

Mallette, R.  
1972

72.14

JOB PROGRESS REPORT

State: California

Cooperators: U.S. Forest Service

Project No.: W 54 R - 4

Project Title: Special Wildlife Investigations

Job No.: III-6

Job Title: Raptor Survey

Period Covered: July 1, 1970 to June 30, 1971

**SUMMARY:**

A Raptor Reporting Program, in effect since May 1966, recorded sightings of selected raptor species and their nests. This program was terminated June 30, 1971, and replaced by the Raptor Survey and Raptor Eyrie Inventory. These surveys were designed to determine trends in raptor populations.

Raptor Survey, initiated in December 1970, involves reporting four times a year all raptor species and their numbers observed along permanently established survey routes throughout the State. Fifty-four routes were established in areas where raptors concentrate either in winter or during breeding season. A statewide total of 9,662 raptor sightings for 19 species were reported. These averaged 106.3 birds per 100 miles of travel.

Two hundred and eighty-three eyries of 8 raptor species were compiled to initiate the statewide Raptor Eyrie Inventory in 1970. Number of eyries reported increased to 426 in 1971. Eyries were checked once during the breeding season to determine nesting activity.

**BACKGROUND:**

The Raptor Reporting Program was initiated by the Department in May 1966, through use of a Special Wildlife Species Reporting Card. The program consisted of reporting sightings of 7 raptor species and their nests by Department personnel while conducting regular field work. Sightings were reported monthly to regional offices and summarized on a monthly and annual basis. After one year, the report card was revised to include 13 raptors.

Objectives of the Raptor Reporting Program were to establish population trends and determine seasonal distribution of selected raptor species. In 1970, an evaluation made of this program resulted in development of the Raptor Survey and Raptor Eyrie Inventory to replace the Raptor Reporting Program. The latter survey methods were initiated in 1970.

**PROCEDURES:**

Raptor Reporting Program

Attached are the instructions and report card provided Department personnel to record

sightings of 13 raptor species. The Special Wildlife Species Reporting Card, FG-832, mailed by employees to their regional office were used to record raptor sightings in the region's monthly reports. Final tabulation of regional reports was accomplished by Special Wildlife Investigations in Sacramento.

#### Raptor Survey

Raptor survey routes were established by regional personnel in areas of high raptor concentrations. Most routes were run December, January, March and May. Attached are the directions for running routes and recording sightings on the form FG-887 developed for the survey. A trinomial numbering system was established for identifying routes. For example, R1-12-01 denotes raptor survey route in Region 1, and that is in Humboldt County, and is route number 1.

#### Raptor Eyrie Inventory

An inventory of eyries for 8 species of raptors was compiled. These were species whose present reproductive status is largely unknown. Regional personnel were instructed to report eyrie locations and to make observations during nesting season. Other agencies were requested to contribute to the inventory. The U.S. Forest Service, in particular, was asked to report the eyries on National Forest Service lands in California. All eyrie locations were to be recorded on a nesting survey form FG-882, and submitted to Sacramento for data processing. A numbering system similar to that used for Raptor Surveys was also used for eyries.

#### FINDINGS:

##### Raptor Reporting Program

Table 1 summarizes sightings of 7 raptors in 1966, and 13 from 1967-1971. Evaluation made of the Raptor Reporting Program revealed the following inconsistencies:

1. Area covered and observer effort was not consistent.
2. Sightings of individual birds was often repeated.
3. Number of sightings was influenced by enthusiasm of the employee and his willingness to report them.
4. Rarely seen raptors tend to be reported whereas the more common species were neglected or ignored.

Because data is not comparable from year to year and cannot serve as an index to population trends, the Raptor Reporting Program was abandoned by Special Wildlife Investigations. Regions to some extent, however, continue to use this program to encourage field personnel to become knowledgeable concerning raptor identification and distribution.

#### Raptor Survey

Fifty-four routes were established in areas where raptors concentrate in the winter and during breeding season. Table 2 identifies the survey routes and Figure 1 shows their general location, and the geographical areas. Raptor sightings for the five regions are summarized in Table 3, which gives number of birds observed of each species. Table 4 gives the number of birds per 100 miles. Preliminary analysis of this data indicates that California raptor populations vary both in numbers and species abundance. Resident raptor numbers are supplemented both in winter and spring months by an influx of migratory birds. Examples

of this occurrence are rough-legged and ferruginous hawks which winter but do not nest here, and turkey vulture and osprey which increase in numbers during the breeding season.

In December and January the most common species in order of abundance were the sparrow hawk, red-tailed hawk, and turkey vulture. During March and May, turkey vultures, red-tailed hawk and sparrow hawk occur in that order of abundance.

A total of 9,089.5 miles were traveled on 54 routes for the 4 months that the survey was conducted. Of the 9,662 raptors reported, turkey vulture (26.7%), red-tailed hawk (25.3%), sparrow hawk (24.8%), marsh hawk (6.1%), and white-tailed kite (3.8%) were most frequently reported. These 5 species made up 86.7% of all raptors sighted. Fourteen other species constituted 7.7% of the raptors reported and 5.6% were unidentified.

December and January populations of 104.9 and 106.2 raptors per 100 miles compare with findings of 110.9 per 100 miles for March and 90.0 per 100 miles for May. The latter figure reflects dispersal of birds particularly those which are migratory.

Tables 5 and 6 summarize the sightings and birds per 100 miles by geographical regions. An analysis of the significance of geographical and seasonal distribution of raptors in California will be made after tabulation of supplemental data received in 1971-72.

#### Eyrie Inventory

For species which are less common, the Raptor Survey Program does not provide for population comparison or contribute reproduction data. A program involving a sample check of eyries during the breeding season was undertaken. An inventory of eyrie locations of 8 species was compiled by the Department's regional personnel, U. S. Forest Service and other contributors. Species included in the eyrie inventory were red-shouldered hawk, Swainson's hawk, golden eagle, bald eagle, osprey, peregrine falcon, prairie falcon and goshawk. Table 7 summarizes the 1970-1971 eyries by region.

Table 8 summarizes eyrie data for 1970-1971, for a representative sample of golden eagle, bald eagle, osprey, and peregrine falcon eyries.

Prairie falcon study in progress by Garrett and Mitchell (1971), will supplement eyrie data for this species. Similar studies will be conducted on red-shouldered hawk, Swainson's hawk and goshawk at a later time.

REFERENCES CITED:

Garber, D. P. 1972. Osprey study, Lassen and Plumas Counties, California, 1970-71; California Department of Fish and Game, Wildlife Management Branch Administrative Report No. 72-1.

Garrett, R. L. & D. Mitchell. 1971. A progress report on the 1971 nesting status of California prairie falcon; California Department of Fish and Game; Project W-54-R-3 report, Special Wildlife Investigations.

Herman, S. G. 1971. The peregrine falcon decline in California. #2 breeding status in 1970; California Department of Fish and Game; Wildlife Management Branch Report, Special Wildlife Investigations. FM

RECOMMENDATIONS:

1. Review be made of the Raptor Survey and Raptor Eyrie Inventory at the completion of 1971-72 survey and measures be directed towards improvement of these survey methods.

Prepared by:

Robert D. Mallette  
Robert D. Mallette, Associate  
Wildlife Manager-Biologist

Date:

5/18/72

Approved by:

Howard R. Leach  
Howard R. Leach  
Wildlife Management Supervisor

Approved by:

Eldridge G. Hunt  
Eldridge G. Hunt, Chief FM  
Wildlife Management Branch



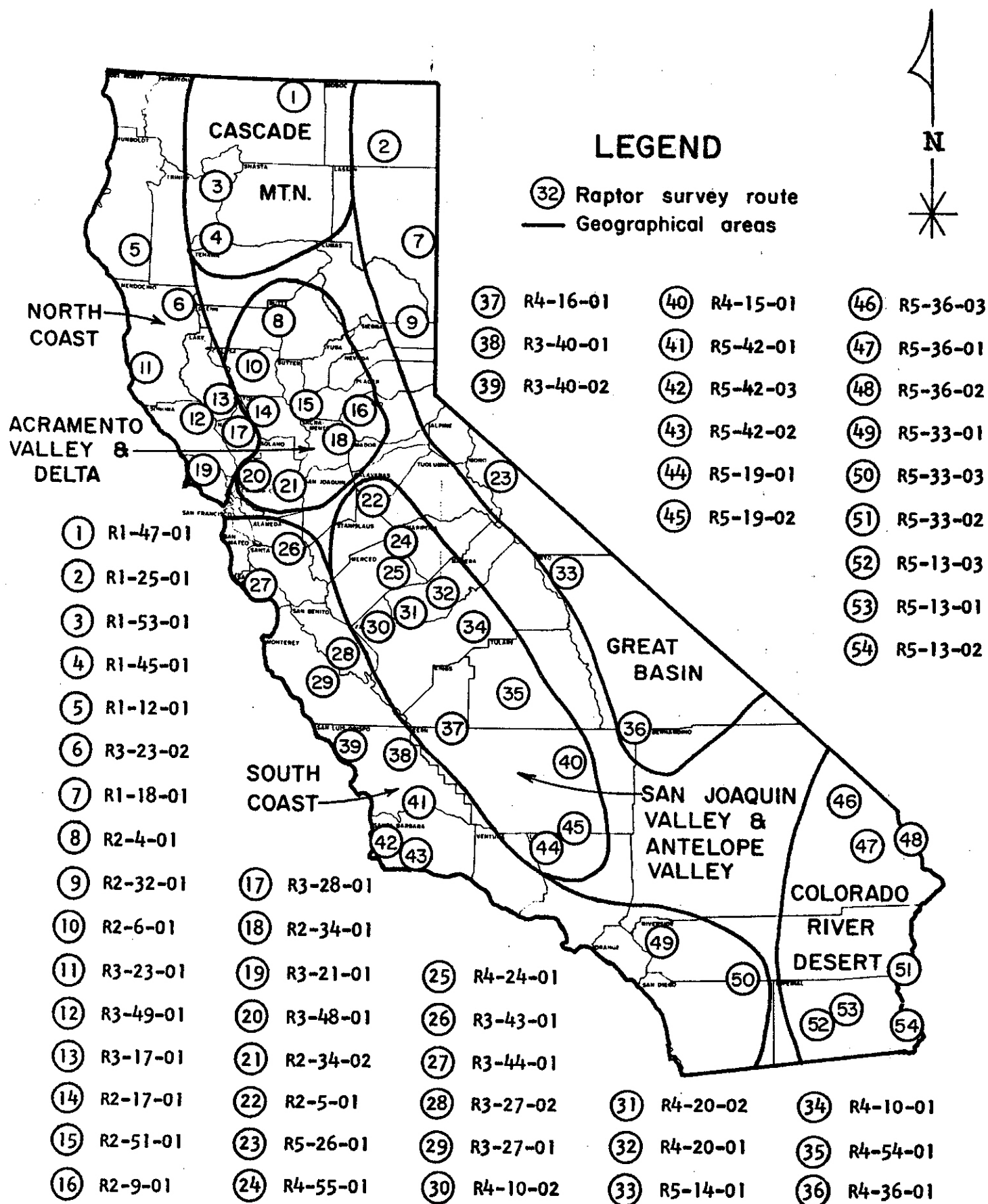


Figure 1. Location of raptor survey routes and geographical areas, 1970-71.

TABLE 1

Reported Sightings of Special Wildlife Species  
by Department of Fish and Game Personnel  
May 1966 - June 1971

Species	May 1966 - April 1967		May 1967 - April 1968 <sup>1/</sup>		May 1968 - April 1969		May 1969 - April 1970		May 1970 - April 1971	
	Sightings	Nests	Sightings	Nests	Sightings	Nests	Sightings	Nests	Sightings	Nests
Condor	54	0	52	0	144	0	51	0	87	0
White-tailed kite	-	-	1,501	6	1,746	7	1,499	21	1,723	13
Goshawk	-	-	25	0	38	1	20	0	24	0
Red-shouldered hawk	92	2	129	2	212	0	273	4	301	0
Swainson's hawk	-	-	103	0	153	3	205	0	130	4
Rough-legged hawk	-	-	115	-	47	0	75	0	99	0
Ferruginous hawk	-	-	49	0	43	0	41	0	63	0
Golden eagle	1,122	10	1,241	6	928	1	891	9	866	16
Bald eagle	222	2	275	2	201	0	189	2	272	8
Osprey	259	29	305	17	251	10	298	68	413	78
Prairie falcon	91	0	98	0	87	0	88	2	130	7
Peregrine falcon	28	1	27	1	36	2	38	2	36	3
Pigeon hawk	-	-	24	0	20	0	14	0	14	0
Total	1,868	44	3,944	34	3,906	24	3,682	108	4,158	129

<sup>1/</sup> An additional 6 species were added to the report card.

TABLE 2

## Raptor Survey Routes - 1970-71

Route Name	County	Route No.
Region I		
Garberville-Bridgeville	Humboldt	R1-12-01
Litchfield-Nevada Line	Lassen	R1-18-01
Warm Springs Valley	Modoc	R1-25-01
Redding-Platina	Shasta	R1-45-01
Lower Klamath-Butte Valley	Siskiyou	R1-47-01
Engle Lake	Trinity	R1-53-01
Total -- 6 routes		
Region II		
Sacramento River	Butte, Glenn & Tehama	R2-4-01
Calaveras-Stanislaus	Calaveras & Stanislaus	R2-5-01
Colusa	Colusa	R2-6-01
El Dorado	El Dorado	R2-9-01
Sierra Valley	Plumas & Sierra	R2-32-01
White Rock	Sacramento	R2-34-01
Bradford-Jersey Island	Sacramento	R2-34-02
Sutter-Natomas	Sutter	R2-51-01
North Yolo	Yolo	R2-57-01
Total -- 9 routes		
Region III		
Lake County	Lake	R3-17-01
Bodega Bay-Stafford Lake	Marin & Sonoma	R3-21-01
Coast Highway #1	Mendocino	R3-23-01
Longvale-Covelo	Mendocino	R3-23-02
King City-San Antonio Res.	Monterey	R3-27-01
King City-Santa Ana Valley	Monterey	R3-27-02
Napa-Lake Berryessa	Napa	R3-28-01
San Juan Valley	San Luis Obispo	R3-40-01
Paso Robles-Laguna Lake	San Luis Obispo	R3-40-02
Mt. Hamilton-Livermore	Santa Clara & Alameda	R3-43-01
Santa Cruz-Pescadero Marsh	Santa Cruz	R3-44-01
Grizzly Island	Solano	R3-48-01
Laguna de Santa Rosa-Sulphur Creek	Sonoma	R3-49-01
Total -- 13 routes		

TABLE 2 (Contd.)

## Raptor Survey Routes - 1970-71

Route Name	County	Route No.
Region IV		
Kings Wildlife Unit	Fresno	R4-10-01
Los Banos Wildlife Unit	Fresno	R4-10-02
Tehachapi Wildlife Unit	Kern	R4-15-01
Arenal Wildlife Unit	Kings-Kern	R4-16-01
Madera Wildlife Unit #1	Madera	R4-20-01
Madera Wildlife Unit #2	Madera	R4-20-02
Turlock Wildlife Unit	Merced	R4-24-01
Ridgecrest Wildlife Unit	San Ber.-Inyo	R4-36-01
Sequoia Wildlife Unit	Tulare	R4-54-01
Sonora Wildlife Unit	Tuolumne-Mariposa	R4-55-01
Total -- 10 Routes		
Region V		
Coachella Canal	Imperial	R5-13-01
Colorado River Wildlife Unit	Imperial	R5-13-02
Imperial Wildlife Area	Imperial	R5-13-03
Pleasant Valley-Big Pine	Inyo	R5-14-01
Palmdale-Gorman	Los Angeles	R5-19-01
Palmdale-Lancaster	Los Angeles and Kern	R5-19-02
North Mono	Mono	R5-26-01
Lake Mathews	Riverside	R5-33-01
Palo Verde Valley	Riverside	R5-33-02
San Jacinto Unit	Riverside	R5-33-03
Chemehuevi Valley-Essex	San Bernardino	R5-36-01
Topock Gorge	San Bernardino	R5-36-02
New York-Providence Mt.	San Bernardino	R5-36-03
New Cuyama-Santa Maria	Santa Barbara	R5-42-01
Lompoc-Santa Ynez Valley	Santa Barbara	R5-42-02
Orcutt-Vandenberg	Santa Barbara	R5-42-03
Total -- 16 Routes		
State Total -- 54 Routes		

TABLE 3  
Raptor Survey, Sightings Summarized  
by Region, 1970-71

Region	# of Routes	Month	Miles Covered	Turkey Vulture	Calif. Condor	Golden Eagle	Bald Eagle	Osprey	Red-tailed Hawk	Red-shouldered Hawk	Swainson's Hawk	Rough Legged Hawk	Ferruginous Hawk	Marsh Hawk	Goshawk	Cooper's Hawk	Sharp-shinned Hawk	White-tailed Kite	Peregrine Falcon	Prairie Falcon	Pigeon Hawk	Sparrow Hawk	Unk.	Total
1	4	Dec.	153.0			12	6		47			26		15	1	1				1		19	15	143
	6	Jan.	238.8			13	7		78			72	4	14		1			3	1		12	86	291
	5	March	203.0	11		13	12		71			46	2	14					1	2		1	21	66
	5	May	203.0	82		4	1		69	2		1		5		1				1		13	26	260
Total	6		797.8	93		42	26		265	2		145	6	48	1	3			4	5		65	193	899
2	7	Dec.	283.2	32		1			91			13	1	27				35		1		138	9	348
	8	Jan.	328.4	83		1			96	1	1	20		45		4	1	34		1	2	137	25	451
	8	March	328.4	187		1			100		6	16		28		3	1	27		3		172	6	500
	9	May	380.4	194					49				1	14				15				61	14	348
Total	9		1,320.4	496		3			336	1	7	49	2	114		7	2	111		5		458	54	1,647
3	12	Dec.	577.3	210		9	2		194	5		2	1	66	1	8	4	66				262	25	855
	13	Jan.	594.9	279		20			227	7		2	8	42		10	1	81		5		272	31	985
	13	March	594.9	419		14		3	243	24			2	31	1	4	3	20		1		193	33	991
	13	May	594.9	616	1	17		4	189	3				37		2		10		2		37	36	954
Total	13		2,342.0	1,524	1	60	2	7	853	39		4	11	176	2	24	8	177		10		764	125	3,785
4	10	Dec.	534.6	3		15			167	1	5	7	5	63		13	5	23				258	42	608
	9	Jan.	500.6	14	1	10			203	2	7	11	7	59		5	1	19		4		281	48	673
	9	March	457.2	109		7			155	2	1	2	23	28		1	4	2		2		80	34	452
	10	May	506.9	188		12			81		1	1		21		4		1				57	17	383
Total	10		1,999.3	314	1	44			606	5	14	21	35	171		23	10	45		6		676	141	2,116
5	15	Dec.	652.5	21		11		1	100			4	1	34		9	3	14				126	9	333
	16	Jan.	672.5	16		14	8		127	5		2	4	31		2	2	10		2		164	5	392
	15	March	652.5	37		11	5		92	3		3		11		5	2	8		3		90	7	277
	15	May	652.5	84		1		3	63		1			3		1	2	3				50	2	213
Total	16		2,630.0	158		37	13	4	382	8	1	9	5	79		17	9	35		5		430	23	1,215
All Regions	48	Dec.	7,180.6	266		48	8	1	599	6	5	52	8	205	2	31	12	138		7	1	803	100	2,787
	52	Jan.	2,335.2	392	1	58	15		732	15	8	107	23	191		22	5	144	3	13		866	195	2,793
	50	March	2,236.0	763		46	17	3	661	29	7	67	27	112	1	13	10	57	1	11		502	146	2,640
	52	May	2,337.7	1,164	1	34	1	7	451	5	2	2	1	80		8	2	29		3		214	85	2,103
Grand Total	54		9,089.5	2,585	2	186	41	11	2,442	55	22	228	59	588	3	74	29	368	4	23		2,303	436	9,400

TABLE 4

Raptor Survey, Birds per 100 Miles Summarized  
by Region, 1970-71

Region	Month	Turkey Vulture	Calif. Condor	Golden Eagle	Bald Eagle	Osprey	Red- tail Hawk	Red Shoulder- ed Hawk	Swain son's Hawk	Rough Legged Hawk	Ferru- ginous Hawk	Marsh Hawk	Goshawk	Cooper's Hawk	Sharp Shinned Hawk	White- tailed Kite	Pere- grine Falcon	Prairie Falcon	Pigeon Hawk	Sparrow Hawk	Unk	Total
1	Dec.			7.8	3.9		30.7			17.0		9.8	0.7	0.7				0.7		12.4	9.8	93.5
	Jan.			5.4	2.9		32.7			30.2	1.7	5.9		0.4			1.3	0.4		5.0	36.0	121.9
	March	5.4		6.4	5.9		35.0			22.7	1.0	6.9					0.5	1.0	0.5	10.3	32.5	128.1
	May	40.4		2.0	0.5		34.0	1.0		0.5		2.5		0.5				0.5		6.4	12.8	101.0
TOTAL		11.7	0.0	5.3	3.3	0.0	33.2	0.3	0.0	18.2	0.8	6.0	0.1	0.4			0.5	0.6	0.1	8.2	24.2	112.7
2	Dec.																					
	Jan.	25.3		0.3			29.5	0.3	0.3	6.1		13.7		1.2	0.3	10.4		0.3	0.6	41.7	7.6	136.6
	March	56.9		0.3			30.5		1.8	4.9	0.3	8.5		0.9	0.3	8.2		0.9		37.2	1.8	152.3
	May	51.0					12.9					3.7				3.9				16.0	3.7	91.5
3	Dec.	37.7		1.6	0.4		34.8	0.9		0.4	0.2	11.8	0.2	1.4	0.7	11.8				47.0	4.5	153.4
	Jan.	46.9		3.4			38.2	1.2		0.3	1.3	7.1		1.7	0.2	13.6		0.8		47.5	5.2	165.6
	March	70.4		2.4		0.5	40.9	4.0			0.3	5.2	0.2	0.7	0.5	3.4		0.2		32.4	5.6	166.6
	May	103.6	0.2	2.9		0.7	31.8	0.5				6.2		0.3		1.7		0.3		6.2	6.1	160.4
TOTAL		65.1	0.04	2.6	0.1	0.3	36.4	1.7		0.2	0.5	7.5	0.1	1.0	0.3	7.6		0.3		32.6	5.3	161.6
4	Dec.	0.6		2.8			31.2	0.2	0.9	1.3	0.9	11.8		2.4	0.9	4.3			0.2	48.3	7.9	113.7
	Jan.	2.8	0.2	2.0			40.6	0.4	1.4	2.2	1.4	11.8		1.0	0.2	3.8		0.8	0.2	56.1	9.6	134.4
	March	23.8		1.5			33.9	0.4	0.2	0.4	5.0	6.1		0.2	0.9	0.4		0.4		17.5	7.4	98.9
	May	37.1		2.4			16.0		0.2	0.2		4.1		0.8		0.2				11.2	3.4	75.6
TOTAL		15.7	0.1	2.2			30.3	0.3	0.7	1.1	1.8	8.6		1.2	0.5	7.3		0.3	0.2	33.8	7.1	105.8
5	Dec.	3.2		1.7			15.3			0.6	0.2	5.2		1.4	0.5	2.2				19.3	1.4	51.0
	Jan.	2.4		2.1	1.2		18.9	0.7		0.3	0.6	4.6		0.3	0.3	1.5		0.3		18.7	0.7	58.3
	March	5.7		1.7	0.8		14.1	0.5		0.5		1.7		0.8	0.3	1.2		0.5		13.8	1.1	42.5
	May	12.9		0.2		0.5	9.7		0.2			0.5		0.2	0.3	0.5				7.7	0.3	32.6
TOTAL		6.0		1.4	0.5	0.2	14.5	0.3	0.04	0.3	0.2	3.0		0.7	0.3	1.3		0.2		16.4	0.9	46.2
All Regions	Dec.	12.2		2.2	0.4	0.1	27.5	0.3	0.2	2.4	0.4	9.4	0.1	1.4	0.6	6.3		0.1	0.1	36.8	4.6	104.9
	Jan.	16.8	0.04	2.5	0.6		31.4	0.6	0.3	4.6	1.0	8.2		0.9	0.2	6.2	0.1	0.6	0.1	37.1	8.4	106.2
	March	34.1		2.1	0.8	0.1	29.6	1.3	0.3	3.0	1.2	5.0	0.04	0.6	0.6	2.3	0.04	0.5	0.1	22.6	6.5	110.9
	May	49.8	0.04	1.5	0.04	0.3	19.3	0.2	0.1	0.1	0.04	3.4		0.3	0.1	1.2		0.1	0.1	9.3	4.1	90.0
GRAND TOTAL		28.4	0.02	2.1	0.5	0.1	26.9	0.6	0.2	2.5	0.7	6.5	0.03	0.8	0.3	4.1	0.04	0.3	0.1	76.3	5.6	106.3

TABLE

Raptor Survey Sightings Summarized  
by Geographical Area, 1970-71

Area	# of Routes	Month	Miles	Turkey Vulture	Calif. Condor	Golden Eagle	Bald Eagle	Osprey	Red- Tailed Hawk	Red- Shouldered Hawk	Swain son's Hawk	Rough Legged Hawk	Ferru- ginous Hawk	Marsh Hawk	Goshawk	Cooper's Hawk	Sharp- Shinned Hawk	White- Tailed Kite	Pere- grine Falcon	Prairie Falcon	Pigeon Hawk	Sparrow Hawk	Link	Total
North Coast	5	Dec.	239.3	166		6			76	4		2		1	1	4		7						413
	7	Jan.	326.9	234		14			111	7		3	1	1		6		6						530
	7	Mar.	326.9	327		13		3	137	21		2	2	4		3	2	8		4				622
	7	May	326.9	546		13		4	123	2		1		1						1				745
TOTAL	7		1,220.0	1,275	0	46	0	7	447	34	0	8	3	7	1	13	2	21	0	5	0	368	73	2,310
Cascade Mts.	2	Dec.	83.5			12	6		15			5			1	1								72
	3	Jan.	119.3			6	7		35			27	3	10										107
	2	Mar.	83.5			5	9		22			25	2	9					1					101
	2	May	83.5	9		1	1		26					3					1					55
TOTAL	3		369.8	9	0	24	23	0	96	2	0	57	5	31	1	1	0	0	2	2	0	34	48	335
South Coast	11	Dec.	540.9	49		11	2		181	1			2	8		11	4	17						500
	11	Jan.	540.9	52		21	1		187	5			8	6		5	1	11						545
	11	Mar.	540.9	115		15	4		169	6				7	1	3	1	8		1				514
	11	May	540.9	149	1	4		1	117	1				4		3	1	3		2				337
TOTAL	11		2,163.6	365	1	51	7	1	694	13	0	0	10	25	1	22	7	39	0	4	0	641	55	1,896
Sacramento V. & Delta	6	Dec.	199.7	32					75			3	1	89				90		1				427
	8	Jan.	285.2	83		1			107	1	1	8		82		2	1	108		1	2			564
	8	Mar.	285.2	189					101		6	8				3	1	39		3				529
	8	May	296.9	155					45				1	49				25						335
TOTAL	8		1,067.0	459	0	1	0	0	326	1	7	19	2	270	0	5	2	262	0	5	2	441	51	1,853
San Joaquin V. & Antelope V.	11	Dec.	592.7	3		14			176	1	5	7	5	65		14	5	24						631
	11	Jan.	572.4	18	1	11			219	2	7	11	10	61		6	1	19						724
	9	Mar.	475.0	110		7			156	2	1	2	23	28		1	4	2						457
	11	May	565.0	208		10			89		1	1		21		4		1						418
TOTAL	12		2,205.1	399	1	42	0	0	640	5	14	21	38	175	0	25	10	46	0	7	4	717	146	2,230
Great Basin	6	Dec.	235.1			4			58			35				1	3			1				147
	5	Jan.	201.1			4			57			58	1	9		3	1		2					217
	6	Mar.	235.1	3		5	3		64			30		6		2	1			1	1			190
	6	May	235.1	48		6		1	50					2		1	1							154
TOTAL	6		906.4	51	0	19	3	1	229	0	0	123	1	28	0	7	5	0	2	3	1	80	155	708
Colorado River Desert	7	Dec.	289.4	16		1			18					21										97
	7	Jan.	289.4	5		1	7		17					23			1			1				105
	7	Mar.	289.4	19			1		12					8		1	2			2				67
	7	May	289.4	47		1		1	3		1													61
TOTAL	7		1,157.6	87	0	3	8	2	50	0	1	0	0	52	0	1	3	0	0	3	0	112	8	330

TABLE 6

Raptor Survey, Birds per 100 miles, Summarized  
by Geographical Area, 1970-71

Area	# of Routes	Month	Miles	Turkey Vulture	Calif. Condor	Golden Eagle	Bald Eagle	Osprey	Red-tail Hawk	Red-shoul-tered Hawk	Swain son's Hawk	Rough Legged Hawk	Ferruginous Hawk	Marsh Hawk	Goshawk	Cooper's Hawk	Sharp-shinned Hawk	White-tailed Kite	Peregrine Falcon	Prairie Falcon	Pigeon Hawk	Sparrow Hawk	Unk	Total
North Coast	5	Dec.	239.3	69.4		2.5			31.8	1.7		.8		.4	.4	1.7		2.9		1.2		56.0	5.9	172.6
	7	Jan.	326.9	71.6		4.5			34.0	2.1		.9	.3	.3		1.8		1.8				39.8	4.0	162.1
	7	March	326.9	100.0		4.0		.9	41.9	6.4		.6	.6	1.2		.9	.6	2.5		.3		24.8	5.5	190.3
	7	May	326.9	167.6		4.0		1.2	37.6	.6		.3	.3	.3								7.0	8.6	227.9
TOTAL	7		1,120.0	104.5		3.8		.6	36.6	2.8		.7	.3	.6		1.1	.2	1.7		.4		30.2	6.0	189.3
Cascade Mtn.	2	Dec.	83.5			14.4	7.2		18.0			6.0		12.0	1.2	1.2						13.2	13.2	86.2
	3	Jan.	119.3			5.0	5.9		27.7			27.7	2.5	7.5					.8			5.0	12.6	89.7
	2	March	83.5			6.0	10.8		26.4			29.9	2.4	10.8					1.2			10.8	21.6	121.0
	2	May	83.5	10.8		1.2	1.2		31.1	2.4				3.6					1.2			9.6	4.8	65.9
TOTAL	3		366.8	2.4		6.5	6.2		26.0	.5		15.4	1.4	8.4	.3	.3		.5				9.2	13.0	90.6
South Coast	11	Dec.	540.9	9.1		2.0	.4		33.5	.2		.4	.4	1.5		2.0	.7	3.1				37.2	2.4	92.4
	11	Jan.	540.9	9.6		3.9	.2		34.6	.9		.9	1.5	1.1		.9	.2	2.0		.2		42.3	3.3	100.8
	11	March	540.9	21.3		2.8	.7		31.2	1.1		.2		1.3	.2	.6	.2	1.5		.4		31.2	2.8	95.0
	11	May	540.9	27.6	.2	.7		.2	21.6	.2		.7	.5	.7		.6	.2	.6		.4		7.8	1.7	62.3
TOTAL	11		2,163.6	16.9	.1	2.4	.3	.1	30.2	.6		1.8	.2	1.2	.1	1.0	.5	1.8		.2		29.6	2.5	87.6
Sacramento V. & Delta	6	Dec.	199.7	16.0		.4			37.6			1.5	.1	44.6				45.1		.1		63.6	4.5	213.8
	8	Jan.	285.2	29.1					37.5		.4	2.8		28.8		.7	.4	37.9		.4		49.8	8.8	197.8
	8	March	285.2	66.3					35.4		2.1	2.8		17.5		1.1	.4	13.7		1.1		43.1	2.1	185.5
	8	May	296.9	52.2		.1			14.5		.7	1.8	.3	16.5		.5	.2	8.4		.5		16.5	3.7	112.2
TOTAL	8		1,067.0	43.0					30.6	.1		1.8	.2	25.3		.5	.2	24.6				41.3	4.8	173.7
San Joaquin V. & Antelope V.	11	Dec.	592.7	.5		2.4			29.7	.2	.8	1.2	.8	11.0		2.4	.8	4.1				45.2	7.3	106.5
	11	Jan.	572.4	3.1	.2	1.9			38.3	.4	1.2	1.9	1.8	10.7		1.1	.2	3.3		.9		52.9	8.6	126.5
	9	March	475.0	23.2	.2	1.5			32.8	.4	.2	.4	4.8	5.9		.2	.8	.4		.4		17.3	7.4	96.2
	11	May	565.0	36.8	.1	1.8			15.8		.2	.2	1.7	3.7		.7	.5	.2				11.3	3.4	74.0
TOTAL	12		2,105.1	15.4		1.9			29.0	.2	.6	1.0	1.7	7.9		1.1	.5	2.1		.3		32.5	6.6	101.1
Great Basin	6	Dec.	235.1			1.7			24.7			14.9		4.7		.4	1.3					10.6	3.8	62.5
	5	Jan.	201.1			2.0			28.3			28.8	.5	4.5		1.5	.5		1.0			4.0	36.3	107.9
	6	March	235.1	1.3		2.1	1.3		27.2			12.8		2.6		.9						8.9	22.5	80.8
	6	May	235.1	20.4		2.6		.4	21.3					.9		.4	.4					11.1	8.5	65.5
TOTAL	6		906.4	5.6		2.1	.3	.1	25.3			13.6	.1	3.1		.8	.6		.2			8.8	17.1	78.1
Colo. River Desert	7	Dec.	289.4	5.5		.4			6.2					7.3								12.8	1.0	33.5
	7	Jan.	289.4	1.7		.4			5.9					8.0		.4	.4					16.6	.7	36.3
	7	March	289.4	6.6		.4			4.2					2.8		.4	.7					7.3	.4	23.2
	7	May	289.4	16.2		.4			1.0		.4											2.1	.7	21.1
TOTAL	7		1,157.6	7.5		.3	.7	.2	4.3		.1			4.5		.1	.3			.3		9.7	.7	28.5



TABLE 7

Raptor Eyrie Locations by Region  
1970-71

<u>SPECIES</u>	<u>I</u>		<u>II</u>		<u>III</u>		<u>IV</u>		<u>V</u>		<u>Total</u>	
	1970	1971	1970	1971	1970	1971	1970	1971	1970	1971	1970	1971
Red-shouldered hawk	3	3	2	2	10	11	2	3	1	7	18	26
Swainson's hawk							4	6			4	6
Golden eagle	2	2		2	9	12	5	8	4	7	20	31
Bald eagle	24	32	13	17	4	5	2	2			43	56
Osprey	129	201	28	30	25	51	2	2			184	284
Peregrine falcon	1	1			1	4				1	2	6
Prairie falcon					4	4	5	7	2	5	11	16
Goshawk	<u>1</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>1</u>	<u>—</u>	<u>—</u>	<u>1</u>	<u>1</u>
Total	160	239	43	51	53	87	20	29	7	20	283	426

The 1970 and 1971 eyrie inventory recorded 283 eyries and 426 eyries, respectively.

TABLE 8

Summary of Active Eyrles  
1970 - 1971

Species	No. of Active Nests		No. of Nests		No. of Eggs		Avg. Clutch		No. of Nests		No. of Young		Avg. No. of Young	
	1970		1971		1970		1971		1970		1971		1970	
	1970	1971	1970	1971	1970	1971	1970	1971	1970	1971	1970	1971	1970	1971
Golden eagle	10	17	--	--	--	--	--	--	6	9	11	16	1.8	1.8
Bald eagle	16	20	--	--	--	--	--	--	5	11	8	19	1.6	1.7
Osprey	116	169	52	40	134	106	2.6	2.7	48	68	86	118	1.8	1.7
Peregrine falcon	1	2	1	--	3	--	3.0	--	--	2	--	6	--	3.0

1/ Successful eyries are those for which data is available on either clutch size or fledgling success.

## OBSERVATIONS ON SPECIAL WILDLIFE SPECIES

### Purpose

The Fish and Wildlife Plan calls for greater emphasis on nongame wildlife and especially those species that are becoming rare or endangered. In order to establish a bank of information for the management of these species, observation cards will be used to document observations during routine work assignments. Valuable information will be obtained on distribution and occurrence of species from this information.

### General Instructions

1. Record the number of birds sighted in the space immediately after the species.
2. Where nesting activity is observed, record the number of birds after the species and check the square provided when nest is known. Clarify in Remarks and map nest site on back of card.
3. Detail the location as accurately as possible with distance and direction to the nearest town.
4. Be sure and record your name and title along with the date observation was made. Thus observers can easily be contacted for additional information when necessary.
5. The card lists only selected species and will be expanded in the future as needed. Rare and endangered species that are not listed, such as wolverine and pileated woodpecker, may be written in on the blank space provided for other species.
6. Any questionable identifications should be substantiated in the Remarks section.
7. Only record those sightings made by you. Do not record second hand information.
8. Observations which are made daily near nesting sites should be recorded monthly with an explanation of the circumstances in the Remarks section. Separate sight records should be submitted when birds near a nest site are thought to be a new bird and have not been recorded earlier.
9. See example for reporting sighting.

Forward reports to the regional office at the end of each month. Negative reports are required when no observations were made during the month.

The regions will include a summary of the observations in the regular monthly report to headquarters. By January 15 staff will compile annual report.

**SPECIAL WILDLIFE SPECIES REPORTING CARD**

**INSTRUCTIONS:**

1. USE SEPARATE CARD FOR EACH SIGHTING AND SPECIES (WRITE IN NUMBER OBSERVED).
2. DETAIL ANY PERTINENT INFORMATION IN REMARKS SECTION ON BACK OF CARD.
3. MAP NESTING LOCATION ON BACK OF CARD. 4. USE BLANK SPACE FOR OTHER SPECIES.
5. RECORD POSITIVE IDENTIFICATIONS ONLY. 6. SEND CARDS TO REGIONAL OFFICE MONTHLY.
7. SEE INSTRUCTION SHEET FOR DETAILS ON REPEAT SIGHTINGS AND OTHER SPECIES.

SPECIES	NO.	SPECIES	NO.	SPECIES	NO.
CONDOR		ROUGH-LEGGED HAWK		FRAIRIE FALCON	
WHITE-TAILED KITE		FERRUGINOUS HAWK		PEREGRINE FALCON	
GOSHAWK		GOLDEN EAGLE		PIGEON HAWK	
RED-SHOULDERED HAWK		BALD EAGLE	3		
SWAINSON'S HAWK		OSPREY			
IF NEST INVOLVED, CHECK <input checked="" type="checkbox"/>		OTHER SPECIES			

LOCATION (DISTANCE AND DIRECTION FROM NEAREST TOWN) 10 mi. S.E. of Alturas  
near Hwy 395 COUNTY Modoc

OBSERVER (NAME AND TITLE) John Doe GM I DATE 10/1/67

FG 832

(OVER)

Front

**REMARKS:**

PERTINENT ACTIVITY AT TIME OF SIGHTING: Pair of adults came to nest site  
with fish to feed 1 young at nest.

*Alturas ##*

*Hwy 395*

*Dry Creek Rd.*

*\* Nest 2 miles from Hwy 395 in pine*

Reverse