent when the bird was in flight and when it preened. Also in flight, a bold white wingstripe was evident. On landing, it held its wings up briefly, showing immaculate white underwings.

Postscript:

I located the bird at 5:45 P.M. and studied and photographed it until 6:15 P.M. I rushed in to Lamar, and got CDOW co-workers Jeff Yost and Bryant Will to come back to the site with me in record time, because I wanted multiple observers for this new state record. While in Lamar, I called Dick Schottler in Golden, and got word out on the Colorado Rare Bird Alert and Internet. Bryant, Jeff, and I observed the Curlew Sandpiper again from 7:15 to 8:30 P.M. A mass of birders converged on the site the next day. The sandpiper returned from an overnight roost shortly after sunrise, and spent the entire day giving phenomenal looks to many observers. Among the photographers was Chris

Wood, who took the photograph accompanying this article [see cover -- Ed.]. When I returned in mid-afternoon, I had the bird to myself. The last birder to see it, Tony Leukering, was watching in late afternoon as it flew up, gained altitude, and disappeared into the blue, never to be seen again.



Eastern Screech-Owl, by Bill Iko

CFO WEBSITE

We invite you to browse the Colorado Field Ornithologists' website. If you don't own a computer, check your local library. Check the site regularly, because new items and changes appear regularly. The Internet address is:

<http://www.cfo-link.org>

Conservation Focus

SNAGS: THE IMPORTANCE OF STANDING DEAD TREES

Dave Hallock
Natural Resource Planner
Boulder County Parks and Open Space Department
P.O. Box 471, Boulder, CO 80306
eldoradh@rmi.net

What Are Snags and How Are They Created?

Snags are standing dead trees. They are the standing component of what forest ecologists call dead woody debris, the dead wood biomass in forests that also includes logs and branches on the forest floor. Snags can vary greatly in height and diameter, and may include smaller saplings to deceased old-growth trees that exceed 100 centimeters (40 inches) in diameter. Some types of shrubs may develop thick, trunk-like stems which, when dead, should be considered snags as well. Some people also include heavily diseased trees nearing the end of their lives.

Snags are present in all of Colorado's ecosystems that contain trees, including woodlands and forests of pinyon-juniper (*Pinus edulis/Juniperus* spp.), ponderosa pine (*Pinus ponderosa*), Douglas-fir (*Pseudotsuga menziesii*), mixed-conifer, lodgepole pine (*Pinus contorta*), bristlecone pine (*Pinus aristata*), limber pine (*Pinus flexilis*), spruce-fir (*Picea* spp./*Abies* spp.), and aspen (*Populus tremuloides*). Snags may be present in other ecosystems, including krummholz, lowland riparian zones, foothills riparian deciduous or conifer forests, urban areas, and rural areas containing homesteads and shelterbelts. Snags may be present among the scattered trees of shrublands and grasslands.

What causes trees to die naturally? The primary agents of death include disease, insects, fire, parasitic plants, avalanche, and wind. Also, the rising or lowering of the water table may kill trees in riparian forests. Disease includes the many types of decay fungi such as heart rots, root rots, and butt rots. The latest data from the U.S. Forest Service Forest Health Technical Team in Fort Collins suggests that root rot and bark beetles (*Dendroctonus* spp.) are the two greatest decay agents currently active in the west (Wagner and Nelson 2001). A bark beetle outbreak around 1940 killed more trees than all the fires in the last 30 years!

Sometimes causes of tree death act individually, while other times they may act in concert. A hot crown fire can kill a tree by itself. Dwarf mistletoe (*Arceuthobium* spp.) may weaken a tree, making it more susceptible to bark beetles, which then provide pathways for a wind-carried heart rot fungus to finish off the tree. Also, some causes of death allow other degenerative processes to occur. For example, trees killed by fire are then generally attacked by wood-boring insects and heart rot fungus.

Older trees are more susceptible to some types of disease, such as heart rot fungus, and insect attack. However, some snag-creating agents may not discriminate by age of the tree, such as root rot fungus or a catastrophic fire. In fact, low intensity ground fires often kill more seedlings, saplings, and smaller trees than larger trees; this is particularly true for a species like ponderosa pine where the older trees have a well developed bark layer that resists ground fires. Also, fire, wind, and flooding may remove snags from the landscape. Snags in advanced stages of decay often do not survive fires. Trees with root rot fungus are more susceptible to blowdown, while trees with heart rot fungus are more likely to break from strong winds, which leave a partial snag.

The structure of a forest also influences tree susceptibility. Denser forests can increase the competition for nutrients between individual trees, causing them to be weaker and more vulnerable to certain diseases and insects. Denser forests and those with uneven structure are more prone to crown fires, which are likely to kill more and larger trees than ground fires, which run through less dense forests and woodlands. In open woodlands with low-severity fire regimes, the number of snags is more stable over time than in denser forests with high-severity fire regimes, where there is an instantaneous increase of snags which decrease with time (Agee 2001). Denser forests also make it easier for some mortality-causing agents to spread, such as insects with low ranges of dispersal.

The spatial area and patterns affected by causative agents of tree death vary. Heart rot fungus tends to affect individual trees scattered throughout the forest, as it is spread by airborne spores that enter trees through parts damaged or broken. Some insects, such as carpenter ants (*Camponotus ferrugineus*), generally affect individual trees. Root rot fungus affects clusters of trees in close proximity. Fire and insects, such as mountain pine beetle (*Dendroctonus ponderosae*), Engelmann spruce beetle, and western spruce budworm (*Choristoneura occidentalis*), may affect a single tree, small clusters of trees, or hundreds to thousands of contiguous hectares. As the area consumed by fires and insects grows, a mosaic of dead and living tree patches may develop.

Finally, there are different time frames for trees to die and snags to remain standing. Bark beetles tend to kill trees quickly, within one to two years. Defoliating insects, such as western spruce budworm, may take several years to kill their host. Dwarf mistletoe kills trees over 20 to 30 years. Some snags last a long time, while others a very short time; the differences are related to the cause of death, tree species, and subsequent events and processes. Larger snags tend to last longer (Bull 1983). Fire can case-harden the base of a snag, enhancing its ability to stay erect.

Why Are Snags Important To Birds And Mammals?

“One dead tree is worth a thousand living trees to many animals.” I don’t recall where I first heard this statement, but it makes a case for the value of snags in our forests. Snags are used by birds to meet many basic behavioral and physiological needs, including nesting, drumming, roosting, feeding, perching, hawking, and singing.

For avian fauna, snags are most associated with a group called “cavity-nesters.” These are birds that nest in tree cavities. Colorado had 41 cavity-nesting bird species confirmed to breed in the state during the recent bird atlas (Kingery 1998). Cavity-nesters can be further broken down into two groups. Primary cavity-nesters are those birds that have the ability to excavate their own cavity and include all woodpeckers, Black-capped Chickadee (*Poecile atricapillus*), Red-breasted Nuthatch (*Sitta canadensis*) and Pygmy Nuthatch (*Sitta pygmaea*). Secondary cavity-nesters do not have the ability to make their own cavity, so have to find abandoned cavities produced by primary excavators or other natural tree cavities. Also note that many primary cavity-nesters will utilize previously excavated cavities.

Living trees, as well as snags, can be suitable for the creation of cavities by primary excavators. The key is generally the softness of the tree’s center, called heartwood, or sometimes in the next layer, called sapwood. Trees that have been infected with heart rot fungus will have a softer center that is favored for excavation. Snags, older living trees, trees recently burned, trees recently killed by other disease and insects, or trees easily damaged (such as aspen) are prime candidates for heart rot fungus and eventual cavity excavation.

The presence of snags greatly enhances the opportunities for cavity-nesting birds. The number of snags in an area is felt to be a good predictor of cavity-nesting bird densities (Bevis 2001; Brawn and Balda 1983). Large snags appear to be preferred for nesting as well as those with some bark remaining; for example with ponderosa pine, snags 60 centimeters (24 inches) in diameter or

greater (USDA Forest Service 1985) and those retaining over 40% of their bark (Scott 1978) were preferred by cavity-nesting birds.

Some of the more abundant and/or widespread birds found in Colorado that will nest in the cavities of snags include American Kestrel (*Falco sparverius*), Northern Flicker (*Colaptes auratus*), Tree Swallow (*Tachycineta bicolor*), Violet-green Swallow (*Tachycineta thalassina*), Mountain Chickadee (*Poecile gambeli*), House Wren (*Troglodytes aedon*), Mountain Bluebird (*Sialia currucoides*), and European Starling (*Sturnus vulgaris*). Other common cavity-nesters which are more specific to particular habitats include: Juniper Titmouse (*Baeolophus griseus*) and Bewick's Wren (*Thryomanes bewickii*) in pinyon-juniper woodlands; Pygmy Nuthatch and White-breasted Nuthatch (*Sitta carolinensis*) in ponderosa pine woodlands; Red-breasted Nuthatch and Brown Creeper (*Certhia americana*) in upland conifer forests; and Red-naped Sapsucker (*Sphyrapicus nuchalis*) in aspen forests. Most of our small forest-dwelling owls nest in cavities. While some cavity-nesters are habitat generalists, others are looking for the presence of snags within particular circumstances: Lewis's Woodpeckers (*Melanerpes lewis*) and Western Bluebirds (*Sialia mexicana*) favor open woodlands; Red-breasted Nuthatches and Brown Creepers are found in mature forests with closed canopies; Three-toed Woodpeckers (*Picoides tridactylus*) are present in old-growth and newly burned forests.

Upon reviewing numerous breeding bird studies, it appears that cavity-nesters generally comprise 15–40% of the breeding birds in Colorado's woodland and forest ecosystems. Three forest types stand out in importance to cavity-nesters: mature to old-growth forests and woodlands, mature aspen forests, and recently burned forests. Older forests are more likely to have larger trees, larger and more snags, and more insect- and fungus-infected trees. Recently burned forests have abundant snags which continue in structural importance for approximately 20 years, by which time most have fallen over.

Cavity-nesters make up an even larger percentage of the winter avifauna in Colorado's forests as many are resident species. For example, on the Indian Peaks Four Season Bird Counts, which occur in western Boulder County, cavity-nesters generally comprise 18% of all observed birds in the summer, and 40% in the winter, with 1 in 4 birds being a Mountain Chickadee (Hallock 1998). The importance of snags and cavities to wintering birds has been less studied. However, evidence suggests that snags provide important thermodynamic protection to wintering birds and are heavily used. Sydeman and Guntert (1983) reported communal winter roosting of between 27 and 167 Pygmy Nuthatches in one snag.

Snags can be excellent sites for the foraging of insects by birds. Recently deceased trees, whether killed by fire or disease, are prime habitat for bark-boring insects. Woodpeckers, nuthatches and creepers are the primary species that have the tools to seek and feed upon insects located within and under the bark; the habitats they prefer provide both food and shelter while the birds provide an important function of helping to control insect populations in both dead and living trees (Scott 1978).

Some species favor snags over living trees as perches. Olive-sided Flycatchers (*Contopus cooperi*) generally sing while perched on a snag or dead limb (C. Melcher, pers. comm.). Studies of Bald Eagles (*Haliaeetus leucocephalus*) suggest they prefer dead trees for daytime perches (Stalmaster and Newman 1979; Grubb and Kennedy 1982).

Birds are not the only benefactors of snags. Eight of the 18 species of bats known to Colorado use cavities in snags and trees for summer and/or daytime roosts (Fitzgerald et al. 1994). Racoons (*Procyon lotor*) and ringtails (*Bassariscus astutus*) will use hollows in snags. Bushy-tailed woodrats (*Neotoma cinerea*) use cavities close to the ground. Large-diameter snags were found to be important den sites for American martens (*Martes americana*) (Clark and Campbell 1977).

Finally, when snags fall over their value to animals takes on a whole new posture. They can be used for drumming and foraging by birds. They provide hiding cover or may help in the formation of under-snow pathways for small mammals. They tend to retain moisture and provide a wetter microhabitat, providing benefits to a host of animals and plants. Microorganisms will continue the decay process until the fallen log becomes decomposed and part of the soil.

The Problem

“In 1972, I was surprised to find that snags and logs were not being accepted as part of the forest, although data indicated over sixty species of wildlife on the Kaibab National Forest used snag habitat. There was, and had been for many years, a conscious effort to remove snags from the system. Timber sale contracts required the purchaser to fell a specified number of snags, and he was given purchaser credit to do so. Salvage sales scheduled between timber sales insured that fewer trees ‘went to waste.’ Fire management called snags ‘lightning rods’ and perceived them as standing beacons to attract fire. Other professional disciplines viewed the presence of snags as a disgrace and a waste.

“It was during the early 1970s that a forester proudly announced that the last snag had been removed from one of the National Forests in Arizona. Decades of snag removal had been effective on accessible areas of other forests as well.”

—Jerry W. Davis, Biologist, Tonto National Forest, AZ (1983)

As the above statement indicates, the problem stems from a bias by humans against dead trees. Though the quote specifically refers to Arizona, the attitude prevails throughout much of the world, including Colorado. Anyone who has visited the forests in Europe can see where our culture gets many of its values. Dead wood is to be collected so it does not “go to waste” and does not increase the chance or intensity of fire. Some public agencies in the American west still allow the collection and cutting of dead wood. This is not just a public land management issue; faced with a dead, dying, or diseased tree, it is probable that most private landowners make a decision for removal.

The ecology and management of forests in Colorado since 1850, the beginning of the non-Native American settlement period, has influenced forests in several ways. The settlement period, generally considered to be 1840–1910 and beginning in earnest with the discovery of gold in 1858, brought an increase in fire frequency from previous years because of more sources of ignition due to more people, early wood-burning trains, and the practices of prospectors setting fires to reveal geologic features (Laven et al. 1980; Goldblum and Veblen 1992). This period also saw localized heavy wood-cutting for materials. This was followed by the fire suppression era that was triggered by the devastating fires of 1910 in the Northern Rockies (Plummer 1912), a period that is characterized in most areas by much-reduced fire frequency and continues through current times. Additionally, beginning with the creation of National Forests around this same time, management activities and timber sales reduced the potential of forests to produce and retain snags. Dead and dying trees were removed during sanitation cuts, existing snags were removed for forest and visitor safety, and shorter rotation periods eliminated older stands resulting in a reduced potential to produce large-diameter trees and snags (Goodwin and Balda 1983). It was not until the 1970s that land managers began to recognize the values of snags and management problems.

The results of the past 150 years on the availability of snags are not uniform across the landscape and are related to site-specific land use history. Many areas that were cut or burned during the 1850–1910 era are now middle-aged for most coniferous forest types, with fewer large-diameter trees and snags than pre-1850. Many areas that were regenerated by aspen during the settlement era

are now succeeding to coniferous forest types, again disfavoring the needs of cavity-nesters as aspen die out with a coniferous forest still too young to offer many snags.

In some locations, the loss of snags due to settlement-era land use practices may be offset by more recent fires and insect infestations. In fact, it is generally believed that due to fire suppression, insect infestations, such as mountain pine beetle and western spruce budworm, have increased in severity and spatial extent (Swetnam and Lynch 1989; Schmid and Mata 1996).

The problem then moves to perceptions about burned and bug-killed stands of trees. One objection people voice about a large stand of dead trees is aesthetic; they perceive it as unsightly, an attitude that can only be changed with education about the values of such stands (which may take a generation or two). Another objection, particularly with bug-killed stands, are increased fire dangers. This is a much more complex issue, one that requires information about aspect, slope, ground fuels, tree density, and microclimate. But not all dead trees increase fire danger; in fact in some situations a standing dead tree with no needles on the branches is less prone to fire than a live tree. Also, there is no direct evidence that snags are more prone to lightning strikes (P. Brown, pers. comm.). In addition, our land managers should increasingly learn to accept fire, bugs, and snags as part of the ecosystem.

Finally, the accessibility of an area directly correlates to the loss of snags. The two main variables are presence of roads and steepness of the land. Most active forest management, such as commercial timber sales, sanitation cuts, pre-commercial thins, and public wood gathering, require the use of roads, particularly if trees are removed from the site. The distance to the nearest road is a good predictor of snag density: the closer to a road the lower the snag density (Bird 1999). Additionally, it is easier to remove trees from flatter and gently sloping terrain, whereas more rugged country has an advantage toward snag retention.

In summary, it is probable that significant portions of Colorado's forests have lower snag densities, particularly of high-quality, large-diameter snags, than what cavity-nesting birds were accustomed to in previous centuries. This statement appears truer for areas that are (or were) easily accessible by roads, actively managed, and/or close to human settlement. Also, lower-elevation forests have generally been impacted more by past land use practices, which have disfavored the creation and retention of snags.

What You Can Do

The most important thing is for each of us to recognize the positive values of snags and, as situations arise, to become voices for their retention because of the many benefits they provide to wildlife. While attitudes are changing, there is still a significant portion of our citizenry that views a dead tree as something that should be cut down and removed.

We also need to become knowledgeable about the forest ecosystems in which we live and recreate. Look for where the snags and large trees are. Do there seem to be a lot or few of them? How are they distributed? Are there many cut stumps and what size are they? What is the age, and what are the land use, fire, and insect disturbance histories of the forest on your property, around your community, or in the places you frequently bird? By having a feel for the answers to these questions, you will be able to better see the condition of the forest, and if snags seem to be under-represented. And by being a birder, you have some good clues. Where do you find the cavity-nesters during the breeding season and how abundant are they?

If you frequent public lands—National Forests, National Parks and Monuments, Bureau of Land Management lands, State Parks, municipal or county open space—you may want to see if the agencies have policies in their management plans that are favorable toward recognizing the wildlife values of snags and retaining them. If not, see if they will consider establishing some. Some public entities set minimum standards for size and density of snags. For example, the Arapaho and Roosevelt National Forests set a minimum standard of 3 snags per 0.4 hectares (1 acre), with a minimum diameter of 25 centimeters (10 inches). Also, where forest management is to occur, they favor retaining groupings of snags, providing for snag recruitment by keeping 3 or more declining or dying trees per 0.4 hectares (1 acre), and protecting snags from blowdown by retaining clumps of other large trees around them (USDA Forest Service, Arapaho and Roosevelt National Forests and Pawnee National Grasslands 1997). Of course, the problem with minimum standards is that they often become the norm. Aim higher. See if the agencies have done any inventories of snags to determine if standards are being met. You may want to help the agency with such an inventory or get your local birding club involved.

From time to time, fires and insect outbreaks may cause mortality to many trees. There is often a public outcry for removal, or salvage of the trees. Be a voice that calls for the retention of these snags—you may not get all of them, but a compromise is better than what may have happened. Remember, for many insectivorous and cavity-nesting birds, burns and insect epidemics are some of the good times. We are the ones who have to learn to think and act

differently. A burned forest can be a thing of beauty—especially when it might become a haven for Three-toed Woodpeckers!

While visiting your favorite public land, you may notice that some trees have been cut (probably snags), even though wood cutting is prohibited. The illegal cutting of firewood on public lands is a continual problem, particularly for snags. And chances are there is a road nearby. Certainly, make the managing agency aware. If problems continue, consideration may need to be given to a road closure, particularly if the road is of minor value, or one that should have been closed but wasn't at the time of the last timber sale, or was created by inappropriate off-road travel.

Public land management agencies are changing their attitudes about snags, maybe even faster than the general public. It is interesting to read the proceedings of the two watershed symposiums: the 1983 snag habitat management symposium held in Tucson, and the 1999 dead wood symposium held in Reno. In 1983 many of the concerns were about how to accomplish snag retention against the increasing demand for wood products, especially firewood. Now, the agencies are moving away from output of forest products toward better ecosystem management that recognizes all the values of the forest, including the need for snags. But the land managers need to hear support from the public to do the right thing, because there is still strong public sentiment that snags are bad.

Finally, the surest place to have an impact is on your own land. Set the example by retaining that dead tree and explaining to your neighbors why you are saving it (for they will probably ask, especially if it is near their property line). Put a little sign on it that says "wildlife tree." The birds won't need the sign, but your friends and neighbors might.

To Find Out More...

Determining the proper amount and spatial distribution of snags throughout the landscape can be very complex, and much has only recently been discovered. If you wish to dig deeper into snags, or any aspect of dead wood, two good references are:

Snag Habitat Management: Proceedings of the Symposium, June 7-9, 1983, Flagstaff AZ. J. W. Davis and G. A. Goodwin and R. A. Ockenfels, technical coordinators. U.S. Forest Service General Technical Report RM-99.

The Ecology and Management of Dead Wood in Western Forests, November 2-3, 1999, Reno NV.

An offshoot of the Reno symposium is a web discussion group for dead wood ecology and management issues, along with links to other dead wood resources. The address is www.egroups.com/group/dead_wood.

Literature Cited

- Agee, J. K. 2001. The charcoal filter as a coarse filter for coarse woody debris. Proceedings of a Symposium on the Ecology and Management of Dead Wood in Western Forests. *In press*.
- Bevis, K. R. 2001. Primary cavity excavator birds in managed and unmanaged grand fir forests of Eastern Washington. Proceedings of a Symposium on the Ecology and Management of Dead Wood in Western Forests. *In press*.
- Bird, B.M. 1999. A second life for dead trees. *Wild Earth* Spring 1999.
- Brawn, J.D., and R.P. Balda. 1983. Use of nest boxes in ponderosa pine forests. Pages 159–164 in J.W. Davis, G.A. Goodwin and R.A. Ockenfels, tech. coords. Snag habitat management: proceedings of the symposium. U.S. Forest Service General Technical Report RM-99.
- Bull, E.L. 1983. Longevity of snags and their use by woodpeckers. Pages 64–67 in J.W. Davis, G.A. Goodwin and R.A. Ockenfels, tech. coords. Snag habitat management: proceedings of the symposium. U.S. Forest Service General Technical Report RM-99.
- Clark, T.W., and T.M. Campbell, III. 1977. Short-term effects of timber harvest on pine marten behavior and ecology. Idaho State Univ., Pocatello.
- Davis, J.W. 1983. Snags are for wildlife. Pages 4–9 in J.W. Davis, G.A. Goodwin and R.A. Ockenfels, tech. coords. Snag habitat management: proceedings of the symposium. U.S. Forest Service General Technical Report RM-99.
- Fitzgerald, J.P., C.A. Meaney and D.M. Armstrong. 1994. Mammals of Colorado. Denver Museum of Natural History and University Press of Colorado.
- Goldblum, D., and T.T. Veblen. 1992. Fire history of a ponderosa pine/Douglas-fir forest in the Colorado Front Range. *Physical Geography* 13:133–148.
- Goodwin, G.A., and R.P. Balda. 1983. Challenges of snag management. Pages 223–226 in J.W. Davis, G.A. Goodwin and R.A. Ockenfels, tech. coords. Snag habitat management: proceedings of the symposium. U.S. Forest Service General Technical Report RM-99.
- Grubb, T.G., and C.E. Kennedy. 1982. Bald eagle winter habitat on southwestern National Forests. U.S. Forest Service Research Paper RM-237.
- Hallock, D.H. 1998. Indian Peaks four-season bird count: 15-year summary. *Journal of the Colorado Field Ornithologists* 32:67–81.

- Kingery, H.E. (Editor). 1998. Colorado Breeding Bird Atlas. Colorado Bird Atlas Partnership and Colorado Division of Wildlife, Denver, CO.
- Laven, R.D., P.N. Omi, J.G. Wyant, and A.S. Pinkerton. 1980. Interpretation of fire scar data from a ponderosa pine ecosystem in the central Rocky Mountains, Colorado. Pages 46–49 in M.A. Stokes and J.H. Dieterich, eds. Proceedings of the fires history workshop, October 20–24, 1980, Tucson, Arizona. U.S. Forest Service General Technical Report RM-81.
- Plummer, F.G. 1912. Forest fires: their causes, extent, and effects, with a summary of recorded loss and destruction. U.S. Forest Service Bulletin 117.
- Schmid, J.M., and S.A. Mata. 1996. Natural variability of specific forest insect populations and their associated effects in Colorado. U.S. Forest Service General Technical Report RM-275.
- Scott, V.E. 1978. Characteristics of ponderosa pine snags used by cavity nesting birds in Arizona. *Journal of Forestry* 76:26–28.
- Stalmaster, M.V., and J.R. Newman. 1979. Perch site preference of wintering bald eagles in northwest Washington. *Journal of Wildlife Management* 43:221–224.
- Swetnam, T.W., and A.M. Lynch. 1989. A tree-ring reconstruction of western spruce budworm history in the southern Rocky Mountains. *Forest Science* 35:962–986.
- Sydeman, W. J., and M. Güntert. 1983. Winter communal roosting in the pygmy nuthatch. Pages 121–124 in J.W. Davis, G.A. Goodwin and R.A. Ockenfels, tech. coords. Snag habitat management: proceedings of the symposium. U.S. Forest Service General Technical Report RM-99.
- USDA Forest Service. 1985. Large snags are important. *Southwest Habiter: a Newsletter for Wildlife Habitat Managers* 6:6. USDA Forest Service, Southwest Region.
- USDA Forest Service, Arapaho and Roosevelt National Forests and Pawnee National Grasslands. 1997. 1997 revised land and resource management plan. Fort Collins, CO.
- Wagner, M. R., and B. E. Nelson. 2001. Overview of agents and patterns of coarse woody debris recruitment in western forests. Proceedings of a Symposium on the Ecology and Management of Dead Wood in Western Forests. *In press*.



PROJECT COLONYWATCH

Rich Levad

Rocky Mountain Bird Observatory

337 35¼ Road, Grand Junction, CO 81503

rich.levad@rmbo.org

For the past five years, Susan Hirshman of Ouray has spent countless hours observing the Black Swift colony at Box Canyon Falls. Susan, a birder with little formal training in biology, has made significant contributions to the understanding of Black Swift breeding biology and has raised awareness of the colony to the point that it has become a featured attraction at Ouray's Box Canyon Park. Her work powerfully contributes to the protection of this colony and to the conservation of Black Swifts in the state.

At Fountain Creek Nature Center in El Paso County, staff and volunteers under the supervision of Ken Pals keep track of the local Great Blue Heron colony, counting active nests, discerning threats, and doing what they can to keep the colony viable and safe. They have even published a booklet on "their" herons. In the Roaring Fork Valley, Heather Hopton, Jeanne Beaudry, Dawn Keating, and Johanna Payne each keep an eye on their favorite herons, and Mike Britten has "adopted" the heronry on the St. Vrain at Longmont. From his lakeside home in Pagosa Springs, Bob Frye keeps track of the Western Grebes that nest on Sullenberger Reservoir each year. All of these watchers have a proprietary feeling about their birds and threats to the colonies will not go unheeded.

The work these volunteers perform is exemplary but not unique. Across the state, other individuals have "adopted" heronries and other colonies to similar effect. Their efforts have inspired a new program entitled **Project ColonyWatch**. Rocky Mountain Bird Observatory (RMBO), in cooperation with Audubon of Colorado, Colorado Field Ornithologists, and Partners in Flight, has initiated this project to encourage and coordinate volunteer monitoring of colony-nesting birds in Colorado.

ColonyWatchers will conduct counts and monitor threats at colony sites. Their data will be collected by a coordinator at RMBO and will be incorporated into that organization's statewide monitoring program, *Monitoring Colorado's Birds*, which has compiled a long list of candidate colonies. These sites include roadside heronries that can be counted from the seat of a convertible, island colonies of pelicans and gulls that will require a boat or canoe, and Black Swift colonies requiring tough hikes and even technical climbing. Volunteers can adopt a colony by contacting Rich Levad at 970-241-4674 or by e-mail at rich.levad@RMBO.org.

KANSAS BREEDING BIRD ATLAS: A REVIEW

Alan Versaw
403 Maplewood Drive
Colorado Springs, CO 80907

Kansas Breeding Bird Atlas

William H. Busby and John L. Zimmerman

Published in 2001 by University Press of Kansas

Illustrations by Dan Kilby, Robert Mengel, and Orville Rice

488 pages, 341 maps, 399 tables. \$35.00

Breeding bird atlases do not disappoint. Rather, these are volumes cleverly contrived to keep the birding public awake into all hours of the night, diligently extracting nuggets of information from the text and tables. Seen in this light, the Kansas Breeding Bird Atlas is a must-have for anyone interested in Kansas bird life. Even for those whose avian interests extend no farther than 102 degrees west longitude, this volume provides a wealth of fascinating information.

As with most atlas publications, it is easy to become sidetracked in the geographic and interpretive information provided in the introductory sections of the book. Eventually, however, the reader's attention gravitates toward the species accounts. At that point, you might as well get comfortable and tell your spouse you'll be turning in late; it will be a while before you set the book down. It may even be prudent to leave your boss a brief message, telling her that something important came up unexpectedly and you will be burning a day of personal leave tomorrow.

The atlas provides individual accounts of all 203 species recorded as breeders in Kansas during the six years of the atlas project (1992–1997). The most compelling aspect of these species accounts is the consistent effort to relate the abundance and distribution of each species to the ecological features of Kansas. One learns, for example, that Horned Lark—almost a state bird in Kansas—nearly disappears off of the radar screen in the Flint Hills. Unlike most of the rest of the state, inhospitable tall grasses and dense layers of ground litter are the rule in the Flint Hills of east-central Kansas.

With all the emphasis on linking birds to their habitats, we might wish that the Kansas Breeding Bird Atlas leadership had followed Colorado's lead and required atlasers (in Kansas, these folks were dubbed "cooperators") to report habitat codes alongside the evidence-of-breeding codes. Although such

reporting introduces a few troublesome errors in the data, it may also help us to break out of some time-honored, but not fully correct, assumptions that prevent us from understanding the natural history of the various breeding species as well as we might. Many, if not most, of the most recent atlas projects have emphasized reporting habitat codes alongside codes for breeding evidence. We should hope that this trend, along with training field workers to better identify habitat types, becomes the standard in the next wave of atlas projects. Financial and logistical constraints, of course, rank as the leading deterrents to this goal.

Before leaving the subject of individual species accounts, a word should be spoken on behalf of the artwork of the Kansas Breeding Bird Atlas. The editors of the volume took the unusual step of combining the work of three artists into this volume. The work of two artists, Orville Rice and Robert Mengel (the latter's work originally appeared in *A Guide to Bird Finding in Kansas and Western Missouri*, a volume already on the shelves of many Colorado birders), comprises slightly less than one-half of the illustrations used in the volume. Dan Kilby created the remaining artwork specially for the Atlas. Although the style varies detectably between artists, all three artists provide highly realistic renderings. At no point should the reader find the variation in styles distracting. Quite the contrary, the artwork is uniformly delightful, occasionally even spellbinding. Dan Kilby's waterfowl renderings rank as my personal favorites.

No doubt, many Colorado birders will succumb, as I did, to the temptation to lay distribution maps from the Colorado and Kansas Breeding Bird Atlases side by side and search for surprises. To look, for example, only at the Kansas distribution map for the Eastern Phoebe we would barely expect to find the species in Colorado. Yet, the Eastern Phoebe makes a one last remarkable resurgence in southeastern Colorado. Indeed, it appears that we would have to travel one-third of the way across Kansas before once again finding the bird as widely distributed as it is in Las Animas, Bent, and Otero Counties. Although such examples might easily be multiplied, I will refrain from doing so out of respect for those who feel a similar serendipity in discovering these things on their own.

To do that, though, you will have to purchase the volume for yourself or wait a few months until it is available through inter-library loan. Whatever course you find more prudent, an adventure in armchair ornithology awaits you.



WINTER RAPTOR USE OF PRAIRIE DOG TOWNS IN THE DENVER, COLORADO VICINITY

Dave Weber
Colorado Division of Wildlife
6060 Broadway
Denver, CO 80216
dave.weber@state.co.us

The Denver, Colorado metropolitan area is one of the fastest-growing urban centers in the United States. Ongoing development is rapidly destroying wildlife habitat as the metro area expands, and the Colorado Division of Wildlife (CDOW) is attempting to deal with the situation. A large number of black-tailed prairie dog (*Cynomys ludovicianus*) towns exist within the urbanized area and on its outer edge. A 1994 prairie dog mapping project identified about 30,000 acres of prairie dog towns present in the metro area, mostly concentrated on its north side. These prairie dog towns are rapidly being destroyed as urban development proceeds.

In considering the loss of prairie dog towns, CDOW biologists noted that towns in the metro area appeared to be receiving heavy use during the winter months by feeding raptors—mainly Bald Eagles (*Haliaeetus leucocephalus*), Golden Eagles (*Aquila chrysaetos*), Ferruginous Hawks (*Buteo regalis*), and Red-tailed Hawks (*B. jamaicensis*). These birds are adept at preying on prairie dogs and appeared to be relying heavily on them for food during the winter. The large concentration of prairie dogs in the north Denver area appeared to be attracting an unusually large number of wintering raptors, making the Denver area a significant raptor winter concentration area. To help better understand the situation, the CDOW decided to document the winter raptor/prairie dog connection by gathering specific information on raptor use of prairie dog towns. The goals of the study were to: 1) quantify winter raptor use of prairie dog towns; 2) determine if some prairie dog towns received significantly more use by raptors than others; and 3) determine why some prairie dog towns were more or less heavily used by raptors than others.

Methods

From 9–24 March 1994 a pilot study was done on 12 selected prairie dog towns north of Denver. The study was designed to test methods for counting raptors using a prairie dog town. A technique of observing each prairie dog town for a 15-minute interval was settled upon. The observer chose a roadside location from which the entire town could be observed using binoculars and a spotting

scope without trespassing. The same observation point was used for each town throughout the study. During the observation period, the observer identified and counted any raptors that the observer felt were exhibiting interest in the prairie dog town. This included flying over at a low altitude, perching in trees or poles on or near the town, standing on the ground within the town, or actually attempting to capture a prairie dog. The observation periods were rotated throughout the day so that each town was visited at various times of day during the study.

Observers also recorded the acreage of each town, the estimated number of active burrows in the town, the number and kinds of available raptor perches (trees, poles, fenceposts), and a description of land uses immediately adjacent to the town (housing, commercial, roadways, farmland, rangeland, etc.).

Raptor perch categories were: large tree, medium tree, telephone pole, power pole, and wooden fencepost. The number of each was determined, counting those on the town and those within 100 yards separately. In order to quantify perch availability at each town, points were assigned to each category: large trees on the town = 10 points each; medium trees on the town = 4 points each; telephone or power poles on the town = 4 points each; large trees within 100 yards = 5 points each; medium trees within 100 yards = 2 points each; telephone or power poles within 100 yards = 2 points each; and wooden fenceposts on or within 50 yards, add 5 points to the total for more than 10 points. The point total was summed for each town.

The prairie dog towns to be studied were selected more or less arbitrarily in the north Denver vicinity, although we tried to include both large and small towns. Counts were continued and expanded during the following two winters, using the same methods each year. Sixteen prairie dog towns were studied from 30 January through 3 March 1995, and 38 towns the following winter, from 22 January through 5 March 1996.

Results and Discussion

Results of the study confirmed our casual observations that large numbers of wintering raptors were relying on the prairie dogs in the study area. To quantify raptor use, we calculated a raptors/hour figure for each prairie dog town by simply extrapolating from the 15-minute observation period data. It should be noted that raptors/hour is simply an index for comparison. We felt that the levels of use represented very high raptor reliance on prairie dogs during all three years of the study (Table 1). The differences from year to year are not necessarily important since the same prairie dog towns were not counted each year and the 1994 count occurred in March only.

Table 1. Summary of raptor use of prairie dog towns during the three years of the study.

Winter	# Towns Counted	Mean # Raptors/Hr
1993/94	12	6.6
1994/95	15	5.7
1995/96	38	4.2

For simplicity, the remaining results reported will include data only from the 1996 count of 38 towns, which was much more comprehensive than the previous two years. The results from the 1994 and 1995 studies were generally comparable.

Four species of raptors were most commonly observed using the prairie dog towns. The species breakdown for 1996 was: Ferruginous Hawks, 39.1% of all raptors observed; Red-tailed Hawks, 22.5%; Bald Eagles, 15.3%; Golden Eagles, 6.4%; and other/unidentified, 16.7%.

The question of degree of variability of raptor use from one town to the next was clearly answered. There were sizable differences in use of different towns by raptors. While the overall average use for 1996 was 4.2 raptors/hour, the range was from a high of 12.0/hour to a low of 0.5/hour. Eight towns were used by at least 7.0 raptors/hour, and 16 towns received less than 3.0 raptors/hour use. Clearly, some towns were used much more by hunting hawks and eagles than others.

In attempting to analyze why some towns were preferred, we investigated three variables: 1) number of prairie dogs in the town; 2) availability of hunting perches near the town; and 3) surrounding land uses.

We compared the number of number of active burrows in a town to use by raptors (Table 2). We assumed that the number of active burrows approximated the number of prairie dogs in a town. Based on these data, it was strongly suspected that the number of prairie dogs available in the town was the most important factor in attracting wintering raptors.

In looking at the possible effect of availability of hunting perches on raptor use, we compared the "Perch Index" (the summed perch availability points) for

Table 2. Comparison of prairie dog abundance to use by hunting raptors, 1996.

# Active Burrows	# Towns	# Raptors/Hr
<50	20	2.3
50-99	10	4.5
100-149	3	7.1
150-199	1	7.8
200-249	1	8.2
250-300	3	10.0

each town to raptor use (Table 3). These data would imply that perch availability is a significant factor in encouraging raptor use, but another variable comes into play, namely the fact that the larger the prairie dog town, the more likely it is to have perches within 100 yards (Table 4). Because the larger towns tended to naturally have more perches on or near them, the real relationship between perch availability and raptor use is difficult to pin down. Some towns with low raptor use had high perch availability, and one town with high raptor use had a low perch score. Some of the raptors involved, especially Ferruginous Hawks, are known to hunt prairie dogs very effectively from the ground. While perch availability may be of some importance in attracting raptors to prairie dog towns, we suspect that the number of prairie dogs available in the town is a more significant factor.

Table 3. Comparison of the availability of hunting perches to use of prairie dog towns by raptors. The higher the perch index, the more perches available within 100 yards.

Perch Index	# Towns	# Raptors/Hr
0-99	17	2.9
100-199	15	4.5
200-299	3	5.4
300+	3	8.2

Table 4. Relationship of prairie dog town size to availability of raptor perches.

Size (acres)	# Towns	Perch Index
<50	19	102.8
50-99	7	120.1
100-149	7	131.0
150-199	4	242.8
200+	1	112.0

We speculated that the amount of urbanization adjacent to the prairie dog towns might be a factor in raptor use, thinking that the birds might be more likely to use undisturbed, rural prairie dog towns more than those with adjacent human development. However, that was clearly not the case, as no clear pattern emerged (Table 5). Our observation is that many raptors are not shy about hunting in heavily urbanized areas.

Table 5. Comparison of urbanization in the vicinity of the prairie dog towns and raptor use.

% Urbanized	# Towns	# Raptors/Hr
0-24	3	5.7
25-49	10	2.6
50-74	10	3.5
75-100	15	5.3

A variable that was not investigated, but which might very well be of importance, was the number of other prairie dog towns nearby. It is possible that clusters of prairie dog towns generally attract more hunting raptors to a vicinity.

In summary, this study met CDOW's main objective of documenting heavy use by wintering raptors of Denver metro area prairie dog towns. We are using this information as the main justification for implementing an initiative to attempt to save or replace prairie dog towns being lost to development as the metro area expands.

Acknowledgments

Funding for this project was provided by the hunters and anglers of Colorado through license fees. CDOW biologist Kathi Green provided advice and helped arrange funding. Field work was done by temporary Wildlife Technicians Karen Baud (1994) and Michael Dick (1995 and 1996).



CFO BOARD MEETING MINUTES: 10 FEBRUARY 2001

Sherry P. Chapman, Secretary

The regular quarterly meeting of the Colorado Field Ornithologists was held on Saturday, 10 February 2001, at 10 A.M. at the John Deaux Art Gallery in Pueblo, the President being in the chair and the Secretary present. Board members attending: Raymond Davis, Tony Leukering, Pearle Sandstrom-Smith, Warren Finch, Rachel Kolokoff, Mark Yaeger, Scott Gillihan, Rich Levad, and Leon Bright. The minutes of the prior meeting were approved as corrected.

President's Report

Nature writer Jerry Uhlman requested information regarding birding trails in Colorado. Mark replied to him that we do not have formal birding trails in the state.

Treasurer's Report

Mark Janos presented the Treasurer's report for BB Hahn. Net assets are currently \$21,510.06. Mark also presented the proposed 2001 budget. Several changes were made, and a revised budget with a \$1,392 deficit was approved. Pearle Sandstrom-Smith has tried to over-estimate convention expenses and has been conservative with expected income, and feels that the income from the convention will actually balance the budget.

Colorado Bird Records Committee

Tony Leukering reported that Dave Ely has resigned. Larry Semo was recommended to fill the position and the Board accepted the recommendation.

The CBRC has discussed a position of Secretary within the committee. The work load has increased dramatically over the last few years and keeping the records in order is an increasing chore. Larry Semo has agreed to serve temporarily as Secretary. Still to be decided is whether the position would be voting or non-voting, the length of the term, and whether the position would be permanent.

Journal Editor

Scott Gillihan has filled a request from California Gas & Electric for three *JCFO* articles about raptors and utility pole electrocutions.

Membership

Raymond Davis reported that 392 memberships are currently paid. Forty-eight members from 2000 have not renewed. The number of renewals for 2001 is average.

Website

Rachel Kolokoff reported that on-line store sales are slow but to try to increase them would involve an amount of time that she feels would not be productive. All links are up-to-date; the photo quiz is very popular. Host Pro is very responsive and doing a fine job. Rachel does not see any reason for change.

Rachel recently set up a "Chat Room" on the site. The "rooms" will include Photo Quiz, CBRC, Conservation, CFO Board, and ideas for additional topics. The "rooms" enable users to view other comments in addition to adding their own postings. Each "room" will have a moderator.

Nominating Committee Report

Jim Chace has moved out of state and has submitted a letter of resignation. Rich Levad suggested Dona Hilkey to replace Jim; Warren will contact her about serving out Jim's term. Due to other commitments, Pearle Sandstrom-Smith will not serve another term and the committee will need a nomination for her replacement, to be presented to the membership during the convention.

Funded Projects Committee

The committee recommended that three projects be granted \$500 each. Project proposals from Susan Craig, Heather M. Swanson, and William Merkle were funded as recommended.

Unfinished Business

JCFO Index: Warren Finch will make format changes suggested by Scott. We will have 130 printed for institutions and exchanges with additional copies to cover individual orders. Scott will design an order form for *JCFO* and Rachel will send the form to the CFO e-mail list. The charge for bound copies will be \$6.00 with copies mailed at no charge to institutions and exchanges. Rachel will add the Index to the Website in a configuration that can be downloaded.

New Business

Project ColonyWatch: Rocky Mountain Bird Observatory is instigating a project that will monitor colonial nesters. Rich Levad requested that CFO add their logo to the literature for this project. A motion was made and passed that we approve the use of the CFO logo for Project ColonyWatch.

April Board Meeting

The office of the Rocky Mountain Bird Observatory on Saturday, April 7 at 10:00 A.M. was selected.

The meeting adjourned at 2:20 P.M.



**NEWS FROM THE FIELD:
FALL 2000 REPORT (AUGUST–NOVEMBER)**

Peter R. Gent
55 South 35th Street
Boulder, Colorado 80305
gent@ucar.edu

The 2000 fall season started rather wet, after a very dry summer. It was quite mild through October, but then turned very cold in the first half of November. Many large lakes and reservoirs partially froze over during this period, but open water remained as the temperature moderated during the second half of November. I heard it said that this was the second coldest November in Colorado after 1880. However, the readings are now taken at Denver International Airport instead of Stapleton, and the temperature at DIA is often several degrees colder than Stapleton.

Several species made very strong showings this fall with many more birds being reported than usual. These included Calliope Hummingbird, Cassin's Vireo, Townsend's Warbler early in the season, and Gray-Crowned and Black Rosy-Finches late in the season in November. All these species breed mostly to the northwest of Colorado. Various suggestions were made for this, including the dry summer producing a poor food crop, a banner breeding year because a majority of the birds were juveniles, and the fires in the western part of the country. Most commentators on COBIRDS thought the fires were not extensive enough to be a factor.

Some species from the Arctic, such as Sabine's Gull, Arctic Tern, and all three Jaegers were also seen in much larger numbers than usual early in the fall. This might also have been due to a banner breeding year because they were mostly juveniles, but there were also a couple of Arctic fronts that reached Colorado that could have brought these birds with them. However, the Arctic fronts in November did not bring unusually large numbers of northern breeders, such as Loons and Scoters. Finally, the distribution of Bohemian Waxwing, Snow Bunting and Common Redpoll sightings seemed rather odd to me. Usually when they arrive in Colorado, they come in large flocks to the northeast quadrant of the state. This fall, the sightings were of individuals, or very small flocks, with the first two seen in the southern part of the Front Range.

In addition, several mountain species were seen in large numbers at lower elevations in both western and eastern Colorado and other states such as

Kansas. These included Clark's Nutcracker, Mountain Chickadee, Brown Creeper, Golden-crowned Kinglet, Red Crossbill, Cassin's Finch, and Evening Grosbeak. One contributing factor was almost certainly a poor food crop in the Colorado mountains. Bill Maynard walks the same mountain loop every week above Colorado Springs and reports an absence of any cones on limber, ponderosa, and white fir trees, and only a few cones on Douglas-fir trees. We should all know pine trees this well!

There was also the usual crop of rarities this season. A juvenile Sharp-tailed Sandpiper was at John Martin Reservoir for several days, and Ruby-throated Hummingbirds were seen on the far Eastern Plains. A juvenile Long-tailed Jaeger was seen by many at Jackson Reservoir, as was a Reddish Egret at Lake Cheraw. An American Woodcock was seen at Two Buttes, and some lucky observers saw a Baird's Sparrow at Big Johnson Reservoir. Other rather unusual species seen were: Red-throated Loon, Red-necked Grebe, Red Phalarope, Little Gull, Black-headed Gull, Arctic Tern, Inca Dove, Cape May and Prothonotary Warblers.

Thanks to everyone who sent me their sightings, and to Brandon Percival, who collected the postings off COBIRDS and elsewhere. The prize for the most comprehensive and longest report this season again goes to Larry Semo. Please send your winter season sightings to me either by e-mail or snail mail; send your spring season reports to Chris Wood at zeledonia@worldnet.att.net or 3465 S. Otis Court, Lakewood, CO 80227.

The reader should be aware that many of the sightings used in this report were taken from postings to the COBIRDS electronic bulletin board. Not all of the rare and unusual species have been supported by documentation sent to the Colorado Bird Records Committee. Underlined species are those for which the committee desires written documentation. If you need an electronic version of the rare bird documentation form, it can be retrieved from the CFO web site at <http://www.cfo-link.org/leadpage.html>. If you need a hard copy, use the one on the inside of this journal's mailer. Documentation should be sent to the chairperson, Tony Leukering (address on the form).

Underlined species are those for which the Colorado Bird Records Committee requests documentation. County names are italicized.

Red-throated Loon: An immature was at Pueblo Res, *Pueblo* between 3 and 25 Nov (BKP, m.ob.), and one was observed at Boyd L in Loveland, *Larimer* on 5 Nov (NK).

Red-necked Grebe: There were more sightings than usual this fall. One was

seen at Pueblo Res, *Pueblo* between 5 Oct and 21 Nov (BKP, m.ob.), another was at Cherry Creek Res, *Arapahoe* on 5 Oct (BB), one was at Big Johnson Res, *El Paso* between 14 and 21 Oct (DE, m.ob.), and a fourth was at Boulder Res, *Boulder* on Nov 23 (PG, JP).

Neotropic Cormorant: An adult was seen at Pueblo Res, *Pueblo* on 6 and 7 Aug (VAT, m.ob.), and an immature was at Neesopah Res, *Kiowa* on 6 Aug (MJ, BKP).

Reddish Egret: A dark-morph juvenile was seen at L Cheraw, *Otero* between 3 and 17 Sep (MJ, m.ob.). This is the fifth CO state record.

Greater White-fronted Goose: Individuals seen at unusual locations away from the eastern plains this season were one at L Estes, *Larimer* on 3 Nov (SR), one on the Colorado R, *Eagle* on 5 Nov (LPr), and two at the Colorado R Wildlife Area, *Mesa* on 9 Nov (DWr).

Ross's Goose: Two individuals of this species were also on the West Slope at the Colorado R Wildlife Area, *Mesa* on 9 Nov (DWr).

Trumpeter Swan: The adult that has been east of Boulder, *Boulder* for about two years was present between 1 Aug and 7 Nov (m.ob.), and three immatures were seen in Fort Collins, *Weld* on 12 Nov (RK, JF).

Surf Scoter: An immature was seen at Boulder Res, *Boulder* on 10 Oct (BK), an adult female was at Blue Mesa Res, *Gunnison* on 4 Nov (TL, DF), and one male and one female were seen at Cherry Creek Res, *Arapahoe* on 9 Nov (BB).

White-winged Scoter: An immature was seen at Chatfield Res, *Jefferson* on 9 Nov (JK), and an immature female was seen at Greeley, *Weld* between 10 and 18 Nov (DMa, m.ob.).

Black Scoter: An immature was at North Poudre Res, *Larimer* on 3 Nov (SJD), one was at Cherry Creek Res, *Arapahoe* also on 3 Nov (BB), and an adult male was seen at Pueblo Res, *Pueblo* between 4 and 6 Nov (BKP, MJ, m.ob.).

Long-tailed Duck: Two were seen at Chatfield Res, *Jefferson* on 8 Nov (JK), up to two immatures were at Warren L, *Larimer* between 13 and 18 Nov (SJD, RK), an immature female was at Valco Ponds, *Pueblo* between 14 and 25 Nov (BKP, m.ob.), two females were at L Henry, *Crowley* on 19 Nov (BKP), an adult female was at Boulder Res, *Boulder* on Nov 25 (TL), and another adult female was seen at Warren L, *Larimer* on Nov 27 (SJD, JF). A good season for this species in Colorado.

Barrow's Goldeneye: West Slope reports were four males seen at Windy Gap Res, *Grand* on 14 Oct (TL), six females were at Rifle Gap Res, *Garfield* on 9 Nov (TL, RL, DF), and a female was at L Dillon, *Summit* on 10 Nov (TL, DF). One seen south of La Junta, *Otero* on 9 Nov (VAT) was rather unusual that far south and east in Colorado.

Broad-winged Hawk: A very late individual was observed at Penrose,

Fremont on 4 Nov (R&JW).

Yellow Rail: A bird, probably of this species, was flushed at Jim Hamm Pond, *Boulder* on 26 Aug (JP). However, John says that the sighting was so short, that he is not counting this in his own records. There is only one documented occurrence in Colorado; a specimen taken near Barr L, *Adams* in 1906.

American Golden-Plover: This was a good season for this species. Up to 12 were at Jackson Res, *Morgan* between 23 Sep and 1 Oct (TL, DF, m.ob.) when this reservoir had really excellent shorebirding. There were also at least three at John Martin Res, *Bent* between 5 and 8 Oct (DN, GR, m.ob.).

Ruddy Turnstone: One was seen at Barr L, *Adams* on 1 Sep (TL), one was at Standley L, *Jefferson* on 20 Sep (LS), another was seen at Chatfield Res, *Jefferson* on 21 Oct (AS), and a final one was at the Rocky Ford sewer ponds, *Otero* on 24 Oct (SO).

Red Knot: One was seen at Adobe Creek Res, *Bent* on 15 Aug (SO, DN), two were at Rocky Ford, *Otero* between 3 and 12 Sep (MJ, m.ob.), one was seen near Fort Lyon, *Bent* between 4 and 11 Sep (MJ, m.ob.), two were seen at Jackson Res, *Morgan* on 8 and 9 Sep (JK, DSc), and one was at Jackson Res, *Morgan* between 20 and 23 Sep (JV, BR, TL, DF).

Sharp-tailed Sandpiper: A juvenile was seen by quite a large number of people at John Martin Res, *Bent* between 3 and 7 Oct (VAT, m.ob.). This is the second CO state record; the first was also a juvenile that was seen and mist-netted east of Boulder in the fall of 1975.

Dunlin: One was at Barr L, *Adams* between 10 and 12 Oct (DF, U&HK), an adult in basic plumage was at L Henry, *Crowley* on 22 Oct (BKP, MJ, VAT), and one was at Pueblo Res, *Pueblo* on 14 and 15 Nov (BKP).

Buff-breasted Sandpiper: Two juveniles were seen at Jackson Res, *Morgan* between 12 and 17 Sep (DF, m.ob.), another three juveniles were seen at Jet L, *Kiowa* on 14 and 15 Sep (DN), and two more juveniles were seen just east of Hasty, *Bent* on 17 Sep (MJ, RK, BBH, SC).

Short-billed Dowitcher: One was at L Henry, *Crowley* on 11 Sep (BKP), four were observed at the same location on 23 Sep (MJ), four juveniles were seen at Jackson Res, *Morgan* on 1 Oct, with one staying until 12 Oct (TL, LS, JV, DF, m.ob.).

American Woodcock: One was seen at Two Buttes Res, *Baca* between 15 and 16 Sep (VZ, m.ob.). A good year for this species in Colorado.

Red Phalarope: An individual molting into basic plumage was seen at Baseline Res, *Boulder* on 24 Sep (BK, JV, PG), and another was seen at Jackson Res, *Morgan* on 3 and 4 Oct (DF, LS).

Pomarine Jaeger: An adult was observed at Jackson Res, *Morgan* between 30 Sep and 4 Oct (JF, DSc, m.ob.), another adult was seen at Marston

Res, *Denver* on 5 Oct (JBH), a dark morph juvenile was seen at Pueblo Res, *Pueblo* between 7 Oct and 13 Nov (PH, BKP, SEM, m.ob.), an adult, light morph was seen at Chatfield Res, *Jefferson* between 8 and 13 Oct (JK, m.ob.), and two dark morph juveniles were seen at Bonny Res, *Yuma* on 8 Oct (TL, LS). A banner season for this species.

Parasitic Jaeger: There were eight reports this season, which is many more than usual. An adult was observed at Poudre Res, *Larimer* on 25 Sep (SJD), a juvenile light morph was at Union Res, *Weld* on 8 Oct (BP), a juvenile dark morph was seen at Chatfield Res, *Jefferson* between 9 and 13 Oct (JBH, JK, m.ob.), and an adult was also at the same location on 13 Oct (JRo, RK). A juvenile was at Panama Res, *Boulder* on 22 and 23 Oct (PG, JV, m.ob.), a juvenile light morph was seen at Pueblo Res, *Pueblo* on 22 Oct (BKP), a juvenile dark morph was seen at Standley L, *Jefferson* on 31 Oct and 1 Nov (LS, TL, m.ob.), and a juvenile light morph was seen at Boyd L, *Larimer* on 5 Nov (NK, SBa).

Long-tailed Jaeger: A juvenile dark morph bird was very well seen by many people at Jackson Res, *Morgan* between 2 and 5 Sep (JRo, m.ob.).

Laughing Gull: An individual in first basic plumage was observed at Pueblo Res, *Pueblo* on 7 Oct (PH, BKP, SEM).

Little Gull: A juvenile was observed at Big Johnson Res, *El Paso* between 24 and 27 Sep (JWe, BG, m.ob.).

Black-headed Gull: An adult in first basic plumage was seen at Barr L, *Adams* on 9 Oct (DF, TL). This is the fourth CO state record.

Mew Gull: A first-year bird was seen at Pueblo Res, *Pueblo* on 16 Nov (BKP, MJ).

Lesser Black-backed Gull: There were more than ten reports this fall, all from the Front Range.

Great Black-backed Gull: An adult was seen at Cherry Creek Res, *Arapahoe* between 11 Sep and 28 Nov (BB, m.ob.), a third-year bird was seen at L Henry, *Crowley* on 12 Sep (VAT), a first-year bird was seen at L Loveland, *Larimer* on 4 Nov (NK), and a second-year bird was observed at Horseshoe L, *Larimer* on 5 Nov (NK).

Sabine's Gull: There was a really exceptionable flight of this species through Colorado this year. There were about 75 reports; as usual mostly of juveniles. Observations from unusual locations were; an adult and four juveniles at L Estes, *Larimer* between 22 and 26 Sep (SR, m.ob.), and one adult and one juvenile at Vega Res, *Mesa* on 14 Oct (RL).

Black-legged Kittiwake: An adult was seen at Chatfield Res, *Jefferson* between 25 and 28 Oct (JBH, m.ob.).

Arctic Tern: This was a banner season for this species in Colorado. An adult was seen at Big Johnson Res, *El Paso* on 23 Sep (JWe), and another adult was at Pueblo Res, *Pueblo* on 29 Sep (BKP), a juvenile was

observed at Union Res, *Weld* between 5 and 11 Oct (JP, m.ob.), and two juveniles were seen at Chatfield Res, *Jefferson* between 7 and 10 Oct (JK, JBH, m.ob.).

Eurasian Collared-Dove: This species continued its rapid expansion in Colorado, with two seen at Monte Vista, *Rio Grande* on 15 Aug (L&JR), and three seen at Ovid, *Sedgwick* between 19 Aug and 10 Sep (JK, NE, SSa, m.ob.).

Inca Dove: This species almost certainly nested in Rocky Ford, *Otero* and was present all season, with six seen on 19 Nov (SO, MJ, m.ob.). One was also seen in Golden, *Jefferson* on 24 Sep (BS).

Ruby-throated Hummingbird: Two adult males were in the Paulsen's yard, May Valley, *Prowers* between 10 and 13 Sep (MJ, BKP, SO, m.ob.), and an immature male was in the same location between 13 and 17 Sep (JK, DSc, BS, m.ob.). This will probably be the fourth record for Colorado. In addition, two females, probably of this species, were seen at Ovid, *Sedgwick* on 10 Sep (BK).

Calliope Hummingbird: There was a grand-scale eruption of this species in Colorado this fall. Birds were seen all over the state, but especially in the Grand Junction region. Steve Bourcius reported that at times there were about a hundred at all the feeders in his yard, and he banded 132 individuals of this species this year. They were even seen in extreme eastern Colorado, with an immature male seen in the Paulsen's yard, May Valley, *Prowers* on 16 Sep (SSe). Several were also seen in Kansas this fall, where it is extremely rare.

Rufous Hummingbird: A very unusual leucistic individual was well seen and photographed in Grand Junction, *Mesa* on 6 Sep (SBo).

Yellow-bellied Sapsucker: An immature male was observed in Pueblo, *Pueblo* between 7 and 21 Oct (BKP, SEM), a female was at Pueblo City Park, *Pueblo* on 15 Oct (MY), and one was near May Valley, *Prowers* also on 15 Oct (L&IP).

Eastern Wood-Pewee: Single birds were seen at the Lamar Community College, *Prowers* on 31 Aug and 24 Sep (BKP).

Eastern Phoebe: One was seen in Lamar, *Prowers* on 20 Sep (BKP), one was near Fort Morgan, *Morgan* on 21 Sep (JRi), was at Fort Lyon, *Bent* on 29 Sep (VZ, DAL), and one was seen at Canon City, *Fremont* on 9 Oct (SEM, DP).

Vermilion Flycatcher: The pair that nested at the Higbee Cemetary, *Otero* were seen until the end of September (SM, SEM), and two juveniles were seen at this location on 13 Aug (LZ). Another immature was seen at Rocky Ford, *Otero* on 10 Sep (BKP, MJ, SO).

White-eyed Vireo: An immature bird was seen at Chatfield Res, *Jefferson* between 20 and 28 Oct (JBH, m.ob.).

Yellow-throated Vireo: One was observed at Chatfield Res, *Jefferson* on 9 Sep (JK, m.ob.).

Cassin's Vireo: It was also a very good season for this species on the Eastern Plains, with most observations being of immatures. RMBO banded five at Barr L, *Adams* and two at Chico Basin Ranch, *El Paso* (TL, AP).

Blue-headed Vireo: One was observed in Pueblo, *Pueblo* on 22 Aug (BKP), one was seen in Fort Collins, *Larimer* on 9 Sep (DAL), one was at Neenoshe Res, *Kiowa* on 10 Sep (BKP, MJ, SO), one, possibly two, were at Lamar Community College, *Prowers* between 15 and 17 Sep (VZ, DAL, BKP, RO). One was near May Valley, *Prowers* between 20 and 24 Sep (DAL, BKP, MJ), one was at Neenoshe Res, *Kiowa* on 28 Sep (DAL), and one was seen at Barr L, *Adams* on 25 and 26 Oct (DF, m.ob.).

Philadelphia Vireo: One was seen at Rocky Ford, *Otero* on 10 Sep (BKP), one was at Lamar Community College, *Prowers* on 17 Sep (DAL, BKP, RO, m.ob.), one was seen near May Valley, *Prowers* on 24 Sep (BKP, MJ), one was seen in Rocky Ford, *Otero* on 1 Oct (BKP, MJ), one was at Fort Collins, *Larimer* on 6 and 7 Oct (DAL, m.ob.), and one was seen at Fort Lyon, *Bent* on 8 Oct (VZ, MJ, BKP). A very good season, with several more sightings than usual.

Western Scrub-Jay: This species was seen in *Bent*, *Prowers*, and *Crowley*; is it expanding its range along the Arkansas Valley?

Clark's Nutcracker: This species was seen at lower elevations than usual this season, including one at Neenoshe Res, *Kiowa* on 14 Sep (DN, L&IP), and one just west of *Crowley*, *Crowley* on 22 Oct (MJ, BKP, VAT).

Red-breasted Nuthatch: A major flight of this species extended east onto the Colorado plains, and farther into Kansas and other states.

Sedge Wren: One was heard singing at the Lamar Community College, *Prowers* on 16 Sep (SSe).

Bohemian Waxwing: One was in Colorado City, *Pueblo* on 20 Nov (BBH).

Blue-winged Warbler: A male was seen near May Valley, *Prowers* between 11 and 13 Sep (BBH, SC, L&IP, m.ob.).

Nashville Warbler: There was a good flight this fall, with 20 reported. This included three at Craig, *Moffat* on 25 Aug, and two more at the same location on 4 Sep (FL).

Magnolia Warbler: One was seen in Fort Collins, *Larimer* on 1 Oct (MAn).

Cape May Warbler: A male was seen at Chatfield Res, *Jefferson* between 22 and 25 Oct (AS), and an immature male was seen in Boulder, *Boulder* on 15 and 16 Nov (BK, JV, PG, TL).

Black-throated Blue Warbler: Another species with a good flight this fall. There were 13 reports with one from the West Slope; a male in

Montrose, *Montrose* on 5 Oct (MAc).

Black-throated Green Warbler: Eleven sightings this fall, all from the Front Range and the Eastern Plains.

Townsend's Warbler: This species was found in large numbers all over Colorado this fall, as far east as *Prowers*, *Kiowa*, and *Baca*. More than 50 were banded by RMBO at Barr L, *Adams* this season.

Blackburnian Warbler: An immature female was seen in Lakewood, *Jefferson* between 1 and 3 Sep (KS, m.ob.), a male was at Crow Valley, *Weld* on 3 Sep (MBI), one was in Lamar, *Prowers* on 16 Sep (SSe), a female was at L Henry, *Crowley* on 15 Oct (MJ), a male was seen at Colorado City, *Pueblo* on 18 Oct (DSi), and a female was at Chatfield Res, *Jefferson* on 25 Oct (NE).

Prairie Warbler: A male was observed at Cherry Creek Res, *Arapahoe* on 5 Oct (LK).

Palm Warbler: One was seen at L Estes, *Larimer* on 26 Sep (SR), and another was at Chatfield Res, *Jefferson* on 25 Oct (NE).

Bay-breasted Warbler: An adult was seen in Boulder, *Boulder* on 15 Oct (JP), and another was seen at Chatfield Res, *Jefferson* between 22 and 25 Oct (JK, AS).

Prothonotary Warbler: An immature male was seen at L Henry, *Crowley* on 11 Sep (BKP, GR), and another was seen at Barr L, *Adams* between 16 Sep and 1 Oct (AP, TL, m.ob.), a male was just east of Fort Lyon, *Bent* on 7 and 8 Oct (IS, TE, VZ, V&JM, PG, m.ob.), and another male was seen in Colorado Springs, *El Paso* on 9 Oct (AV).

Mourning Warbler: An immature bird was seen at L Beckwith, Colorado City, *Pueblo* on 25 Aug (DSi).

Hooded Warbler: An immature female was seen at the Wheatridge Greenbelt, *Jefferson* on 18 Sep (BS).

Scarlet Tanager: A female was observed at Pueblo, *Pueblo* on 13 Aug (MJ, BKP).

Eastern Towhee: A male was near May Valley, *Prowers* on 25 Sep (BKP), and another male was at Colorado City, *Pueblo* between 6 and 16 Nov (DSi).

Field Sparrow: Eight reports this season, all from the far Eastern Plains of Colorado.

Baird's Sparrow: An adult of this elusive species was well observed at Big Johnson Res, *El Paso* between 26 Sep and 1 Oct (MJ, LS, m.ob.).

Fox Sparrow: An individual of the red, eastern subspecies was seen at Ouray, *Ouray* between 5 and 7 Nov (TL, RL, DF). This is possibly a first West Slope record.

Swamp Sparrow: An unusual West Slope record was one seen at Ouray, *Ouray* on 7 Nov (DF, TL, RL).

Harris's Sparrow: A dozen reports, all from along the Front Range, except for one in Palisade, *Mesa* between 21 Oct and 22 Nov (SBo).

Golden-crowned Sparrow: An immature was observed near the RMBO headquarters at Barr L, *Adams* between 9 and 22 Oct (DF, TL, m.ob.).

Snow Bunting: A single male was seen at Fort Carson, *El Paso* from 6 Nov to the end of the season (BM, m.ob.).

Rose-breasted Grosbeak: Eight were seen this season, which is a good number, and they were all from the Front Range and Eastern Plains.

Rusty Blackbird: One was seen at Valco Ponds, *Pueblo* on 18 Nov (BKP).

Gray-crowned Rosy-Finch: This species was seen in much larger numbers than usual this fall, especially in the Foothills along the Front Range. Flocks of over 200 were seen in late November in Rye, *Pueblo*, in Allen's Park, *Boulder*, and in their more usual location of Silver Plume, *Clear Creek*. On the West Slope, twelve were seen at Ouray, *Ouray* between 6 and 8 Nov (TL, m.ob.).

Black Rosy-Finch: This species was also seen in larger numbers than usual, especially in the Foothills along the Front Range. They were almost always in flocks with Gray-crowns. On the West Slope, there was a large flock of 40 at Ouray, *Ouray* between 6 and 8 Nov (TL, m.ob.), four were near Naturita, *Montrose* on 7 Nov (RL, TL, DF), and 50 were seen at the Colorado National Monument, *Mesa* on 10 Nov (TL).

Purple Finch: An adult male was seen in Pueblo, *Pueblo* on 21 Oct (BKP).

White-winged Crossbill: Up to five were reported from the Indian Peaks Wilderness Area, *Boulder* between 4 Sep and 6 Oct (DH).

Common Redpoll: One was seen in Fort Collins, *Larimer* on 8 Oct (DAL).

Evening Grosbeak: Many more individuals of this species were seen at lower elevations this fall. There were many reports of flocks in the Foothills and Front Range. On the far Eastern Plains, one was seen at Ovid, *Sedgwick* on 19 Aug (NE, JK, SSa), and four were seen at Lamar Community College, *Prowers* on 29 Sep (DAL).

OBSERVERS AND REPORTERS: Myriam Ackley (MAc), Michael Anderson (MA_n), Larry Arnold (LA), Scott Bailey (SBA), Michele Bloom (MBI), Steve Bouricius (SBo), Bob Brown (BB), Sherry Chapman (SC), Alex Cringan (AC), Ray Davis (RD), Stephen Dinsmore (SJD), Tammy Ellsworth (TE), David Elwonger (DE), Norm Erthal (NE), Doug Faulkner (DF), Joe Fontaine (JF), Peter Gent (PG), Bob Goycoolea (BG), B B Hahn (BBH), Dave Hallock (DH), J B Hayes (JBH), Paul Hurtado (PH), Mark Janos (MJ), Dave Johnson (DJ), Bill Kaempfer (BK), Joey Kellner (JK), Loch Kilpatrick (LK), Urling & Hugh Kingery (U&HK), Rachel Kolokoff (RK), Nick Komar (NK), Joe LaFleur (JL), Dave Leatherman (DAL), Tony Leukering (TL), Rich Levad (RL), Forrest Luke (FL), Dick Maxfield (DMA), Bill Maynard (BM), Virginia & John Maynard

(V&JM), Jack Merchant (JMe), Steve Messick (SM), SeEtta Moss (SEM), Duane Nelson (DN), Ric Olson (RO), Stan Oswald (SO), Arvind Panjabi (AP), David Pantle (DP), Linda & Isa Paulsen (L&IP), Brandon Percival (BKP), John Prather (JP), Bill Prather (BP), Leanne Presley (LPr), Scott Rashid (SR), Lisa and John Rawinski (L&JR), Bob Righter (BR), Joe Rigli (JRi), Joe Roller (JRo), Gene Rutherford (GR), Ira Sanders (IS), Dick Schottler (DSc), Karleen Scofield (KS), Scott Seltman (SSe), Larry Semo (LS), David Silverman (DSi), Andrew Spencer (AS), Bob Spencer (BS), Steve Stachowiak (SSa), Van Truan (VAT), John Vanderpoel (JV), Alan Versaw (AV), Rosie & Jim Watts (R&JW), Jeff Webster (JWe), Dave Wright (DWr), Mark Yeager (MY), Vic Zerbi (VZ), Laurie Zukerman (LZ), many observers (m.ob.).

REPORTING SIGHTINGS TO *NORTH AMERICAN BIRDS* MAGAZINE FOR THE MOUNTAIN WEST REGION (COLORADO & WYOMING)

Brandon K. Percival
835 Harmony Drive, Pueblo West, CO 81007-2632
mt.w.region_nab@juno.com

Van A. Truan
1901 Court Street, Pueblo, CO 81003
mt.w.region_nab@juno.com

The following information pertains to submitting reports from 2001 and beyond for the Mountain West Region, *North American Birds* magazine.

Winter Season: December 1 - February 29 (reports due to us by March 15).

Spring Season: March 1 - May 31 (reports due to us by June 15).

Summer Season: June 1 - July 31 (reports due to us by August 15).

Winter Season: August 1 - November 30 (reports due to us by December 15).

We would like reports sent to us at the end of each season, with highlights of birds you saw during that season. Please include species name, date(s), sex, plumage, age, location, county, and observers. Photographs of interesting birds can also be sent to us, for possible inclusion in the magazine. Your seasonal reports and photographs can be e-mailed or mailed. Please label your photos with the species, location, date of photo, and photographer.

For information on how to subscribe to *North American Birds* magazine, please contact the American Birding Association in Colorado Springs.

CFO PROJECT COMMITTEE REPORT 2001

Pearle Sandstrom-Smith
2823 Fifth Avenue
Pueblo, CO 81003

Three projects were submitted to the Project Committee (Linda Vidal, Chair; Jameson Chace: Pearle Sandstrom-Smith):

1. Loggerhead Shrikes in Colorado. An ongoing investigation of age, sex, and subspecies determination. Susan Craig, Colorado Springs. Requested \$500.00 to subsidize field expenses.
2. The Effect of Fragmentation and Surrounding Urban Development on the Diversity, Abundance and Resource Use of Passerine Birds in the Ponderosa Pine Forests of Colorado. Heather Marjorie Swanson, Department of EPO Biology, University of Colorado, Boulder. Requested \$840.00 for salary of a part-time field assistant.
3. The Effects of Recreational Trail-use on the Behavior and Nesting Success of American Robins and Yellow Warblers. William Merkle, Department of EPO Biology, University of Colorado, Boulder, CO. Requested \$1,000.00 for salary and supplies.

After reviewing the submitted proposals, the Committee unanimously decided to award each project \$500.00. The two requests from the University of Colorado both have "partnership" and "educational" funding and therefore it was decided to fund only a portion of their projects; the CFO award will aid them with other grants. Susan Craig was a first-time applicant with no other funding partners; we decided it was a worthy ongoing project and easily funded by CFO.

Jim Chace suggested that the notice in the *JCFO* for project applications be updated; the Committee is working on it. Also, that the award recipients should publish the results of their project in the *JCFO*. He believes that someone from the CFO Convention Committee should contact award recipients about presenting their project as a paper at the next annual convention, during the year following the study. Jim also wants better advertisement for the award. He has posted copies of the award notice in his department (CU-Boulder), but similar fliers should be sent to CSU, DU, Mesa State, Fort Lewis, CC, etc.



A RECONSTRUCTED CHRONOLOGY OF COLORADO'S FIRST SUCCESSFUL NESTING BY VERMILION FLYCATCHER

David Leatherman
612 Stover St. #7
Fort Collins, CO 80524

Introduction

The Vermilion Flycatcher (*Pyrocephalus rubinus*), within the United States portion of its range, is a species of the semiarid and desert Southwest. It is not to be expected in Colorado. The first Colorado record was a female found and collected by Ronald A. Ryder on 16 May 1950 at a fish hatchery on Spring Creek eight miles south of Monte Vista (Bailey and Niedrach 1965). The 30+ records since then are mostly of spring and late fall migrants (Andrews and Righter 1992).

The normal breeding range for the species generally extends from western Arizona and extreme southwestern Utah (irregularly breeding into southwestern California and southern Nevada), across Arizona into parts of southern New Mexico, and central Texas south through Mexico into Nicaragua (National Geographic Society 1983; Howell and Webb 1995). Other subspecies are found in parts of South America, including a population on the Galapagos Islands (Ridgely and Tudor 1994).

Nesting History In Colorado

Prior to 2000, only two nestings of Vermilion Flycatcher are known from Colorado.

Helen Downing, a Wyoming ornithologist, confirmed the first nest found by her relatives on their ranch about 1 km (0.6 mi) southeast of Summit Springs (or 37 km [23 mi] northeast of Akron) in extreme northern Washington County. In this episode nest activity was followed from 29 April to 21 June 1981. The initial nest was started in a Siberian elm (*Ulmus pumila*) windbreak. In early June this nest-in-progress disappeared and a new nest-in-use was discovered nearby in another Siberian elm next to the farm house. On 7 June two eggs were observed. These hatched on 12 June. On 13 June a hail storm apparently killed the female, and the nestlings are thought to have died of exposure. The nest, young, and female were all collected and deposited with the Denver Museum of Natural History (now the Denver Museum of Nature and Science). The male of this pairing was last seen on 21 June (Downing 1981).

The second nesting attempt of Vermilion Flycatcher in Colorado was discovered by Chris Wood on 12 May 1994 in a Siberian elm below John Martin Reservoir Dam at the Lake Hasty Campground in Bent County. On this date, the nest was nearing completion and the female spent most of her time on the nest. The nest was built about 5–6 m (16–20 ft) off the ground in a fork on a major branch. The nest tree was in an open area of the campground about 200 m (220 yd) from water. By 15 May the nest had been knocked down, presumably by a violent hailstorm. The lone, singing male finally gave up on, or about, 25 May (Kingery 1994; C. Wood, pers. comm.).

Nesting Events Of 2000

The story of the third, and only known successful nesting of Vermilion Flycatcher in Colorado starts with the discovery of a pair of adults on 25 March 2000. Herpetological and general exploration brought Laurie Zuckerman and Tom Mathies of Fort Collins to picturesque Higbee Cemetery about 16 km (10 mi) south of La Junta, just west of State Route 109 in southeastern Otero County. On the day of discovery, Zuckerman and Mathies noted general, wide-ranging, foraging by both birds. In addition, the male exhibited typical, high, fluttering courtship flight and the potential for local breeding was anticipated (Smith 1970).

The following observations are my own, unless otherwise stated.

The Higbee Cemetery is an approximately 0.5-ha (1.25-ac), rectangular plot, consisting of several dozen colorfully-decorated graves arranged in rows. Vegetation is very sparse and the only substantial native plant is candelabra cactus (= “cholla”) (*Cylindropuntia imbricata*). The only trees within the formal cemetery boundaries are approximately ten exotic, planted Siberian elms 3–7 m (10–23 ft) tall. Along the cemetery’s south edge is an active irrigation ditch lined with mature plains cottonwoods (*Populus deltoides*). The surrounding area is a mix of arid rangeland with scattered Rocky Mountain junipers (*Juniperus scopulorum*), irrigated pastures, and a few farmsteads. Thus, despite being north of the normal range, it would seem Higbee Cemetery supplies all the requirements considered typical for Vermilion Flycatcher.

On 2 April 2000 after considerable searching, I found both adult Vermilion Flycatchers in cottonwoods over the ditch on the property immediately east of the cemetery. For the next few hours, the birds mostly foraged for flying insects from the cottonwoods, a wooden-post fence, wires, cholla cacti, and junipers just east of the cemetery. On a few occasions they appeared to copulate.

On 9 April the adult female was involved in building a nest in a Siberian elm in the southeast corner of the cemetery. She was somewhat attended by the male, but during the observation period he did not help supply nest material or otherwise assist with construction. The nest was on a horizontal limb at a strong fork about 3 m (10 ft) up on the northeastern side of the crown. The nest was a deep cup of fine twigs and appeared to be about 75% complete. Nest construction on this date involved 3–4 visits per hour by the female. Cottonwood twigs were used, and each trip to the nest concluded with the female sitting deep in the nest, wiggling or “brooding” to shape the cup, and periods of quiet sitting. Activities at the nest were viewed by myself and others from afar through a 60X spotting scope. During one of these observations, Isa Paulsen of Prowers County expertly sketched the female on the nest, using the only medium available: a paper plate. From certain angles, the deep pink undertail coverts of the sitting female were quite evident.

Nest construction is reported to be of about 4 days duration (Taylor and Hansen 1970). Thus, the nest construction period in this instance is estimated to be April 7–10.

On 22 April, Bill Lisowsky and I briefly stopped at the cemetery during a return trip from Texas and observed the female on the nest, with the male hawking insects nearby.

Incubation of eggs in Vermilion Flycatcher is 14–15 days. A normal clutch is 2–4, with 3 being most common. Egg laying begins very soon after nest construction is complete and one egg is usually, but not necessarily, laid per day until the clutch is complete (Taylor and Hansen 1970). Applying this timetable to the Higbee situation on 22 April, it is believed the female was on eggs that would hatch in less than one week, with the earliest hatch being approximately April 25 and the latest being April 28. Severe storms were reported for the area in very early May (Henry Paulsen, pers. comm.).

On 24 June, I visited the cemetery and was dismayed to find no evidence of the nest in the elm where it was found in April. However, one of the distinctive call notes of Vermilion Flycatcher diverted my attention to the north end of cemetery, where a male was seen visiting a second bird perched on a Siberian elm branch just west of the entrance archway. This second bird was sitting on a nest and its bright yellow undertail coverts indicated it was a fledged immature female! This individual represents first proof of successful nesting by Vermilion Flycatcher in Colorado. The male visited this immature a second time, apparently delivering food, but this was not confirmed. The immature female sat on the nest for a few minutes and then flew away for 45 minutes,

returned briefly, and flew away again. It is my opinion that, following the failure of the first nest and brood, a second nesting was attempted. This bird was from a second brood raised in the new nest and its presence there represented return to a place of familiarity and food. This, despite the fact it could fly and forage on its own. The second nest faced south and was about 5 m (16 ft) above the ground. Otherwise, it appeared similar in shape and composition to the first nest constructed 35 m (115 ft) to the south (see photo of the second nest, below). No adult female or other immatures were seen on this date.

The plot thickened on the afternoon of 13 August, when Zuckerman revisited the cemetery and saw two immatures: one similar to the bird I observed on 24 June and another more heavily-striped, younger immature. At one point these two were seen perched together in a large cottonwood over the ditch. The older bird left to forage and the younger bird remained in the bare branches. No adults were observed on 13 August, and no Vermilion Flycatchers of any age or sex were observed during a brief early morning visit by Zuckerman on 14 August.



Discussion

In the 2000 nesting, it appears territory establishment and courtship began in late March, with nest construction about April 7–10. Eggs were laid and incubated. As in the other Colorado cases, storms influenced the outcome.

Shortly after hatch, a weather event in early May involving strong wind and hail apparently terminated this nest and brood. Both adults survived and built a new nest nearby and at least one nestling fledged. The observation of two immatures on 13 August is difficult to evaluate with certainty. The nesting cycle for this species consists of nest construction (4 days), egg incubation (14–15 days), and feeding of young in the nest (15 days), for a total of at least 33 days. It is thus possible that if the adult female was still present in the area on 24 June, and if another set of eggs were initiated then or shortly after, a second successful fledging could have occurred as early as late July. The two birds seen on 13 August could have been a second fledged brood. Or the author could have just missed one immature on June 24 and it, plus the bird he did see, were the two birds seen on 13 August. Another less likely scenario involves one fledgling from the May/June brood and a second from a subsequent brood being the two August immatures.

What does seem indisputable is that Vermilion Flycatchers produced young in Colorado at Higbee during the summer of 2000. While this species has probably nested successfully within Colorado previously, it can now be added positively to the breeding roster. Will they be back? The fact that Chatfield Reservoir near Denver has seven records between 1972 and 1999 (six from March to May and one in mid-November) at least shows fidelity of the species to certain habitat conditions, and may even represent loyalty by individuals to a particular site.

Each of the five nests observed at three widely separate sites on the eastern plains of Colorado has been in a Siberian elm. Also, the account of Vermilion Flycatcher in *The Birds of North America* series indicates little is known of mortality factors (Wolf and Jones 2000). Spring storms in Colorado, and probably in other parts of its normal range, appear to be a significant hazard to the successful nesting of this species.

Acknowledgments

The author thanks Henry Paulsen, Laurie Zuckerman, Tom Mathies, Ron Ryder, and Chris Wood for their helpful comments in formulating and improving earlier drafts of this note. Also appreciated is the summary of Chatfield Reservoir records supplied by Joey Kellner.

Literature Cited

- Andrews, R. and R. Righter. 1992. Colorado Birds. Denver Museum of Natural History, Denver, CO.
- Bailey, A.M. and R. J. Niedrach. 1965. Birds of Colorado, Volume II. Denver Museum of Natural History, Denver, CO.

- Downing, H. 1981. The first nesting of Vermilion Flycatcher in Colorado. *CFO Journal* 15:75–76.
- Howell, S. N. G. and S. Webb. 1995. A Guide to the Birds of Mexico and Northern Central America. Oxford University Press, Oxford/New York.
- Kingery, H. E. 1994. Mountain West region. *Field Notes* 48:323.
- National Geographic Society. 1983. Field Guide to the Birds of North America. National Geographic Society, Washington, DC.
- Ridgely, R. S. and G. Tudor. 1994. The Birds of South America, Volume II, The Suboscine Passerines. Texas University Press, Austin, TX.
- Smith, W. J. 1970. Courtship and territorial displaying in the Vermilion Flycatcher, *Pyrocephalus rubinus*. *Condor* 72:488–491.
- Taylor, W. K. and H. Hanson. 1970. Observations on the breeding biology of the Vermilion Flycatcher in Arizona. *Wilson Bulletin* 82:315–319.
- Wolf, B. O. and S. L. Jones. 2000. Vermilion Flycatcher (*Pyrocephalus rubinus*). In *The Birds of North America*, No. 484 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.



AN INVESTMENT IN COLORADO BIRDS

Remember the organization that has made a difference in your life: help fund research focused on Colorado birds by leaving a gift in your will for the Colorado Field Ornithology Project Fund. You can turn a simple bequest into an investment in Colorado birds—an ideal way to give back to the organization that strives to protect Colorado avian diversity.

As you consider your legacy in this world remember the CFO Project Fund.

For more information, call Linda Vidal at 970-704-9950