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President:	Mike Carter, 13401 Piccadilly Rd., Brighton, CO 80601
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Journal Editor:	Mona Hill, 3410 Heidelberg Dr., Boulder, CO 80303.

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C.F.O. JOURNAL is devoted to the field study of birds in Colorado. Articles and notes of scientific or general interest, and reports of unusual observations are solicited. Send manuscripts with photos and drawings to: Mona Hill, 3410 Heidelberg Dr., Boulder, CO 80303. Send rare bird reports to: C.F.O. Official Records Committee, c/o Zoological Collections, Denver Museum of Natural History, City Park, Denver, CO 80205. Send membership inquiries, renewals, and change of address to Steve Bouricius, 50152 Hwy. 72, Peaceful Valley, Lyons, CO 80540.

TABLE OF CONTENTS

•

Ruffed Grouse in Moffat County, Colorado	1
Note from the Editor	4
Colorado Field Ornithologists Board Meeting	5
C.F.O. Field Trip Schedule	6
News From The Field	7
Field Trip Report, Longmont Area	11
A Proposed Format For Local Bird Checklists	12
Fountain Creek Regional Park	
Map, Form, Bird List	21-24
Breeding Bird Atlas Update	25
Relative Abundance Of Owls In Colorado	27
Corrections	28
Northern Saw-Whet Owls vs. Boreal Owls	29
1991 C.F.O. Convention Workshop	32
First Record of the Buff-Breasted Flycatchher	
Food Items Of Colorado Birds (VII)	

Cover Photograph:

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Ruffed Grouse on Hoy Mountain, Colorado, 9/28/91. Photo by Duane Nelson.



Ruffed Grouse on Hoy Mountain, Colorado, September 28, 1991. Photo by Duane Nelson. Also see photo of this grouse on page 20.

RUFFED GROUSE IN MOFFAT COUNTY, COLORADO: SOME THOUGHTS ABOUT THEIR STATUS IN THE STATE.

Duane Nelson 1619 Ford Street Golden, Colorado 80401

In a review of the record's Committee files, the status of the Ruffed Grouse (Bonasa umbellus) certainly ranks near the top in terms of controversy and emotion. Prior to 1976, there were nine reported sightings, seven of which were not accepted. Of the two accepted reports (one 1947 report from near Hermosa Park in La Plata County in the San Juans, the other a 1971 report from near Hayden in Routt County), evidence was not incontrovertible. Following much correspondence between the C.F.O. Record's Committee and Dr. Clait Braun of the Colorado Division of Wildlife, the committee members unanimously followed Dr. Braun's recommendation to delete the species from the state list in 1978.

On October 26, 1988, Bob Hernbrode of the Colorado Division of Wildlife was hunting Blue Grouse on the eastern flank of Hoy Mountain, west of the bend of the Green River, 1/2 mile east of the Utah state line. One of the birds collected was smaller and had a dark terminal tail band. It was inspected by Clait Braun, who confirmed it to be a male Ruffed Grouse. The specimen is currently in the Denver Museum of Natural History.

Bent (1932) states that the "Gray Ruffed Grouse," (the subspecies found in the Rocky Mountains), is completely non-migratory; it doesn't even appear to make altitudinal migrations. it is found almost exclusively in trees in the winter and in shrubs or on the ground in the summer. In a letter to Bob Andrews dated 11/15/77, Clait Braun states, "Knowing the flight capability of Ruffed Grouse, the possibility of stragglers is even remote. If stragglers did occasionally occur in Colorado, populations of Ruffed Grouse should occur and they would be collected or accidentally shot in hunting seasons." In September 1989, Rick Hoffman and Tom Remington of the Colorado Division of Wildlife were dispatched to the Hoy Mountain area by Dr. Braun to attempt to secure a second specimen for the state in order to prove that Hernbrode's bird was more than just a straggler to the state. They succeeded in collecting two more birds.

(In April 1989, a C.F.O. field trip was taken to the area, organized by David Martin, who contacted landowners for access and keys to gates. Cold, snowy weather and an unfamiliarity with preferred Ruffed Grouse habitats at that time of year may have played a part in the lack of success for the group. The dismal details were documented by noted C.F.O. Correspondent I. M. Cold in Vol 23, No. 2 of the C.F.O. Journal).

1

On September 27, 1991, a group of C.F.O. members rendezvoused in Vernal, Utah, attempting to become the first bird watchers in the state to observe a living Ruffed Grouse. Our group included Dan Bridges, Coen Dexter, Norm Erthal, Peter Gent, Duane Nelson, Larry and Barb Sanders, Brenda Wright and Vic Zerbi. Since all the land where Ruffed Grouse might be found in the area is private, we got permission, directions, keys to gates and good wishes from Dr. Allen, the property owner, in Vernal. The next morning, we left Vernal early. The trip from Vernal, although not far, took about two hours, much on very rough roads. We were able to drive almost up to a tongue of narrow-leaved cottonwoods extending out onto treeless flats where a spring flowed above ground intermittently. This deciduous corridor had a very thick understory of serviceberry, curl-leaved mountain mahogany and other smaller shrubs. This was where Hernbrode collected the first specimen. We spread out and thoroughly covered all likely habitat, but succeeded only in flushing about twenty Blue Grouse and a lost Brown Thrasher. We then headed up the valley toward the Utah state line, and as likely habitat diminished at the top of the small canyon, traversed back to our cars by following north-facing hillside south of the drainage. In the dense Douglas-fir forest here, we flushed many more Blue Grouse. Where the evergreen forest began to become interspersed with serviceberry bushes, Larry Sanders flushed a grouse that appeared to have a black terminal tail band, but we were unable to relocate this possible Ruffed Grouse.

We returned to our cars to figure out what we should try next, feeling somewhat disappointed that we had worked so hard with so little success. We all felt strongly that is we were going to succeed, we had to find deciduous trees (preferably mostly aspen), and ideally such trees in wet areas near a spring or stream. We walked north into the next little canyon. The habitat looked very unpromising at the bottom of this valley, but part of the way up, a large stand of aspen was on a bench above the valley. It was excellent, as we had come to expect, for more Blue Grouse, but again, we found no Ruffed Grouse. We knew from Dan Bridges' topographic skills that we were getting very close to the state line, and concentrated on not crossing the border. At the southwest corner of the aspen grove, we noticed soggy ground, and our hopes began to rise. The farther we went uphill, the wetter the ground got, and there was even some standing water in places. Larry Sanders quickly went ahead and called to us that he had found a Ruffed Grouse. Within minutes, we were all gathered and watched it as it slowly walked on the leaf litter under a large serviceberry shrub. After several minutes, it crept up into the interior of the bush and sat motionless for almost one-half hour. We were able to approach to within ten feet, but its only response was to raise its inch long crest. Finally, we decided that we would like to see and hear the bird in flight and forced it to reluctantly fly into branches of a Douglas-fir nearby. We watched it here and left after several more minutes. The duration of our

Vol. 26, No. 1 C.F.O. Journal January 1992 observation was almost an hour. The elevation was 7,850 feet at the spring, and we were confident we were about 700 feet into Colorado.

Description of the bird

The first thing that I noticed was how much smaller and delicate it was than the several dozen Blue Grouse we had seen in the preceding hours. Probably the most definitive field mark was the finely barred gray tail, with an inch wide black terminal tail band. The very narrow pale tip of the tail was not obvious, but visible. Braun has commented that most misidentifications have Ruffed Grouse previously reported from Colorado have been of female Blue Grouse, which have dark sub-terminal bands, with a broad brown terminal band. The black terminal band on this bird was broken on the central retrices, indicating that it was an adult female. The underside of the tail had an unbroken black terminal band. Although Blue Grouse often show a noticeable crest when excited or alarmed, it is never as long and wispy as my photographs indicate. The bill was smaller, shorter and thinner than in a Blue Grouse, and the head seems smaller and the neck thinner than in any Blue Grouse. There was a prominent black ruff present on the sides of the neck that extended across the upper breast, which is found in no other grouse species. The overall color was gray, with hints of pale brown and white on the back and wings.

Conjectures about Ruffed Grouse in the area

I feel that Ruffed Grouse are permanent residents of the area and may be present in deciduous or mixed woods on a few other mountains in the immediate area as well as on Hoy Mountain. Dan Bridges and I took a back road a few miles into Utah that crossed the ridge connecting Hoy Mountain to the Uinta Mountains in Utah, and we felt that Hoy Mountain was at least 10 miles east of the nearest habitat in Utah, which seemed to us to minimize the possibility of seasonal movements. When we re-entered Colorado at Brown's Park NWR, we could see up onto the plateau we had been on and could clearly discern pockets of aspen on the north side of several hills, including one peak immediately east of the spectacular Gates of Ladore, which the Green River flows through. East of Dinosaur National Monument, wide stretches of barren plains and low hills may have cut off access to other seemingly acceptable At least on Hoy Mountain, Ruffed Grouse are not uncommon, habitat. although they may be outnumbered by Blue Grouse by a large ratio. Several party members have expressed a desire to return to the area again, so that other field ornithologists may also have a chance of seeing a Ruffed Grouse in Colorado

NOTE FROM THE EDITOR

Mona Hill 3410 Heidelberg Drive Boulder, Colorado 80303 (303) 494-8135

I want to remind everyone of the schedule of the <u>Journal</u> so that contributors can plan ahead. It is published quarterly: the agreement with the Post Office requires it be mailed during the months of January, April, July and August. In order to not rush the editing, typing, and printing, deadlines have been set a month before each issue is due to be mailed: December 1 for the January issue (number 1 of each volume), then March 1, June 1 and September 1. As editor, I will try to be flexible on the deadlines, but I also want to make sure there is enough time for the editing, typing and printing to be done carefully. Our goal is to mail early in the month; in case this is not always possible, contributors should plan well ahead for any information that needs to be known by the readers early in February, May, August and November.

In order to minimize typing (with the increased chance for introducing typographical errors), if your computer is IBM or IBM compatible, contributors are encouraged to submit both a hard copy of their articles and a computer disk (floppy, 5.25 or 3.5 inches) with the document as an ASCII file. The typist can load this text file into the word processing system being used (currently, we use Microsoft Word 5.0) and then print it out. Most word processing programs offer a command on the menu to save the document in this way. Other programs may give you a choice in the print command of sending the document to the printer or to the disk; sending it to the disk also creates a text file. Please let us know if you need further explanation.

Please send in your comments on the articles. Dan Bridges has written two articles this issue that raise questions about the distribution of owls in Colorado. Neither article pretends to know all the answers; we hope your responses will help supply more of the information needed.

The checklist project is initiated in this issue with a proposal for standardizing information on checklists and with a request for help with a bird population census and nesting study at the Fountain Creek Regional Park in El Paso County.

COLORADO FIELD ORNITHOLOGISTS BOARD MEETING Minutes November 3, 1991

Present:	Mike Carter, Paul Opler, David Leatherman, Mona Hill, and
	Bill Prather.
A.O.U Checklist	A copy of the A.O.U. Checklist will be bought by
	C.F.O. and provided to the Editor of the C.F.O.
	Journal to aid in editing of both scientific and
	common names of birds.
Field Trips:	Mike Carter will contact Dave Silverman,
	Vice-president, about planning this year's field trip
	program.
Minutes in Jour	ual: It was discussed and decided to print minutes of
	Board meletings in the C.F.O. Journal as a way to
	keep our members informed about C.F.O.
Joint Programs:	C.F.O has been approached by Kansas
	Ornithological Society (K.O.S.) to co-sponsor a
	joint field trip. C.F.O. tentatively approved a
	co-sponsored field trip with K.O.S. to the Bonny
	Reservoir/Republican River Area. The field trip
	will be on one of the weekends of May 9 or 16 with
	K.O.S. deciding.
Editor's Journal	s: Mona Hill indicated the editor should have access to
	a complete set of the C.F.O. Journal and the Board
	agreed. Mona will contact Beth Dillon about
	getting a set.
C.F.O. Checklis	is: C.F.O. checklists are available for a donation of
<i></i>	\$0.25 for 2 and \$0.10 a piece for large lots.
Checklist Projec	: To facilitate the checklist project, Mona will contac
	Bob Andrews about publishing an article about
	standardizing checklists in Colorado. A series of
	published checklists are planned with Barr Lake
	probably being the first. Many other possibilities
	were discussed with the need to alert people in
	ornithologically poorly known areas of Colorado u
	begin work on their checklist. The checklists will
CEO Como	There of published as an article of an insert.
C.F.O. Convent	on: I nese Committees were appointed:
	Local: Steve Bouricius and Linda Vidai
	Field Tringe Bill Drother
	Workshope Dava Leatherman and David Online
	Submitted by Mike Carter November 12, 1001
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C.F.O. FIELD TRIP SCHEDULE **FIRST HALF OF 1992**

Pueblo Area & Eastern Plains Lakes near La Junta

Meet in Pueblo, 7:30 a.m., February 15 at the Red Caboose in K-Mart parking lot just west of Junction of I-25 and U.S. Highway 50. Rare waterfowl and gulls possible. One day trip; bring lunch. Leader: Mark Janos

Greeley Area

Meet in Fort Collins, 8:00 a.m., April 18 in Holiday Inn parking lot just west of Junction of I-25 and CSH 14. Trip may include Jackson & Riverside Reservoirs, wherever best ducks and shore birds are. One day trip; bring lunch.

Leaders: Joe Himmel & Dave Leatherman

Lake Isabel Area (Pueblo & Custer Counties)

Meet at Lake Isabel, 9:00 a.m., June 27 at USFS parking lot across CSH 165 from southeast corner of the lake. Lake Isabel is located about 20 miles northwest of Junction of I-25 and CSH 165. Search will be made for Flammulated Owls and Three-toed Woodpeckers. Possible side trip to Rye area for nesting Redstarts and Ovenbirds. One day trip; bring lunch.

Leader: Brandon Percival

NEWS FROM THE FIELD: SUMMER 1991 (JUNE, JULY AND AUGUST)

Peter Gent 55 South 35th Street Boulder, Colorado 80303

The highlight of the 1991 breeding season in Colorado was undoubtedly the discovery of the Black-tailed Gnatcatchers nesting in Coal Canyon at Cameo near Grand Junction. An article on this by Coen Dexter is on page 103 of Volume 25(4) of the C.F.O. Journal. The amazing thing about this discovery is that this is a (supposedly?) non-migratory species whose nearest known breeding range is several hundred miles away in the very southwest corner of Utah.

The Black Rails at Bent's Old Fort in the Arkansas River Valley were heard calling through most of June. Breeding was suspected (some people thought probable) but was not confirmed. Duane Nelson also reports good and bad news from the Arkansas River Valley farther east. The good news was that Least Terns had one of their best breeding seasons in Colorado with more than 20 birds fledged. The bad news was that Piping Plover production this year was zero, with the 2 known nests both failing.

Spotted Owls also had a good year. The first actual nest seen in Colorado was found in Mesa Verde National Park and 2 young fledged. 3 young also fledged from nests on the west side of the Wet Mountains.

The highlight of non-breeding species seen in summer 1991 in Colorado was the invasion of Brown Pelicans. There was only one documented record before this year, but at least 3, and probably 4, birds were seen. They were mostly in the Denver area, but one was also seen at Antero Reservoir in South Park. A possible new state record Ruby-throated Hummingbird was seen in Rye in mid-July, and a possible third state record Arctic Tern was seen at Blue Lake in mid-June. Look for reports on these sightings in a future Records Committee Report.

I have just listed the reported sightings and did not make any judgements about their authenticity. Observers who see very unusual birds should document their sightings and send their reports to the C.F.O. Records Committee at the Denver Museum of Natural History. Reports for American Birds should be sent directly to Hugh Kingery. In the following the designation rare and unusual follow those of R and U on the C.F.O. Field Checklist of Colorado Birds. R means reported less than 10 times in the state and U means unusual in any region of the state.

<u>Common Loon</u> 3 summered at Blue Mesa Res and 2 summered at Hart's Basin (Coen Dexter), 2 were at Chatfield Res 6/23 until 7/31 (D.F.O.), 3 were at Antero Res on 7/22 (Ron Ryder) and 1 was at John Martin Res on 7/12 (David Leatherman and Paul Opler). This is a large number of summer sightings and a majority of these birds were in breeding plumage.

<u>Yellow-billed Loon</u> (Rare) The one which wintered at Hamilton Res was present through 6/9 (Ron Ryder). 1 probable immature was at Jumbo Res on 6/4 (Jack Reddall). These are the first summer records of this species in Colorado.

Brown Pelican (Rare) This was the Brown Pelican invasion year with at least 3, and probably 4, birds in Colorado. 1 adult was at Union Res on 6/4 (Bill Prather), 1 adult was at Chatfield Res on 6/23 (Mark Janos) and 2 adults were there on 6/26 (Dick Schottler). Meanwhile 1 was at Barr Lake on 6/24 (Steve Stachowiak). 1 adult was seen at Antero Res on 7/1 (Larry Halsey) and 7/9 (Chuck Loeffler) and 1 was at Cherry Creek Res from 7/22 until 8/8 (Jack Reddall).

Olivaceous Cormorant (Rare) 1 adult was at Jumbo Res on 6/4 (Jack Reddall).

Least Bittern 1 adult was at Golden Ponds in Longmont on 6/2 (Bill Prather).

<u>Tricolored Heron</u> (Unusual) 1 immature was at Hidden Lake in north Denver from 8/14 to 8/25 (Diana Mullineaux).

<u>Yellow-crowned Night-Heron</u> 1 adult was at Fountain Creek Regional Park south of Colorado Springs from 7/17 until 7/31 (Toni Brevillier).

<u>Greater Scaup</u> 1 female summered at Clifton Ponds near Grand Junction (Coen Dexter).

<u>Barrow's Goldeneye</u> On 6/1 there were 1 male and 2 females near Sugarloaf Mountain which is northwest of Dotsero in the Flattops Wilderness Area (Jim Wilson).

Osprey 1 was at Barr Lake on 6/15 (D.F.O.).

<u>Mississippi Kite</u> They were reported as common in Pueblo this year with at least 15 nesting pairs (Dave Silverman).

<u>Peregrine Falcon</u> Nesting success of this species in Colorado continues to rise. This year a pair nested in the Boulder Flatirons and 3 young were fledged. 2 adults with 1 young were seen in Estes Park on 7/13 (John Barber).

<u>Black Rail</u> (Rare) A Black Rail at Bent's Old Fort was last heard calling on 6/22 (Dave Silverman). Breeding was suspected (was probable?), but was not confirmed.

<u>Piping Plover</u> (Unusual) No successful breeding this year at Nee Noshe Res and Nee Grande Res north of Lamar (Duane Nelson). At least 12 adults were seen, but most were males. 2 nests were completed, but one suffered predation by California Gulls and the other failed during high winds.

Hudsonian Godwit (Unusual) 1 was at Jackson Res on 8/26 (Jack Reddall).

<u>Red Knot</u> (Unusual) 2 in breeding plumage were at Nee Noshe kes north of Lamar on 7/24 (Duane Nelson).

<u>Pomarine Jaeger</u> (Unusual) 1 adult was at Barr Lake from 6/29 (Lynda Hedl) until 7/6 (Joe Mammoser). Adult Jaegers at the height of summer are rare in Colorado.

Parasitic Jaeger (Unusual) 1 immature was at Cherry Creek Res on 8/29 (Jack Reddall).

Laughing Gull (Unusual) 1 adult was at Blue Lake on 6/12 (Duane Nelson).

<u>Caspian Tern</u> There were many summer sightings again this year which include: 1 at Hart's Basin 6/1 until 6/16 (Coen Dexter), 2 at Hamilton Res 6/21 to 7/21 (Ron Ryder), 1 at Boyd Lake near Loveland on 7/6 (Elaine Marshall), 1 at Cherry Creek Res on 7/10 (D.F.O.) and 8/2 (Wood) and 3 at Union Res from 7/20 until 8/2 (John Prather). The first nesung record for Colorado will be confirmed in the very near future!

Arctic Tern (Rare) 1 adult at Blue Lake on 6/12 (Duane Nelson). This third record of this species in Colorado is being reviewed by the CFO Records Committee.

Least Tern A very successful breeding year in the Arkansas River Valley (Duane Nelson). There were at least 12 pairs nesting on the island in Blue Lake and 3 pairs nesting at Nee Noshe Res. More than 20 young fledged from these nests. 1 adult was at Cherry Creek Res on 7/1 (Jack Reddall).

Spotted Owl (Unusual) A nest was found in an old ruin in Mesa Verde National Park and 2 young fledged (Richard Reynolds). The Forest Service Survey team also found 3 fledged young on the west side of the Wet Mountains. Presumably a good breeding year (?).

Lesser Nighthawk (Rare) 1 of the birds at the Clifton Ponds near Grand Junction stayed until 6/2 (Coen Dexter).

<u>Blue-throated Hummingbird</u> (Rare) 1 female was in Durango from 7/29 through 8/31 (John Prather and Kip Stransky). 1 female was 5 miles north of San Isabel on 8/2 (Brandon Percival).

<u>Magnificent Hummingbird</u> (Unusual) There were a few sightings this summer that were mostly unconfirmed. 1 of a possible pair was seen at Norrie on the Frying Pan River in mid-July (Jack Merchant). There were also possible sightings at Grand Lake, Estes Park and Red Feather Lakes (all through Ron Ryder). Are we missing this species most of the time?

<u>Ruby-throated Hummingbird</u> (New State Record) 1 male at Rye on 7/13 and 7/14 (Tom Shane and Dave Silverman). This possible first state record is being reviewed by the C.F.O. Records Committee.

Eastern Wood-Pewee (Unusual) 1 male was on territory at Plum Creek near Chatfield Res throughout June (Hugh Kingery).

Least Flycatcher 1 pair nested at Plum Creek near Chatfield Res (Hugh Kingery).

<u>Black-tailed Gnatcatcher</u> (First State Record) 3 found in Coal Canyon near Cameo on 7/7 (Nanette and Rich Armstrong). Nest found on 7/15 (Coen Dexter) and up to 8 birds seen including fledged young. Birds were still present on 8/31. This is under review by the C.F.O. Records Committee.

Bendire's Thrasher (Unusual) Two populations were reported on 7/5. One was just west of San Luis on route 142 and the other was 5.5 miles south of San Luis at milemarker 12 on route 159 (Joe Himmel).

White-eved Vireo (Rare) 1 adult at Gunnison Cemetery on 7/2 (Tom Tustison).

<u>Blue-winged Warbler</u> (Unusual) A pair was seen at Castlewood Canyon State Park from 6/4 (D.F.O.) until 6/16 (Joe Mammoser).

<u>Golden-winged Warbler</u> (Unusual) 1 male was at Chatfield Res on 6/23 (Peter Gent and Joey Kellner). 1 female was at Wheatridge Greenbelt from 8/20 until 8/28 (Duane Nelson).

Nashville Warbler 1 singing at Golden Gate State Park on 7/5 (Wood).

<u>Chestnut-sided Warbler</u> A pair nested in Apex Gulch near Golden and were seen between 6/1 (D.F.O.) and 6/16 (Paul Lehman). 1 male was seen in Coal Canyon near Cameo on 7/14 (Ron Lambeth).

<u>American Redstart</u> 1 pair was at Colorado City throughout June and July (Dave Silverman). A pair was at Lyons on 6/24 and 3 males were seen on 7/12 (D. W. King). 1 male was at Chatfield Res on 7/7 (Browns).

<u>Ovenbird</u> 2-3 pairs were at Rye throughout the period (Dave Silverman). 2 at Apex Gulch near Golden on 6/1 (D.F.O.) and 2 singing in Rist Canyon near Fort Collins in early June (Dave Leatherman) and 6/19 (Paul Lehman).

Field Sparrow 7 singing on 7/9 south of US 50 by Kansas State line (Duane Nelson).

<u>Great-tailed Grackle</u> 1 nest in Pueblo on 6/1 (Mark Yaeger). 4 nests in Burlington on 6/4 (Hugh Kingery). 2 pairs in Mancos (Alan Versaw). This species continues its rapid breeding expansion in Colorado.

FIELD TRIP REPORT LONGMONT AREA November 3, 1991

Bill Prather 13810 Weld County Road 1 Longmont, Colorado 80501

Five C.F.O. members braved the eight degree weather to meet at Jim Hamm pond, east of Longmont. The bright sun was quickly warming the air and the birds began to get active. We followed a group of Tree and White-crowned Sparrows, trying and failing to get a look at the one making a chip that sounded like that of a White-throated Sparrow. We did find two Eastern Bluebirds feeding on the Russian olives. A report of a Gyrfalcon seen the day before then led us to Bobbie Christianson's property northeast of Longmont. We say Harriers and Red-tailed and Ferruginous Hawks but no Gyrfalcon. Checking the Horned Lark flocks along the roads, we eventually got a good look at some Lapland Longspurs. After we took a break to warm up and eat, the air had warmed up enough to dissipate the mist over the water at Union Reservoir. Here, to our surprise, we found a late Baird's Sandpiper and a late Sanderling. A large number of waterfowl were seen including a Snow Goose, Hooded and Red-breasted Mergansers, and a Clark's Grebe. Then we decided to bird the Golden Ponds area in west Longmont. Here Dave Leatherman found a Yellow-Bellied Sapsucker. As he attempted to take some pictures, the rest of the group birded along the St. Vrain River and another Yellow-Bellied Sapsucker was found. Some other passerines and a few waterfowl brought the species total to 63 and with the growing overcast and falling temperatures we decided to call it a day.

Won't you join us on the next field trip? The more participants we have, the more fun we have and the more birds we see. Also, please consider leading a trip to your favorite area. Let Dave Silverman know of your ideas for trips.

A PROPOSED FORMAT FOR LOCAL BIRD CHECKLISTS

Bob Andrews Department EPO Biology University of Colorado Boulder, Colorado 80309

Bob Righter 2358 So. Fillmore Denver, Colorado 80210

and

Mike Carter Colorado Bird Observatory 13401 Piccadilly Road Brighton, Colorado 80601

While researching material for the upcoming book *Colorado Birds* (Andrews and Righter 1992), we (BA, BR) collected and examined about 30 local bird checklists from Colorado. These checklists were produced by local bird clubs or Audubon Society chapters, government agencies, and private individuals. They covered counties, river valleys, national parks, monuments, grasslands, forests, and wildlife refuges, state parks and wildlife areas, half (Davis 1969) or all of the state (Holt and Lane 1987). Our objective was to get a better idea of how the abundance of species varied in different geographic areas, at different elevations, and in different seasons. For our purposes, some checklists were useless, while others were quite useful, such as Lambeth and Armstrong (1985), Jasper and Collins (1987), and others.

The checklists varied widely in the information included and how it was presented, ranging from simple lists of bird species with no additional information, to those with detailed abundance and habitat information. However, most checklists had limited information on arrival and departure dates and habitats, almost none provided altitudinal information, and several systems describing abundance were used. Many checklists attempted to cover so large and diverse an area that usefulness was limited. There was such variation that making meaningful comparisons between the areas covered was nearly impossible; it was like comparing apples and oranges. Additionally, many interesting (and some frequently birded) areas were not covered by any checklist: Cottonwood Canyon, the Tamarack Ranch-Jumbo Reservoir area, South Park, and the Yampa River Valley to mention a few.

12

We propose that a standardized for at for Colorado checklists be established, and that checklists be published in the C.F.O. Journal. We suggest that the abundance categories, and perhaps even the types of graphs used in the forthcoming Colorado Birds be used in these checklists. Our intention is not to dictate to others how to make a checklist. But by standardizing the types of information included in checklists, and how that information is presented, the ability of birders, authors, and researchers to make meaningful comparisons in the abundance, altitudinal range, and habitat use of species in different regions of the state and in different seasons would be greatly enhanced. All checklists would be maintained on computer at a regional center, allowing easy updating. The following is a brief outline of our proposed format.

Abundance. The single most aggravating variable in the checklists we examined was in how abundance of species was presented. Most checklists included abundance information, but so many definitions of abundance categories were used that it was usually very difficult, if not impossible, to determine how a given species varied in abundance between the different areas covered. In *Colorado Birds*, we have used a system of abundance categories based on the number of individuals likely to be seen in a single day by a typical observer (averaged over many visits in several years) (see Table 1). This system is similar to those used by Dunn 1981, Unitt 1984), and Bull (1985).

Table 1. Abundance Categories

Abundant:	> 100/day in appropriate season and habitat
Common:	25-100/day
Fairly common:	10-25/day
Uncommon:	1-10/day; usually seen daily
Rare:	1-5/day and 1-10/season; usually not seen daily
Very rare:	10-40 records (for the state as a whole, or within certain
	areas or seasons)
Casual:	4-10 records
Accidental:	1-3 records

It is important to note that these numbers are intended as a general guide as to the number of individuals that can possibly be seen rather than a specific prediction of how many will be seen. Actual numbers seen on any given day will vary from day to day, year to year, area to area, and from observer to observer. These categories are most useful when used flexibly rather than rigidly. Ideally, they should be based upon many field trips in at least several years.

The most common alternative system is to indicate the probability of encountering a given species. Probability may be expressed using either

percentages or phrases. Thus, 'a species may be almost certain to be seen (>95%), could possibly be seen (50%), or is very unlikely to be seen (10%). This is a useful system, and we do not suggest that it is incorrect. But we believe that the system of describing actual numbers is a more useful service to both observers and researchers. An observer that is told how many individuals can possibly be seen can discern for him/herself what the probability is of seeing that species. On the other hand, an observer that knows only the probability of seeing a species is still uncertain of how many individuals can reasonably be expected.

This can be illustrated using an example from the Barr Lake Christmas Bird Count. The Bald Eagle and Horned Lark have both been seen on all Barr Lake counts since 1981; hence, they would both have a high probability of being seen (>95%). However, there have never been more than six Bald Eagles seen (uncommon in our system), while Horned Larks are typically seen in hundreds or even thousands (abundant in our system). The probability of seeing these two species is similar, but their true abundances are vastly different. This difference is real, easily perceived by birders, and should be reflected on a local checklist. The probability system fails to reflect this difference.

Seasonal Occurrence. Most checklists presented abundance information by season (e.g., common in spring, rare in fall). Although this is useful, information is lost because seasons are different for different species. For example, fall is a different time period for Rufous Hummingbirds than for Sabine's Gulls (mostly July and August for the former and September and October for the latter). In *Colorado Birds*, relative abundance in different seasons, average arrival and departure dates, and extreme dates are shown in graphic form. When appropriate, this information is presented for different geographic areas or elevations. Although the same information can be presented using dates and words (fairly common from 20 Mar to 5 Nov), the graphic form enables the pattern to be much more quickly and easily seen and understood.

To show how seasonal occurrence graphs can be made, we have provided the following examples. The simplest type of graph shows how numerous the species is, when it arrives, and when it leaves (see Fig. 1a). This shows a species that is fairly common from 20 Mar to 5 Nov. Even if the checklist includes only this most basic information, that would be very useful.

If information is available, and the author of the checklist desires, additional information can be added that would be valuable. For example, if the same species occurs in both low valleys and in the mountains, an extra level could be added (see Fig. 1b). This shows that the same species is also fairly common in the mountains from 25 May to 20 Aug.

Additional information such as peak migration periods and extreme dates can also be added (see Fig. 1c). In our example, the species is common from 15 Apr to 10 May and from 20 Sep to 20 Oct. There are also a few early

14

Vol. 26, No. 1 C.F.O. Journal January 1992 and late records from 5 Mar and until 25 Nov, and there are extreme outlier records on 12 Feb and 28 Dec.

Many people may be intimated by the process of generating graphs on the computer. Of course, checklists don't have to include graphs, and the same information could be presented in another format. However, because graphs, are such an excellent visual tool, we propose that authors would be able to forward the information to a computer graphics specialist working with the Colorado Bird Observatory, and that person would make the graphs.

Elevation. In Colorado, elevation plays a profound role in determining or influencing the distribution and abundance of birds, and their arrival and departure. However, checklists that covered a geographic area with a wide elevational range never presented abundance or arrival and departure dates for different elevations. Of course, birders don't cover all altitudes equally in all seasons, and so this information is not always available or complete. Nevertheless, presenting what is known can be useful, and the absence of what is not known focuses attention on what is yet to be learned. In *Colorado Birds*, elevation information is presented in a graphic form similar to seasonal occurrence (see Figure 2). The sample shows elevational distribution in spring and fall. To save space in the checklists, elevation graphs would either have to be much smaller or aligned horizontally rather than vertically.





Habitat. Most geographic areas encompass more than one habitat, most species are not equally abundant in all habitats, and some species show geographic and seasonal variation in habitats used. Therefore, it is important to include habitat information. Many checklists provided a list of habitats present in the area, with abbreviations and codes that were listed under each species to indicate which habitats are used. This is useful, but we suggest that the relative abundance of species in each habitat also be included. One way to do this would be to list habitats according to their relative importance. In the example below, habitats are designated for summer and winter by codes (PP is ponderosa pine, DF is Douglas-fir, etc.). The major habitats are listed before the slash, and minor habitats after the slash. Habitats in which breeding is confirmed are underlined.

S	PP, DF/SF, PJ
W	PJ/PP, DF, SF

Header Information. We suggest that checklists always include a space for observers to enter the following information: date, habitat, number of observers, foot miles, car miles, time at start and end, temperature (real or estimated) at start and end, wind (real or Beaufort estimates) at start and end, sky (clear, overcast, partly cloudy, rain, snow etc.) at start and end, snow cover, ice cover, etc. This information is especially valuable if individual daily checklists are collected and analyzed for population trends, as the Colorado Bird Observatory is doing.

Area Covered. Careful thought should be given to the boundaries of the area covered. Natural geographic and ecological units are best, but political units (counties, state parks, etc.) can also work. In all cases, but especially with political units, it is important not to cover too large or diverse a geographic area and to adequately address varying abundance, arrival and departure, etc. in different areas (especially at different elevations) within the area covered.

Other information. All checklists should provide a code indicating species confirmed or suspected to breed in the area. If the area covers different habitats or elevations, or a wide geographic area through which the species is not uniformly distributed, codes should be provided for different areas. One way to present this information is to use asterisks or underlining with habitats and elevations where breeding has occurred.

Another useful piece of information would be in what seasons, areas, or elevations unusual species should be documented by written details or photographs. Many observers think of documentation only with respect to species recorded only a few times in the state. But there are other types of records that should be documented. For example, House Wrens are so common in summer that documentation is obviously unnecessary; however, they are so rare in winter that all observations should be very carefully

documented. Likewise, Calliope Hummingbirds are regular enough to fall in the mountains that they need not be documented, but one at Bonny Reservoir should be. These cases should be indicated on checklists to alert observers when to be extra careful about identifications and when to obtain supporting documentation.

Most checklists did not provide separate information for the forms of recently lumped species such as the juncos, orioles, and rosy flinches. This results in a loss of information. Those forms are still identifiable in the field and each form usually has a different status, and some forms that were lumped could conceivably be split into full species again. Therefore, checklists should include all field-identifiable subspecies and color morphs.

Although most checklists do use the AOU order for listing species, we have found some that do not. The AOU order should always be used.

Maps. The most useful way to portray distributional information is with a map; *Colorado Birds* will have about 900 maps (with up to three maps per species for different seasons). Because they consume a lot of space, it is not practical to include maps on most checklists. However, observers who have the interest should consider creating local maps, especially for species of special interest and concern. Publishing local maps, using the system of shadings and symbols in *Colorado Birds*, could be very interesting and useful (see Fig. 3 for a sample map).

Figure 3. Sample Map



Legend For Map

Primary range: where the species is most common

Secondary range: where the species is less common Symbols indicate where the species is least common

▲ Spring

🔹 Fall

Spring and Fall

Detailed vs. condensed checklists. All of the information and graphs suggested in our format can fit on the small cards on which most checklists are published. Dauphin et al. (1989) have done a good job of presenting a comparable amount of information on a small card and could be used as a

model. The cards could be included to the C.F.O Journal as an insert. But if it is not possible to put it all on the field card, then a detailed version of checklists could be published in the C.F.O. Journal, and a condensed version of the same checklist could then be prepared for small cards to be used in the field. On the field cards, Coen Dexter has suggested that the graphic information on seasonal occurrence could be summarized using numbers to indicate months and letters to indicate weeks (e.g., the third week of March would appear as 3c). Although the checklists published in the C.F.O. Journal could be in this condensed version as well, we encourage publishing checklists with the graphs if possible because they are such a good way to portray information.

There are several benefits that published standardized local checklists would provide. More detailed and specific information on local abundance, seasonal occurrence, and habitat use would be available for researchers interested in particular species or in the birds of a particular area, and for authors of publications (including future editions of *Colorado Birds*). These checklists would help both local and out-of-state birders to know more precisely where to look for species of interest and to determine whether their observations are unusual. Like the latilong and atlas, these checklists would focus attention on species for which more information is needed to fully understand their status in Colorado.

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FOUNTAIN CREEK REGIONAL PARK EL PASO COUNTY PARK DEPARTMENT COLORADO SPRINGS, COLORADO

George Maentz--Supervisor, Fountain Creek Regional Park Nature Center Toni Brevillier--El Paso County Special Projects Volunteer Jo and Chuck Romero--El Paso County Special Projects Volunteers Cindy Lippincott--Map and Layout

From their rookery perched high in a Plains Cottonwood grove along Fountain Creek, Great Blue Herons have witnessed a changing landscape below. Indians once hunted Bison in this basin. Trappers and traders traveled in the drainage as did Major Stephen Long who surveyed the area from an encampment in the cottonwoods. Though he found the surrounding landscape "almost totally unfit for civilization", homesteaders, lured by the promise of open land, soon followed. Along a three-mile stretch of floodplain, between the frontier towns of Widefield and Fountain, nine landowners fenced and followed their dreams. They planted hay fields, orchards, and row crops, tended bees, and grazed cattle. Today, the El Paso County Park Department owns and manages this property as a regional park.

Though now bound by highways (I-25 and US 85), the creek corridor still harbors a thriving riparian community, numerous ponds, cattail marshes, alluvial meadows, and an active heron rookery. These diverse habitats offer ample food, water, and shelter resources to attract and sustain an array of resident and migratory wildlife species. Trails now link these wetland communities, and by spring (1992), a Nature Center, with panoramic views a heron would envy, will showcase the natural and historical resources of the area.

Positioned on the western edge of the Central Flyway, on a northsouth drainage in the afternoon shadows of the Front Range, Fountain Creek Regional Park offers an excellent vantage point to view and study Neotropical migrants, summer nesters, and winter waterfowl. Unexpected visitors frequently stray by--this year, Yellow-crowned Night-Heron, Oldsquaw, Black Phoebe, Golden-winged Warbler, and Hermit Warbler.

The Interpretive Division of the El Paso County Park Department, with tireless volunteer assistance, has initiated a bird population census and nesting study. In addition to recording the locations and numbers of birds sighted, participants log environmental conditions and note interesting behaviors. This information will be entered into a data base compatible with C.B.O. files and the Colorado Partnership in Flight efforts. It will also be Vol. 26, No. 1 C.F.O. Journal January 1992 accessible to agencies and individuals with a research or an avocational interest in birds.

The bird study is one facet of a larger Biodiversity Inventory being compiled within the park. Your sightings of birds, reptiles, amphibians, and mammals, if submitted, will appreciably add to our efforts to document the ecological values of wetlands.

Until the Nature Center opens, data forms may be submitted to or obtained from George Maentz, Bear Creek Nature Center, 245 Bear Creek Road, Colorado Springs, CO 80906; (719) 520-6387. To report unusual sightings or to obtain information about current bird activity in the park, contact Toni Brevillier at (719) 540-5653.



Ruffed Grouse, Hoy Mountain, Colorado September 28, 1991. Photo by Duane Nelson

Species Recorded at Fountain Creek Regional Park February 2, 1991 through November 25, 1991

Pied-billed Grebe Horned Grebe Western Grebe Clark's Grebe Double-crested Cormorant Great Blue Heron Snowy Egret Green-backed Heron Blk-crowned Night-Heron Yellow-cr. Night-Heron White-faced Ibis Snow Goose Canada Goose Wood Duck Green-winged Teal Mailard Northern Pintail Blue-winged Teal Cinnamon Teal Northern Shoveler Gadwall American Wigeon Canvasback Redhead Ring-necked Duck Greater Scaup Lesser Scaup Oldsquaw White-winged Scoter Common Goldencye Bufflehead Common Merganser Turkey Vulture Bald Eagle Northern Harrier Sharp-shinned Hawk Cooper's Hawk Swainson's Hawk Red-tailed Hawk Golden Eagle American Kestrel Peregrine Falcon Virginia Rail Sora American Coot Killdeer Greater Yellowlegs Lesser Yellowlegs Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Common Snipe Wilson's Phalarope Franklin's Gull Bonaparte's Gull **Ring-billed** Gull

Black-legged Kittiwake Rock Dove Mourning Dove Great Horned Owl Common Nighthawk Blk-chinned Hummingbird Calliope Hummingbird Broad-tailed Hummingbird **Rufous Hummingbird** Belted Kingfisher Red-headed Woodpecker Downy Woodpecker Hairy Woodpecker Northern Flicker Olive-sided Flycatcher Western Wood-Pewee Cordilleran Flycatcher Black Phoebe Cassin's Kingbird Western Kingbird Eastern Kingbird Tree Swallow Violet-green Swallow N. Rough-winged Swallow Bank Swallow Cliff Swallow Barn Swallow Steller's Jay Blue Jay Black-billed Magpie American Crow Common Raven Black-capped Chickadee Mountain Chickadee Buchtit Red-breasted Nuthatch White-breasted Nuthatch Brown Creeper Bewick's Wren House Wren Marsh Wren Golden-crowned Kinglet Ruby-crowned Kinglet Blue-gray Gnatcatcher Townsend's Solitaire Veery Swainson's Thrush Hermit Thrush American Robin Gray Catbird Brown Thrasher American Pipit Bohemian Waxwing Cedar Warwing Loggerhead Shrike European Starling

Solitary Virco Warbling Vireo Golden-winged Warbler Tennessee Warbler Orange-crowned Warbler Nashville Warbler Virginia's Warbler Yellow Warbler Cape May Warbler Yellow-rumped Warbler Townsend's Warbler Hermit Warbler Blackburnian Warbler Blackpoll Warbler Black-and-white Warbler American Redstart Northern Waterthrush MacGillivray's Warbler Common Yellowthroat Hooded Warbler Wilson's Warbler Western Tanager Black-headed Grosbeak Blue Grosbeak Lazuli Bunting Green-tailed Towhee Rufous-sided Towhee American Tree Sparrow Chipping Sparrow Lark Sparrow Savannah Sparrow Fox Sparrow Song Sparrow White-crowned Sparrow Dark-eyed Junco Bobolink Red-winged Blackbird Western Meadowlark Yellow-headed Blackbird Brewer's Blackbird Common Grackle Brown-headed Cowbird Northern Oriole House Finch Lesser Goldfinch American Goldfinch Evening Grosbeak House Sparrow

• = November 1990

Fountain Creek Regional Park El Paso County Park Department, Colorado Springs, Colorado **Observers**: To Denver To Widefield and Α Colorado Finitiong Pond #1 **Springs** r е То Date: Month Dav Year Fort (16 а Carson Foot Miles north Exit . Darkino 1 #132 south Number of Observers Fishina parking Pond #2 Α **Total Species** 22 Total Individual Birds Nillow (16)е SATING ROad а See charts below TOTAL START END for codes + -2 park -TIME (24-hour clock) . entrance Rice's Observation Α Pond TEMPERATURE ° F Blind #1 mile #1 r DIRECTION е WIND Ъ VELOCITY * а Rice's Ö Pond #2 marsh CLOUD COVER * 3 Observation Mesa Blind #2 Road PRECIPITATION * Α damperking r SNOW COVER * park Lan mo е mile entrance Cantes Russian а POND ICE * Otive parking / grove milhead 4 4 DADOUTETTIO DOCOUME



BAROMETRIC PRESSURE

CLOUD CC	OVER	PRECIPITATION	SNOW COVER	ICE		
clear = CL partly cloudy = I overcast = foggy = FC	PC OV S	none = 0 drizzle = DR rain = RA snow = SN skeet/hail = SL	none = 0 patchy = 1 < 2" = 2 > 2" = 3	none = 0 30% = 1 75% = 2 100% = 3		
mph	WINI	D: BEAUFO	RT SCALE	· Pi		
0 0	CALM: smoke rises vertically					
1 1-3	LIGHT: wind direction shown by smoke drift					
2 4.7	SLIGHT: wind felt on face; leaves rustle					
3 8 - 12	2 GENTLE leaves, small twigs in constant motion					
4 13 - 18	8 MODERATE: raises dust and loose paper					
5 19 - 24	FRESH: small trees in leaf begin to sway					
6 25 - 31	STRONG: large branches in motion					
LADEAT CODES ODEOUTIO TO THIS DADY						

Vol. 26, No. 1

C.F.O. Journal

January 1992

HABITAT CODES SPECIFIC TO THIS PARK					
1	pond/shore	8 overhead			
2	creek/shore	9 road/path edge			
3	marsh (cattail, rush, teasel)	10 irrigation ditch			
4	ground	11 building			
5	shrub	12 Russian Olive grove			
6	understory	13 snag			
7	canopy				

Vol. 26, No. 1 C.F.O. Journal January 1992 Fountain Creek Regional Park Sample Field Checklist

This is a reduced version of the field checklist and data form used to collect information about birds and other wildlife. It is printed on the reverse of the map and code sheet.

			Numbers							
Area	Time	Species	Total	Ma I e	F e m	A d		Juv	Habitat (code)	Field Observations
					-					
							╞	\vdash		
						\vdash	-			
							-			
						-	-			
-										

The map outlines current park boundaries. At the present time, Areas 1, 2, and 3 have been completed and are open to the public. Area 4 and the Nature Center will be open in the Spring of 1992. Field trips or excursions into the southern sections, Areas 5, 6, and 7, may be arranged by calling George Maentz.

BREEDING BIRD ATLAS UPDATE Hugh E. Kingery 869 Milwaukee Street, Denver, Colorado 80206

1991 produced Atlas field cards from approximately 325 priority blocks; about half of those represent blocks with field work complete. This will bring our status for the first five years to field work started in 60% of the blocks in the state and field work completed in 35%. With three years left in the project, we still have a massive amount of work to do.

With that in mind, we again invite C.F.O. members to become involved. If you haven't assumed responsibility for a block, contact me or one of the Regional Coordinators. If you have done only one or two, pick up a couple more. While our volunteer list exceeds 500 people, we still need more, especially people willing to explore new places away from the Front Range cities.

We manipulated the Atlas database to develop some statistics about the birds we have found in the first four years (1987-1990). To 1990, we received 28,109 records of breeding birds, from 814 blocks. Colorado has a total of 1760 priority blocks; these figures do not include reports from non-priority blocks (like Barr Lake, most of the Arapahoe and Browns Park refuges, and most of Mesa Verde National Park).

The following table reports the 30 most frequently reported species. The first column is the total number of reports; the second is the number of "Confirmed" reports--that is, nests or fledglings found, nest building, or distraction displays observed.

Rpts	CF's	Pct	[Of 814 blocks]
636	444	70%	American Robin
569	235	41%6	Mourning Dove
522	250	48%	W. Meadowlark
494	190	38%	N. Flicker (Red Shafted)
482	228	47 %	Red-winged Blackbird
456	224	49 %	Killdeer
453	305	67%	Barn Swallow
446	71	16%	Brown-headed Cowbird
421	288	68%	Black-billed Magpie
403	97	24 %	American Kestrel
395	114	29 %	Red-tailed Hawk
385	218	57 %	House Wren
379	173	46 %	Horned Lark
375	219	58%	Western Kingbird

Most Common Breeders 1987-1990 Field Reports

	Vol. 26, No. 1	C.F.O. Journal	January 1992
374	185	49 %	Mallard
363	31	9%	Common Nighthawk
356	67	19%	Broad-tailed Hummingbird
350	227	65 %	Starling
342	104	30 %	Yellow Warbler
341	75	22 %	W. Wood-Pewee
336	247	74%	N. (Bullock's) Oriole
324	177	55%	Mountain Bluebird
318	132	42 %	Violet-green Swallow
312	214	69%	House Sparrow
308	215	70%6	Cliff Swallow
306	144	47%	Lark Sparrow
300	130	43 %	Mountain Chickadee
300	149	50%	Brewer's Blackbird
299	106	35 %	Chipping Sparrow
298	42	14%	Common Raven
286	133	47 %	Great Horned Owl

We also note some gaps in our data so far. For instance, we have less than 20 reports for all owl species except Great Horned and Burrowing--the conspicuous diurnal owls. The confirmation rate on Clark's Nutcrackers is very low (19 of 176 observations); they roam throughout the state's conifer forests, but do they breed throughout these forests? No one has found a nest in the pinyon/juniper forest; in fact, no field workers have reported nests in any block. Confirmations are based on fledglings. Possibly many of our "Possibles" are really post or pre-breeding wanderers. Before the Atlas publishes nutcracker data, we will examine it carefully. Data on some groups of birds probably reflects fairly their relative abundance. The following tables show the number of blocks reporting hawks and warblers.

- 403 American Kestrel
- 395 Red-tailed Hawk
- 223 Swainson's Hawk
- 166 Turkey Vulture
- 147 Golden Eagle
- 103 Cooper's Hawk
- 94 Northern Harrier
- 60 Sharp-shinned Hawk
- 55 Prairie Falcon
- 48 Goshawk
- 48 Ferruginous Hawk
- 7 Peregrine Falcon
- 5 Osprey
- 4 Mississippi Kite
- 3 Bald Eagle

- 342 Yellow Warbler
- 270 Yellow-rumped Warbler
- 123 MacGillivray's Warbler
- 114 Wilson's Warbler
- 103 Virginia's Warbler
- 91 Common Yellowthroat
- 75 Orange-crowned Warbler
- 64 Yellow-breasted Chat
- 60 Black-throated Gray Warbler
 - 7 Grace's Warbler
 - 7 American Redstart
- 2 Chestnut-sided Warbler
- 1 Ovenbird

RELATIVE ABUNDANCE OF OWLS IN COLORADO A PRELIMINARY ESTIMATE

Compiled by Dan Bridges 1925 S. Vaughn Way, #207, Aurora, Colorado 80014

In the process of writing *Colorado Birds*, Bob Andrews made the interesting comment that Colorado birders all have different ideas about the abundance of the little owls. It struck me that this is an area where we need to do some more work. As a starting point, I conducted a survey of several Colorado birders. This paper summarizes the results of this survey. It is apparent that the relative abundance of owls in Colorado is quite variable in different parts of the state. Opinions about owl abundances appear to have a strong regional bias.

Bob Andrews (Aurora), Dan Bridges (Aurora), Coen Dexter (Clifton), Dave Hallock (Boulder), Hugh Kingery (Denver), John Rawinski (Monte Vista), Ron Ryder (Fort Collins), Dave Silverman (Rye), and Vic Zerbi (Glenwood Springs) were asked to rank the abundance of Colorado owls from most abundant (1) to least abundant (14) for the entire state when each owl is most abundant. Ron Lambeth (Grand Junction) and Rich Levad (Grand Junction) joined in to make 4 participants from the western slope, 6 participants from the front range and 1 from the San Luis Valley.

The following abundance order resulted:

		Participants' Rankings	Average
1.	Great Horned Owl	1,1,1,1,1,1,2,3,3,3,3	1.8
2.	Flammulated Owl	1,1,2,2,2,2,3,3,6,7,7	3.3
3.	Northern Saw-whet Owl	1,1,1,4,4,4,4,4,5,6,7	3.7
4.	Western Screech-Owl	3,3,3,4,4,4,5,5,6,6,6	4.4
5.	Burrowing Owl	2,2,3,4,4,5,5,6,6,6,7	4.5
6.	Eastern Screech-Owl	2,2,2,3,5,6,6,7,7,8,11	5.4
7.	Long-eared Owl	2,5,5,6,7,8,8,8,10,10,11	7.3
8.	Northern Pygmy-Owl	4,5,5,7,7,7,9,9,9,9,11	7.5
9.	Barn Owl	5,8,8,8,8,9,9,9,9,10,11	8.5
10.	Boreal Owl	8,8,8,9,9,10,10,10,11,	9.5
		11,11	
11.	Short-eared Owl	7,9,10,10,10,10,10,11,11,	10.1
		11,12	
12.	Spotted Owl	11,12,12,12,12,12,12,12,12,	12.1
	-	12,13,13	
13.	Snowy Owi	12, 12, 13, 13, 13, 13, 13, 13, 13,	12.9
	-	13,13,14	
14.	Barred Owl	13, 14, 14, 14, 14, 14, 14, 14, 14,	13.9
		14,14,14	
		27	

Dexter, Hallock, Lambeth, Levad, Ryder, and Zerbi ranked Great Horned Owl as most abundant. Andrews and Silverman thought Flammulated Owl is the most abundant. Bridges, Kingery, and Rawinski chose Northern Saw-whet Owl as number one. Silverman commented that: "Great Horned Owl would probably be the obvious choice for #1 since it's seen most often. But the smaller mountain owls may be lots more common than we think. because of the inaccessibility and vast actual surface area of our mountains. It would not surprise me at all if Saw-whets outranked Great Horned Owls." Commenting on Flammulated Owls. Andrews noted that: "In the best times and places, this species seems to be so numerous that it probably does have the highest density of any owl species." Rawinski offered the following opinion: "The reason Saw-whet exceeds Flammulated is that Saw-whet seems to be a habitat generalist, while Flammulated is a specialist of old growth ponderosa, douglas fir, and aspen. The ubiquitous Saw-whet is found from riparian to timberline, pinyon to ponderosa." I think that the southernmost part of the state where Saw-whets are, by far, the most common owl, and Great Horned are relatively scarce, has not received enough importance. As can be seen from the participant rankings, there is a considerable difference of opinion about the relative abundance of these three owls.

Dexter, commenting about his second choice, noted that: "Burrowing Owls are conspicuous and occur throughout the state at low elevation. In fall large numbers group for migration. I have seen 12 birds in one group."

By contrast, there is general agreement about the abundance ranking of the least abundant owls. Andrews made the following comment about Barred Owl: "It is doubtful that there are any valid records."

CORRECTIONS

Volume 25(4) p. 125 Swainson's Warbler in Fort Collins, Colorado. The second paragraph should have read:

The Swainson's Warbler is one of the rarest warblers to occur in the western United States. Extralimital records west and northwest of the states in which it breeds include four accepted records (two specimens) along the eastern border of Kansas (C. Ely, pers, commun.); two accepted reports from Nebraska west to Kearney (Bray et al. 1986); four documented reports in Colorado (see below); two sight records from New Mexico (Hubbard 1984; Williams and Hubbard 1990); and two records (one documented) for Arizona (Rosenburg et al. 1981; Stejskal and Witzeman 1986). At this time there are no reports of Swainson's Warbler in South Dakota, North Dakota, Wyoming, Montana, Idaho, Washington, Oregon, or, amazingly, California.

Volume 25(4) p. 94 Linda Vidal was inadvertently left off the list of board members present at the August 31, 1991 board meeting.

Volume 25(4) Food Items of Colorado Birds III p. 120 a burrowing owl prey item was listed as <u>Udeopsylla robusta</u>. In actuality this prairie cricket should have been <u>Daihinia brevipes</u>.

NORTHERN SAW-WHET OWLS VS. BOREAL OWLS ABOVE 10,000 FEET IN THE WET, SANGRE DE CRISTO, AND CULEBRA MOUNTAINS OF SOUTH-CENTRAL COLORADO A PRELIMINARY REPORT

Dan Bridges 1925 S. Vaughn Way, #207 Aurora, Colorado 80014

Since 1980, research has indicated that Boreal Owls (Aegolius funereus) are considerably more common and widespread in the higher mountains of Colorado than was previously believed (Palmer, 1984 and Ryder, Palmer, and Rawinski, 1987). Because Boreal Owls have been found in northern New Mexico's Sangre de Cristo Mountains, many owling enthusiasts expect that they will eventually be found in the Culebra, Sangre de Cristo, and Wet Mountains of Colorado.

In 1988 and 1989 I completed five breeding-bird blocks for the Breeding Bird Atlas in southern Colorado east and west of the San Luis Valley. In these mountains the Saw-whets are the most common owl. In the Culebra Mountains, 3 miles north of the New Mexico border, at 9:30 p.m. on June 9, 1989, I was playing my Flammulated Owl (Otus flammeolus) tape higher than I expected they would be. I got a one-note response, which I thought was a Saw-whet Owl. I played my Saw-whet tape and was answered with several prolonged "dripping-water" Saw-whet calls at 11,700 feet. Because this Northern Saw-whet Owl (Aegolius acadicus) was considerably higher than the 9-10,000 foot elevation limit in which they are found in northern Colorado, the finding was greeted with considerable doubt. My conclusion was that there probably were no Boreal Owls in this high (9,870 foot to 12,780 foot). LaValley Breeding Bird block also did not live up to popular expectations as I found no owls there.

As a geologist, I have many maps on my wall. One of them is a relief map of the state of Colorado. As I pondered this Saw-whet - Boreal Owl problem, I began to realize that the mountains in north-central Colorado and the San Juan Mountains in south-western Colorado, in which Boreal Owls have already been found, are broad regional mountainous masses. In contrast, the Wet, Sangre de Cristo, and Culebra Mountains are narrow, isolated ridges.

I hypothesized that several potentially adverse factors could be detrimental to Boreal Owls in these narrow ranges. First, there is a minimum area of favorable habitat. Second, these ranges probably get hotter in the summer because there is such a small area to retain snow and ice from the

previous winter. Finally, either severe weather, predation, disease, and/or bad breeding years could entirely destroy any small, isolated population of Boreal Owls, with recolonization unlikely to occur quickly. This would leave a small, unoccupied ecologic niche which could most simply be filled by the Northern Saw-whet Owls that already lived at lower elevations in these narrow ranges.

The Wet Mountains seemed to me to be the best area to test my hypothesis, but I was concerned about deep snow and accessibility in April. I phoned Ron Ryder to see if he thought there was any chance that a graduate student might tackle this problem as a thesis project. He doubted it, but suggested instead that Boreal Owls can often be called by tape in September. I decided I could do that.

Even though July is a poor month to call owls, I played Boreal and Saw-whet tapes from 9-12 p.m. on July 3 and 4, 1991. I got no responses but near the Blue Lakes just northwest of Greenhorn Peak at 11,200 feet I saw one small fluttering owl that I thought was probably a Saw-whet.

My first trip in September was on the 11th. From Greenhorn Road on the top of the Wet Mountains near the northwest end, I started down the trail to Beaver Creek, intending to play Boreal and Saw-whet tapes. At 8 p.m., before I played any owl tape, 3 Saw-whets started calling. Two were close; I concluded they were a pair. The third was a quarter of a mile away. With my Saw-whet tape, I called in one of the closest birds. I was at 11,050 elevation. In the beam of my halogen light, it was a pale-brown adult with no reddish tones observed. It rained hard at 9 p.m. so I had to stop owling.

On September 16th, I played Boreal and Saw-whet tapes along most of the length of Greenhorn Road. I got very few responses. One and a half miles northwest of the Blue Lakes near the southeast end of the Wet Mountains at 11,060 feet elevation, I saw one Saw-whet poorly. Near midnight an owl glided over my head 6.8 miles southeast of the Ophir Creek Road junction at 10,650 feet elevation. From a brief look, I thought it might be a Boreal Owl.

On September 24th, I returned to the curve on Greenhorn Road at the headwaters of the South Fork of Bear Creek where I thought I saw a Boreal owl on the 16th. I got there at dusk so I would watch and listen. At 7:15 p.m. I heard two short owl calls that could have been either Boreal or Saw-whet. At 7:25 p.m. I heard a longer call that I thought was a Saw-whet. There was a full moon so I found the owl without playing my tape. It was a Northern Saw-whet Owl, which I looked at with my halogen light. Shortly thereafter a Saw-whet glided over the tree tops; and as I listened more, it was Vol. 26, No. 1 C.F.O. Journal January 1992 obvious that I had found a pair of Saw-whets. So I concluded that I had probably not seen a Boreal Owl on the 16th.

From 8:30 p.m. to midnight I walked along the edge of fields adjacent to spruce woods playing Boreal and/or Saw-whet tapes every 20-30 minutes. I heard 2 short calls that I thought were Saw-whets but I could not call in the birds.

On October 1st, I drove to the headwaters of the Huerfano River north of Blanca Peak on the east flank of the Sangre de Cristo Mountains. It seemed to me to be a great night for owling. The skies were clear, there was no wind, and it was quite dark because the moon had not come up. I played Boreal and Saw-whet tapes at 10,600 to 11,000 feet but never heard an owl. I concluded that because there is such a small narrow area of spruce and aspen, and because this area is often extremely windy, there probably aren't any Boreal Owls here and only an occasional Saw-whet.

On October 14th, I returned to the Wet Mountains and played Boreal and Saw-whet tapes in the Snowslide Trail area near Greenhorn Road. At dusk, I heard an owl give 3 chucks but I could not call it in. I heard nothing more. I speculated that because this was part of a 10-day-long period of Indian Summer during which small owls feared predation, much like summer-time, therefore they did not call or respond to tape.

Certainly I have not proved that there are no Boreal Owls in the Wet, Sangre de Cristo, and/or Culebra Mountains of south-central Colorado. However, on the top of the Wet Mountains, I found 6 or 7 Northern Saw-whet Owls at elevations from 10,650 to 11,200 feet but did not find a single Boreal Owl, or nor did I hear any "skiew" calls that Boreals make in the fall (Palmer and Rawinski, 1986). It would appear that the Saw-whets have moved up into the Boreal Owl ecologic niche in the Wet Mountains. This may also be true in the Sangre de Cristo and Culebra Mountains of Colorado, but more work needs to be done in those areas.

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1991 CFO CONVENTION WORKSHOP: PHOTOGRAPHING BIRDS INEXPENSIVELY PRESENTER: DAVE LEATHERMAN

Introduction

This workshop was geared to birders wanting to document birds they see without mortgaging their house for equipment. Documentation of rare birds was an underlying theme of our session.

Objectives for this workshop were:

- 1) Cover basic photography principles
- 2) Discuss techniques for approaching birds
- 3) Briefly go over special equipment/techniques

Items discussed were illustrated by a series of slides and personal photo albums of the presenter.

Basic Photography

Two factors, aperture and shutter speed, combine to determine how much light reaches the film. Correctly combined, they result in a proper exposure (i.e. one that is not too light, not too dark).

The aperture setting, also called "f-stop", controls the opening size through which light passes. Obviously, a larger opening (f/3.5, for example) lets in more light than a small one (f/16).

Shutter speed, measured in fractions of a second, determines the length of time light is allowed to pass through the aperture. A shutter speed of 1/2 second is considered "slow" and allows much more light to pass than a "fast" shutter speed such as 1/500th of a second.

It should be apparent the quantity of light needed to properly expose film of a given sensitivity can be achieved with several combinations of the two factors. That is, the pairing of f/8 and 1/125th of a second gives roughly the same exposure as the pairing of f/4 and 1/500. The number of "correct" combinations is only limited by the capabilities of the camera.

Of the proper exposure combinations, which is "best"? This is determined by one's objectives. Some photo situations require stopping the motion, others require depth of field.

Situation #1: a flying Ross' Goose passes before you.

Your two concerns are to get the white goose on film and to stop enough motion to allow identification. With flying birds you need to set the shutter speed at 1/500th (or even faster). Having set the shutter, now set the correct f/stop. Automatic cameras will do this Vol. 26, No. 1 C.F.O. Journal January 1992 for you. Lastly, pan smoothly with the subject and gently press the shutter.

Situation #2: you come across a fossilized archaeopteryx on the nest. Here stopping motion is not a concern (this bird has not moved since the Upper Jurassic period!). Being a rather large bird with a nest and eggs, you need good depth of field. Thus, set the aperature for a small opening (= high f/stop number). Then determine the shutter speed you need to pair with this f/stop to achieve a good exposure. If the shutter speed is slower than 1/125th of a second you may need to use a tripod to eliminate movement.

Cameras

Instamatic cameras are generally too restricted in their capabilities to be of much help with bird photography.

Single lens reflex (SLR) 35 mm cameras are the best choice for general bird work. They come in both "manual" and "automatic" versions. My recommendation would be to select a manual camera or an automatic camera that gives you the option of selecting manual mode. Yes, you have to set more items with a manual, but you are also in total control of the results. An automatic camera on automatic mode can be a problem. Most automatics work on a "priority" basis, where the operator preselects an exposure factor, either shutter speed or f/stop. With this set, the camera then automatically selects the opposite exposure factor needed for a correct exposure. Some auto cameras are shutter priority, some are aperture priority, and some can be set either way. Be sure to know which of these describes your auto before purchasing one. If your auto gives you the option of setting the priority, read your manual or simply experiment to learn when it's appropriate to use each option.

Imagine how an auto can lead to trouble. Let's say you know you are going out to photograph vagrant warblers in drizzly conditions. With your automatic camera, you set your telephoto lens aperture wide open at f/5.6 to let in all the light possible. You find a great little fidgety warbler, aim and shoot. Under the dingy conditions, the camera automatically chooses a shutter speed of 1 second to match the f/5.6.

A week later, in eager anticipation, you open the "goof-proof" package only to find a yellow blur on the photograph. Try as you might, the Records Committee is not convinced you saw a male Bachman's Warbler. They want to know why it couldn't be a Wilson's Warbler. See what I mean?

What is the solution to this? A good move would be checking the light situation ahead of time. Your camera or a self-contained light meter could clearly show what you are up against. Then, prior to heading down the trail you could change to a higher speed film (that allows for a combination of f/5.6 and shutter speed of 1/250th, for example), plan to brace your camera as

best you can against objects such as trees or rocks, plan to quietly wait for the bird you seek to sit still, or just pack a sketch pad for documentation.

Film

We have already touched on film speed. Film costs money but is still cheap compared to your equipment and associated costs. Don't be afraid to use it, particularly when rare bird documentation is at issue. Every picture on the roll doesn't have to be a prize winner. Select either Kodak or Fuji film. Do not fall for the cheap imitations. Films which have the phrase "-chrome" in the name are slide films. Most photographers prefer the color rendition and grain of Kodachrome and Fugichrome films to Ektachrome films, although the former are generally more expensive. Films with "-color" in the name are for prints. Kodak also makes a line of fine-grained print films called "Ektar".

Another item to consider is film speed. This refers to the film's light sensitivity. So-called "fast" films require less light for exposure than "slow" films. Film speed is rated according to ASA (also called ISO or DIN) number. (Don't worry about what "ASA" stands for. If you must know, look it up on a slow birding day in February.) For bird photography in poor (=dark) light conditions a fast film may be required. Popular fast film speeds are ASA's of 100, 200, 400 and even 1000. For mostly sunny conditions an ASA of 64 or 100 should be adequate.

While not always the case, the total cost per picture for film and developing is now about the same for prints versus slides. (Combining film and developing costs, my recent survey of a Fort Collins K-Mart showed a range of 29-57 cents per photo for slides and a range of 31-54 cents for prints). Slides are easier to store and file in large numbers. Of course, they can be projected and are easier to send through the mail. In most situations, prints are easier to show yourself and others.

If you take lots of pictures, buying film in 36-exposure rolls will be cheaper per photo than 24-exposure rolls. As Jim Cairo, an accomplished photographer and workshop participant pointed out, it is also possible to save money by buying film in bulk quantities from New York camera outlets.

Lastly, always carry a spare roll of film. You might want to carry films of different speeds for varying light conditions. Also, it would be good to master the art of changing film in the middle of the roll. Camera shop personnel or experienced photographers could tell you how this is done.

Lenses

The standard lens on most good cameras is 50 mm. To fill the frame with a robin, this lens would require you to be within a few feet of the bird. Thus, some sort of telephoto lens is usually required for bird photography. Telephotos in the range of 200-400mm can be hand-held (that is, used with care without a tripod). Telephotos of "fixed" focal length (300 mm, for example) are cheaper than "zoom" models (80-to-240 or 100-to-300mm, for

example). Obviously, the zoom models give you more flexibility in formatting your photograph. Good telephoto lenses under \$500 have limited f/stop capability. Most will only open up to a maximum aperature of f/5.6, or perhaps f/4.0. Thus, they require excellent light conditions or the use of fast film. Teleconverters are attachments which increase the magnification of your lens. Most models increase lens power by a factor of 1.4 or 2. Thus, by placing a 2x teleconverter between your 200 mm telephoto and the camera body, you effectively turn the lens into a 400 mm piece of equipment. As for the down side, unless used with very high-quality telephotos (i.e. those marked "APO", "L", "LD", or "ED"), teleconverters significantly reduce photo quality. They also require more light. For example, a 2x converter requires an increase in aperature of two f/stops.

Another option is adapting your spotting scope for through-the-lens photography. Most of the better scopes can be modified in this way. As with telephotos and teleconverters, loss of quality is again a reality. See the February-April 1989 issue of *Birding* for more on this subject.

Approaching Birds

Our first consideration should be the bird's welfare. The satisfaction of getting a bird on film should not supersede potential harm to the bird or another birder's chances of seeing and enjoying the bird.

Having said this, the car can be a very effective blind for approaching and photographing certain birds. General rules of thumb for this technique:

Do not jeopardize the safety of you or your passengers.

(County roads near towns not found on standard maps are better for this activity than interstate highways near Denver).

Approach bird very slowly and quietly (turn off radio)

Preset camera (both exposure and focus, if possible)

Open window and don't have too much of you hanging out

Have camera up and ready before you get to the photo point

If while driving along, you notice a roadside bird worth trying to photograph, go well beyond the bird (1/2 to 1 mile) before turning around. Birds react to suspicious activity and turning around falls in this category. If you suspect stopping will flush the bird, increase the shutter speed and shoot "on the move". If you can stop and the situation requires a slow shutter speed, turn off the engine and either brace the camera against the window frame or use a small pillow or bean bag to eliminate motion.

Approaching birds on foot can be surprisingly successful on a regular basis. General rules of thumb:

Avoid eye contact with the bird.

Avoid a direct approach (pretend you are a tourist trying to find a restroom or an obscure art museum).

Move so slowly you make your muscles sore

Vol. 26, No. 1 C.F.O. Journal January 1992 Learn to recognize when the bird is becoming uncomfortable and pause at such times.

Use vegetation to your advantage as cover.

With either approach, via car or on foot, get something on film. I have 20-30 good photos. I have 2000-3000 perfect photos I almost took. Waiting one last instant for a slightly better photo can often result in no photo. Remember, film is cheap. Opportunities to document rare birds, rare behavior or rare situations are rare.

Take advantage of a bird's behavior and habits when this does not harm the bird. For example, raptors, hummingbirds, woodpeckers, flycatchers and even certain individual warblers particularly engage in repetitive activities. Quietly positioning yourself near a bird's favorite perch or food source will often result in photo opportunities. However, in general avoid taking advantage of a bird's strong attachment to nest sites.

Other Miscellaneous Thoughts

Practice your photography at zoos, parks and your backyard. Select a project like getting a great mallard or starling photo and work through it to satisfaction. Mastering the required skills are the same as for unusual species, only you have enough opportunities to allow for trial and error.

Know the field marks you need to document for rarities before the situation presents itself in the field or document as much of a suspected rare bird's anatomy as possible.

Document habitats

Consider "bracketing" (that is, take a range of exposures on either side of what you or your camera read as being correct). This is especially true of tough light conditions such as those involving high contrast (Snowy Owl on asphalt or Northeastern Crow on ski slope).

Color film rendition is best on non-rainy, overcast days.

When possible, try to get the brightest light source (on Earth this is usually the Sun) behind you.

Write things down and learn from your mistakes.

Want it. You take your best photographs when you are concentrating.

Have fun. Photographing birds can be difficult but the associated challenges lead to great satisfaction when things work out.

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FIRST RECORD OF THE BUFF-BREASTED FLYCATCHER (Empidonax fulvifrons) FOR COLORADO

John Prather 13180 Weld County Road #1 Longmont, Colorado 80501

On May 19th 1991, Jerry Cairo, Bill Prather, and I were returning home from a four day trip to southeastern Colorado. At about 5:00 in the evening we happened to be passing by the I-25 exit for the Hannah Ranch State Wildlife Area. Since we still had two hours of daylight left, Jerry suggested we stop to look for migrating warblers. Birding had not been particularly good so we entered the area with low expectations. We were little prepared for the excitement the next two hours would produce.

Our first clue that birding might be better than expected came just after we stepped out of the car. An unfamiliar warbler song was emanating from a nearby group of trees, and we went off in pursuit. Unfortunately the warbler chose that moment to guit singing and was never seen by any of us. We continued on into the best migrant area, a thick stand of low willows and brush in the floodplain of Fountain Creek. While searching the area our group became separated. My father and I ran across a small group of warblers feeding in the tall cottonwoods which rose above the willow grove. I was able to pick out a Blackburnian Warbler, and my father identified a Tennessee Warbler and found two Northern Waterthrushes feeding in a muddy backwater. The group of warblers was moving quickly, however, and we lost them due to the thick willows and dead logs which impeded our movement. We returned to the car to get the field guide and some drinks and found Jerry there waiting for us. He had not seen any warblers but had heard a Broad-winged Hawk.

It was nearly 5:45 when we returned to the willow grove in search of the warblers. A squail line had broken away from the cloud bank which had been hanging over the mountains, and the wind had picked up appreciably. This seemed to be driving the birds out of the tall trees and into the shelter of the willows. Many miller moths were also about, apparently responding to the oncoming dusk. Immediately upon entering the brushy area surrounding the willow grove, we heard an unfamiliar three-note song. It sounded a little warbler-like but was different than any of the ones we had heard before. I leapt up on a tall dead log in order to better view the area and immediately caught a glimpse of a small bird flycatching from a low perch. Upon focusing my binoculars I nearly fell right back off the log because I could not believe what I was seeing. I managed to tell my fellow birders that a Buff-Breasted

Flycatcher was perched in the open not more than twenty feet from where we were standing. Needless to say, this news was met with some incredulity. Nevertheless they quickly joined me atop the log and were able to view the bird themselves. For the next fifteen minutes we were able to observe the bird closely as it fed low in the brush and willows.

The most striking feature of the flycatcher was the intense buff of the underparts. This color was bright everywhere but approached cinnamon in some places on the breast and sides of the bird. Its upperparts were an unusual color for an empidonax flycatcher, generally buff-brown or grayish-brown. In most other ways it looked like a typical empidonax flycatcher: small size, wing-bars, and an eye-ring. Its behavior was unusual for an empidonax, however. It would often sit nearly still for a long period, showing none of the tail or wing flicking found in other members of this group. At these times only its head would move, searching the surrounding area for miller moths on which it was gorging. At these times we were able to approach it quite closely and eventually noted every field mark useful in identifying this species. After this was accomplished, Dad left to find a phone in order to call a few birders who might want to see the bird. Jerry and I continued birding and were able to find a number of other migrants including male Golden-Winged and Bay-Breasted Warblers and a Veery.

Unfortunately no other birders were able to reach the area in time to see the Buff-Breasted Flycatcher that night and the bird was never seen again. While this sighting seems hard to believe, it should be noted that it came following several days of strong winds from the south and was one of a group of records involving species usually found in the southern part of the United States. The record is currently being reviewed by the Colorado State Records Committee for acceptance on the official state bird list.

FOOD ITEMS OF COLORADO BIRDS (VII)

David A. Leatherman 2048 Whiterock Court Fort Collins, CO 80526 (303) 484-5445

A general description of the format, purpose and reporting procedures for this column can be found in the introduction section of previous columns.

This edition contains mostly records for August 1991 through November 1991. As always, I thank those individuals who provided observations. In some cases I was unable to use material because it lacked one or more of the basic data items (bird, food item, location, date and observer) or pertained to feeder observations.

I have offered to help identify items and must admit my ability to satisfactorily put a name on the ones sent so far, particularly seeds and other plant parts, has been about 50%. I am gradually accumulating a list of contacts to help with this so keep trying. Remember, insects and other relatively fragile arthropods should be preserved in some type of liquid medium like rubbing (= isopropyl) alcohol.

In a future column I plan to publish some sort of list of bird speciesfood item combinations which are well-established for Colorado. My thought is to discontinue reporting these to eliminate repetition. How to decide which combination to include on a "known" list is the question. I am leaning toward an individual record being applicable to that bird for that food item for that county for that season. Thus, a previously reported bird-food combination from a different county, or in a different season would be included as "new" information. A previously reported bird-food combination in the same county or during the same season would not be included.

I do not want to make this more complicated than it's worth but I also do not think we need to keep reporting starlings eat Russian olives.

You will also note an accompanying photograph. The editor and I would like to continue this as a regular feature of the column.

BIRD	TOOD TIEM	LOCATION	DAIL
Turkey Vulture	dead carp	Horseshoe Res., Larimer, Co.	7July '91 (AM)
(An apparent "pecking order"	was operating among the three v	ultures involved: one ate while	the other two watched
and presumably waited their t	um.)		
Osprey	unident. red meat	Haystack Mt., Boulder, Co.	6 Oct '91 (JC)
(This food was stolen from a	flying red-tailed hawk. Since the	osprey ended up with the food	(presumably some type
of mammal) last, it will be rep	ported with this species.)	-	
Swainson's Hawk	unident. grasshoppers	Morgan, Co. n of Jackson	Res. 22 Sept '91
(Flock of 27 individuals activ	ely pursuing grasshoppers in plow	ed fields.)	
Black-chin. Hummingbird	Licking apricot tree buds	Cortez, Montezuma, Co.	31 Aug '91 (AV)
Rufous Hummingbird	Licking Gambel oak buds	s of Cortez	Aug '91 (AV)
Yellow-bell'd Sapsucker	Russian olives	Longmont, Boulder Co.	3 Nov '91
Yellow-bell'd Sapsucker	Sap wells in Austrian pine	GC, Fort Collins	6 & 16 Nov '91
Yellow-bell'd Sapsucker	Sap wells in Scots pine	GC, Fort Collins	Nov/Dec '91
Yellow-bell'd Sapsucker	Sap wells in rock elm	Fort Collins	11 Nov '91
Yellow-bell'd Sapsucker	Sap wells in cottonwood	GC, Fort Collins	23 Nov '91
Yellow-bell'd Sapsucker	Sap wells in pinyon	GC, Fort Collins	28 Nov '91 (JM)
Yellow-bell'd Sapsucker	Sap wells in juniper sp.	GC, Fort Collins	28 Nov '91 (JM)
Williamson's Sapsucker	S ap wells in Siberian elm	Walsh, Baca Co.	3 Nov '91 (JT)
Downy Woodpecker	Unident. willow bark midges	Fort Collins	16 Nov '91
Downy Woodpecker	Unident. willow bark midges	CVCG, Weld Co.	17 Nov '91
Downy Woodpecker	Parasitic wasps	CVCG, Weld Co.	
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FOOD ITEM

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(This woodpecker was seen extracting insect matter from the center of 1/2 inch diameter willow twigs. Close examination revealed a complicated situation. The original insects inhabiting these twigs were either leafcutter bees using the tunnels of wood-boring beetles or pemphredonid wasps capable of boring their own tunnels. These original inhabitants developed to the pupal stage when they were parasitized by small wasps in the genus Melittobia (family

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Eulophidae). The woodpecker was extracting and eating the pupal cases full of parasitic larvae. (See photo.) The parasites were graciously identified by Dr. Howard E. Evans of Colorado State University.)

Downy Woodpecker	Dead giant willow aphids	Fort Collins	25 Nov '91
Downy Woodpecker	Great mullein seedheads	near Westcrk, Douglas Co.	Sept '91 (RWi)
Northern Flicker	Unident. ants	Fort Collins	17 Sept '91
Northern Flicker	Russian olives	Muir Sprgs, Morgan Co.	24 Nov '91
Blue Jay	Bur oak acorns	Fort Collins	10 Sept '91
Blue Jay	Ornamental sunflower seeds	Fort Collins	17 Sept '91
Scrub Jay	Gambel oak acorns	Durango, LaPiata Co.	31 Aug '91
Scrub Jay	Painted lady butterfly	near Morrison, Jeff Co.	18 Sept '91 (HK)
Scrub Jay	Pinyon pine seeds ("nuts")	near Eagle, Eagle Co.	30 Sept '91 (JM)
Clark's Nutcracker	Pinyon pine seeds	near Eagle, Eagle Co.	1 & 19 Oct '91 (JM)
Black-cap. Chickadee	Hackberry psyllid blistergalls	GC, Fort Collins	2 & 21 Sept '91
Black-cap. Chickadee	Wild sunflower seeds	Dixon Res., Larimer Co.	13 Sept '91
Black-cap. Chickadee	Unident. cottnwd. leaf aphids	GC, Fort Collins	9 Oct '91
Black-cap. Chickadee	Pecking at spider web contents	GC, Fort Collins	10 Oct '91
Black-cap. Chickadee	Giant willow aphids	Fort Collins	26 Oct' 91
Black-cap. Chickadee	Crabapple fragments	Fort Collins	23 Nov '91
Black-cap. Chickadee	Cotoneaster fruits	GC, Fort Collins	23 Nov '91
Black-cap. Chickadee	Boxelder leafroller larvae	Durango, La Plata Co.	1 Sept '91 (B&ME)

(This and several observations in this report containing boxelder leafrollers probably refer to Caloptilia negundella, an eastern species apparently established in southwestern CO.)

Red-breasted NuthatchCaching blue spruce seedsGC, Fort Collins2 &21 Sept '91(These birds are commonly observed caching seeds of conifers in fall. In the cemetery the storage site is usually under
the bark of nearby American elms. An estimated 4-5 seeds are cached per minute. Rarely is the same area of a cache
tree visited in successive trips, and usually the cache trees are alternated as well.)Red-breasted Nuthatch9 Oct '91

Vol. 26, No. 1 C.F.O. Journal January 1992

Red-breasted Nuthatch	Adult psyllids in hackberry bark	GC, Fort Collins	18 Oct '91
Red-breasted Nuthatch	Blue spruce seeds	GC, Fort Collins	23 Nov '91
White-breasted Nuthatch	Noctuid moth pupa	Walsh, Baca Co.	25 Oct '91 (JT)
(This rather large morsel (1.5*	in length) was found beneath cott	tonwood bark.)	
Eastern Bluebird	Wild rose hips	near Longmont, Boulder Co.	29 Oct '91 (BP)
Townsend's Solitaire	Russian olives	CVCG, Weld Co.	16 Sept '91
Townsend's Solitaire	Black field cricket	CVCG, Weld Co.	
Townsend's Solitaire	Chokecherries	Glenwood Sprgs, Garfield Co.	23 Oct '91 (JM)
Hermit Thrush	Red osier dogwood berries	Eagle, Eagle Co.	24 Sept '91 (JM)
American Robin	Russian olives	Fort Collins	27 Oct '91
American Robin	Juniper berries	GC, Fort Collins	19 Nov '91
American Robin	Russian olives	Muir Springs, Morgan Co.	24 Nov '91
American Robin	Chokecherries	near Eagle, Eagle Co.	23 & 30 Sept (JM)
American Robin	Juniper berries	Glenwood Sprgs, Garfield Co.	23 Oct '91 (JM)
American Robin	Juniper berries	Walsh, Baca Co.	22 Oct '91 (JT)
Cedar Waxwing	Russian olives	Muir Springs, Morgan Co.	24 Nov '91
Northern Shrike	Chasing downy woodpecker	CVCG, Weld Co.	17 Nov '91
(This was a sustained, serious	pursuit which the woodpecker m	anaged to escape by flying into	an area of rather thick
Siberian elms.)			
Warbling Vireo	Boxelder leafroller larvae	Durango, La Plata Co.	1 Sept '91 (B&ME)
Orange-crowned Warbler	Boxelder leafroller larvae	Durango, La Plata Co.	1 Sept '91 (B&ME)
Virginia's Warbler	Boxelder leafroller larvae	Durango, La Plata Co.	1 Sept '91 (B&ME)
Yellow-rumped Warbler	Giant willow aphids	Fort Collins	29 Oct '91
MacGillivray's Warbler	Boxelder leafroller larvae	Durango, La Plata Co.	1 Sept '91 (B&ME)
Wilson's Warbler	Boxelder leafroller larvae	Durango, La Plata Co.	1 Sept '91 (B&ME)
Wilson's Warbler	Unident. Am. linden aphids	Fort Collins	28 Aug '91
Rufous-sided Towhee	Skunkbush sumac fruits	Boulder, Boulder Co.	26 Sept '91

Northern Tree Sparrow	Giant willow aphids	Fort Collins	26 Oct '91	
Northern Tree Sparrow	Redroot pigweed seeds	CVCG, Weld Co.	17 Nov '91	
Northern Tree Sparrow	Wild sunflower seeds	CVCG, Weld Co.	17 Nov '91	
Northern Tree Sparrow	Redroot pigweed seeds	Barr Lake, Adams Co.	30 Nov '91	
Northern Tree Sparrow	Wild sunflower seeds	Barr Lake, Adams Co.	30 Nov '91	
Chipping Sparrow	Granola bar (oats?) fragments	Mesa Verde NP, Montezuma	6 Aug '91 (AV)	
Song Sparrow	Russian olive pulp	Fort Collins	27 Oct '91	
White-crowned Sparrow	Fallen dandelion seeds	n of Mancos, Montezuma Co.	2 July '91 (AV)	
White-crowned Sparrow	Skunkbush sumac seeds	Boulder, Boulder Co.	26 Sept '91	
White-crowned Sparrow	Rabbitbrush seeds	Dixon Res., Larimer Co.	20 Oct '91	
White-crowned Sparrow	Russian olives	Fort Collins	27 Oct '91	
White-crowned Sparrow	Rabbitbrush seeds	Fort Collins	27 Oct '91	
White-crowned Sparrow	Wild sunflower seeds	Barr Lake, Adams Co.	30 Nov '91	
Dark-eyed Junco	Blue spruce seeds (in cones)	GC, Fort Collins	5 Nov '91	
Dark-eyed Junco	Wild sunflower seeds	Fort Collins	25 Nov '91	
Dark-eyed Junco	Redroot pigweed seeds	Barr Lake, Adams Co.	30 Nov '91	
Red-winged Blackbird	Wild sunflower seeds	Walsh, Baca Co.	23 Oct '91 (JT)	
Common Grackle	Ornamental sunflower seeds	Fort Collins	17 Sept '91	
Common Grackle	Flipping over wet leaves	GC, Fort Collins	10 Oct '91	
(This is a common activity of grackles in the drawn-down ditch which runs through the cemetery. Presumably any				
and all arthropods and annelid worms found are eaten.)				
House Finch	Hackberry nipplegalls	GC, Fort Collins	21 Sept '91	
House Finch	Lilac seeds	GC, Fort Collins	5 Nov '91	
House Finch	Lilac buds	GC, Fort Collins	5 Nov '91	
House Finch	Wild sunflower seeds	n of Ault, Weld Co.	17 Nov '91	
House Finch	Crabapples	Fort Collins	23 Nov '91	
Red Crossbill	Ponderosa pine seeds	RedFeather Lakes, Larimer	6 Oct '91	

Blue spruce seeds	GC, Fort Collins	5 Nov '91
Blue spruce seeds	GC, Fort Collins	5 Nov '91
Hackberry blistergall psyllids	GC, Fort Collins	21 Sept '91
Blue spruce seeds	GC, Fort Collins	5 Nov '91
Wild sunflower seeds	Fort Collins	25 Nov '91
Wild thistle seed	s of Durango, La Plata Co.	31 Aug '91
Wild thistle seed	near Eagle, Eagle Co.	24 Aug '91 (JM)
Giant willow aphids	Fort Collins	26 Oct '91
Silver maple buds	Barr Lake, Adams Co.	30 Nov '91
Wild sunflower seeds	Walsh	27 Sept '91 (JT)
Chokecherries	s of Durango, La Plata Co.	31 Aug '91
Hackberries nipplegalls	GC, Fort Collins	2 Sept '91
Green ash seeds	Fort Collins	23 Sept '91
Russian olives	Durango, La Plata Co.	1 Sept '91 (B&ME
Wild sunflower seeds	n of Ault, Weld Co.	17 Nov '91
Juniper berries	Walsh	22 Oct '91 (JT)
	Blue spruce seeds Blue spruce seeds Hackberry blistergall psyllids Blue spruce seeds Wild sunflower seeds Wild thistle seed Wild thistle seed Giant willow aphids Silver maple buds Wild sunflower seeds Chokecherries Hackberries nipplegalls Green ash seeds Russian olives Wild sunflower seeds Juniper berries	Blue spruce seedsGC, Fort CollinsBlue spruce seedsGC, Fort CollinsHackberry blistergall psyllidsGC, Fort CollinsBlue spruce seedsGC, Fort CollinsWild sunflower seedsFort CollinsWild thistle seeds of Durango, La Plata Co.Wild thistle seednear Eagle, Eagle Co.Giant willow aphidsFort CollinsSilver maple budsBarr Lake, Adams Co.Wild sunflower seedsWalshChokecherriess of Durango, La Plata Co.Hackberries nipplegallsGC, Fort CollinsGreen ash seedsFort CollinsRussian olivesDurango, La Plata Co.Wild sunflower seedsn of Ault, Weld Co.Juniper berriesWalsh

KEY TO ABBREVIATIONS USED:

Places:	
Co	County
CVCG	Crow Valley Campground near Briggsdale, Pawnee National Grassland
GC	Grandview Cemetery at the west end of Mountain Avenue, Fort Collins
NP	National Park

Observers:

JC	Jack Coss
B&ME	Bill and Marge Elliot
нк	Hugh Kingery
AM	Ann Means
Л	Jack Merchant
BP	Bill Prather
JT	Janeal Thompson
AV	Alan Versaw
RWi	Roberta Winn



External appearance of dead willow twig from which Downey Woodpecker extracted unknown insect parasitized by Melittobia wasps; Crow Creek at Briggsdale, Weld Co., CO; 17 November, 1991. Photo by Dave Leatherman

Colorado Bird Distribution Latilong Study

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