Cliff Nesting Raptors in Boulder County a
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Nan Lederer & Steve Armstead

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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,

-orq 11.15ub	£661	7661	1661	0661	6861	8861	4861	9861	\$86I	1861	1983	7861	Territory
								 	 	 		 	(south to north)
٤/۶	2 yg, fledged,	Not investigated	l yg. fledged	Z yg. fledged	Undetermined†	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	EFFERSON COUNTY OWER Clear Cr. Can.
i	south side Not investigated	hatanitaavni toV	avita taN	hataoitsavni toM	hatsoitsavni IoN	hetapitsevni toM	hatenitaavni toM	hetopitavni toV	betanitaura; toM	betanitoura; told	hetanitasıni tek	1	-5,2,4,000
7/7				1					T		1	Not investigated	noiS Janol
717	Not investigated	ואסנ זוואפארוצמונת	Dankgriesvill 1071	l yg. fledged, lower nest #1	Undetermined	Nest active	Nest active	West active	nyg. neat		Deligated	Not investigated	salston Buttes
i	Not investigated	i yg. fledged	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	urkey Creek
													ORDER COUNTY
\$/1	Inactive	Inactive	Inactive	Undetermined	Terr. active	Undetermined	Undetermined	Teff. active	I yg. fledged,** N. of Mouse E.	Terr. active*	Incub., Mouse Ears; failed		Idorado Springs
11/11	F3-F3 3111	T	Patro Bold	- 0- F-;F - 0-1	FE-D 2.1.C		,	, , , , , ,					Eldorado Canyon)
11/11	l yg. fledged	Terr. active, no neat attempt	incerno Inferno	l yg. died after fledging, Inferno	2 yg. fledged, Inferno	Terr. active, did not nest	Terr. active, did not neat	2 yg. fledged, Inferno	Syg. fledged,		2 yg. fledged, Infemo	Not investigated	kunk Canyon
6/8	Nest failed	Nest failed		Z yg. Nedged,	l yg. fledged, Blob Rock; l	Incub. Eag.	Undetermined		I yg. fledged,	2 yg. fledged,	Terr. active	Ten. active	oulder Canyon
	during incubat., Bitty Buttress	during incubat., Blob Rock	Eagle Rock, 1	Eagle Rock	Blob Rock; 1	Rock; failed		fledged, Bitty Buttress	Eagle Rock	2 yg. fledged, Eagle Rock			
<u> </u>	Not investigated		Not investigated		Not investigated	Undetermined	Undetermined		Not investigated	nees stlithadits C	Terr. active	Terr. active	orth Fork
11/11				L									
17 / 11	2 yg. fledged, Palisades North	Palisades North	Nest failed dur- ing incubation	l yg. fledged, Palisades South	DAITHI 18ALI	l yg. fledged	Incub.; nest failed	l yg. fledged	2 yg. fledged	2 yg. fledged	Terr. active	l yg. fledged	efthand Palisades
8/6	i yg. fledged,	Terr. active	Unknown	l yg. fledged,	Terr. active,	Terr. active	l yg. fledged	2 yg. fledged,	Z yg. fledged,	2 yg., nest fell	New mate; late	Terr. active	ower St. Vrain
	Cracking Dome			Cracking Dome	taken over by			*Cracking	"Cracking	off cliff; fate	nest-building,		
					TAVENS	10 0		Dome" neat	Dome" nest	пикиоми	nusnecesstul		
315	Ten. active	Теп. асцуе	Terr. active	Terr. active	Terr, active	2 yg. S. Sheep Min.	Terr. active	Ten. active	Terr. active	Terr. active	1 yg., 5. Sheep Min. ***	Terr. active	pper St. Vrain
L/6	Z yg. fledged,	nest failed,	I yg. fledged	Z vg. fledged,	At least 1 yg.	2 ys.	Рви свиу-	I vg., tree nest	Not investigated	hateoiteavni toM		Not investigated	Suos
	Meadow Park	Meadow Park	Meadow Park	2 yg. fledged, Meadow Park	nedged	97	ing sticks	Stone Canyon	and Translative and t	nam@ross.tm 2011	nom@treatur rott	namanea aut 1041	suos
€/9	2 yg. fledged, W mol's Hom W	2 yg. fledged,	Not investigated	2 yg. Nedged	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	tabbit Mtn.
	м шон вошим	м шон вошим											

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*** If fledging not specified,	means that young v	were seen early in	the season and la	ter visits were not	made to confirm	fledging.							
**Young fledged means eith	er that young were	observed flying or	t that they were fu	LITY TEALINETED AND	igbofi lulassooua	ng was assumed.							
pertitory active means fred	uent sightings of ea	d ,violimet in territory, b	i isən əvitər on tuc	'puno	i								
†††Two territories, Golden	and Boulder, not inc	l as eldat in bebule	they have been ins	ective since the be	is ino do gainaig	·γbι							
††Productivity defined as nu	mber of voune fled	og vrojimej ni best	er number of vears	s in which status v	vas determined, in	ulial teen gaibulo	res and inactive yo	SIRS.			· · · · · · · · · · · · · · · · · · ·		
†Undetermined means insuft	icient field work to	rioirrai daildataa o	y status.										
of 25 territories†††													
Total yg. known out		ε	L	ÞĪ .	8		<u>s</u>	9	LI	7	8	01	EL/18
Campbell Min.	Not investigated	Not investigated	Not investigated	Z yg. fledged	Undetermined	Not investigated	Not investigated	I eff. active	l yg. fledged	Not investigated	८ ५६. गल्यहुल्य	Not investigated	٤/۶
							1	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	F-P-B	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, , , , , ,	<u> </u>
Eagles Nest (Livermore)	Not investigated	Not investigated	Not investigated	Nest active	Undetermined	Not investigated	Not investigated	Undetermined	Inactive	Not investigated	Not investigated	Not investigated	
Bonner Peak	Not investigated	Not investigated	Not investigated	Not investigated	DOI INVESTIBATED	NOT INVESTIBATED	Dangingavii yoki	TAOL TILACSCIRRATE	nangineasur nosi	TADE HIVESTIBATED	Dankgingaviii 10Pi	TAOL HIVESTIBARED	
	,		, , , , , , , , , , , , , , , , , , , ,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	po,oo,your, voje	Potos incur: 1-14	boteniteuri told	betenitzeuni toM	beteniteerni told	beteniteeuri toM	betenitzevai toM	betenitetrai toM	
					fledged								
Owl Canyon	Not investigated	Not investigated	Not investigated	2 yg. fledged	At least 1 yg.	Not investigated	Not investigated	2 yg. fledged	Inactive	Not investigated	l yg. fledged	Not investigated	<u>\$/9</u>
HiH Jeot	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	l yg. Nedged	Not investigated	1/1
уцрпц, г Коск	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	
Iorsetooth Min.	Not investigated	Datagiteavni foM	Not investigated	l yg. fledged	Not investigated	Not investigated	Not investigated	Undetermined	l yg, fledged	Not investigated	Undetermined	Not investigated	717
Ailner Min.	Not investigated	Not investigated	Not investigated						Inactive			Not investigated	
омег Вискнога Ст.													
	Not investigated	i							Inactive	Not investigated	Not investigated	Not investigated	
ower Big Thompson	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Undetermined	Not investigated	Not investigated	Not investigated	
Slue Min,	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	
	† <u>-</u>	<u> </u>						L	Flatiron Mtn.				
Sarter Lake	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Z yg. fledged	Not investigated	Undetermined	Not investigated	1/7
ittle Thompson	Terr. active	Terr. active	l adult seen	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	2 yg. fledged	Not investigated	Not investigated	Not investigated	1/2
VENMER COUNTY													
(south to north)													
Sable 1. Continued Territory	7861	1983	†86I	\$861	9861	486 I	8861	6861	0661	1661	7661	£661	Pro-

Territory	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	Productivity†
(south to north)												
(2.441.10.110.11)	<u> </u>											
Bull Gulch	Not investigated	Not investigated	3 yg. fledged**	Terr. active*	5 yg. fledged	Undetermined†	At least 1 yg.	4 yg. fledged	4 yg. fledged	Undetermined	Undetermined	17/5
							fledged	ļ				·
11.1			Terr. active	Inactive***	Inactive	Inactive	At least 2 yg.	4 yg. fledged	Terr. active	Nest active,pro-	4 vg fledged	10/7
ldorado Mtn.	Terr. active	Terr. active	Terr. active	mactive	Mactive	Illactive	fledged	4 yg. nedged	TOTT. GOLIVE		South Tower	10,7
Mickey Mouse Wall)							neugeu			ductivity disk.	Doddi Tower	
Eldorado Canyon	Not investigated	Not investigated	4 yg. fledged	Inactive	Inactive	Inactive	Undetermined	2 yg., Upper	2 yg., Red	Inactive	Inactive	8/8
State Park)								Peanuts	Garden Wall			
Shadow Canyon	Not investigated	4 va fledged	Terr. active	Terr. active	2 yg. fledged	Terr. active	Yg. heard, not	At least 2 yg.	Terr. active	At least 1 yg.	Displaced by	9/6
Jam Crack Spire)	Not investigated	4 yg. nedged	TOTT. BOLLYO		78		seen	fledged			peregrines	
jani crack Spire)												
ern Canyon	Not investigated	3 yg. fledged	5 yg. fledged	1 yg. on ground;	3 yg. fledged	Inactive	Inactive	Est. 2 yg. fldgd,	Terr. active		Nest active,pro-	16/9
				nest not found				by calls; nest		fledged, E. Ridge	ductivity unk.	
								not found				
	Not investigated	TP anti-in	4 yg. fledged	Incub.; failed	4 yg. fledged	4 yg. fledged	Nest used by	Inactive	Inactive	Inactive	Inactive	12/9
Bear Canyon	Not investigated	Terr. active	4 yg. neuged	incuo., ianeu	4 yg. neuged	yg. Hedged	ravens	Inactive	Inactivo	I I I I I I I I I I I I I I I I I I I	Inactive	
Third Flatiron	Terr. active	Terr. active	1 yg. fledged,	Not investigated		Terr. active	At least 3 yg.	At least 3 yg.	5 yg. fledged,	4 yg. fledged,	Nest active,pro-	20 / 7
			Queen Anne's	<u> </u>	West side		fledged, West	fledged, West	West site	Queen Anne's	ductivity unk.	There is no the state of the st
Mt. Sanitas	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Not investigated	Terr. active	4 yg. fledged,	3 yg. fledged,	Inactive	Inactive	7/4
it. Saintas	Trot in vestigated	i i i i i i i i i i i i i i i i i i i							S. Cedarbrook			
							100	1	0:	D : 0 · ·		0.15
Steamboat Mtn.	Not investigated	l yg. fledged	3 yg. fledged	Not investigated	Not investigated	Undetermined	At least 2 yg.	At least 3 yg.		Briefly occupied by 1 peregrine	Inactive	9/7
					 		fledged	fledged	peregrines	by I peregrife		
Total yg. known out of												
9 territories	0	8	20	1	18	4	8	22	14	6	4	108 / 62
			<u></u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>				
Territory active means fre	quent sightings of f	alcons in territory,	but no active ne	st found.	6.10-1	<u> </u>			 			
**Young fledged means the	at either young wer	e observed flying	or they were fully	leathered and suc	ccessiul fleaging v	was assumed.	 					
***Inactive means we saw	no falcons during o	ur visits and assur	ned territory to be	e unoccupied.		 	 	_			<u> </u>	
Undetermined means insu †Productivity defined as r	incient neid work	doed in territory	y status. er number of vee	re in which status	was determined i	including nest fail	ures and inactive	e vears		 		
Troductivity defined as r	iumoer of young ne	aged in territory p	er number of yea	io iii wincii status	was determined, i	mercaning near lan	and and anature	- 1	1	<u> </u>	1	
	•			,								
	ı											

Table 3. Boulder County	y and vicinity Pe	regrine 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 fr	requent sightings		erritory, but no	active nest found.	and successful	fledging was a	ssumed.
***Inactive means we saw †Undetermined means in	no falcons during sufficient field wo	g our visits and ork to establish	l assumed territ territory status.	ory to be unoccupi	ed.		
††Productivity means nun failures and inactive ye		uged in territory	per number of	years in which sta	ilus was detem	inea, including	IIESL

Table 4. Mountain Parks Raptor Nest Site Results

	1993 OBSE	RVATIONS	MOUNTAI	PARKS RAPTO	R NEST SITE P	ESULTS		
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 199	2 NEST SITE, M	OVED AND DISP	LACED PRAIRI	E FALCONS.		
SHADOW	N	PRAIRIE FALCONS	DISPLACED BY	PEREGRINES				
FERN	N	UNKNOWN SUCC	ESS, POSSIBLE	ABANDONED NE	ST			
3RD	N	UNKNOWN SUCC	ESS/					
SKUNK	N	ONE YOUNG FLE	DGED 07/14/93					
LEFTHAND	N	FIRST EAGLET FLI	EDGED BEFORE	2ND 07/18/93,	IST FEMALE, 2	ND MALE		