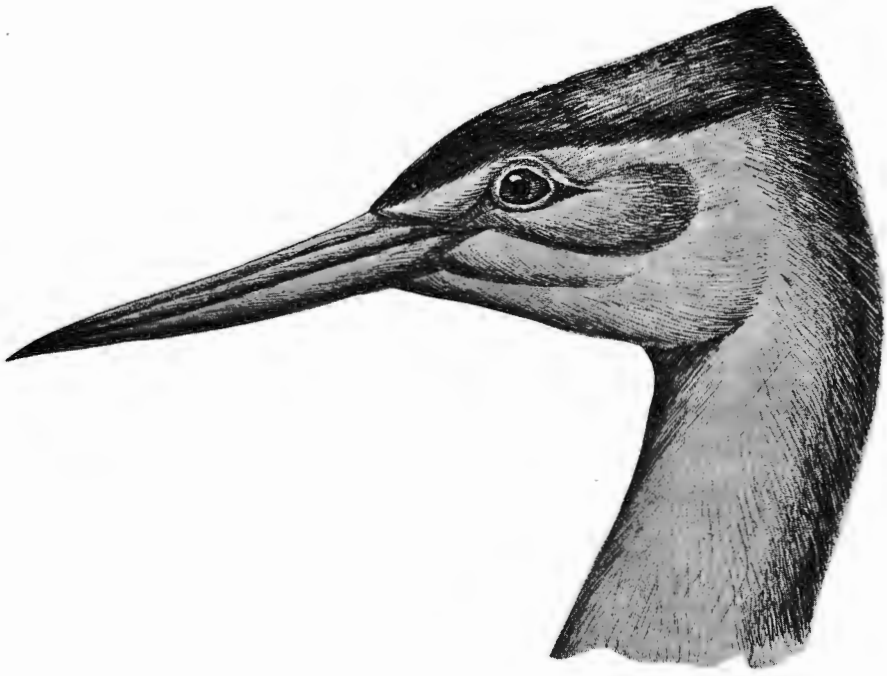

C.F.O. Journal

No. 33, Spring, 1978

Western Grebe

Joseph C. Rigli

CONTENTS

The C.F.O.Journal, formerly the Colorado Field Ornithologist, is a journal 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 Hugh Kingery, Editor, 869 Milwaukee Street, Denver, Colorado 80206

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REDUCING BIRD MORTALITY ON A COLLEGE CAMPUS IN COLORADO

By Steven D. Rogers

Bird mortality became a problem on the campus of Colorado State University during the winter of 1977 when large numbers of Bohemian Waxwings (Bombycilla garrula) and American Robins (Turdus migratorius) were colliding with glassed-in walkways at several of the residence halls. Eight sites were involved in a study to test the effectiveness of two window treatments in controlling bird-window collisions. Treatments consisted of falcon silhouettes and opaque soap films and both were found to be effective since no mortality occurred at treated windows throughout the study period. After treatments were applied, control window collisions involved 78 Bohemian Waxwings, 18 American Robins, and one Sharp-shinned Hawk (Accipiter striatus). Several factors of bias were encountered, however, which may have affected the final results. These were variable food availability, changes in weather, raptor harrassment, and possible high blood alcohol levels in birds.

Glassed-in walkways at dormitories on the campus of Colorado State University have become a death trap for wintering flocks of Bohemian Waxwings and American Robins and few attempts to alleviate the situation have been made. The problem here was not as intense as the cases mentioned by Johnston and Haines (1957) and Brewer and Ellis (1958), but are significant enough to cause much concern among local residents. The purpose of this study was to test two window treatments as to their effectiveness in deterring bird-window collisions and then determine which of the two was most successful.

I wish to acknowledge Drs. R. A. Ryder and C. S. Houston for offering very helpful information and I. Belan and J. E. McGowan for their field assistance. Special thanks are due G. C. Miller for his personal advice and support in preparing this manuscript.

STUDY AREAS

The study was conducted at two dormitories, Braiden Hall and Newsom Hall, on the campus of Colorado State University and encompassed eight study sites (Fig. 1). These sites consisted of both sides of three glassed-in walkways between dorm wings and one side each of two glassed-in stairwells or firetowers at the ends of two dorm wings. The walkways are 24 meters long and the plate glass windows stand 1.8 meters high. The firetowers stand three stories high and do not extend above the dorm buildings. The two major plant food species in the immediate vicinity of the study sites are Crabapple (Mallus coronaria) and Russian Olive (Eleagnus angustifolia). There are numerous shrubs adjacent to, and partially blocking, many of the windows. The most prominent of these are Common Juniper (Juniperus communis) and Honey suckle (Lonicera spp.). Although partially blocked, all glassed-in areas allow birds a clear line of sight from either side to their destination on the opposite side.

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METHODS AND MATERIALS

All dormitory areas on campus were monitored for dead birds for one week prior to initiating treatments in an attempt to locate mortality "hot spots". After choosing eight study sites at the two dorms mentioned above I chose the specific treatment to be used at each (Fig. 1). Two treatments were applied (Table 1): Silhouettes of falcons in flight were painted on the outer window surface using black Tempera watercolor and a cardboard stencil (Johnson and Hudson 1976); and (2) A mixture of Bon-Ami cleanser soap and water was smeared on the outer window surface to create an opaque, non-reflective coating. Only one treatment was used at each study site, applied from a random starting point and alternated with sections of clear glass (control windows). Control windows were matched on opposite sides of the walkways to create an unobstructed view through from either side.

With treatments in place I began daily inspections, before noon and in late afternoon, of all study sites and noted the number and exact locations of collisions on windows (Table 2). A collision usually left a smudge or blood spot on the window and dead birds normally fell directly below the same window which they hit. Dead birds were collected and placed in freezer storage for later study by other students while stunned individuals were captured by hand and placed on branches of nearby Colorado Blue Spruce (Picea pungens) and Rocky Mountain Juniper (Juniperus scopulorum) trees to recover in safety. The collection of sex and age data was not within the scope of this project and shall await future studies.

RESULTS

I had planned to do statistical analysis to determine whether the treated windows effectively lowered mortality and, assuming that they did, which of the two treatments was most effective. Upon concluding observations I found that, of all known bird-window collisions involving 78 waxwings, 18 robins and one sharp shinned hawk, no collisions occurred at treated windows. This fact cancelled the need for statistical analysis since the treatments were obviously effective. Also, since no mortalities occurred at either type of treatment an attempt to determine which was most effective became impossible.

DISCUSSION

Although evidence showed that the treatments were effective, I encountered several sources of bias which may have affected the final outcome. The most important of these was the location and abundance of food sources. The largest concentrations of birds consistantly occurred at Newsom Hall on either side of the north walk way (Sites D and E) where the fruits of Crabapple and Russian Olive trees were plentiful. This location became a high-use area and showed a higher collision rate than all other sites combined (Table 2). The treatment used at this location was the soap film. None of the other sites employed had such a high food availability. For example, sites F and G had only one crabapple tree in the area and thus had much less use. Thus, the question of whether or not the falcon silhouettes were actually as effective as the soap film used at sites D and E became evident.

Another factor causing bias was the weather. Johnston and Haines (1957) and Brewer and Ellis (1958) mentioned that mass mortality in migrating birds had occurred within 12 hours after the arrival of a cold front. The Northeastern Colorado foothills region is often called a "Banana Belt" owing to the unusually temperate climatic conditions occurring here in winter. Warm, dry conditions prevailed throughout most of the study period and few birds were seen concentrated at any one food source over the entire city. However, on February 25, a cold front did move into the area bringing lower temperatures and snow fall. The following day large flocks of waxwings and robins were located at sites D and E and there were more collisions for the next several days. On March 5, another cold front resulted in two more days of increased mortality.

Several people reported seeing a female Sharp-shinned Hawk in the vicinity of Newsom Hall harrassing waxwings feeding in a Russian Olive tree. I found three dead waxwings partially eaten by the hawk and on March 10, a student found the hawk dead from colliding with a control window at site D. Lying next to the hawk was a dead robin which apparently had been driven into the window by the hawk. The activity of this raptor in the study area certainly caused at least a portion of the mortality here.

One other possible problem was brought to my attention through a personal communication with Dr. C. S. Houston of Saskatoon, Saskatchewan. Dr. Houston mentioned the work of W. J. Walley, a biology teacher in Dauphin, Manitoba, who tested the blood alcohol level of several dead waxwings which had been eating fermented berries. He found that the blood alcohol was above the legal level and although these data were never published and this test was not performed on the dead birds at my study sites, I feel that it may be a worthwhile subject for further investigation.

Due to the inconsistent numerical results of this study and the many possible causes of bias involved, it is difficult to make significant recommendations concerning the control of bird mortality from window collisions. It seems obvious that opaque, frosted-glass windows in the walk ways and firetowers although effective, would be unacceptable because of the loss of viewing from inside by dormitory residents and the expense of installation. Permanent raptor silhouettes were found effective and are much more aesthetically pleasing. The cost of applying these silhouettes would be much lower than installing frosted glass. Another alternative, not recommended, would be the elimination of those plant food species which are used by the birds.

Table 2. Locations and numbers of birds found dead or injured from February 8, 1977 to March 14, 1977 (w-waxwing, r-robin, s-sharp-shinned hawk).

DATE		LOCATIONS A	B	C	D	E	F	G	H
January	31	0	3w	0	0	2w	0	0	0
February	01	0	0	7w	0	0	0	1w	0
	02	2w	1w	0	1w	5w	0	0	5w
	03	0	0	1w	3w	8w	0	2w	3w
	04	1w	1w	4w	0	0	1w	0	0
	05	0	0	0	0	0	0	0	0
	06	0	0	0	0	0	0	0	0
	07	0	0	0	0	2w	1w	13w	1w
	Began treatments								
	08	0	0	0	0	0	0	0	0
	09	0	0	0	0	0	0	0	0
	10	0	0	0	0	0	0	0	0
	11	0	0	0	0	0	0	0	0
	12	0	0	0	0	0	0	0	0
	13	0	0	0	0	1w	0	1w	0
	14	0	0	0	0	0	0	0	0
	15	0	0	0	0	2w	0	0	0
	16	0	0	0	0	0	0	0	0
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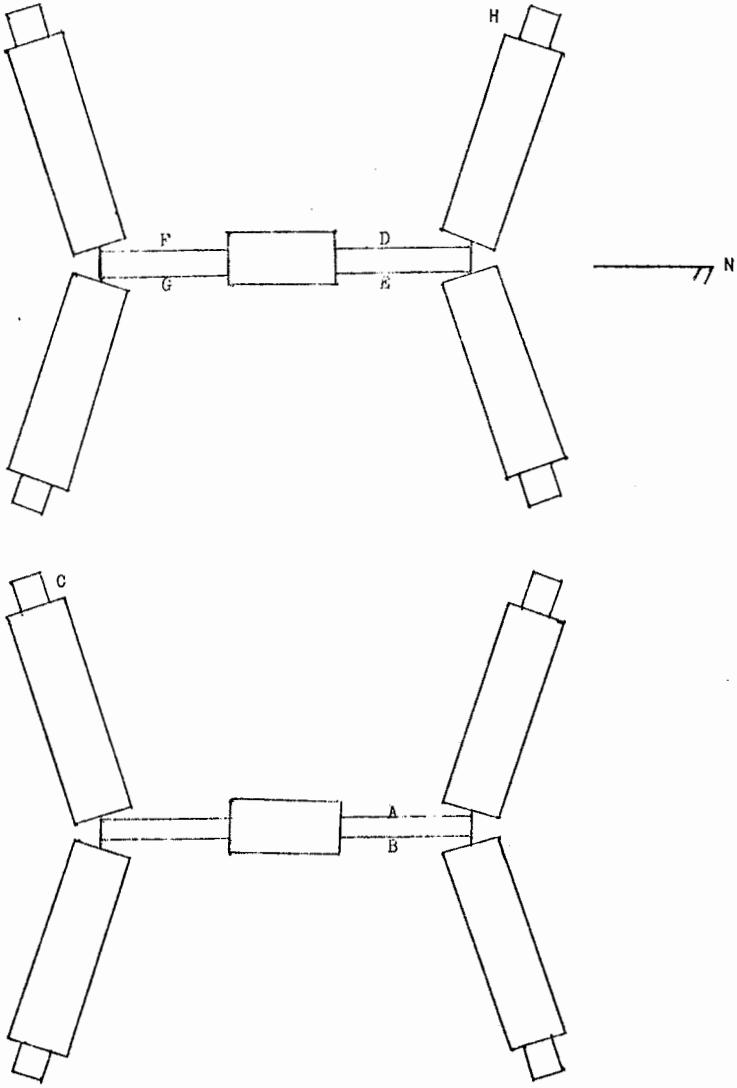
	24	0	0	0	0	0	0	0	0
	25	0	0	0	0	1w	0	0	0
	26	0	0	0	5w	21w 1r	0	0	0
	27	0	0	0	2w	13w 3r	0	3w	0
	28	0	0	0	1w	2w	0	0	0
March	01	0	0	0	0	3w 1r	0	0	0
	02	0	0	0	2w	0	0	2r	0
	03	0	0	1w	0	2w 2r	0	0	0
	04	0	0	0	0	0	1r	0	0
	05	2w	0	2w	2w	6w	0	1w	0
	06	1w	1w	0	0	4w	0	0	0
	07	0	0	0	0	1w	0	0	0
	08	0	0	0	0	0	0	1r	0
	09	0	0	0	0	0	0	0	0
	10	0	0	0	1r 1s	0	0	0	0
	11	0	0	0	0	2w	0	0	0
	12	0	0	0	0	2w	0	0	0
	13	0	0	0	0	0	0	1w	0
	14	0	1r	0	0	0	0	0	0

Fig. 1. Newsom Hall(above) and Braiden Hall(below) showing locations of study sites A-H.*



* See Table 1 for descriptions of study sites A-H.

Table 1. Locations of study sites and treatments used.

STUDY SITES	TREATMENT
A-Braiden Hall, north walkway, west side	Falcon silhouettes
B-Braiden Hall, north walkway, east side	Falcon silhouettes
C-Braiden Hall, southwest firetower, north side	Falcon silhouettes
D-Newsom Hall, north walk way, west side	Soap film
E-Newsom Hall, north walkway, east side	Soap film
F-Newsom Hall, south walkway, west side	Falcon silhouettes
G-Newsom Hall, south walk way, east side	Falcon silhluettes
H-Newsom Hall, northwest firetower, south side	Soap film

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SNOW BUNTING BLIZZARD

By Peter Gent

On Saturday, January 21, 1978 Bruce Webb, Steve Larson and I were driving along Colorado Highway 14 a few miles east of Ault in Weld County when we saw a single Snow Bunting (Plectrophenax Nivalis) in a flock of Horned Larks that was flying alongside our vehicle. As we continued east we saw more Snow Buntings, so that by the time we reached Grover in the heart of the Pawnee National Grasslands, we had seen 30 individuals. The day was cold but sunny, and the three or four inches of snow on the ground helped concentrate most of the birds near roads. About two miles along County Road 390 south towards Keota, we saw huge flocks of birds in the pasture land east of the road. Some of the flocks were nearly all Snow Buntings, which were easy to pick out by their large white wing patches. We estimated that there were about ten thousand Snow Buntings, and two to three times as many Horned Larks. It was a great sight, especially as none of us had seen a Snow Bunting in Colorado before.

Prior to this winter, the C.F.O. Official Records Committee had only 22 sightings of Snow Buntings in the state, and the seven occurrences of three or more birds are listed in Table 1. The birds have probably been more frequently seen in North Park and South Park.

Large flocks of Snow Buntings were then seen on the Pawnee Grasslands for about four weeks with counts of four to five thousand on January 29, and February 4. On the latter date, there was a flock of three thousand near Raymer, and a flock of one thousand near Grover. A similarly sized flock was again seen near Raymer on February 18, when about six thousand were seen altogether. As far as I know, small numbers were seen on the Grasslands for the remainder of February, but few, if any, in March.

There have been numerous sightings of Snow Buntings elsewhere in Colorado this winter, starting with two on the Denver C.B.C., one on the Boulder, and 35 on the North Park Christmas count. The sightings occurred throughout much of the state, as shown in Table 2. It contains some of the sightings going anti-clockwise around the state, starting at the Pawnee National Grasslands and shows the area of the state covered. Many further sightings occurred within the area so defined. The sightings occurred between late December 1977 and early March 1978, and the largest number was up to 500 in the Maybell area of Moffatt County. The invasion also occurred in other Great Plains States, with numerous sightings in Wyoming and Nebraska, with flocks of up to 1000. There were also several reports from Utah and Kansas, and I understand that the first speciman for Texas was collected this winter. (Hugh Kingery, personal communication).

The obvious question that arises is: Why did this unprecedented invasion of Snow Buntings into Colorado occur? The answer no doubt depends

upon many factors and is complicated, but I suggest that the weather and food availability were the two major reasons for the invasion. Snow Buntings usually winter in the northern states of the U.S.A. as far west as North and South Dakota and Montana. These states had heavy snowfall in November 1977, which persisted as temperatures were low. In early December, a freezing rain storm sealed the snow layer, whereas normally persistent winds keep many of the fields open and food supply available. This year, however, the snow cover lasted into March, and North Dakota had a period of over sixty days when the temperature did not rise above freezing. I suggest that these conditions forced many of the ground feeding birds farther south and west than normal, in their search for food.

Snow Bunting / Photo by Steve Larson

Northern Wyoming was snow-covered by the middle of December, and again the birds would be pushed farther south. Finally, in the week before our seeing the enormous flock on the Pawnee National Grasslands, two cold fronts passed through Wyoming, Northern Colorado and Nebraska. More than six inches of snow fell in the area, and the temperatures were mostly in the range 15° to 5°C. By Saturday, January 21, the snow had begun to melt in northern Colorado, and in places where the mostly northerly winds had kept the snow cover to a minimum, food was available for the birds. In my opinion, this sequence of events led to the huge flock of Snow Buntings near Grover. The snow was slow to melt, and the thaw did not occur until late February and March in the northern states of the U.S.A. The disappearance of the large flocks by mid-February and the sparse observations of Snow Buntings in Colorado in March fit in nicely with the northward retreat of the snow line, and consequent availability of food for ground feeding birds. Altogether it was quite a blizzard!

- National Center for
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P.O. Box 3000
Boulder, Colo. 80307

TABLE I

Colorado Sightings of Three or More Snow Buntings before Winter 1977-1978

DATE	NUMBER	LOCATION
3/01/1888	6	Fort Lewis, LA PLATA COUNTY
1/05/1930	500	Walden, JACKSON COUNTY
1/20/1963	7	Rocky Mtn. Arsenal, ADAMS COUNTY
12/28/1969	6	Gunnison, GUNNISON COUNTY
12/30/1973	3	Bonny Reservoir, YUMA COUNTY
2/20/1975	32	Meeker, RIO BLANCO COUNTY
12/26/1976	24	Gunnison, GUNNISON COUNTY

TABLE 2

Some Colorado Winter 1977-1978 Snow Bunting Sightings

DATE	MAXIMUM NUMBER	LOCATION
1/21/1978	10,000	Grover, WELD COUNTY
12/29/1977	35	Walden, JACKSON COUNTY
January 1978	500	Maybell, MOFFATT COUNTY
2/21/1978	2	Rifle, GARFIELD COUNTY
2/18/1978	6	Gunnison, GUNNISON COUNTY
1/18/1978	1	Saguache, ALAMOSA COUNTY
2/18/1978	Several	Eads, KIOWA COUNTY
2/19/1978	3	Burlington, KIT CARSON COUNTY
2/19/1978	1	Holyoke, PHILLIPS COUNTY
3/12/1978	1	Red Lion, LOGAN COUNTY
1/22/1978	10	Sterling, LOGAN COUNTY

GENERAL NOTES

Bullock's Oriole Winters in Littleton

This note reports on an immature male Bullock's Oriole which wintered in my backyard in Littleton, Colorado. I first saw the bird in December 1977, eating on the ground beneath a satellite feeder containing sunflower seeds (still in the shell). It has continued to feed and drink in my back yard almost daily through April 28. I have seen it at any time during the day from dawn until almost dark - perhaps most frequently 6:30-8:00 A.M. and 4:00 P.M. to dark. I must have seen this bird for a total of 100 plus times during this period, sometimes for as long as 10-15 minutes or only very briefly.

In December and January I watched it 8-10 times through 10x50 binoculars sitting in a home-made box hanging in a tree eating sunflower seeds. I then began making a suet-water-cornmeal mixture and putting it into holes which I had drilled into small pine and cottonwood logs. One of these was hanging barely four feet from my kitchen window and we have watched it dozens of times, perched on this log eating the mixture.

I have seen the bird in bright sunlight, cloudy days, and snowy days. (I have actually watched it eat suet mixture during snowfall). On a few occasions, I have seen it pecking (apparently eating) on the ground in my garden, 20-25 feet from my window. It has sat frequently for long periods of time in honeysuckle bushes which surround the yard. It has also sat in a large cottonwood tree where I could easily observe it through the binoculars. The bird is skittish and will fly away if I go into the yard, sometimes only to a neighboring yard, at other times out of sight; however, on many occasions it appears within five minutes from the time I fill the holes with suet mixture.

My yard has three trees and is surrounded by honeysuckle bushes. There are five feeders which contain sunflower seeds, two of these are large enough for even a large grackle to enter and feed. I have maintained a bird bath in the yard all winter and except on extremely cold days it contained water. About 1/2 mile south of me is a large park, including a small lake. The past two summers (1976 and 1977) a large cottonwood was the nesting site for a pair of Bullock's Orioles. I am assuming that this bird is an immature male resulting from this nesting. Late in the evening, just before dark, I have watched the bird leave my yard after eating and fly directly towards this park - possibly to roost there. This park also contains the Littleton Museum which contains a "working farm" of the early 1900's, which could provide good roosting sites in the barn or other buildings or in numerous dense evergreen trees on the grounds.

In late April and early May it began molting into adult male plumage.

- A. L. Grant
5795 So. Lakeview
Littleton, Colorado 80120

Scarlet Tanager in Larimer County

At approximately 1:30 P.M. on June 19, 1977, I sighted a male Scarlet Tanager at our Kinikinik Ranch, which is situated about 50 miles up the Poudre Canyon in Larimer County. I am not certain of the ranch altitude, probably between 8,000-8,500' - but it is close to the transition between Montane and Subalpine Zones.

When first observed, the bird alighted on the lawn behind my husband's running power mower. Approximately 20' from me, the bird remained on the lawn momentarily, then flew to a nearby fencepost and from there to a very large spruce tree alongside the ranch driveway. Unfortunately I had no camera in hand at that time. From underneath the tree I further observed the bird up in the darkness of the inner branches. I brought out my camera and, after two hours of trying to get another good view of him, I snapped three rather distant photographs when he finally appeared at the perimeter of the branches high up in the tree. Using a Pentax Spotmatic II camera with 85mm-205mm Sunset zoom lens, these proved to be the only pictures I would get, because the bird flew across the pasture and, though my husband and I searched, I never saw him again.

To my knowledge the bird made no sound during my observance. Part of that time, however, the power mower was running - making it impossible to hear anything else. My father-in-law, Clarence Bliss, kept an eye out for the bird the next several weeks, but never saw him.

There is a possibility of annual summer visits by the bird, because my mother-in-law, the late Mrs. Eunice Bliss, had told me two or three years previous to my sighting that "we have the prettiest red bird on the lawn once in a while." She described a "bright red bird with black on it," and was quite insistent about the description.

To our knowledge we never saw a female of the species. We do have Western Tanagers nesting at the ranch and occasionally have seen what we assumed were female Western Tanagers, but could have been mistaken. We hope to witness the return of our Scarlet Tanager this summer.

Elyse D. Bliss
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Identification Notes

ACCIPITERS

By Dave A. Griffiths

Three species of accipiters range throughout North America. The Goshawk is the largest, the Cooper's medium-sized, and the Sharp-shinned is the smallest. Females are larger than males and there is an overlap in sizes among the three species.

Cooper's and Sharp-shinned adults have reddish breasts and Goshawk adults have gray breasts. The western sub-species of Cooper's and Sharp-shinned adults have heavier, darker barring on their breasts. All immatures have streaked breasts and apparently tails have more barring than adults. The backs of immatures are more brown-to-grayish, becoming more black-to-bluish with age; hence the nickname, "blue darter" for all three species. Both adult and immature Goshawks have distinct white or light eye lines--Cooper's and Sharp-shinned do not. Immatures in all three species have yellow eyes which turn to red as they reach adult plumage (2 or 3 years), although they may nest in their second year. All have long, skinny leg shanks.

These accipiters are capable of darting in and out between branches of trees, but all soar in rather small circles sometimes over open plains areas. At times, they will perch on telephone or electric poles and at other times in foliage, hidden motionless waiting for their prey to gather. Some bird watchers become extremely distressed because one of the three species sets up a territory near a bird feeder. But, seldom will one bird ever kill more than one or two small birds a day--actually they do not harm the total bird population.* In Colorado, all these species nest in the foothills up into the mountains and follow the small bird migrations onto the plains where they winter.

The Goshawk seems to be the most secretive and spends more of its time in the high mountains, even in the winter, and is likely to be found at higher altitudes in the summer than the other two species. It may have the best and most stable population in Colorado although not seen as often because of its mountain habitat. The Cooper's seems to be the least plentiful, possibly because of pesticides.

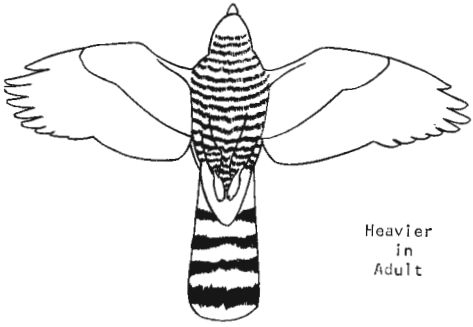
There is definitely an identification problem between Cooper's and Sharp-shinned among bird watchers--amateur and professional--which does not help in figuring population status. One reason I have written this article is to help simplify this problem. If an observer will just remember this difference in the structure of the tails, it helps very much--even with only a moment to observe the bird in question. (See the sketch.)

[Editor's Note: Our thanks to Joe Rigli for preparing the sketches of the three accipiters, using the material provided by Dave Griffiths.

[* Members of D.F.O. broke into cheers at an account of a Sharp-shinned which captured a Starling in a member's backyard this spring.]

NORTH AMERICAN ACCIPITERS

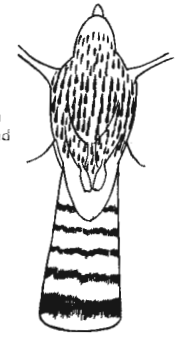
(Round-winged, long-tailed, Bird-eating Hawks)



Breast

Adult Barred

Immature Streaked

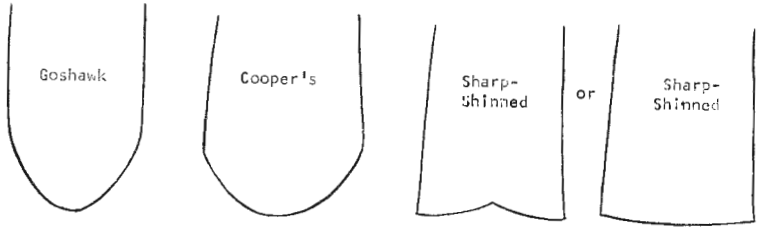


Heavier in Adult

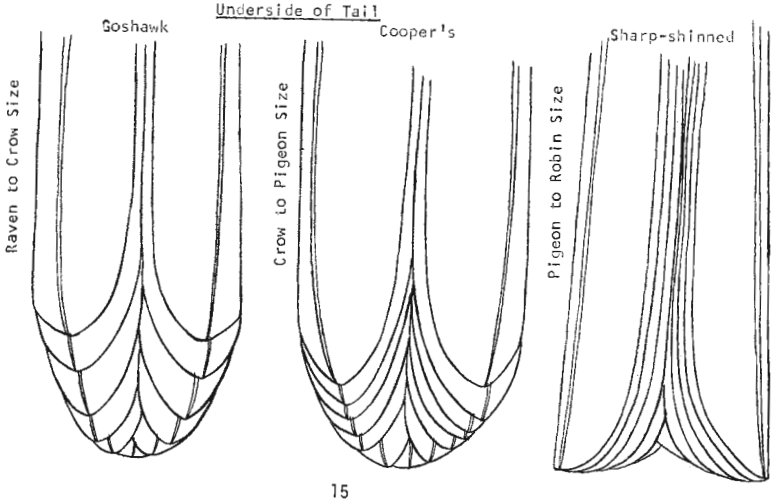
Tail Barring

Joseph C. Rigli 6-15-78

Tail Shape in Flight



Underside of Tail



Drawn by Joseph C. Rigli from a drawing by Dave A. Griffiths

NESTING SEASON, April-July, 1977

by P.R. Julian*

This season's nesting reports contained some verified nestings of note. Gary Miller and Ron Ryder (CSU) and co-workers banded young from the first Colorado nest of the Cattle Egret at Riverside Reservoir. And a pair of early nesting Blue-Gray Gnatcatchers at Red Rocks were feeding young by June 12 (LR,MOS). This is believed to be the first Denver area nest and certainly must be considered to be at the northern edge of the eastern slope scrub oak.

Nest finders who work at it have success. CSU student Brian Millsap found 13 Barn Owl nests in Larimer and Weld Counties. Paul Gorenzel recorded a frustrating series of nesting attempts at Lake John Annex by Eared Grebes and Forster's Terns. Paul's notes cover April 16th to August 9th: the grebes attempted three times to nest, but because of predation and fluctuating water level, very few chicks were fledged. The Flammulated Owl, reported last season (RW) was back, north of Florrisant.

Breeding bird census results were mixed. Louise Hering, Boulder, and David Galinat, Fruita, reported the lowest species and individual totals in years. Bob Andrews, with his survey at Barr Lake, and R. Ryder and co-workers, and P. Julian (all running Eastern Slope Breeding Bird Surveys) all recorded average numbers.

The usual number of non-breeding stragglers and confused migrants were reported. Among these were; a Red Knot in breeding plumage, July 30, Cheraw (JR), a Black Tern June 10 in the Piceance Creek Basin near Meeker (CSU students), a male Hooded Warbler in song, RMNP, June 17(HTB), a male Tennessee Warbler at Barr L. on July 9 (RA), a Chestnut-sided Warbler along the Animas River, Durango (EF), a male Scarlet Tanager in Poudre Canyon, June 19 (RR), and a singing, eastern-form Rufous-sided Towhee at Julesburg, June 26 (JR).

The most involved story of the nesting season has to be the report by four observers, all from out of state, of a pair of Cape May Warblers purportedly nesting in a Douglas Fir in Endovalley, RMNP. The female was noted and the male was in full song on June 13th. Subsequent efforts by Colorado birders to locate this phenomenon were unsuccessful.

Species Accounts

Podicipediformes-Ciconiformes.

Western Grebe. Again, did not nest Barr L. (RA), but a single chick was noted CF&I Lakes, July 16 (CK). No evidence Longmont-Loveland area of nesting (DA).

Eared Grebe. Three successive attempts Lake John Annex failed, about 100 nests, very few fledged (PG).

White Pelican. Flock summered at Barr L. (RA).

Double-crested Cormorant. Numbers normal at Barr L. (RA); renested Barbour Ponds as last year(DA).

Great Blue Heron. Chatfield heronry had 42 active nests, highest yet(HK).

Great Egret. Reported July 21, Boulder Valley.

Cattle Egret. Nested Riverside Res. Young banded. First Colo. nest (GM,RR)

Least Bittern. Two, CF&I L., July 24 (CK); one, Lake John Annex, July 7(PG): and one Sawhill Ponds, June 12 (SR,PM)

White-faced Ibis. Estimated six successful nests, Russell Lakes, but nests at Adams Lake (both San Luis Valley) failed. Scarce elsewhere (RR).

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Anseriformes.
Alamosa NWR (RD) noted one juvenile Wood Duck and one brood of Canvasback.

Falconiformes.
Osprey. Attempted, but unsuccessful, Electra Lake (KS).

Gruiformes.
Sandhill Crane. Routt Co. population had a "good" year (WG).

Charadriiformes.
Mountain Plover. Good year on Pawnee (RR).
Snowy Plover. At Cheraw Res. again this year (DG,CG,CK).
Spotted Sandpiper. One nest, Ramah Res. and about 50 individuals (EW). Also one nest Summit Co., June 19 (UK).
Red Knot. Still in breeding plumage, July 30, Cheraw. (JR).
California Gull. 200 of an estimated 800 young banded at Antero Res. (RR).
Forster's Tern. None of 20-odd nests successful, Lake John Annex (PG).

Strigiformes.
Barn Owl. 13 nests located (BM) mostly in dirt banks, Larimer & Weld Cos.
Flammulated Owl. Nest hole near Florrisant reported last year occupied again.(RW).

Cuculiformes-Caprimulgiformes-Apodiformes.
Yellow-billed Cuckoo. Many reports and most observers thought plentiful. Reports Fort Collins (RR), Barr (RA), Waterton(HK), RMNP (HTB), Tamarack Ranch (BK,SL,RA)
Black-billed Cuckoo. Pair exhibiting courtship behavior, Julesburg (BK,RA,SL)
Poorwill. Reported June 28-30 at Leadville! (WWB).
Band-tailed Pigeon. Seen regularly, Hesperus area (ML).
Chimney Swift. Large, about 100 population, Pueblo (CK).
Blue-throated Hummingbird. Seen July 30, 3 miles west of Ridgway (HK,UK)
Black-chinned Hummingbird. Male at feeder with nuptial flight, June 5, McCoy. Seen all June and July (KE).
Calliope Hummingbird. Male,July 23, Park Co. (CH).

Piciformes.
Red-headed Woodpecker. Three nest holes reported near Boulder (BK).
Lewis' Woodpecker. Fared well in Durango area (KS); successful year Lefthand-St. Vrain Weld Co. area (BK); 6 seen near Union Res. July 24, (DA); reports from Pueblo area of 50-plus individuals and comments on success (DG,CG,CK).
Yellow-bellied Sapsucker. Seven nestings reported, Westcreek area (RW).
Williamson's Sapsucker. Four nestings, Westcreek area (RW).
Northern Three-toed Woodpecker. Nest found in Aspen snag, Endovalley, RMNP (BK,SL).

Passerines.
Flycatchers to Chickadees.
Western Wood Peewee. Many reports; one nest Barr L. (RA); 4 nests, Estes Park (WR).
Dusky Flycatcher. Nest and eggs found Estes Park area photographed by Hal Harrison for western field guide to nests (WR). Four nests, Jefferson, Park Co., one produced young, 2 produced Cowbird young (CH).
Violet-green Swallow. Decline noted in Pueblo (DG,CK) and Estes P. areas (WR), but noted as common, Ridgway (HK).
Tree Swallow. Numbers down, Evergreen (WWB), but normal otherwise.
Plain Titmouse. Young being fed noted near Canon City, no date (DG).
Common Bushtit. Large flock, Kossler L. July 27 (OC), and one nest with young near

Lyons, Nest completed April 16! (DA).

Nuthatches to Pipits.
Red-breasted Nuthatch. Pair feeding young, RMNP (WR).
Winter Wren. Singing male on Fall River Road, RMNP July 14(E&CH); 3 reports in RMNP (WR).
Blue-gray Gnatcatcher. Nest, Red Rocks, young being fed on May 27! (LR,MOS).
Water Pipit. Seven nests found while on tundra looking for Ptarmigan (WR).

Shrikes-Warblers.
Bell's Vireo. Probably 5-6 pairs nesting at Crook along Platte. One nest with egg found (AW).
Tennessee Warbler. One male, July 9, Barr L. (RA).
Black-throated Gray Warbler. Nesting population comparable to last year's, Piceance Basin (WG).
Hooded Warbler. Observer from Ohio reported a male, RMNP, June 17. Very good description and song noted (HTB).

Finches to Sparrows.
Bobolink. Numerous reports around Boulder, 13 individuals at 5 locations, but only one female and no nests (BK). 5-6 pairs reported in Hygiene area (DA).
Blue Grosbeak. Male singing in Chatfield heronry June and July (HK); several sightings in Boulder area (BK).
Lazuli Bunting. Nesting confirmed at Barr L. (RA). The observer commented on this plains location, but the purity of the birds was not noted.
Pine Siskin. Three nests, Estes Park (WR). Why don't we get more reports on nesting of this abundant species?
Cassin's Sparrow. Small colony, Tamarack Ranch, Crook (JR).
Brewer's Sparrow. 1977 population up considerably from 1976, Piceance Basin (WG).
Fox Sparrow. Noted July 23-24, Jefferson, Park Co. (CH).

Contributors: Alamosa National Wildlife Refuge (Robert Darnell)
Boulder (Barry Knapp, Louise Hering, Bruce Bosley), 35 obs.
Colorado Division of Wildlife (Walt Graul)
CSU, Dept. of Fishery and Wildlife Biology (Gary Miller, Ron Ryder)
Denver (Robert Andrews) many obs.
Durango (Kip Stransky)
Eagle (John Merchant)
Estes Park (Warner Reeser) 7 obs.
Evergreen (W.W. Brockner)
Jefferson, Park Co. (Carol Hack) 2 obs.
Longmont-Loveland (Dave Alles)
McCoy (Mrs. Kenneth Ewing) 2 obs.
Pueblo (Chris Knight, Dave and Carolyn Griffiths)
Ridgway (J. Guadagno)
Sedalia (Roberta Winn)

Initialed Observers: Robert Andrews, Dave Alles, H.T. Bartlett, Olive Cobb, Robert Darnell, Mrs. Kenneth Ewing, Elva Fox, Paul Gorenzel, Walt Graul, Dave and Carolyn Griffiths, Carol Hack, Ed & Camille Harper, Hugh and Urling Kingery, Barry Knapp, M. Lindner, Steve Larson, Gary Miller, Brian Millsap, Jack Reddall, Warner Reeser, Les Robinette, Ron Ryder, Mildred O. Synder, Kip Stransky, Andy Wilbur, Elinor Wills, Roberta Winn

RIVERSIDE RESERVOIR, COLORADO 1977 NESTING SEASON REPORT

By Gary C. Miller*

Riverside Reservoir, located at an elevation of 1472 meters at 40°20' latitude, 104°15' longitude in northeastern Colorado, is an irrigation reservoir fed by the South Platte River. Pelican Island, located 0.4 km from the northwest shore, is approximately 2.5 hectares in area, and served as the nesting site for 7 species of colonial waterbirds in 1977. The following report is based upon observations made during 19 days spent upon the island between May 27 and August 17, 1977.

White Pelican: Although I have not yet analyzed all aerial photographs of the island taken during the early stages of nesting, it is probable that around 500 nesting attempts were made in 1977, an increase of over 30 per cent from 1976. Egg counts conducted on May 27 showed 62 nests with 121 eggs (1.95 eggs per nest). Of 79 eggs of known fate, 69 hatched successfully for a hatching rate of 87.4 per cent. Nestling mortality amounted to 49 per cent of the chicks hatched, most of which occurred during the first 4 days of life. Post-nestling mortality amounted to 15 to 20 percent of the young surviving to that stage, which was higher than noted in 1976. Weather seemed to be a very important mortality factor at the post-nestling stage of development. Severe hailstorms and rainstorms were more numerous this year than last. Overall, about 400 young pelicans are expected to fledge.

Other factors that may have contributed to lower productivity for white pelicans this year was the apparent decrease in available forage at Riverside, and possible pesticide loads (the pesticide possibility is presently being investigated by the Colo. Div. of Wildlife and the U.S. Fish and Wildlife Service). Carp in Riverside seemed fewer in number, and fewer pelicans foraged on the reservoir than in 1976, although there were more pelicans present. The mean numbers of pelicans foraging at Riverside during the peak of hatch, nestling period, and post-nestling period in 1976 were 131.8, 103, and 60.0, respectively, while the figures for 1977 were 45.3, 69.6 and 33.5 for the same developmental periods.

Double-crested Cormorant: A minimum of 24 nest attempts were made, but 3 nests were abandoned during the early stages of laying/incubation. All young were fledged by 19 August. Fifteen nests were followed closely, and fledged 39 young (2.6 young/nest), and total productivity was estimated at 54 fledged young from 21 active nests. This was the same rate as in 1976, although the number of adults was doubled from the previous year.(The abandoned nests were not counted in the productivity determinations, since abandoned nests were not determined for 1976).

Great Egret: Two adults were seen on the island and on the South Platte River during the latter part of May. One adult "played house" in an abandoned double-crested cormorant nest, carrying and arranging small twigs in the nest platform. This adult did not show well developed breeding plumage. No successful nesting was noted for great egrets, and only one adult was seen on the island (usually in evenings) during June (same adult-swollen joint- seen on several occasions).

Snowy Egret: Nine nesting attempts were made, compared to 3 in 1976. An estimated

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31 young fledged. By mid-August, all but 5 had fledged. The snowy egrets apparently had an abundance of forage available, due, in part, to lowered water levels on the South Platte during the pre-fledging period of young development. Primary forage seemed to include brook stickleback, crayfish, and other, as yet unidentified, small fish. Productivity rate (3.44 young/nest) was higher than in 1976.

Cattle Egret: On 27 May, adults were carrying nesting material to a willow (Salix sp.) which also contained black-crowned night heron and snowy egret nests. On 21 and 23 June, it was apparent that the adults were feeding young. On 8 July, Dr. R.A. Ryder, C. Chase, and G. Gunderson observed the young cattle egrets. Subsequently, I verified that 4 young were fledged from the cattle egret nest. Photographs of the adults and young are on file at Colo. State University, Fort Collins. The nest was associated with snowy egrets and black-crowned night herons, located approximately 2.4 meters from the ground, and oriented southwest from the main stem of the tree. On 17 August, 4 adults were seen on the island, but I have found no evidence of a second pair breeding on the island.

Black-crowned Night Heron: Eight pairs nested on the island in 1977, the same number as in 1976, but an additional 10 nested on the willow-vegetated peninsula of the nearest shore. The total of 18 nests yielded a minimum of 35 young fledged. One nest on shore failed, and another hatched only 1 of three eggs. Mammalian predation was a mortality factor on the shore nests. Fathead minnows and leopard frogs were apparently important items in the diet of the young.

Great Blue Heron: Twelve active nests were present on 12 June. Seven successful nests fledged 16 young (2.3/nest), so I estimate that 27 young fledged from the island in 1977. This is higher than the productivity rate exhibited by the 10 nests in 1976. There were 14 or 15 total nest attempts. At least one nest failed when 2 adults were killed by flying into a telephone line near the South Platte. There was competition for nesting sites between great blue herons and double-crested cormorants that I did not notice in 1976.

California Gull: The California gulls had much better nesting success this year than in 1976. Fewer nests were attempted this year (38), but most were successful. Productivity approximated 1 young per nest attempt. The severe weather mentioned in the white pelican portion of the report did not seem to have as adverse an effect upon gull productivity as it did upon the white pelicans.

REQUEST FOR INFORMATION

Purple Martin Color-marking

A large scale continent-wide Purple Martin color-marking project was initiated in 1977. Observers are asked to look for and report any color-marked (plastic leg bands and/or wing tags) Purple Martins. Please record the color of the bands or wing tags, which leg they are on, age and/or sex (if either is known), where and when observed, and whether the bird was in a roost, staging flock, migratory flock or at a nest site (scouting or nesting?). We are especially interested in the movements of young birds and their return to the parent colony or nearby colonies. All reports will be acknowledged and should be sent to Ms. Kathleen Klimkiewicz, Bird Banding Laboratory, Laurel, Maryland 20811.

FINDING SNOWY OWLS IN YUMA COUNTY

by Judd Sundine*

Since the distribution of the Snowy Owl is not exactly known, the only way to acquire this valuable information is to inform people of the habitat and feeding habits to which the Snowy Owl is accustomed. This information, along with the education of residents of Yuma County, could provide the ornithological scientific community with some very important data.

There are two specimens in the Denver Museum of Natural History. One was taken in 1920, 16 miles northeast of Akron, Colorado by J.A. Sullivan (#22281, sex?). The other is a female winter specimen taken in 1939 by L. Triplet at Jumbo Reservoir (#26187).

Snowy Owls have been reported in Yuma County over the past three years. A few reports were obtained in 1974, scattered reports came in 1975, and numerous reports poured in during 1976; the most reported at one time were three during the Bonny Dam Christmas count, 1976-1977. At least two more reports from around Burlington were obtained on Snowy Owls in 1976-1977. Snowy Owls have yet to be seen in Yuma County this winter (to Jan. 15, 1978).

The best way to see the Snowy Owl in Yuma County is to drive the breaklands from Wray, Colorado to Burlington, Colorado. Several major breaks occur, running north to south, in this area. If one drives on east to west roads, one will cross these breaks several times. This is, at best, a hit or miss proposition. When a Snowy Owl has been reported, it will usually stay in one particular area for some time. When a report has been made, one probably could concentrate one's driving to the particular area from where the report came. It is a good possibility that other Snowy Owls will be seen in the same area, like the three Snowy Owls in the fifteen-mile diameter Christmas count circle of Bonny Dam, 1976-1977. All the Snowy Owls reported during the 1976-1977 winter were recorded as full adults, discounting the possibility that Snowy Owls seen this far south are merely confused, wandering juveniles.

Every Snowy Owl reported in Yuma County was seen standing on the edge of alluvial fan breaks. All of these breaks contained snow pockets and it seemed that these owls preferred to stand on these snowy breaks. The only time these owls would deviate from this practice is when they were flushed and had to seek refuge elsewhere, i.e., on fence posts, snow fence or some other raised perch from which to observe the intruder. Most of the reports were made from late November to early March. Although some owls might be seen earlier or later than this time, the majority are seen during this three-month period.

The habitat in which the Snowy Owl has been seen in Yuma County can be described as mixed prairie. Although hundreds of grasses and forbs are associated with the mixed prairie, only a few of the dominant ones will be named. Most of the area is moderately or highly grazed so all the grasses present do not typify a mixed prairie.

Dominant Grasses/short-grass disclimax:
Bouteloua gracilis-Blue grama
Buchloe dactyloides-Buffalo grass
Bromus tectorum-Cheatgrass
Scleropogon brevifolius-Burrograss
Hordeum jubatum-Foxtail barley
Aristata longiseta-Red three-awn
Sporobolus crypandrus-Sand dropseed

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Dominant Forbs/short-grass disclimax
Yucca glauca-Soapweed
Sphaeralcea coccinea-Scarlet globemallow
Aster tanacetifloius-Aster
Salsola kali teniufolia-Russian thistle
Oenothera albicaulis-Evening primrose
Plantago purshii-Wolly plantain
Opuntia sp.-Prickly pear
Chrysothamnus sp.-Rabbitbrush
Gurierrezia sarothrae-Snakeweed

Not very much is known about the food taken by the Snowy Owl in Yuma County because no pellets have been procured. On one occasion, a resident saw a Snowy Owl take a Sylvilagus sp. Extensive trapping has been done around Bonny Dam so it might be concluded that the following list are possible food items that Snowy Owls might take:[1]

Sylvilagus sp.-Cottontail
Lepus californicus-Black-tailed Jackrabbit
Geomys bursarius-Plains Pocket Gopher
Neotoma floridana-Eastern Woodrat
Dipodomys ordii-Ord's Kangaroo Rat
Reithrodontomys megalotis-Western Harvest Mouse
Reithrodontomys montanus-Plains Harvest Mouse
Peromyscus maniculatus-Deer Mouse
Onvchomys leucogaster-Northern Grasshopper Mouse
Microtus ochrogaster-Prairie Vole

There is a lot to find out about the status of the Snowy Owl in Yuma County. Data are far and few between, but with more reported records from the birding community and with information acquired from residents, it will probably be found that the Snowy Owl is not at all a rare bird, but is a sporadic (numerous one year, none the next) regular visitor to Yuma County. Report forms should be turned in on Snowy Owls as well as on other birds that frequent Colorado but about which is little known.

This account is by no means complete nor is it meant to be. It is hoped that the report might stimulate some birders so that they will know what to look for when they set out to find the Snowy Owls.

[1]Based on one year trapping-Mike Moulton, personal communication 1976-1977.

PEREGRINE STATION TOUR

Two tours will be conducted on August 26 and 27 of Cornell University's Peregrine Breeding Station near Fort Collins, which is undertaking to reestablish the Peregrine Falcon in the Rocky Mountains. Meeting place will be in Loveland at Westlake Shopping Center parking area, facing Taft, corner of Taft and Eisenhower (U.S. Hwy. 34), at 9:15 a.m. on August 26, or at 1:15 p.m. August 27. Reservations are advisable as tours are limited in number. Write or call Camille Cummings, P.O.Box 109, Berthoud, CO. 80513. Phone: 532-2016

C.F.O. ANNUAL MEETING

Over 100 people attended the C.F.O. Annual Meeting held at the Sylvandale Ranch west of Loveland May 20-21. Beautifully planned by Foothills Audubon Club under the leadership of Camille Cummings, the meeting featured good birding, interesting ornithological papers, and well-attended field trips.

Best bird of the weekend was a Blue-winged Warbler seen at Chasteen's Grove. Saturday night supper was interrupted by a cottonwood tree which contained three different grosbeaks--Evening, Black-headed, and Rose-breasted.

The Colorado Audubon Council added to our convention by holding its meeting with us, and we enjoyed having that organization with us.

CONVENTION REPRISE

Warmest thanks and credit to those members of The Foothills Audubon Club who contributed time and talents to making the Colorado Field Ornithologists' Annual Meeting a success. Both organizations owe much to these individuals for making it a happy convention with black letter finances:

Ann Means headed the management of reservations with Penny Balog her efficient second. Marilyn Kurtz helped them.

The 130 favors sprang from the brain of Dorothy Webb with Dorothy Barker her co-creator through many hours of work. Marion Brandenburg and Judy Sisler also produced on the cards some surprising biological sports.

Rusty Muller drew the little kingfisher that pointed the way inside the program. Marion Brandenburg did the hand-printing on the cover and also made the handsome trip poster.

The sacks of wild bird seed were dreamed up and the seed acquired by Barbara Hyde. The painstaking work of filling 130 sacks was done by Edward and Irma Sparks.

Idabelle Arndt and her sixth grade class decorated the 130 name tags.

Virginia Dionigi headed the sales table and also made the signs that marked the way to Sylvan Dale. She and her husband, Rudy, and Bruce and Cathy Bosley presided at the refreshment table.

Bill and Vivian Gilbert gave generously of their time in basic preparations.

We are grateful to our trip leaders: Clait Braun, Dr. Ron Harden, Warner Reeser and Dr. Ron Ryder; and to Dick Esposito for his comments on falconry.

CFO Treasurer, Judd Sundine, at his membership and sales table, and CFO Director, Dr. Walter Graul, who organized the Research Paper Session, provided essential framework for the meeting.

And I do love my ever-singing Meadowlark! Thank you.

Camille Cummings
Organizer

COLORADO FIELD ORNITHOLOGISTS
c/o Mrs. Camille Cummings
P. O. Box 109
Berthoud, Colorado 80513

BOOKS ABOUT BIRDS

A newsletter about new and old bird-books. Reviews new books, lists prices of rare or scarce books, follows auction news, compiles bibliographies, profiles bookstores that specialize in bird books.

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