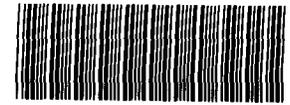


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CORRES CONTROL  
OUTGOING LTR NO



000065674

JOE ORDER# 54001  
95 RF 01593

# EG&G ROCKY FLATS

EG&G ROCKY FLATS INC  
ROCKY FLATS PLANT P O BOX 464 GOLDEN COLORADO 80402 0464 (303) 966 7000

February 9 1995

95 RF 01593

DIST		NC
AMARAL M E		
BURLINGAME A H		
BUSBY W S		
BRANCH D B		
CARNIVAL G J		
AVIS J G		
ERRERA D W		
RAY R E		
EIS J A		
LOVER, W S		
OLAN, P M		
HANNI B J		
HARMAN, L K		
HEALY, T J		
HEDAHL, T	X	
HILBIG, J G		
HUTCHINS, N M		
ACKSON, D T		
ELL, R E		
UESTER, A W		
HARX, G E		
McDONALD, M M		
McKENNA, F G		
McNTROSE, J K		
MORGAN, R V		
OTTER, G L		
IZZUTO, V M		
ISSING, T L		
ANDLIN, N B		
CHWARTZ, J K		
ETLOCK, G H	X	X
TEWART, D L		
TIGER, S G		
OBIN, P M		
BOORHEIS, G M		
WILSON, J M		
woody, M	X	X
Rhuse J	X	X
MURDOCK, M	X	
van, I	X	X
WENCE, T	X	X
CORRES CONTROL	X	X
DMN RECORD/080		
RAFFIC		
ATS/T130G		

J J Rampe  
Environmental Restoration Projects  
DOE RFFO

1995 FIRST QUARTERLY REPORT ON STANDLEY LAKE BALD EAGLE - PAL-026-95

Enclosed is the first quarterly monitoring report from the Colorado Bird Observatory (CBO) on the Standley Lake Bald Eagle pair during the time period from October 19 1994 through January 20 1995 This report summarizes the results of observations during the report period with emphasis on changes of behavior of the pair from previous observation years Specific discussion of monitoring during construction activity time frames is also included

Within the body of the report CBO indicates that the Bald Eagle pair is now entering its most disturbance sensitive period of the breeding cycle It is also CBO s observation that the courtship and nesting activity has been more intense at an earlier date than in years past This more intensive breeding activity indicates a greater likelihood of a successful nesting attempt in 1995

If you have any questions or concerns you may contact me at X4244 or Marcia Murdock at X3560

P A Lee Manager  
Ecology and Watershed Management

MBM mad

Orig and 1 cc J J Rampe

Enclosure  
As Stated

cc  
G S Hill  
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CLASSIFICATION		
CNI		
UNCLASSIFIED	X	X
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DATE 2/8/95

REPLY TO RFP CC NO

ITEM STATUS  
PARTIAL/OPEN  
 CLOSED  
APPROVALS

FIG & TYPIST INITIALS

ADMIN RECCRD

SW-A-004317

**Preliminary Report on the Behavioral Ecology  
and Habitat Use of the  
Standley Lake Bald Eagle Pair  
19 October, 1994 20 January, 1995**

**Submitted by**  
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Colorado Bird Observatory  
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**Submitted to**  
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January 30 1995

**ADMIN RECCRD**

## Introduction

The Colorado Bird Observatory has been conducting behavioral and habitat use research on the Standley Lake Bald Eagle pair since 1993. We are attempting to determine the pair's home and foraging ranges and features within these ranges which appear to be important to the eagles. This information will be used to develop management strategies to protect Bald Eagle habitat at Standley Lake.

This report is an update on the nesting season during the period of 19 October 1994 - 20 January 1995. In this report we present preliminary data and observations on the eagles' nesting season and locational use within the Standley Lake area bounded by 100th Ave, Alkire St, and 88th St.

## Methods and Results

### *Observation schedule and absence of eagles*

We began looking for the Standley Lake Bald Eagle pair on 19 October 1994. On this day we sighted one eagle soaring northward over Rocky Flats. We checked the Standley Lake area 4 times between 20 October and 3 November, but did not see the pair or single adult Bald Eagles until 5 November 1994. We began collecting behavior data on 5 November 1995 when we identified an adult male and an adult female Bald Eagle in the study area. Since this time, the eagle pair has been absent on 8 of 39 (20%) of our total observation days. The female has been absent on 9 of 32 (28%) observation days and the male has been absent on 8 of 35 (20%) observation days. For this same period last year, the eagle pair was absent on 3 of 39 (8%) observation days, the female was absent on 6 of 29 (21%) days, and the male was absent on 4 of 29 (14%) days.

### *Changes in Behavior Categories*

We are following the methodology established and described in previous reports to monitor behaviors of the Bald Eagles (see CBO Preliminary Report 1993 and CBO Final Report 1994). This year, however, we have added the behavior categories of unobserved due to darkness (UN) and temporary end of data collection (TE). The UN category is necessary during the winter months when the 4-hour watches are reduced in length due to a late sunrise or an early sunset. The TE category is useful because it allows us to subtract any interruptions in data collection. For example, a TE is recorded when an observer moves from one location to another and obviously cannot record behavior with vigilance. The UN and TE categories allow us to calculate total observation time in a watch so that behavioral proportions can be calculated without bias and may be comparable among seasons.

In addition to adding some behavior categories, we have consolidated a few behaviors and omitted some others because their occurrence was so rare that they were not biologically meaningful in this study. For example, we consolidated Perched Old Nest and Perched Alternate Nest, and now use Perched Nest. We used a location number 1 or 5 to identify

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which nest was being used We have eliminated Perched Bathing and Perched Floating because they do not appear to be important features in the eagles overall behavioral repertoire (see Appendix A for current data sheet)

### *Proportions of behaviors for female and male eagles*

We have lumped individual behaviors into the categories of perching flight nest activities and prey handling to illustrate how the female and male have spent their time during our observation periods (see Table 1 for grouping of individual behaviors) Out of all the behaviors we saw the female (n= 632) and male (n = 640) display perching was dominant group of behaviors with flight nest activities and prey handling following respectively (Table 2) We observed the female engaged in nest activities more often than the male We also observed the male and female engaged in flight behaviors almost equally This was also true of prey handling activities These proportions were not noticeably different from previous years observations

### *Use of specific locations within the Standley Lake area*

We have observed the eagles using the same locations they used last year We have continued to use last year's numbering scheme to identify these locations (Figure 1) Again this year the snag (#3) is a prominent perching and feeding site for the male and female (Figure 2) This season we have observed the male more often than the female at the snag Last year the male and female were seen at the snag nearly an equal number of times (Figure 3) We have observed the eagles using the old nest (#1) 6 times this year (Figure 2) but last year they were seen at the old nest site 87 times (Figure 3) The primary nest building and attendance activities have occurred at the alternate nest site (#5) this season (Figure 2) We have observed the female using the alternate nest site more often than the male this season and nearly twice as often as she did last year (Figure 3) For this season's data we have also illustrated that the eagles are using other unique locations within the Standley Lake area bounded by 100th Ave and Alkire St At this time it was not possible to determine this same category from last year's data

We have observed the female and male perching in trees between the alternate and old nest sites at dusk We have seen the female there 4 times and the male there 5 times We have also seen the male in these trees 2 times at dawn It appears the eagles are occasionally using these trees for roosting This is an observation we did not have last season

### *Home and foraging range maps*

For this preliminary report we have illustrated the home and foraging ranges of the Eagle pair using a minimum polygon to bound all unique locations (Figures 4 and 5 respectively) These graphs indicate the outer boundaries and area of each range for the set of observations we have acquired during 19 October - 20 January The plotted points are of unique locations where we have seen the eagles within the study area (n = 48 for the home range map of the pair and n = 6 for the foraging map of the pair) The home range map (Figure 4) shows an area bounded by 100th Ave and Alkire St and does not include any flight paths we have observed the eagles using

We have 16 observations of the eagles flying either from or toward the north northeast or north northwest throughout the day and at dusk, indicating their home range is really larger than we can document with UTM observations. Because of topography and lack of roads we have not been able to collect any UTMs across 100th Ave to the north. For example there are 8 UTMs we could not record for prey captures because we did not see the prey captures occur. Because we do not have UTMs for these observations they could not be included in the foraging range map. It is possible some of these prey captures occurred to the north of 100th. These observations become important when viewing the forage range map because this range most certainly includes the prairie dog town to the north of the 100th Ave. The likely importance of the prairie dog town to the north of 100th Ave has not changed from previous years observations.

### *Prey use*

The eagles continue to forage for prairie dogs, fish and birds this year. We have seen them capture prairie dogs, pirate prairie dogs from Ferruginous Hawks and scavenge prairie dogs. We have also seen them foraging for fish in Standley Lake and on 1 occasion pursue a flock of birds on Standley Lake. However we have not seen any successful prey captures of fish or birds.

### *Comments on observation days 10-13 January and 17-18 January -- Construction period*

The male and female were present for the duration of our watches on these days except for 11 January. On this day the female was not seen and the male left the study site after 1 hour and twenty minutes by Flight Soaring. On 18 January 3 adult eagles (2 males and 1 female) were present near the nest trees and stayed throughout the morning watch.

Activities on these days varied from nest building, perching and false incubating at the nest, flights for nest material, copulation, prey capture, feeding at the snag, territorial displays and directional flights within the study area. We did not observe any Flight Flushes during this period.

## **Discussion**

So far this season we have observed consistent use of the Standley Lake nesting site by a pair of Bald Eagles. We have also observed at least two other adult eagles in the area. We have not seen another nest but find it interesting to note other adult eagles have been in the territory of the current pair.

We have few observations of the eagles at the old nest site this season. They appear to have shifted all building activity to what was previously called the alternate nest (location # 5). They also began nest building and false incubating behaviors earlier this season than last (e.g. November vs. January and February respectively). We observed the first copulation in January this season vs. February last season. These observations could be positive indications of nest site fidelity and the nesting intent of the eagles this season.

Disturbance is clearly an area of concern for all parties involved in this project. The additional No Parking signs placed along 100th Ave and Alkire St appear to be helping. It does not appear to us that as many people are parking or getting out of their cars on a daily basis.

this year as in the past We have also noted many fewer flushed flights this season, 5 this season vs 16 for the same period last season The flushed flights we noted this season may have been due to Public Service workmen hanging a transformer along 100th Ave (9 December) a person walking a dog on the south shore of the lake (28 December) and an immature Bald Eagle (28 December)

We do have observations from one day (26 December) when disturbance was extreme in the Standley Lake area It was an unseasonably warm day and we noted 12 16 people using the south and western shoreline of the Lake and 7 cars stopped along 100th Ave and Alkire St The eagles were absent for the entire afternoon watch on this day It would be prudent on holidays and weekends that are accompanied by good weather to enforce the restricted areas around the snag and nest site This is particularly true now that copulation has been noted and the eagles may be entering a more intensive phase of nesting

We were asked to conduct special observations on 10 13 January and on 17 18 January because of some planned construction Although the female was absent and the male left the study site on one of these days we cannot say their absence was specifically related to the construction Our observations in these situations should be used only to document acute or unusual behaviors recognizing that it is not possible to assign cause and effect to our observations

#### Acknowledgements

Funding for this study is provided by EG&G Rocky Flats Field observers and contributors to this preliminary report were Jim Bradley Mike Carter Ronnie Estelle Scott Gillihan and Tony Leukering all of Colorado Bird Observatory

**Literature Cited**

Colorado Bird Observatory 1993 Preliminary Report on the Behavioral Ecology and Habitat Use of the Standley Lake Bald Eagle Pair 16 October 31 December 1993

Colorado Bird Observatory 1994 Final Report on the Behavioral Ecology and Habitat Use of the Standley Lake Bald Eagle Pair 16 October 1993 28 March 1994

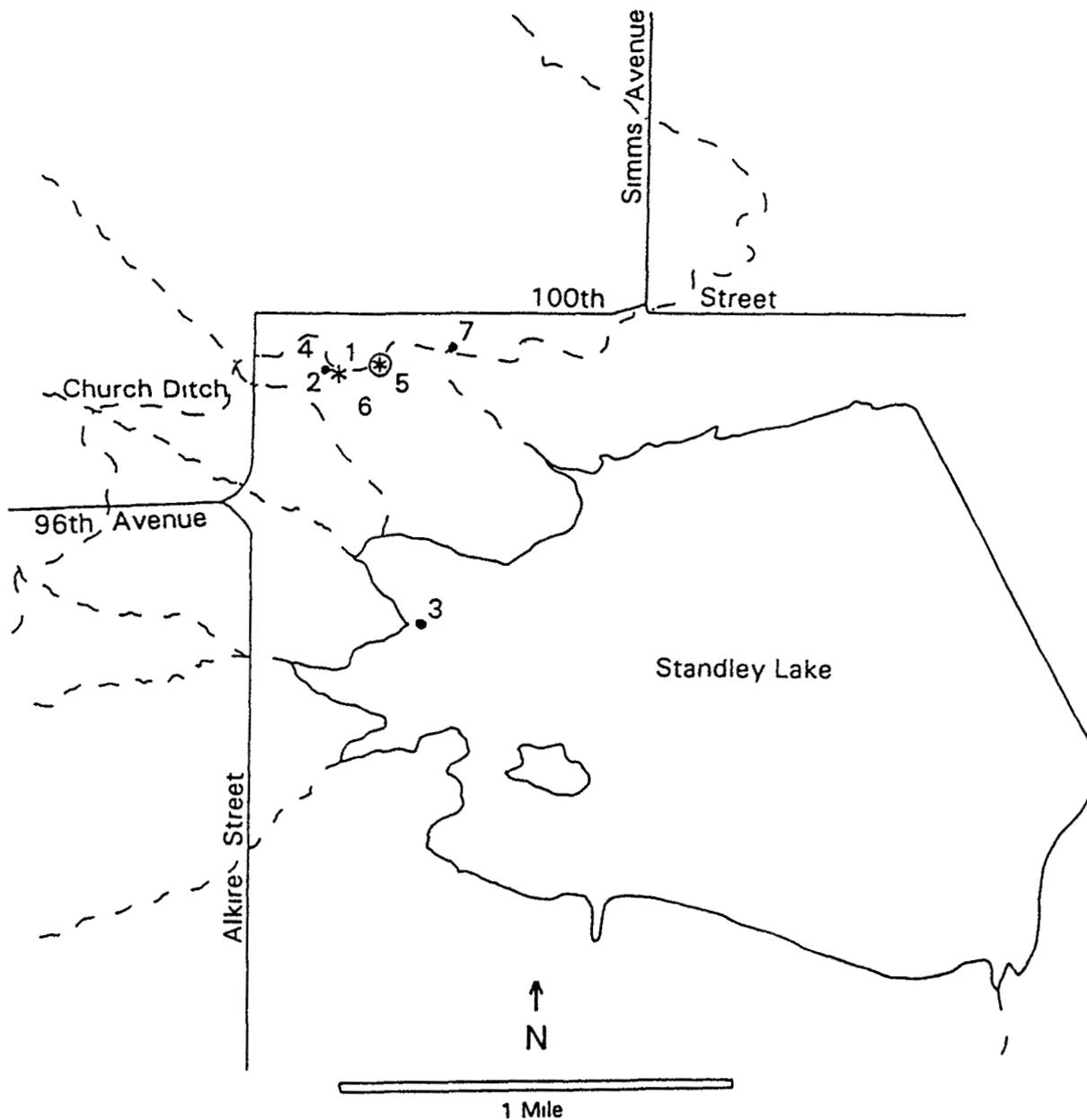
**Table 1** Behaviors exhibited by Standley Lake Bald Eagles during 19 October 1994  
20 January 1995

Behavior Category	BEHAVIOR	CODE	DESCRIPTION
<b>Flight</b>	Flight After Prey	FA	Flight to attempt prey capture
	Flight Directional	FD	Straight line flapping flight
	Flight Flushed	FF	Flight because of a disturbance
	Flight w/ Prey	FP	Flight with prey (after a capture)
	Flight Soaring	FS	Flight on a thermal (non flapping)
	Flight Territorial	FT	Flight to chase away intruder
<b>Nesting Activity</b>	Nest Construction	NC	Any nest building behavior
	Flight w/ Nest Mat	NF	Flight bringing in nesting material
	Nest Incubation	NI	Sitting in a nest as if incubating
	Nest Brooding	NB	Brooding of eggs
<b>Perching</b>	Perched Nest	PN	Perched on a nest (alternate or old nest)
	Perched Ground	PG	Perched on ground
	Perched Preening	PP	Preening while perched
	Perched Tree	PT	Perched on a tree
	Perched Water	PW	Perched on submerged beach
	Perched Ice	PI	Perched on ice
<b>Prey Handling</b>	Prey Capture	XC	Successful prey capture
	Prey Miss	XM	Unsuccessful prey capture attempt
	Feeding Self	XS	Actively feeding on prey
	Perched w/ Prey	XP	Holding prey while perched
<b>Other</b>	End	EN	End of daily observation period
	Temporary End	TE	Temporary end to observation
	Unobserved	UN	Unobserved due to darkness
	Lost from View	LV	Observed bird lost from view

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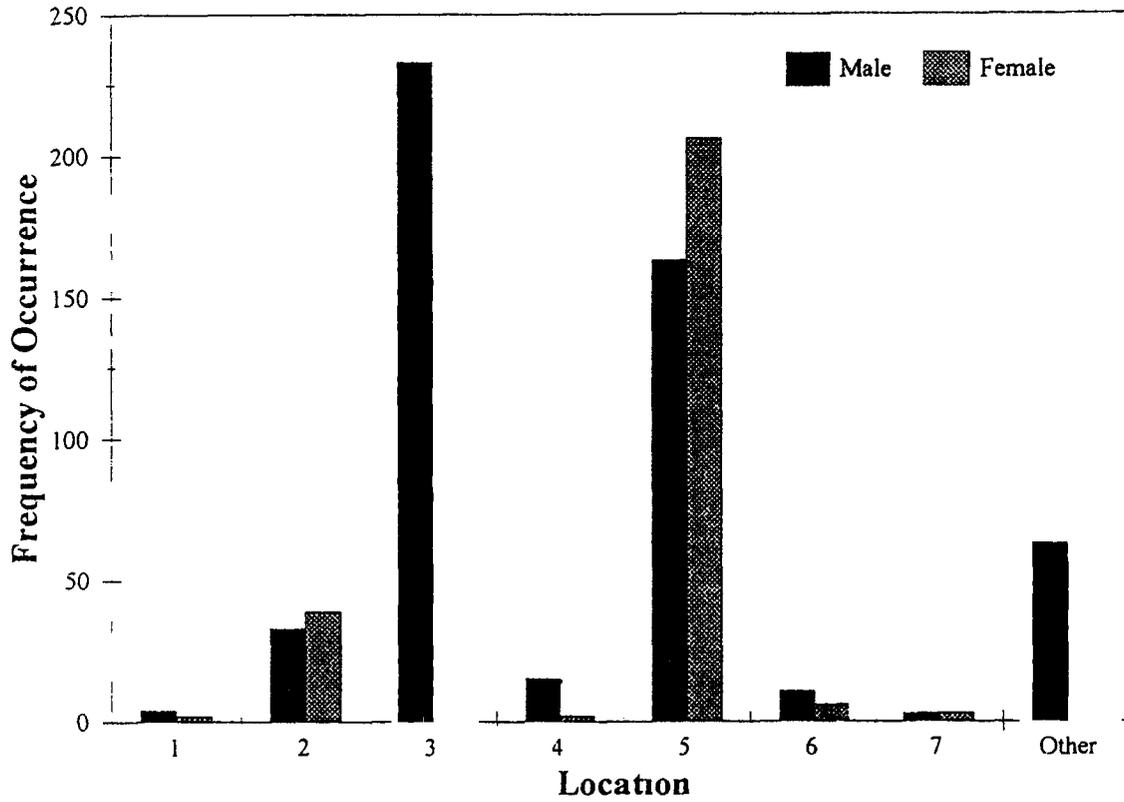
**Table 2** Percent of behaviors for the female and male Bald Eagles during 19 October 1994  
20 January 1995 Number of observations are indicated in ()

	Perching	Flight	Nest Activities	Prey Handling	Total
Female	53	23	16	8	100
(n = )	(334)	(147)	(102)	(49)	(632)
Male	65	21	7	7	100
(n = )	(413)	(132)	(47)	(48)	(640)



**Figure 1** Standley Lake area map of locations 1-7 as defined in the 1994 CBO Final Report. Location 1 is the old nest site, 2 is the tree west of the old nest, 3 is the snag in Standley Lake, 4 is the large tree west of the gap, 5 is the alternate nest site, 6 is the small snag southeast of the old nest, and 7 is the lone tree southeast of the parking spot. The two \*s represent old and alternate nest sites.

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**Figure 2** Frequency of occurrence of male and female Bald Eagles at locations 1-7 and at other unique locations within the Standley Lake study area during 19 October 1994 - 20 January 1995

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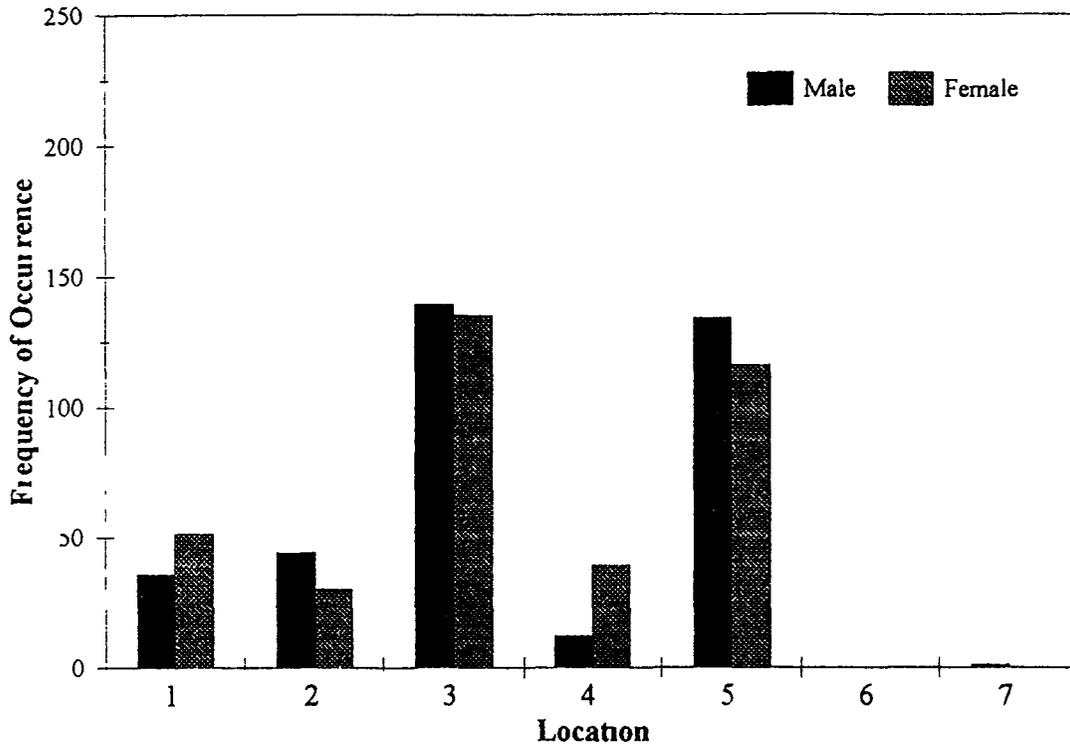
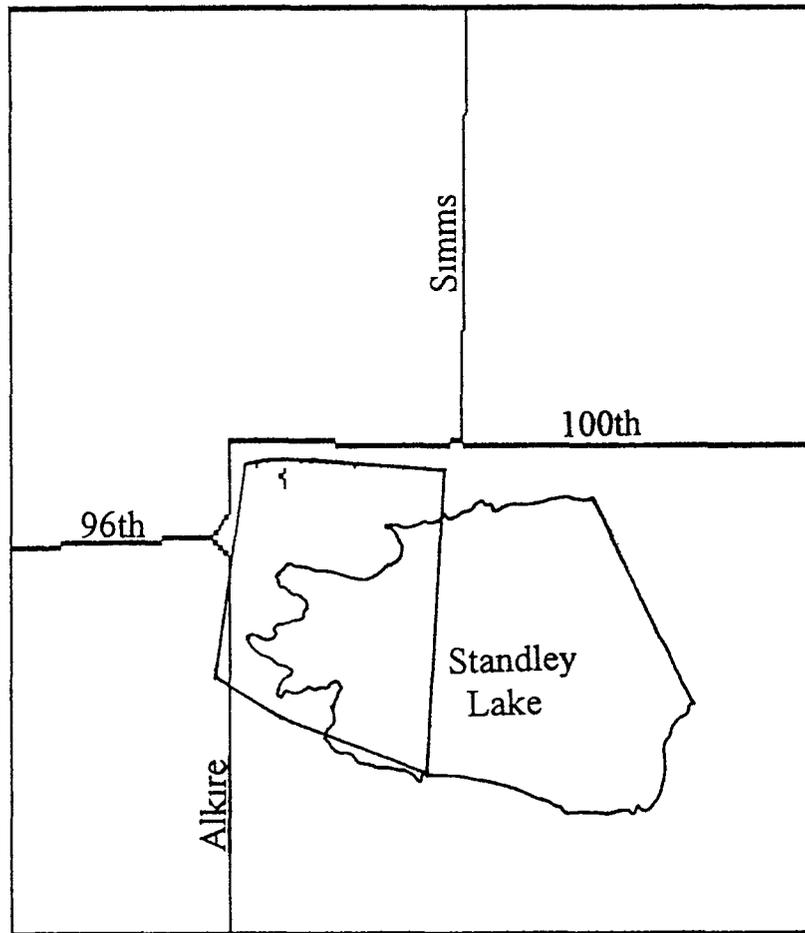
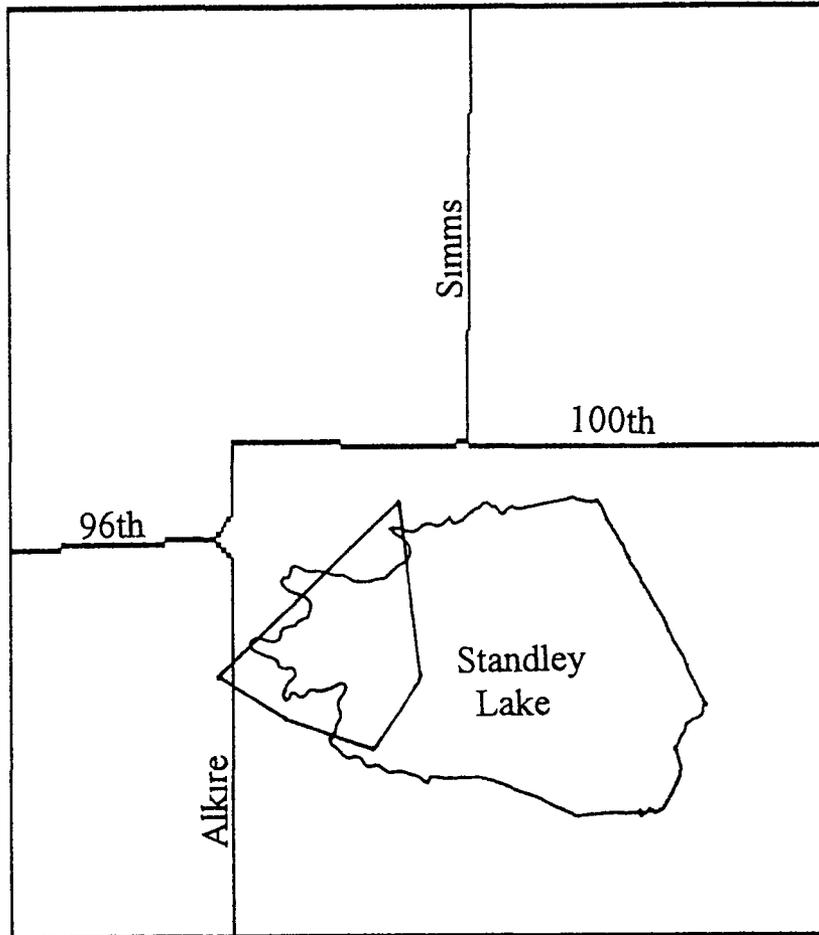


Figure 3 Frequency of occurrence of male and female Bald Eagles at locations 1 7 at the Standley Lake study area during 16 October 1993 20 January 1994

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**Figure 4** Minimum polygon of the Bald Eagle pair's home range. Plotted points represent unique locations we have observed the eagles using during 19 October 1994 - 20 January 1995.



**Figure 5** Minimum polygon of the Bald Eagle pair s forage range Plotted points represent unique locations where we have observed the eagles capturing prey during 19 October 1994 20 January 1995

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**Appendix B**

**February Observation Schedule**

Date	Observer	Observation Time	Focal Bird
2/1	Scott Gillihan	1400 1800	M
2/3	Jim Bradley	1400 1800	F
2/5	Ronnie Estelle	0600 1000	M
2/7	SG	1000 1400	M
2/9	RE	1400 1800	M
2/11	SG	1400 1800	F
2/13	SG	0600 1000	F
2/15	SG	1400 1800	M
2/17	JB	1000 1400	F
2/19	RE	1000 1400	M
2/21	SG	0600 1000	F
2/23	RE	0600 1000	M
2/25	SG	1000 1400	F
2/27	SG	1000 1400	F

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