

**CLIFF-NESTING RAPTORS IN BOULDER COUNTY
AND VICINITY**

1993 STATUS REPORT

By Nan Lederer, Boulder County Nature Association
and
Steve Armstead, Boulder City Mountain Parks
April 15, 1994



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INTRODUCTION

1993 was the eleventh year of a study of nesting golden eagles and prairie falcons by the Boulder County Nature Association (BCNA) in cooperation with the City of Boulder Mountain Parks, City of Boulder Open Space, and the Colorado Division of Wildlife. Since 1991, observations of nest sites within Boulder Mountain Parks and City of Boulder Open Space have been coordinated by Mountain Parks and Open Space ranger staff respectively. The study area covers Boulder County and parts of Jefferson and Larimer counties. The study's objectives are to:

- Locate active nests
- Measure productivity (number of young hatched and fledged)
- Monitor nests to document and prevent human disturbance
- Work with governmental agencies, land managers, and conservation groups to protect the raptors' habitat
- Locate and map important hunting territories

Numerous volunteers as well as ranger staff are involved in nest monitoring. Nests are watched with binoculars and spotting scopes from a sufficient distance so as not to disturb the raptors. Observations of nesting status, the birds' behavior, any disturbance to the birds, and other pertinent information are recorded. Databases of this information are maintained by the Mountain Parks, City Open Space, and Boulder County Nature Association.

1993 NEST STATUS

Golden Eagle

Each territory is discussed below, in alphabetical order by county. Land ownership/jurisdiction for each nest site is indicated. Table 1 summarizes the status of each nesting territory from 1982 to 1993. Table 4 summarizes data from Boulder Mountain Parks sites.

Of the total 25 known territories in the entire study area, only nine were investigated: eight of the nine in Boulder County, and one in Jefferson County. Of these, seven were known to be active in 1993, and one inactive. Six of these successfully raised young (total of ten birds produced). One nest failed during incubation, and one occupied territory was observed but no active nest found.

Boulder County

- **Boulder Canyon** (Forest Service). Two eggs were seen on the Bitty Buttress nest, but the nest failed sometime during incubation. Despite climbing closure signs posted by the Colorado Division of Wildlife, climbers were occasionally seen on the cliff, and may have caused the failure.

- **Eldorado Springs** (Boulder City Open Space and Eldorado State Park). Apparently inactive. No definite nest activity has taken place in this territory since 1985.
- **Lefthand Palisades** (Boulder Mountain Parks). Active, at historically used nest towards the north end of the Palisades. Two young fledged.
- **Meadow Park** (Town of Lyons). Active; two young fledged.
- **North Fork of Middle Boulder Creek** (west of town of Eldora; Forest Service). Pair observed in territory, nesting status unknown.
- **Rabbit Mountain** (private). Active; two young fledged.
- **Skunk Canyon** (Boulder Mountain Parks). Active; one young fledged.
- **St. Vrain Canyon, Lower** (Forest Service). Active, "Cracking Dome" site; one young fledged.
- **St. Vrain Canyon, Upper** (Forest Service). Pair present in territory; nesting status unknown.

Jefferson County

- **Lower Clear Creek Canyon** (Private). Active; two young fledged.
- **Mount Zion** (Private). Status unknown.
- **Ralston Buttes** (Private). Status unknown.
- **Turkey Creek** (Private). Status unknown.

Larimer County

To our knowledge, no field work was conducted in Larimer County in 1993 (see Table 1 for site names).

Prairie Falcon

1993 status is discussed below, in alphabetical order by county. Four of the total nine known territories in the study area were active, but only one of these was known to produce young (total of four birds produced). Table 2 summarizes the status of each nesting territory from 1983 to 1993. Table 4 summarizes the Boulder Mountain Parks nest activity.

Boulder County

- **Bear Canyon** (Boulder Mountain Parks). Inactive.
- **Eldorado Canyon** (Eldorado State Park). Inactive.
- **Eldorado Mountain (Mickey Mouse Wall)** (City of Boulder Open Space). Active, four young produced from nest near top of South Tower.

- **Fern Canyon** (Boulder Mountain Parks). Active at the East Ridge site (referred to in our previous reports as Middle Fin), but no production of young confirmed.
- **Mount Sanitas** (private). Inactive.
- **Shadow Canyon** (Boulder Mountain Parks). Pair present early in the season, displaced by other raptors.
- **Steamboat Mountain** (private). Inactive.
- **Third Flatiron** (Boulder Mountain Parks). Active, but no production of young confirmed. Numerous violations of the closures may have led to nest failure.

Jefferson County

- **Bull Gulch** (private). Not sufficiently investigated to determine whether active or not.

Peregrine Falcon

Table 3 summarizes nesting status from 1991 to 1993.

Boulder County

- **Matron** (Boulder City Open Space). Inactive (apparently an alternate site to Shadow Canyon, rather than a separate territory).
- **Shadow Canyon** (Boulder Mountain Parks). Active, two young fledged.
- **Steamboat Mountain** (private). Inactive. (Site previously used by prairie falcons.)

PROTECTIVE MANAGEMENT

Boulder Mountain Parks

Skunk Canyon is closed to hikers and rock-climbers west of Ridge Two from February 1 through July 31 every year to protect the nesting golden eagles. The Sacred Cliffs, or south ridge of Green Mountain, which is the favored perch of the eagle pair, is also closed to all use.

Lefthand Palisades is closed to all use from February 1 through July 31.

In 1993, closures to protect falcons were in effect for part of the Third Flatiron, the north side of Fern Canyon, off-trail use in Shadow Canyon, and the north ridge of Shadow Canyon (Devil's Thumb Ridge) from Jam Crack Spire and Towers of the Moon at the canyon mouth up to Bear Peak.

In general, park users' compliance with the closures was good, and better than in the past. Increased ranger staff available for patrolling is one reason for this, as well as increased efforts to post notices of closures, and the consistent history of closures being enforced. Nine summons for closure violations were issued in 1993.

Boulder City Open Space

Mickey Mouse Wall on Eldorado Mountain was closed to rock-climbing until the active prairie falcon nest was located, near the top of South Tower. At that point, the closure was lifted except for South Tower. Climbers were very cooperative overall; one summons and one warning were issued for violations. Ranger staff assisted in communication between a private landowner and the Access Fund to clarify land ownership boundaries on an adjacent site popular with rock climbers.

Eldorado State Park

Several climbing routes were closed on Red Garden Wall (where there was an active prairie falcon nest in 1991), and some on Upper Peanuts Wall (where prairie falcons nested in 1990). After considerable monitoring in 1993 made it clear that the sites were inactive, the closures were lifted.

Roosevelt National Forest

The Colorado Division of Wildlife, with approval of the Forest Service, posted Bitty Buttress in Boulder Canyon closed to climbing after the golden eagle nest was found to be active. Unfortunately, climbers were observed several times violating the closure, which may have led to the nest failure. More intensive monitoring is planned for 1994.

SUMMARY

Of 25 known golden eagle territories in the study area, nine were observed during 1993, with eight active and one inactive. Six of the active nests produced a total of ten young. One nest failed during incubation, possibly due to disturbance from rock-climbers who violated the closure.

Eight of the nine known prairie falcon territories were observed, with four active and four inactive. One of the active nests produced four young; one pair was displaced by peregrine falcons, and two nests active early in the season apparently failed.

The one peregrine falcon nest successfully produced two young.

ACKNOWLEDGMENTS

Steve Armstead coordinated the raptor program for Boulder Mountain Parks, assisted by rangers Brian Peck, Ann Wichmann, Jeanne Scholl, Matt Claussen, Donna Nemeth, Susan Miller, Dawn Packard, Jeff Sparhawk, Burton Stoner, Maria Mayer, Eliza Rayner, and other Mountain Parks staff.

Rod Moraga headed raptor management activities for Boulder City Open Space, with help from other ranger staff.

Patt Dorsey of the Colorado Division of Wildlife established closures for the Boulder Canyon site. Dave Weber, also of the CDOW, provided information about nests in Jefferson County.

Nan Lederer was the Boulder County Nature Association coordinator for the study.

Numerous volunteers assisted in nest-watching, including Richard Ackerman, Tema Bennet, Vern Bunch, Barney Buria, Jack Dennis, Mike Figgs, Kathy Gibson, Don Glen, Bill Graves, Karen Hanson, Dan Hereid, Steve Jones, D.W. King, Holly McCarthy, Gary Peck, Rob Quesenberry, Josh Rubenstein, Todd Vandyke, and Molly Willard,

Table 1. Boulder County and vicinity Golden Eagle nest status													Pro-
Territory (south to north)	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	duct.††
JEFFERSON COUNTY													
Lower Clear Cr. Can.	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Undetermined†	2 yg. fledged	1 yg. fledged	Not investigated	2 yg. fledged, south side	5 / 3
Mount Zion	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Nest active	Not investigated	Not investigated	?
Ralston Buttes	Not investigated	Not investigated	Not investigated	1 yg. fledged, upper nest	Nest active	Nest active	Nest active	Undetermined	1 yg. fledged, lower nest #1	Not investigated	Not investigated	Not investigated	2 / 2
Turkey Creek	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	1 yg. fledged	Not investigated	?
BOULDER COUNTY													
Eldorado Springs (Eldorado Canyon)	1 adult seen	Incub., Mouse Ears; failed	Terr. active*	1 yg. fledged,** N. of Mouse E.	Terr. active	Undetermined	Undetermined	Terr. active	Undetermined	Inactive	Inactive	Inactive	1 / 5
Skunk Canyon	Not investigated	2 yg. fledged, Inferno	1 yg. fledged, Inferno	2 yg. fledged, Superpower	2 yg. fledged, Inferno	Terr. active, did not nest	Terr. active, did not nest	2 yg. fledged, Inferno	1 yg. died after fledging, Inferno	Nest failed, Inferno	Terr. active, no nest attempt	1 yg. fledged	11 / 11
Boulder Canyon	Terr. active	Terr. active	2 yg. fledged, Eagle Rock	1 yg. fledged, Eagle Rock	At least 1 yg. fledged, Bitty Buttress	Undetermined	Incub. Eag. Rock; failed	1 yg. fledged, Blob Rock; 1 yg. died	2 yg. fledged, Eagle Rock	1 yg. fledged, Eagle Rock, 1 yg. died	Nest failed during incubat., Blob Rock	Nest failed during incubat., Bitty Buttress	8 / 9
North Fork	Terr. active	Terr. active	2 subadults seen	Not investigated	Undetermined	Undetermined	Undetermined	Not investigated	Terr. active	Not investigated	Terr. active	Not investigated	?
Lefthand Palisades	1 yg. fledged	Terr. active	2 yg. fledged	2 yg. fledged	1 yg. fledged	Incub.; nest failed	1 yg. fledged	Nest failed	1 yg. fledged, Palisades South	Nest failed dur- ing incubation	1 yg. fledged, Palisades North	2 yg. fledged, Palisades North	11 / 11
Lower St. Vrain	Terr. active	New mate; late nest-building, unsuccessful	2 yg., nest fell off cliff; fate unknown	2 yg. fledged, "Cracking Dome" nest	2 yg. fledged, "Cracking Dome" nest	1 yg. fledged	Terr. active	Terr. active, taken over by ravens	1 yg. fledged, Cracking Dome	Unknown	Terr. active	1 yg. fledged, Cracking Dome	9 / 8
Upper St. Vrain	Terr. active	1 yg., S. Sheep Mtn.***	Terr. active	Terr. active	Terr. active	Terr. active	2 yg. S. Sheep Mtn.	Terr. active	Terr. active	Terr. active	Terr. active	Terr. active	3 / 2
Lyons	Not investigated	Not investigated	Not investigated	Not investigated	1 yg., tree nest Stone Canyon	Pair carry- ing sticks	2 yg.	At least 1 yg. fledged	2 yg. fledged, Meadow Park	1 yg. fledged Meadow Park	nest failed, Meadow Park	2 yg. fledged, Meadow Park	9 / 7
Rabbit Mtn.	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	2 yg. fledged	Not investigated	2 yg. fledged, Rhino's Horn W	2 yg. fledged, Rhino's Horn W	6 / 3

Table 1. Continued Territory (south to north)	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	Pro- duct.††
LARIMER COUNTY													
Little Thompson	Terr. active	Terr. active	1 adult seen	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	2 yg. fledged	Not investigated	Not investigated	Not investigated	2 / 1
Carter Lake	Not investigated	Not investigated	Not investigated	Not investigated	2 yg. fledged Flatiron Mtn.	Not investigated	Undetermined	Not investigated	2 / 1				
Blue Mtn.	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated					
Lower Big Thompson	Not investigated	Not investigated	Not investigated	Not investigated	Undetermined	Not investigated	Not investigated	Not investigated					
Lower Buckhorn Cr.	Not investigated	Not investigated	Not investigated	Inactive	Inactive	Not investigated	Not investigated	Not investigated					
Milner Mtn.	Not investigated	Not investigated	Not investigated	Inactive	Inactive	Not investigated	Not investigated	Not investigated					
Horsetooth Mtn.	Not investigated	Not investigated	Not investigated	1 yg. fledged	Not investigated	Not investigated	Not investigated	Undetermined	1 yg. fledged	Not investigated	Undetermined	Not investigated	2 / 2
Arthur's Rock	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated					
Goat Hill	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	1 yg. fledged	Not investigated	1 / 1				
Owl Canyon	Not investigated	Not investigated	Not investigated	2 yg. fledged	At least 1 yg. fledged	Not investigated	Not investigated	2 yg. fledged	Inactive	Not investigated	1 yg. fledged	Not investigated	6 / 5
Bonner Peak	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated					
Eagles Nest (Livermore)	Not investigated	Not investigated	Not investigated	Nest active	Undetermined	Not investigated	Not investigated	Undetermined	Inactive	Not investigated	Not investigated	Not investigated	
Campbell Mtn.	Not investigated	Not investigated	Not investigated	2 yg. fledged	Undetermined	Not investigated	Not investigated	Terr. active	1 yg. fledged	Not investigated	2 yg. fledged	Not investigated	5 / 3
Total yg. known out of 25 territories†††	1	3	7	14	8	1	5	6	17	2	8	10	81/73
†Undetermined means insufficient field work to establish territory status.													
††Productivity defined as number of young fledged in territory per number of years in which status was determined, including nest failures and inactive years.													
†††Two territories, Golden and Boulder, not included in table as they have been inactive since the beginning of our study.													
*Territory active means frequent sightings of eagles in territory, but no active nest found.													
**Young fledged means either that young were observed flying or that they were fully feathered and successful fledging was assumed.													
***If fledging not specified, means that young were seen early in the season and later visits were not made to confirm fledging.													

Table 2. Boulder County and vicinity Prairie Falcon nest status												
Territory (south to north)	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	Productivity††
Bull Gulch	Not investigated	Not investigated	3 yg. fledged**	Terr. active*	5 yg. fledged	Undetermined†	At least 1 yg. fledged	4 yg. fledged	4 yg. fledged	Undetermined	Undetermined	17 / 5
Eldorado Mtn. (Mickey Mouse Wall)	Terr. active	Terr. active	Terr. active	Inactive***	Inactive	Inactive	At least 2 yg. fledged	4 yg. fledged	Terr. active	Nest active, productivity unk.	4 yg. fledged South Tower	10 / 7
Eldorado Canyon (State Park)	Not investigated	Not investigated	4 yg. fledged	Inactive	Inactive	Inactive	Undetermined	2 yg., Upper Peanuts	2 yg., Red Garden Wall	Inactive	Inactive	8 / 8
Shadow Canyon (Jam Crack Spire)	Not investigated	4 yg. fledged	Terr. active	Terr. active	2 yg. fledged	Terr. active	Yg. heard, not seen	At least 2 yg. fledged	Terr. active	At least 1 yg.	Displaced by peregrines	9 / 6
Fern Canyon	Not investigated	3 yg. fledged	5 yg. fledged	1 yg. on ground; nest not found	3 yg. fledged	Inactive	Inactive	Est. 2 yg. fledged, by calls; nest not found	Terr. active	At least 2 yg. fledged, E. Ridge	Nest active, productivity unk.	16 / 9
Bear Canyon	Not investigated	Terr. active	4 yg. fledged	Incub.; failed	4 yg. fledged	4 yg. fledged	Nest used by ravens	Inactive	Inactive	Inactive	Inactive	12 / 9
Third Flatiron	Terr. active	Terr. active	1 yg. fledged, Queen Anne's	Not investigated	4 yg. fledged, West side	Terr. active	At least 3 yg. fledged, West	At least 3 yg. fledged, West	5 yg. fledged, West site	4 yg. fledged, Queen Anne's	Nest active, productivity unk.	20 / 7
Mt. Sanitas	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Terr. active	4 yg. fledged, S. Cedarbrook	3 yg. fledged, S. Cedarbrook	Inactive	Inactive	7 / 4
Steamboat Mtn.	Not investigated	1 yg. fledged	3 yg. fledged	Not investigated	Not investigated	Undetermined	At least 2 yg. fledged	At least 3 yg. fledged	Site occupied by peregrines	Briefly occupied by 1 peregrine	Inactive	9 / 7
Total yg. known out of 9 territories	0	8	20	1	18	4	8	22	14	6	4	108 / 62
*Territory active means frequent sightings of falcons in territory, but no active nest found.												
**Young fledged means that either young were observed flying or they were fully feathered and successful fledging was assumed.												
***Inactive means we saw no falcons during our visits and assumed territory to be unoccupied.												
†Undetermined means insufficient field work to establish territory status.												
††Productivity defined as number of young fledged in territory per number of years in which status was determined, including nest failures and inactive years.												

Table 3. Boulder County and vicinity Peregrine Falcon nest status				
Territory	1991	1992	1993	Productivity††
Matron	3 yg. fledged**	Pair moved to new site	Inactive	3 / 3
Shadow Canyon	Inactive***	1 yg. fledged	2 yg. fledged	3 / 3
Steamboat Mtn.	Active*	Inactive	Inactive	0 / 3
Total yg. known out of 3 territories	3	1	2	6 / 9
*Territory active means frequent sightings of falcons in territory, but no active nest found.				
**Young fledged means that either young were observed flying or they were fully feathered and successful fledging was assumed.				
***Inactive means we saw no falcons during our visits and assumed territory to be unoccupied.				
†Undetermined means insufficient field work to establish territory status.				
††Productivity means number of young fledged in territory per number of years in which status was determined, including nest failures and inactive years.				

Table 4. Mountain Parks Raptor Nest Site Results

1993 OBSERVATIONS			MOUNTAIN PARKS RAPTOR NEST SITE RESULTS						
NEST	SPECIES	1ST OBSERVED	NEST SITE	INCUBATING	BROODING	YOUNG SEEN	#	FLEDGING DATE	
SHADOW	PEREGRINE	3/20/93	NA	NA	5/21/93	6/20/93	2	6/27/93	
SHADOW	PRAIRIE	NA	NA	NA	NA	NA	0	NA	
FERN	PRAIRIE	NA	NA	4/18/93	NA	NA	0	NA	
3RD	PRAIRIE	4/3/93	NA	4/27/93	NA	NA	0	NA	
SKUNK	EAGLE	3/31/93	NA	4/18/93	5/20/93	5/20/91	1	7/14/93	
LEFTHAND	EAGLE	3/16/93	NA	3/27/93	5/3/93	5/3/93	2	7/7/93	
NEST	BANDED	OTHER INFO							
SHADOW	N	STARTED AT 1992 NEST SITE, MOVED AND DISPLACED PRAIRIE FALCONS.							
SHADOW	N	PRAIRIE FALCONS DISPLACED BY PEREGRINES							
FERN	N	UNKNOWN SUCCESS, POSSIBLE ABANDONED NEST							
3RD	N	UNKNOWN SUCCESS/							
SKUNK	N	ONE YOUNG FLEDGED 07/14/93							
LEFTHAND	N	FIRST EAGLET FLEDGED BEFORE 2ND 07/18/93, 1ST FEMALE, 2ND MALE							