C.F.O. Journal

The Colorado Field Ornithologists' Quarterly

Volume 15, Number 4 Fall/Winter 1981

C.F.O. JOURNAL

A quarterly publication of the Colorado Field Ornithologists, c/o Judy Pyle, 2242 16th Street, Boulder, Colorado 80302. Controlled Circulation postage paid at Boulder, Colorado.

CFO 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: Peter Gent, 55 S. 35th St., Boulder, CO 80303. Send rare bird reports to: CFO Official Records Committee, c/o Zoological Collections, Denver Museum of Natural History, City Park, Denver CO 80205.

ANNUAL MEMBERSHIP DUES (renewable at the beginning of each year), including a subscription to CFO JOURNAL: Sustaining, $100; Supporting, $25; Contributing, $10; Regular, $5. Dues and contributions are tax-deductible to the extent allowed by law. Membership inquiries and renewals should be addressed to Frank Justice, Treasurer, 1917 S. Quitman, Denver CO 80219. Send change of address to Judy Pyle, 2242 16th Street, Boulder, CO 80302.

TABLE OF CONTENTS

Cover Drawing: Bohemian Waxwings by Tim Manolis.
Tim Manolis lives in Boulder and is a graduate student in the Department of E.P.O. Biology at the University of Colorado. His artwork appears in the recently published book, "Rare Birds of the West Coast" by Don Roberson. He is also completing the drawings for a new field guide to the birds of Trinidad and Tobago, where he has spent the last two summers doing the fieldwork for his thesis.

FROM THE EDITORS

Our thanks to Tim Manolis for his drawing on the cover of this issue, and apologies to him for incorrectly labeling his drawing on page 74 of the last issue PINE SISKINS instead of LESSER GOLDFINCHES.

We have used this issue to cover two seasons; both fall and winter 1981. There are two main reasons for this. First it means that succeeding volumes will start with the Spring and end with the Winter issue, which we think is much more appropriate than the present system. Second the issue for a particular season will now come out at the beginning rather than the end of that season, and contain the seasonal report for the same season of the previous year.

This year's Christmas Count schedule, some field trips and a notice about the annual meeting of the New Mexico Ornithological Society are listed at the end of this issue--don't miss out on them all!

PETER GENT and TERRY ROOT

CFO LIFE, SUPPORTING AND CONTRIBUTING MEMBERS 1981

Life: Dr. William A. Davis

Supporting: Peter and Louise King, Mrs. Nancy Taggart, Mrs. Helen Thurlow

Contributing: Aiken Audubon Society, Theo Colborn, Mr. and Mrs. Edward Curry, Gerald J. Dunphy, Mrs. Maynard Fox, Lynn Grace, A.L. Grant, Dr. Ron Harden, Bob Jickling, Tina Jones, Joseph Krieg, Ruth and Walter Kuenning, Terri and Richard Morrell, D. Weir Nelson, David G. Nichols, Jean-Marie Spoelman, Helen J. Stiles-Wainwright, Dr. Donald H. Van Horn, Lynn Willcockson, Mr. and Mrs. Harry Wills

PATTERNS OF BIRD DISTRIBUTION IN COLORADO

by Douglas B. Inkley
Wyoming Cooperative Fishery and Wildlife Research Unit
USFWS, Box 3166, University Station, Laramie, WY 82071
Robert W. Andrews
U.S. Fish and Wildlife Service
P.O. Box 25486, Denver Federal Center, Denver, CO 80255
and Stanley H. Anderson
Wyoming Cooperative Fishery and Wildlife Research Unit

The data presented in the Colorado Bird Distribution Latilong Study (Kingery and Graul, 1978) provide a unique opportunity to examine distributional patterns of birds. The known distributions of birds in Colorado are recorded in that paper by latilongs, which are one degree in latitude and longitude on a side, covering about 9600 square kilometers (Bissell and Graul, 1981). We examine and discuss the similarity of breeding bird species composition among latilongs in Colorado.

Methods. A list of breeding birds was prepared for each latilong. Species recorded as resident (R), breeding (B), or very likely breeding (b) in the Colorado Bird Distribution Latilong Study (Kingery and Graul, 1978) or its update (Bardwell and Thomas, 1980) were included. Similarities of breeding birds between all pairs of two latilongs were quantified by determining the number of species present in both latilongs, relative to the total number of species in the two latilongs. This is expressed as a percent by the following equation (Webb, 1980)

$$\text{Percent similarity} = \left(\frac{c}{a+b-c} \right) \times 100$$

where

a = number of species in the first latilong
b = number of species in the second latilong

and

c = number of species in both latilongs.

Similarity coefficients between latilongs were used in a clustering program (Dixon and Brown, 1977). The program combined latilongs into groups, based upon their similarity in species composition. The resulting groups of latilongs were interpreted with respect to vegetation types (Armstrong, 1972), human population centers, and number of breeding bird species in each latilong.

Results and Discussion. The breeding bird communities of Colorado are divided into two major groups (Fig. 1), which are separated by the Front Range. Latilongs 19 and 26, though primarily grassland, are included in the mountainous group because of the extension of the Front Range and its avifauna into the western portions of these two

latilongs. Latilongs in the grassland bird group contain only one to three vegetation types (Armstrong, 1972) and have an average of 114 breeding bird species. Latilongs of the mountainous bird group have greater altitudinal variation and therefore more vegetation types within each latitlong, relative to grassland latilongs. The mountainous bird group latilongs contain three to seven vegetation types (Armstrong, 1972) and an average of 165 breeding bird species.

Subdivisions within each of the two major bird groups are not as clearly related to vegetation types. The varying intensity of birding activities in different latilongs, and correlated frequency of breeding bird reports, obscures patterns to some extent. Three groups of latilongs (27-28 and 14-20-21 and 5-6-7) in the grasslands all have similar vegetation types (Armstrong, 1972) within each group. Latilongs 12 and 13, both separate groups, are unique in the combination of vegetation types and intensity of birding activities within the latilong. Latilong 12 is unusual, as it has a unique combination of three habitat types. The presence of Denver in latilong 12 decreases the number of species likely to be present, but there are many observers turning in reports. Latilong 13, in contrast, is relatively poorly reported and dominated by one habitat type, the grasslands. Clearly evident is the decline in species richness from the Front Range to the eastern edge of Colorado (Fig. 1). Associated with this decline is a decrease in number of vegetation types and birding intensity from the Front Range to eastern Colorado (Armstrong, 1972).

The high diversity of vegetation types in the mountainous bird group makes interpretation difficult. Most groups, however, contain latilongs that are similar in species richness (Fig. 1), in addition to species composition. The westward decline from the Front Range of alpine habitats partially explains a similar decline in species richness. In addition, there is a general decline in birding activity westward from the Front Range.

The Colorado Bird Distribution Latilong Study and similar publications can be useful for understanding patterns of bird distribution, in addition to their use by birdwatchers. As these studies are improved by more observations, their utility will increase.

Figure 1. Top numbers in each latilong indicate numbers of breeding birds. Middle numbers represent latilong numbers (1-28) and bottom numbers represent the number of habitat types present (Armstrong, 1972). The mean number of breeding bird species per row and column are indicated on the right and bottom, respectively. The thickest line separates the grassland and mountainous bird communities. Lines of medium thickness represent subdivisions within the grassland and mountainous bird communities.

						MEAN
144 1 5	156 2 3	169 3 4	190 4 5	128 5 2	108 6 2	103 7 2	143
167 8 5	142 9 6	136 10 5	176 11 5	153 12 3	83 13 1	107 14 2	138
149 15 5	166 16 6	167 17 6	182 18 5	189 19 5	130 20 2	108 21 2	156
156 22 6	166 23 6	163 24 7	180 25 7	180 26 4	121 27 2	101 28 3	152
MEAN 154	158	159	182	162	110	105	

Acknowledgments. We thank Steven Bissell and Charles Chase for discussing this subject. Douglas Runde and Peter Gent reviewed and commented on the manuscript. Roberta Skinner and Jonnie Hoggan aided in manuscript preparation. Partial funding was provided by the Eastern Energy and Land Use Team, U.S. Fish and Wildlife Service.

References

Armstrong, D.M.. 1972. Distribution of mammals of Colorado. Museum of Natural History. University of Kansas, Monograph 3, 415 pp.

Bardwell, L. and V. Thomas. 1980. Bird latilong update. Colorado Field Ornithologist 14(3):66-69.

Bissell, S.J. and W.D. Graul. 1981. The latilong system of mapping wildlife distribution. Wildlife Society Bulletin 9:185-189.

Dixon, W.J. and M.B. Brown. 1979. Biomedical computer programs, P-series. University of California Press. 880 pp.

Kingery, H.E. and W.D. Graul. (eds). 1978. Colorado bird distribution latilong study. Colorado Division of Wildlife. 61 pp.

Webb, W.L. 1980. Biogeographic regions of Texas and Oklahoma. Ecology 31:426-433.

SEASONAL REPORT--WINTER 1980-81

by Paul R. Julian
1269 Chinook Way, Boulder, CO 80303

This report is divided into two sections: the first is a list of late, lingering or over-wintering migrant species; and the second, a list of unusual or notable occurrences. The first section intends mainly to document the number of reports of normally migrant species which, presumably because of the unusual warmth of the 1980-81 winter, remained in Colorado equal to or beyond the extreme late date heretofore recorded. It will be of interest to maintain such a report for succeeding winters to document fully how unusual last winter actually was. There are 41 species listed--some of these have been recorded as "occasional in winter" previously and their designation as "migrant" species may therefore be questioned. However, if some degree of uniformity in compiling similar lists for future winters is maintained, the exact status of these species should not be of major importance. Many comments might be made about Part I--the list is probably not complete. For example few late reports of swallows were found and the warbler list seems short. Please send any late reports to the author.

Part I. The following table summarizes the late departure, and in some cases lack of departure, of migrant species in the winter 1980-81. In a few instances, particularly for western slope reports, the uncertain status of some species through the winter makes extreme last dates and comparison with similar species and dates from the eastern slope uncertain. I have used the extreme dates in Lane and Holt, (1975), modified by Halsey [CFO Journal, 15(3)] and also the status "occasional winter" (symbol @) from Lane and Holt. Other abbreviations: CC--Christmas Count, var--various dates, *--indicates that the report is under consideration by the CFO Records Committee.

Species and numbers	Location(s)	Date(s)	Extreme date	Observer
Common Loon	Denver	var,Jan	12/27	m.ob.
Eared Grebe	Pueblo Res	12/13	12/14	RB
@Western Grebe 1-5	Denver	Dec-Jan	12/15	JC,m.ob.
	Boulder	1/3-6		FH,BJ
Double-cr Cormorant	Denver	12/13-1/17	12/1	FJJ
Whistling Swan	Carbondale	2/15	1/22	VZ
	Colo Spgs	var,Dec-Feb		RB
	Shadow Mt Lake	2/7-3/1		DJ
Blue-winged Teal	Pueblo Res CC	12/20	12/14	
Cinnamon Teal	Denver	2/9-13	11/20	KK,FJJ
	Grand Junction	var,Jan-Feb		fide BT
Osprey	Denver	12/31	10/31	KK
	Loveland	12/20,2/10		CCu,FAC
	Grand Junction	2/1		fide BT
@Virginia Rail	Wheatridge	2/9	10/15	DN
Green Heron 3	Grand Junction	Jan-Feb	11/30	HT,NK

Species and numbers	Location(s)	Date(s)	Extreme date	Observer
Black-cr Night Heron	Denver	12/6	11/11	fide KK
	Longmont	1/18		JA
Spotted Sandpiper	Grand Junction	1/4,2/23	10/25	BT
Greater Yellowlegs	Boulder	12/28	11/14	FH
Bonaparte's Gull 20	Denver	12/7	12/4	JR
Red-headed Woodpecker	Pueblo Res CC	12/20	10/6	
@Yellow-bd Sapsucker	seven reports statewide	Dec-Feb	11/9	
Western Kingbird	Grand Jct CC	1/4	9/29	JLH
Barn Swallow	NE Colo	10/31	10/25	DFO
@Brown Thrasher	NE Colo	12/14	10/6	JR
	Colo Spgs	1/1-2/7		RB
	Longmont	1/16		JA
	Lyons	1/17,Feb		MG
Hermit Thrush	Ft. Collins CC	12/27	11/5	
Western Bluebird	Canon City	1/27	11/29	DEM
	Denver	1/8		HL
	Lyons	1/27		HL
@Mountain Bluebird	Ft. Morgan	var,Dec, Jan,Feb	11/17	JRi
Blue-gray Gnatcatcher	Delta	1/11	11/14	MJ
	Grand Junction	Jan		fide BT
@Ruby-crowned Kinglet	Delta	var,Dec	1/12	MJ
	Grand Junction	Jan,Feb		fide BT
	Morrison	1/24		JC
Water Pipit	S central Colo	12/27	11/29	JR
@Loggerhead Shrike	S central Colo	12/6	11/4	JR,RB
Orange-cr Warbler	Boulder	12/16	12/14	RVZ
	Colo Natl Mon	1/13		MH
Palm Warbler	Boulder	12/14	12/4	EP
Common Yellowthroat	Bonny	1/2	12/12	PJ
	Colo Spgs	2/4-28		RB
Wilson's Warbler	Longmont	11/13	11/8	fide LH
*Bobolink	Berthoud	1/28	9/9	CCu
@Yellow-hd Blackbird	Bonny CC	1/3		m.ob.
	Grand Jct. CC	1/3		m.ob.
	Hotchkiss CC	1/2		
Common Grackle	Longmont	Dec-Jan	11/4	MT
	Berthoud	Jan-Feb		GWF
	Ft. Collins	Dec-Jan		RR
	North Park CC	12/29		
Brown-hd Cowbird	NE Colo	1/17	10/20	DFO
Black-hd Grosbeak 4	Berthoud	Dec-Feb	10/17	GWF,IA, CCu
@Lesser Goldfinch 1-4	Colo Spgs	1/1,2/28	11/12	RB
@Green-tailed Towhee	Boulder	12/5	10/18	PW
	Grand Junction	1/1		fide BT
	Greeley CC	1/4		
Savannah Sparrow 2	Denver	12/28	11/17	VR
Lark Bunting	Grand Junction	1/4-6	10/7	fide BT

Species and numbers	Location(s)	Date(s)	Extreme date	Observer
Vesper Sparrow	Bonny Res	11/12	11/9	fide LH
Lincoln's Sparrow	Bonny CC	1/2	10/30	PJ
	Boulder	12/10		BJ
	Denver	12/28		RA,VR

Part II

Species and numbers	Location(s)	Date(s)	Observer
Red-throated Loon	Pueblo Res	12/20-1/21	m.ob.
Oldsquaw 5	Chatfield Res	12/13-2/7	m.ob.
White-winged Scoter	Boulder CC	12/21	BW
*Gyrfalcon	Prewitt Res	1/2-4	JR,VR,PG
Snowy Owl	S of Prewitt	1/9-10	WWB,PG
	Ft. Collins	2/4	RR
	Berthoud	12/29-31	GPG
Boreal Owl (road kill)	Cameron Pass	12/29	KC,RR
Black-ld Kittiwake 2	Boulder	12/5-14	TJ,BR,PG
Red-bellied Woodpecker	Ft. Collins CC	12/27	
Ladder-bd Woodpecker	Denver	2/6	TM
Bohemian Waxwing			
only rpts 150+	Yampa Valley	12/1-20	CA
50	Alma	12/29	CLC
200	Shadow Mt	2/15	DJ
White-winged Crossbill	Loveland	1/2	JCh
	Ft. Collins	12/6-7	fide RR
	Boulder	11/30	IB
	Colo Spgs	12/30	CCh
Field Sparrow	Littleton	var,Feb	RCA
*Black-chinned Sparrow	Berthoud	11/26	CCu

Observers: (JA) John Amoroso; (RA) Robert Andrews; (IA) Idabelle Arndt; (CA) Cary Atwood; (RCA) Roberta Ausfahl; (IB) Inez Baker; (WWB) Winston Brockner; (RB) Richard Bunn; (FAC) Foothills Audubon Club; (CLC) Charles Campbell; (CCh) Charlie Chase; (JCh) Jean Christensen; (KC) Kevin Cook; (JC) John Cooper; (CCu) Camille Cummings; (GWF) Gertrude, Walt Ferguson; (PG) Peter Gent; (MG) Mary Griest; (GPG) Gary, Philo Grommon; (FH) Freeman Hall; (LH) Larry Halsey; (JLH) Jackie, Lawrence Hansen; (MH) Mark Holmgren; (MJ) Mark Janos; (DJ) Dave Jasper; (BJ) Bob Jickling; (TJ) Tina Jones; (PJ) Paul Julian; (FJJ) Frank, Jan Justice; (NK) Nyla Kladder; (KK) Katie Kittleman; (HL) Helen Leichliter; (TM) Thompson Marsh; (DEM) David E. Martin; (DN) Duane Nelson; (DFO) Denver Field Ornithologists; (EP) Elizabeth Porter; (JR) Jack Reddall; (VR) Van Remsen; (BR) Bob Righter; (JRi) Joe Rigli; (RR) Ron Ryder; (MT) Merle Theilen; (BT) Bert Tignor; (HT) Helen Traylor; (BW) Bruce Webb; (PW) Pat Wheat; (RvZ) Ridi van Zandt; (VZ) Vic Zerbi.

SUBSPECIFIC IDENTIFICATION OF HAIRY AND DOWNY WOODPECKERS IN COLORADO

by H. Emerson Blake, Jr.
107 Andrews Hall, Boulder, CO 80310

The Hairy Woodpecker (Picoides villosus) and the Downy Woodpecker (Picoides pubescens) are both common and well known birds in Colorado. However, much less is known about the subspecies of these birds which occur in this state. The purpose of this paper is to provide information about these subspecies so that observers will be able to identify them. This will allow more to be learned about their habits, abundance, and distribution.

Hairy Woodpecker -- Picoides villosus

This species is fairly common throughout much of North America, ranging from Alaska across Canada and south to Panama.

Description: Large (215-265 mm). Blue-black back and rump with broad white stripe down center. White or smokey-white underparts. Three black stripes on head; one through the crown, one through the eye, and one at the jawline. Blue-black wings and wing coverts with varying amounts of white spotting. Adult males have a red patch located on the back of the crown; females do not. Immatures are similar to adult females, but may have dull red, yellow, or orange streaks running through the crown. The black tail has clear white, unbarred retrices.

Twelve subspecies of the Hairy Woodpecker have been discovered in North America, all differing in preferred breeding habitat. Three of these subspecies are known to occur in Colorado (Bailey and Niedrach, 1965).

P.v. monticola - (215-265 mm). The mountain race. Readily distinguished from all other forms by the reduced amount of white spotting in parts of the wings. The wing coverts and tertials are generally unspotted (or have very faint spotting), while in the other two subspecies found in Colorado, these areas are heavily spotted. (See illustration.)

Range: Resident in the Rocky Mountain region from British Columbia south to New Mexico.

Colorado: Common breeder in the mountains, nearly to timberline. Winters at lower elevations, regularly occurring along wooded stream bottoms of the eastern plains in fall and winter.

P.v. villosus - (215-255 mm). The eastern race. Slightly smaller than monticola, and with conspicuous white spotting in the wings and wing coverts.

Range: Breeds from eastern Colorado to Nova Scotia and eastern U.S. Winters irregularly south to Alabama.

P. villosus monticola

P. villosus villosus

P. pubescens leucurus

P. pubescens medianus

Colorado: Uncommon resident of eastern plains. Breeds and winters in cottonwoods of prairie streams.

P.v. septentrionalis - (215-260 mm). The northern race. Probably not distinguishable in the field from villosus, but averages slightly larger.

Range: Breeds from Alaska south to Montana and North Dakota. South in winter casually to Nebraska.

Colorado: Found on eastern plains in fall and winter. Quite rare.

Downy Woodpecker -- Picoides pubescens

The most common woodpecker in North America. Resident from Alaska and Canada to the southern United States.

Description: Essentially identical to the Hairy Woodpecker, except smaller (150-205 mm) and with a comparatively much smaller bill. The Downy usually has dark barring on the white outer tail retrices, which are always clear white in the Hairy. Peterson (1961) describes the call of the Downy as a flat "pick" or as a whinny of rapid notes descending in pitch, and the call of the Hairy as a sharp "peek" or a kingfisher-like rattle, run together more than the Downy's. There is a subspecific variation in these calls.

Seven subspecies of the Downy Woodpecker are recognized by the A.O.U. Checklist (1957). Three of these are known to occur in Colorado (Bailey and Niedrach, 1965).

P.p. leucurus - (150-205 mm). The mountain race. Identified by black wing coverts with few or no white spots. Light barring on outer retrices.

Range: Resident from Alaska south to northern California, east to Nebraska and New Mexico.

Colorado: Fairly common resident in mountains and at lower elevations in winter. Breeds in aspen and ponderosa pine forests at 6,000-9,000 feet.

P.p. medianus - (150-180 mm). The eastern race. Much smaller than leucurus, and with wings and wing coverts conspicuously spotted with white. Smokey-white underparts, and black barring on outer tail feathers.

Range: Resident from Canada south to Kansas, and east to Virginia and North Carolina.

Colorado: Uncommon resident of willow thickets and cottonwoods of the eastern Colorado plains.

P.p. nelsoni - (175-190 mm). The northern race. Cannot be safely distinguished from the highly similar medianus in the field, but is generally larger with whiter underparts and less barring in the tail.

Range: Breeds from Alaska south to Alberta; moves southward in winter irregularly to Minnesota, Michigan, and New England.

Colorado: Fairly common winter visitor on the eastern plains. The outer tail feathers of this bird range from immaculate white to moderately barred. The pure white ones belonging to individuals of the northernmost part of the breeding range, and the most heavily barred ones to those at the southern and eastern end, indicating a merger with medianus.

Just as the Hairy and Downy are very similar species, their subspecific distributions in Colorado are also highly similar. Each species is represented by three subspecies: a resident mountain race which winters on the eastern plateau and is recognized by fewer white spots on the wings and wing coverts; a resident eastern race distinguished by conspicuous white spotting on the wings and wing coverts; and a northern race which does not breed in the state, but does winter on the plains. The major difference in the subspecific distributions of these two species is that the northern race of the Hairy appears irregularly and is quite rare, while the northern race of the Downy is quite common.

Much is yet to be learned about these subspecies in relation to Colorado. These forms are not difficult to distinguish (except eastern and northern in winter) and in many cases can be identified as easily as the species itself. By identifying and keeping records on these subspecies as one would with a full species, and submitting these findings and observations along with seasonal contributions to American Birds or the C.F.O. Journal, much more can be learned about them.

The drawing accompanying this article represents average individuals. It should be kept in mind that there is considerable individual variation and that integrades do occur.

Thanks to Bruce Webb.

References

American Ornithologists' Union. Checklist of North American Birds, Fifth Edition, Baltimore, 1957.

Bailey, Alfred M., and Niedrach, Robert J. Birds of Colorado. Denver Museum of Natural History, 1965.

Peterson, Roger T. A Field Guide to Western Birds. Boston, Houghton Mifflin Co., 1961.

AN INSTANCE OF LONG DISTANCE MOVEMENT BY A STELLER'S JAY IN COLORADO

by Bruce Webb
315B East Carrillo St., Santa Barbara, CA 93101

In Pat Wheat's article (CFO Journal 15:9-23) on the occurrences of hybrid Steller's X Blue Jays (Cyanocitta stelleri X C. cristata) in Boulder County, reference was made to local movements of these birds in the vicinity of her Boulder home. Because most of her initial sightings occurred within the mid-August and early October time period (1969, 1972, and 1973), they would suggest locally breeding birds, probably from no more distant than within Boulder County.

Bailey and Niedrach (The Birds of Colorado, 1965, p. 558) in discussing Steller's Jays, reported "a definite downward migration to the plains about the end of September and the first of October, and occasionally Steller's Jays follow along wooded prairie stream bottoms for fifty miles or more from the foothills."

Many birders, including myself, generally consider the Steller's Jay to be primarily a downslope migrant in fall, returning upslope in spring to the higher elevations to breed. Thus it was with some surprise that I received the following information from the U.S. Fish and Wildlife Banding Laboratory.

Mr. James Oswald of Weston, Colorado recovered a banded Steller's Jay from a cat trap located about 10 miles south of Stonewall, Huerfano County, Colorado. The date of Mr. Oswald's report was 28 November, 1976, 75 days after I banded the bird in Bluebell Canyon, Boulder, Boulder County, Colorado on 15 September 1976. The recovery location falls within three to five miles north of the New Mexico border, and is by my estimate approximately 215 miles south of Bluebell Canyon.

This single instance of long distance movement cannot, of course, be interpreted as the rule of Steller's Jay migration. However, I think that we should now suspect there might be a considerable translatitudinal as well as trans-elevational component to Steller's Jay migration. I wonder if Boulder and other piedmont counties might be the wintering area of Steller's Jays hatched in Wyoming.

THE VALUE OF ROAD- AND WINDOW-KILLS AS CONTRIBUTIONS TO MUSEUM COLLECTIONS

by Mark Holmgren
Museum of Natural History, University of Kansas, Lawrence, KA 66045
and Charles Chase III
Denver Museum of Natural History, City Park, Denver, CO 80205

We are requesting that people salvage fresh and relatively clean road- or window-kills and donate them with complete data to the Denver Museum of Natural History. Much of our knowledge of avian biology is based on collections of bird specimens housed in museums. These collections are the cornerstone of our attempts to locate, identify, and classify birds. As animal populations evolve, information about those animals must be accumulated so that we can trace changes that have occurred. The necessary regulation of hunting and collecting has drastically reduced the addition of new specimens to museums. These regulations resulted from earlier hunting excesses. In this article we suggest a simple way in which people interested in birds can reverse this trend by contributing new specimens to the Denver Museum of Natural History.

Where and when can one expect bird casualties to occur?

Casualties in the west often occur near populated areas and along rural roads. Environmental calamities caused by water pollution, severe storms, or habitat destruction may yield valuable bird specimens. Migratory birds passing through unfamiliar territory (often at night) may perish as they fly into buildings, powerlines, or TV or radio towers. April, May, August, and September are the months during which migratory casualties are most likely to occur.

Procedure for salvaging, preserving and delivering birds to DMNH

Generally, a good specimen is one that retains its natural body shape. Dead birds with broken necks, wings, or legs, but otherwise free from flesh-eating insects are almost always acceptable. The data accompanying the bird is as valuable as the specimen itself. Data should be recorded at the time the bird is salvaged and placed with the bird. Minimum data should include:

1. The date the bird was salvaged. Include the date and cause of death, if known;

2. The exact mileage to the nearest town or well-known geographic location;

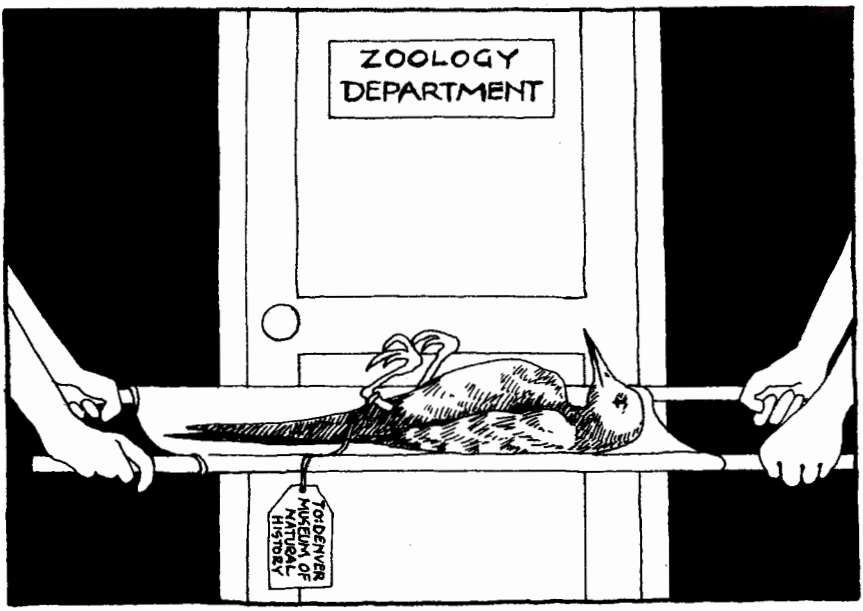
3. Your name and address, in case someone requires more information regarding the specimen.

A useful label would include the type of information attached to a Common Nighthawk salvaged on the West Slope:

Common Nighthawk
Colorado: Mesa Co.,
7 miles west of Mesa
July 23, 1980 9000' ft
window-kill in snowstorm

Specimen to be
delivered to the
Denver Museum of
Natural History
salvaged by:

Place the specimen in an airtight plastic bag and freeze it as soon as possible. Specimens will dry out if they are left frozen for more than 3 or 4 months, after which they become difficult to prepare. You may bring the specimen directly to the museum during the work week. However, if you live outside the Denver vicinity and have no means of getting the bird to the museum, send a postcard to the Curator of Zoology, DMNH, City Park, Denver, 80205. Please include a description of your find, your address and phone number. Someone from the museum may be able to pick up the bird.



Are there situations where one should not salvage a dead bird?

YES! The law states that it is illegal to take, possess, or transport any bird except Starlings, House Sparrows, or Rock Doves. However, regional U.S. Fish and Wildlife officials will direct people to donate salvaged birds to a museum or educational institution, providing that bird is not a bird of prey. Discovery of a dead or dying hawk, owl, falcon, or especially an eagle should be reported immediately to the local USFWS Law Enforcement Agent.

What happens to specimens once they are brought to the museum?

Most birds are made into study skins and placed with the main study collection. Some of the birds lacking data but in good condition may be placed in a smaller "circulating collection" for use by artists or educators. Specimens in poor condition or for which an adequate series already exists are often saved for their skeletons. Both the skeleton and main study collections are made available to researchers.

How do salvaged birds and museum collections contribute to our understanding of bird biology?

The presence of at least two species in Colorado, Ancient Murrelet and Ivory Gull, are known only through single salvaged specimens. Until recently, more was known about the presence and distribution of Boreal Owls in Colorado through road-kills than through actual field work. Specimens provide information pertaining to growth and development, pattern and timing of molt, and the general physiological condition of birds. A frequent use of large museum collections is to demonstrate geographic variation between populations within a species. This in turn gives rise to studies of the interaction between bird populations and changes in habitats, climate regimes, competitors, and predators--studies of evolution. New questions constantly arise. To answer these questions a continuity of evidence is needed--evidence which can only be supplied by the birds themselves. The value of a specimen often cannot be fully realized until discoveries in other aspects of the species' biology have been made. Well-prepared and well-curated specimens will last for several hundred years. They can provide vital information for current and future studies.

It is inevitable that a certain amount of life is lost through natural causes and through man's intrusions into natural habitats. However, by being alert to when and where these losses occur, we may turn some of these into contributions to our knowledge of avian biology.

A SUMMARY OF 1980 COLORADO CHRISTMAS BIRD COUNTS

by David Hutchinson
7512 Caren Circle, Loveland, Colorado 80537

There were 30* Christmas bird counts held in Colorado during the 1980 count period, December 20, 1980 - January 4, 1981. Requests were sent to each of the previous years compilers asking for a compilation report. Reports were received from 28 counts and the results for the remaining 2 were taken from American Birds (July 1981, Vol. 35, No. 4). This summary was taken from the submitted compilation reports. These results are subject to CFO Records Committee action on rare and unusual records as well as the scrutiny of American Birds editor and regional editor. There were 166 species (SP) and 7 additional races (RA) with about 277,400 individuals reported for the 1980 count period.

	DATE	NUMBER OF OBS	TOTAL PARTY HOURS	# SP	# RA	TOTAL NUMBER INDIV-IDUALS
Aspen	12/21	12	23	39	1	2242
Black Forest	12/28	15	31.5	39	2	1816
Bonny Reservoir	1/3	18	57	69	3	69905
Boulder	12/21	118	227	96	4	20976
Colorado Springs	12/27	62	115	84	3	9689
Curecanti National Recreation Area	12/21	10	32	29		1708
Denver	12/20	122	207.5	101	5	21811
Durango	12/27	16	41.5	56		3037
Evergreen-Idaho Springs	12/27	81	117	47	4	4596
Fort Collins	12/27	19	89	75	4	20943
Grand Junction	1/4	36	116.5	85	1	22048
Greeley	1/4	36	57.75	59	2	20584
Gunnison	12/20	19	36	42		2576
Hotchkiss	1/2	16	32	69		8676
Lake Isabel	1/3	8	21	63	2	1805
Longmont	12/20	31	100	67	2	11429
Monte Vista National Wildlife Refuge	12/24	2	8.5	30	1	11637
North Park	12/29	10	29	27		639
Nunn	12/23	13	33	20		3212
Ohio City	12/27	3	17	22	1	232
Pike's Peak	12/31	9	19.5	35		987
Pueblo	1/1	5	9.5	64	2	18858
Pueblo Reservoir	12/20	13	40	80	3	4890
Roaring Fork River Valley	12/20	4	11	23		148
Rocky Mountain National Park	12/20	24	42	38		963
Salida*	12/23	3	7.75	26		671
San Luis Valley	1/3	5	8	25		1355
Steamboat Springs	12/20	15	36	25		605
Weldona-Fort Morgan	12/22	4	17	40	3	8501
Westcliffe	12/26	8	22.5	35	2	868

SUMMARY OF SPECIES REPORTED

Key to columns: A -- Number of counts reporting
B -- High number, count reporting
C -- Total individuals

	A	B		C
Com Loon	1	5	Den	5
R-thr Loon	1	1	PR	1
Loon, sp.	1	1	Pue	1
Horned Grebe	3	6	Bou	8
W Grebe	3	6	Bou	8
Pied-billed Grebe	8	23	Bou	50
D-cr Cormorant	1	1	Den	1
Great Blue Heron	11	23	PR	117
Green Heron	1	1	GJ	1
Whistling Swan	2	1	CS,Den	2
Canada Goose	26	8260	FC	32240
Snow Goose	3	4	Gre	6
Mallard	28	58000	Bon	86728
Gadwall	8	88	Bou	182
Pintail	9	243	Bou	591
Gr-winged Teal	13	200	Bou	681
Bl-winged Teal	1	4	PR	4
Am Wigeon	16	381	Den	1466
N Shoveler	6	18	FC	51
Wood Duck	4	9	GJ	22
Redhead	5	76	Bou	154
Ring-necked Duck	9	362	Bou	620
Canvasback	5	6	Bou	12
Gr Scaup	1	2	LI	2
Lesser Scaup	8	49	CS	90
Com Goldeneye	14	140	Den	488
Barrow's Goldeneye	1	8	RF	8
Bufflehead	8	11	Den	37
Oldsquaw	1	5	Den	5
Wh-winged Scoter	1	1	Bou	1
Ruddy Duck	3	5	CS	12
Hooded Merganser	4	16	Bou,Den	36
Com Merganser	15	914	Bou	1683
R br Merganser	3	26	Bou	40
Duck, sp.	2	300	SLV	400
Goshawk	11	6	GJ	19
Sh-sh Hawk	14	7	Bou	44
Cooper's Hawk	7	4	CS	15
Accipiter, sp.	1	1	Den	1
Red-tailed Hawk	24	31	Hot	268
R-t (Harlan's)Hawk	10	5	Den	23
Swainson's Hawk	1	1	Gre	1
Rough-ld Hawk	27	30	Bou	290
Ferruginous Hawk	9	10	Gre	37
Buteo, sp.	3	14	Den	18
Golden Eagle	19	20	Nun	90
Bald Eagle	14	40	Cur	96
Eagle, sp.	1	3	Cur	3
Marsh Hawk	21	27	Bou	228
Osprey	1	1	Lon	1
Prairie Falcon	15	8	FC	53
Peregrine Falcon	2	1	BF,Hot	2
Merlin	9	3	Gre	16
Am Kestrel	18	76	Lon	389
Falcon, sp.	1	1	Asp	1
Blue Grouse	4	13	Den	26
Wh-t Ptarmigan	1	8	RMNP	8
Sage Grouse	1	104	NP	104
Bobwhite	1	3	Bon	3
Scaled Quail	3	15	Pue,PR	37
Gambel's Quail	1	137	GJ	137
Ring-neck Pheasant	15	41	FC	190
Chukar	1	1	Hot	1
Turkey	2	18	Den	19
Virginia Rail	5	4	Den	8
Am Coot	10	425	Den	570
Killdeer	15	39	FC	237
Com Snipe	18	18	CS	105
Sandpiper, sp.	1	1	GJ	1
Herring Gull	7	49	Den	77
Thayer's Gull	1	1	Bou	1
Ring-billed Gull	7	579	Bou	867
Gull, sp.	3	12	WFM	16
Rock Dove	23	1090	GJ	6995
Mourning Dove	9	332	GJ	433
Screech Owl	5	3	WFM	8
Great Horned Owl	17	28	Bon	117
Pygmy Owl	3	1	Bou,EIS LI	3
Long-eared Owl	5	5	Hot	16
Short-eared Owl	2	2	Bon	3
Belted Kingfisher	19	56	Den	182
Com Flicker	7	125	Gre	298
Com (Y-sh) Flicker	5	3	CS,Gre	11
Com (R-sh) Flicker	23	257	Den	1279
Red-bel Woodpecker	2	5	Bon	6
Red-hd Woodpecker	1	1	PR	1
Lewis' Woodpecker	7	36	LI	73
Yel-bel Sapsucker	6	3	Bou,CS Den	12
Sapsucker, sp.	1	1	PR	1
Hairy Woodpecker	25	59	EIS	253

	A	B	C		A	B	C
Downy Woodpecker	26	69	Den 384	Shrike, sp.	1	1	FC 1
Lad-back Woodpecker	3	1	LI,PR Wes 3	Starling	28	8327	GJ 33214
				Yel-rumped Warbler	3	1	Bon,CS Dur 3
N Thr-td Woodpecker	1	2	EIS 2				
W Kingbird	1	1	Hot 1	Y-r(Myrtle) Warbler	2	2	PR 3
Say's Phoebe	1	1	Hot 1	Y-r(Aud) Warbler	1	36	GJ 36
Horned Lark	14	2554	Nun 4480	Com Yellowthroat	1	1	Bon 1
Gray Jay	9	34	EIS 103	House Sparrow	28	2634	Gre 12326
Blue Jay	10	65	Den 275	W Meadowlark	15	232	GJ 1419
Steller's Jay	21	494	Den 1559	Yel-hd Blackbird	3	7	Hot 15
Scrub Jay	13	155	CS 392	Red-w Blackbird	20	7913	Pue 23285
Bl-billed Magpie	29	1121	Den 5991	Rusty Blackbird	2	13	Den 22
Com Raven	23	132	RMNP 763	Brewer's Blackbird	14	500	Bou 1189
Wh-necked Raven	1	1	LI 1	Com Grackle	4	3	Den 7
Com Crow	25	731	FC 2953	Br-hd Cowbird	1	1	Gre 1
Pinon Jay	4	150	Wes 302	Blackbird, sp.	1	150	FC 150
Clark's Nutcracker	8	24	EIS 64	Cardinal	2	1	Bon,Gre 2
Bl-cd Chickadee	28	362	Den 1557	Rose-br Grosbeak	1	1	Hot 1
Mountain Chickadee	24	473	EIS 2098	Evening Grosbeak	7	198	Den 373
Chickadee, sp.	1	10	Bou 10	Purple Finch	3	5	Bou 10
Plain Titmouse	5	33	GJ 39	Cassin's Finch	7	72	EIS 163
Bushtit	2	22	GJ 30	House Finch	19	1100	Den 4212
Wh-br Nuthatch	21	70	Bou, Den 400	Pine Grosbeak	3	8	Asp 16
				Gr-cr Rosy Finch	7	424	Gun 1001
Red-br Nuthatch	10	12	Den 53	Black Rosy Finch	4	48	Gun 67
Pygmy Nuthatch	12	217	EIS 840	Brown-cd Rosy Finch	6	1000	Cur 1621
Nuthatch, sp.	1	1	Pue 1	Rosy Finch, sp.	1	2	Wes 2
Brown Creeper	18	58	Bou 248	Com Redpoll	1	14	Den 14
Dipper	19	38	Lon 167	Pine Siskin	19	969	CS 4462
Bewick's Wren	4	8	GJ 16	Am Goldfinch	18	325	Bon 1315
Long-bd Marsh Wren	8	14	Hot 28	Les Goldfinch	2	17	CS 23
Canon Wren	10	19	GJ 70	Red Crossbill	1	4	EIS 4
Rock Wren	4	1	Bou,GJ Hot,PR 4	Wh-w Crossbill	1	9	CS 9
				Green-td Towhee	2	1	GJ,Gre 2
Mockingbird	2	2	Gun 3	Rufous-sd Towhee	10	104	CS 225
Brown Thrasher	1	2	CS 2	Brown Towhee	4	12	PR 19
Curve-bd Thrasher	1	1	Pue 1	Lark Bunting	1	1	GJ 1
Am Robin	24	942	Bou 4868	Dark-eyed Junco	5	297	Dur 763
Hermit Thrush	1	1	FC 1	D-e(Wh-w) Junco	13	110	EIS 446
E Bluebird	1	2	Hot 2	D-e(Sl-col)Junco	16	355	Den 1303
W Bluebird	3	3	LI 7	D-e(Oregon)Junco	21	930	Bon 4635
Mountain Bluebird	7	181	LI 380	Pink sd race	3	46	EIS 73
Town Solitaire	22	232	Bou 1003	Gray-hd Junco	16	408	Den 1801
Bl-gr Gnatcatcher	3	9	Gun 11	Junco, sp.	7	453	Den 1044
Golden-cr Kinglet	7	31	Bou 61	Tree Sparrow	22	3630	Bon 7336
Ruby-cr Kinglet	10	12	GJ 39	Chipping Sparrow	1	4	Hot 4
Water Pipit	1	13	PR 13	Harris' Sparrow	7	17	Bon 31
Bohemian Waxwing	2	150	SS 151	Wh-cr Sparrow	14	1823	Pue 3774
Cedar Waxwing	6	64	Asp 166	Wh-thd Sparrow	6	2	CS 7
Waxwing, sp.	1	8	Den 8	Fox Sparrow	1	1	CS 1
Northern Shrike	20	8	Den 55	Lincoln's Sparrow	1	1	Bon 1
Loggerhead Shrike	7	5	Hot 15	Swamp Sparrow	6	2	Bou 8

	A	B	C		A	B	C
Song Sparrow	24	316 Pue	1283	Lapland Longspur	3	114 Nun	129

SPECIES WITH 1000 OR MORE INDIVIDUALS

Mallard 86728
Starling 33214
Canada Goose 32240
Red-w Blackbird 23285
House Sparrow 12326
Juncos 10065
  Oregon 4708
  Gray-hd 1801
  Sl-col 1303
  Sp. 1044
  Dark-eyed 763
  Wh-w 446
Tree Sparrow 7336
Rock Dove 6995
Bl-billed Magpie 5991
Am Robin 4868
Horned Lark 4480
Pine Siskin 4462
House Finch 4212
Wh-cr Sparrow 3774
Common Crow 2953
Mountain Chickadee 2098
Com Merganser 1683
Br-cd Rosy Finch 1621
Steller's Jay 1559
Bl-cd Chickadee 1557
Am Wigeon 1466
W Meadowlark 1419
Am Goldfinch 1315
Song Sparrow 1283
Com(R-sh) Flicker 1279
Brewer's Blackbird 1189
Townsend's Solitaire 1003
Gr-cr Rosy Finch 1001

*Salida was included in this summary because the count was conducted according to the Christmas Bird Count instructions, even though its results were not submitted to American Birds.

COLOR-MARKED BALD EAGLES

by M. Alan Jenkins
Research Biologist
Denver Wildlife Research Center

As part of a continuing study of Bald Eagles in Wyoming, nestling and wintering immature Bald Eagles are being color-marked with patagial (wing) markers. Your help in sighting and reporting these birds will be greatly appreciated. The eagles are marked with blue markers on the left wing and green on the right. The letter "E" followed by two numbers is written in black letters on both markers. All eagles are banded with aluminum Fish and Wildlife Service bands and some carry radio transmitters on their back (nestlings) or tail (wintering immatures). These eagles can be expected to be seen in Colorado, Wyoming, northern Utah, eastern Idaho, Montana, Alberta, Saskatchewan, Northwest Territories and perhaps areas peripheral to these.

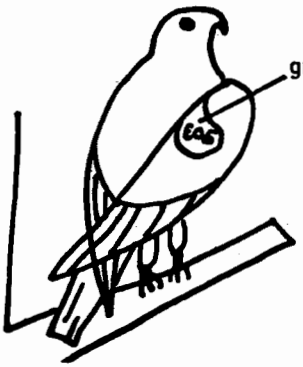
If any of these eagles are sighted, please note the:

1. exact location of the sighting;
2. date and time of the sighting;
3. colors and positions of the markers;
4. marker letter and numbers;
5. any other information you feel is pertinent.

Phone Alan Jenkins collect at (303) 234-2126 (also the FTS number) as soon as possible. A letter detailing this information should be sent to:

Bird Banding Laboratory
Fish and Wildlife Service
Laurel, MD 20811, USA

with copy to:
M. Alan Jenkins
Federal Center, Bldg. 16
Denver, CO 80225, USA



C.F.O. FIELD TRIPS

Saturday, January 16. Barr Lake and Plains Hawk Trip. Leader Bob Andrews (825-0293). Meet at 7:30 a.m. in the north parking lot of the Denver Museum of Natural History. If weather and road conditions are obviously bad, we will schedule the same field trip for the following Saturday. This is an all-day trip, so bring lunch and be prepared to carpool.

Saturday, February 20. Arkansas River from Pueblo to Ordway. Leader Dave Griffiths (584-3859 in Pueblo). Meet at 8:00 a.m. at the Ramada Inn parking lot (I-25 to Colo. Hwy 50 bypass at Exit 100A). Will look for snow and blue geese, jaegers, roadrunners, curve-billed thrasher, brown towhee, Bewick's wren and scaled quail. Call Betsy Webb (449-4785) about arrangements for inexpensive accommodations. The Griffiths have also offered their home for overnighters. If road and weather conditions are bad, the trip will be scheduled for the following Saturday.

If you have questions or suggestions regarding the C.F.O. Field Trips, please do not hesistate to call the field trip coordinator: Betsy Webb, Vice President, CFO, Deertrail Road, Jamestown Star Route, Boulder, CO 80302, 449-4785.

ANNUAL NEW MEXICO ORNITHOLOGICAL SOCIETY MEETING

The 20th annual New Mexico Ornithological Society (NMOS) meeting is being held this year on March 6 and 7. It will be meeting in Albuquerque at the University of New Mexico Biology Department. Papers will be given from 9:00 to 5:00 on Saturday with a banquet and keynote speaker following. On Sunday, there will be a field trip probably to Bosque Del Apache Wildlife Refuge. For more information or to submit an abstract on a paper you would like to give, write NMOS, Department of Biology, University of New Mexico, Albuquerque, NM 87131.

1981 COLORADO CHRISTMAS COUNTS

Location	Date	Contact	Phone
Black Forest	Sun Dec 20	Dick Beidelman, Colo Springs	473-6202
Bonny Reservoir	Sat Jan 2	Paul Julian, Boulder	499-9107
Boulder	Sun Dec 20	Barry Knapp, Boulder	494-8390
Colorado Spgs	Sat Dec 19	Richard Bunn, Colo Spgs	473-2710
Curecanti Nat'l Rec Area	Sun Dec 20	David Price, Gunnison	641-2337
		Brad Shaw, Gunnison	641-0492
Denver	Sat Dec 19	Frank Justice, Denver	936-4547
		Hugh Kingery, Denver (feeder observations)	333-0161
Durango	Sat Jan 2	Kip Stransky, Durango	247-8138
Evergreen-Idaho Springs	Sun Dec 20	Polly Phillips, Evergreen	674-7744
		Barbara Gard, Evergreen	674-3280
Fort Collins	Sat Dec 26	Alex Cringan, Fort Collins	493-9138
Grand Junction	Sun Jan 3	Ron Lambeth, Grand Junction	434-7106
Greeley	Sun Jan 3	Gretchen Cutts, Greeley	351-0166
Gunnison	Sat Dec 19	Don Hill, Gunnison	641-2860
Hotchkiss	Mon Dec 21	Theo Colborn, Gunnison	641-3839
(meet at Winnie's Cafe, Hotchkiss, 7:45 a.m.)			
Indian Peaks Wilderness	Fri Jan 1	Mike Figgs, Longmont	772-6975
Lake Isabel	Sun Jan 3	David Silverman, Rye	543-1842
Longmont	Sat Dec 19	Virginia Dionigi, Hygiene	776-2609
Monte Vista NWR	Wed Dec 23	Jon Kauffeld, Monte Vista	852-5872
(meet 7:30 a.m., Monte Vista NWR HQ., 6 mi s of Monte Vista on Hwy 15)			
North Park	Wed Dec 30	John Wagner, Walden	723-4676
Nunn	not set	Clait Braun, Fort Collins	493-2841
	(will be Mon 21 through Thu 24)		
Ohio City	no info	Patrice Boyd, Pitkin	641-1704
Pikes Peak	Thu Dec 31	Mahlon Speers, Colo Spgs	632-6148
Pueblo	Sat Dec 26	Dave Griffiths, Pueblo	584-3859
Pueblo Reservoir	Sat Dec 19	Jerry Ligon, Pueblo	545-2197
Roaring Fork River Valley	no info	Dee Lang, New Castle	
Rocky Mountain National Park	Sat Dec 19	Clait Braun, Fort Collins	493-2841
		Warner Reeser, Estes Park	586-3010
San Luis Valley	Sat Jan 2?	Bob Darnell, Alamosa	589-3242
Steamboat Spgs	Sat Dec 19	Anselm Dines, Steamboat Spgs	879-5284
Weldona-Ft Morgan	Mon Dec 21	Dave Hutchinson, Loveland	667-8413
		(work, Denver)	936-3466
Westcliffe	Sun Dec 27	Van Truan, Pueblo	547-3735

COLORADO BIRD DISTRIBUTION LATILONG STUDY

Order from:
Frank Justice, Treasurer
Colorado Field Ornithologists
1917 South Quitman Street
Denver, CO 80219

Make checks payable to C.F.O.
Price: Still only $2.