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JOB PROGRESS REPORT

State: California

Project Number: W-65-R-1

Subproject Title: Nongame Wildlife Investigations

Job Number: II-3

Job Title: Owl Nest Territory Monitoring Program

Period Covered: July 1, 1983 - June 30, 1984

Job Type: Survey and Inventory

SUMMARY:

During the 1983-84 fiscal year 142 new Spotted Owl territories were reported to the Department and entered into files which now contain records of 1,314 territories in 41 counties. These new territories didn't add significantly to the known range. Three-hundred and fifty-one rechecks of 215 different territories were reported. Some territories in northcoastal California were combined with other territories according to information supplied by field workers. The annual listing of Spotted Owl territories was distributed again and reflected the changes due to combining territories.

The Department entered into three contracts for field work on Spotted Owls. The winter ecology and habitat requirements for nesting are being studied in two of the contract jobs in northwestern California. In the third study, the breeding success and movements of Spotted Owls in the central Sierra Nevada are under study.

Three technical papers were written during 1983-84. One described current research and management of owls in California, the second was a bibliography on Spotted Owls, and the third described the Department's role in the management of Spotted Owls.

The U.S. Forest Service planning efforts proceed in identifying which Spotted Owl territories, and in what distribution, will be preserved. The Department must formally review the guidelines used in the planning process and the actual implementation of the planning effort. Also, the Department should produce a Spotted Owl Management Plan to clearly state the Department's policy towards the research and management of this species.

The Department didn't support any monitoring of Elf Owls or Barred Owls this fiscal year. It did contract to monitor Great Gray Owls during the 1984 breeding season.

BACKGROUND:

The understudied nature of owls in California was best demonstrated at the 1979 National Audubon Symposium "Owls of the West" and in the Department's "Bird Species of Special Concern in California". At the symposium the only recent studies of owls in California consisted of single studies each on Barn Owls, Burrowing Owls, Flammulated Owls, and Elf Owls and a small number of studies on Spotted Owls. The purpose of the Department's special concern list was to draw attention to those species whose status was unknown and whose populations may be in trouble. Of the 14 species of owls found in California, 6 species are on

this list. Additionally, two species, the Elf Owl and the Great Gray Owl, are listed as Rare; of the eight remaining species, one is an irregular winter visitor, one a recent colonizer, the status of three is virtually unknown, and the status of another in part of the state is in doubt. Since 1979 the only research on owls in California has been on the two rare species and the politically and economically important Spotted Owl. The survival of all three of these species is closely associated with the preservation of old-growth and mature forest habitats.

Because of the concern for the future of Spotted, Great Gray, and Elf owls, monitoring of the breeding territories of these species and the Barred Owl is to be done on an annual basis after baseline studies have established the species' general range and abundance. This has been done for the Spotted Owl since 1974 and sporadically for the Elf and Great Gray owls. In the future the status of other species, whose current status is unknown, will be monitored if necessary in this job.

OBJECTIVES:

1. Monitor selected Spotted Owl, Barred Owl, Great Gray Owl, and Elf Owl nest territories for occupancy and determine status of breeding populations.
2. Determine the status of all species of owls on the list of bird species of special concern.

PROCEDURES:

The vast majority of the reports of new and rechecked Spotted Owl territories come from U.S. Forest Service personnel. Additional sightings are made by field ornithologists and Department personnel. All sighting reports obtained are checked for validity and catalogued by species. Histories of each territory are maintained on the date and location of the observation, number of owls observed and the name of the observer. Updated lists of Spotted Owl sightings have been provided to agency wildlife and land managers for management purposes on an annual basis. Information on the status of Great Gray Owls is compiled by Jon Winter, a field ornithologist who has studied Great Gray Owls for the Department and U.S. Forest Service in the past. Reports for Great Gray and Elf Owls also are filed and histories of each pair are kept. No sighting lists for these last two species have been prepared.

Sighting files for Spotted Owls, Great Gray Owls and Elf Owls also are maintained by the Department's California Natural Diversity Data Base (CNDDB) in the Planning Branch. These files are accessed by the Department, other agencies and private companies involved in the environmental impact report and review process. This job has accounted for the preparation of Element Occurrence forms used by the CNDDB to enter sighting data into their computer system.

RESULTS:

Spotted Owl:

On July 1, 1984 we were aware of 1,314 Spotted Owl territories verified by either the Department or the U.S. Forest Service (Tables 1 and 2). Of these, 714 are in the range of the Northern Spotted Owl (Strix occidentalis caurina),

489 are in the Sierra Nevada portion of the range of the California Spotted Owl (S. o. occidentalis), and 111 are in the south coastal portion of the range of the California Spotted Owl. Ed. note: Table 2 removed; see Department for more information.

During the 1983-84 year reports of 142 new pairs of Spotted Owls were accessed into Department files (Table 3). Forty-one of these new territories were found during the 1983-84 year and 101 were found in previous years and not reported until this report period. These new territories were reported from 18 of the 41 counties where Spotted Owls had been found previously. Of the 142 new territories, 90 came from U.S. Forest Service sources, 25 from field ornithologists under contract to the U.S. Forest Service, 19 from other field ornithologists and eight from Department employees.

During the 1983-84 year, 215 already known territories were reported checked a total of 351 times (Table 3). Of these, 141 were checked during the report period and 111 were checked prior to the report period but the information was not sent until the 1983-84 year. Once again U.S. Forest Service personnel provided the majority of rechecks, 52%, while U.S. Forest Service contract ornithologists provided 37%, other field ornithologists, 7%, and the Department, 5%.

Out of the 1,314 known territories, only 563 (43%) have been visited since the initial visit when the territory was discovered. Also, out of all of the sites, 359 (27%) haven't been checked or found within the last five years and 118 of these haven't been visited in the last ten years. However, over the last 11 years Spotted Owls have been found at 197 sites at an interval of at least five years between sightings or at various times over a period of at least five years.

The 142 territories first recorded in 1983-84 do not represent a gain of 142 territories from the 1,194 territories reported by mid-1983. Recent work, particularly with biologists on the Six Rivers and Mendocino National Forests, has led to some consolidation of sightings previously reported as separate pairs. The process of evaluating sighting data will continue to force updates of current listings as a better understanding of local distributions of Spotted Owls is gained. However, this process and the correction process result in some reassignment of territory numbers from year to year. The current listing (Table 2) should be consulted as the standard for this year.

The newly reported territories filled in the distribution within the already known range of Spotted Owls. The only extraordinary new territory is found along Big Chico Creek, about four miles northeast of Chico, Butte County. This is at an elevation of only 350 feet, in well-developed riparian habitat in almost a Sacramento Valley-bottom situation. However, the site is within 12 miles of two other previously known territories.

During spring, 1984, three contracts were let to help finish ongoing studies of Spotted Owls. Stephen Laymon, a graduate student at University of California, Berkeley, is studying reproductive success, dispersion of young, and both breeding and non-breeding season movement of adults. Laymon already has confirmed that adult Spotted Owls he is monitoring are making downslope migrations, as far as 20 miles, in order to spend the winter season away from their breeding areas. Additional funding from the contract will support monitoring through the 1984 breeding season and migration and dispersion of

young in the fall of 1984. Final results will be provided in next fiscal year's report.

Home range utilization and distribution by Spotted Owls in winter, in northwestern California, was studied by Chuck Sisco. A contract was drafted to help finish monitoring already marked Spotted Owls through the 1983-84 winter. Results of his work were published in the following report:

Sisco, C. 1984. Winter Ecology of Radio-tagged Spotted Owls on Six Rivers National Forest, Humboldt Co., CA. USDA. For. Serv. Unpubl. Tech. Rept. Six Rivers Natl. For., Eureka, CA. 140 pp.

The third contract funded a study of the habitat at Spotted Owl nest sites in northwestern California by William LaHaye. A determination of breeding activity also was to be made at each nest site checked during the 1984 breeding season. Since this study also involves work in F.Y. 1984-85, the results will be provided in next year's progress report.

During F.Y. 1983-84 three technical papers were written about owls. The first briefly described the current research and management of owls in California for a meeting of the San Francisco Zoological Society, Raptor Rehabilitation Council, and California Academy of Sciences:

Gould, G. I., Jr. 1984. A case for owls. Unpubl. report, Calif. Dept. of Fish and Game, Wildlife Mgmt. Branch. Sacramento, CA. 8 pp.

A bibliography of Spotted Owls was prepared:

Gould, G. I., Jr. 1984. Bibliography on Spotted Owls. Calif. Dept. of Fish and Game, Nongame Wildl. Invest., Job Progress Report, Project W-65-R-1 (554), Job III-3. 9 pp.

The third paper was prepared for the transactions of the annual meeting of the Cooper Ornithological Society and augments the special session on the status and management of Spotted Owls:

Gould, G. I., Jr. (In Press). Spotted Owls and the Department of Fish and Game. Transactions, 54th Annual Mtg., Cooper Ornithol. Soc., Arcata, CA. June 19-23, 1984. 6 pp.

This paper outlines the current status of Spotted Owls, the management roles and responsibilities of the Department, current coordination in the management of this species, problems in that coordination, and the information needed to better manage the species.

Staff prepared a detailed outline for a proposed Spotted Owl Management Plan. This document will contain information on the species biology, past, current, and necessary management, needed research, and actions necessary to perpetuate this species in the state.

The land management planning effort by the U.S. Forest Service continued in 1983-84. The current guidelines for maintaining Spotted Owl populations in the forests plans were updated. The main change included an addition to the amount

of old-growth forest habitat to be preserved in each territory. However, a number of suggestions made at a meeting in April, 1983, of biologists who have studied Spotted Owls, were not included as changes in the guidelines.

By the end of June 1984, the U.S. Forest Service's Region 5 office had received tentative plans for the maintenance of Spotted Owls from ten of the eleven forests required to submit plans. These plans are based on the guidelines mentioned earlier and use a system of Spotted Owl Management Areas to maintain viable populations.

Barred Owl:

No field work was done by the Department to monitor the distribution of Barred Owls in California nor was any information received from cooperating biologists.

Great Gray Owl:

Jon Winter was contracted to monitor the occupancy of the 14 previously occupied sites by Great Gray Owls during the 1983 breeding season. Additionally, he will attempt to survey at least ten other areas of possibly suitable habitat where Great Gray Owls may be present during the breeding season. The work schedule extends into F.Y. 1984-85 and the results of this monitoring and surveying work will be reported then.

Elf Owl:

No field work monitoring the status of Elf Owls was performed by the Department during the 1984 breeding season nor were any reports of Elf Owls received from cooperating biologists.

ANALYSIS:

The number of rechecks reported last year had a very low percentage of areas with no response because observers often report only those sites where owls were found. It is important that records be kept for each site checked regardless of whether a response is heard or not. The Department should make an effort to educate the U.S. Forest Service Biologists to this fact and increase its own follow-up of known sites. Also, the Department's effort in locating sites on private and state lands should be much higher than it was this last year.

It appears that there is little obvious break between the ranges of the Northern and California Spotted Owls in the northern Sierra Nevada. An effort should be made to determine the subspecific affinity since current federal interest seems directed most specifically at the Northern Spotted Owl.

The forest planning effort, designed to identify which Spotted Owl territories are going to be managed for the owl, continues. In light of the probable future demand for timber this seems like the only solution to preserving a remnant of the Spotted Owl population and of the old-growth ecosystem. However, the current guidelines, dealing with how Spotted Owls will be treated, needs to be updated further with the guidelines developed in April 1973 and as new information becomes available.

All forests need to implement the guidelines. It appears that implementation of the complete guidelines is not the norm. There have been a number of reports of timber sales occurring in territories which were planned to be saved without any consideration being given to the owls or the guidelines, and of timber sales being sold in territories without the guidelines being considered. This type of action makes the existence of guidelines and the entire planning effort ineffective. This situation must be corrected.

Since there are still discrepancies between the current guidelines used by the U.S. Forest Service and those proposed by biologists, those guidelines should be evaluated. Inadequacies should be described and recommended guidelines should be proposed by the Department. This process could be part of a management plan where documentation may be made to support the proposed guidelines. Also, implementation of the current guidelines should be evaluated to determine how well the current and future guideline systems will work.

The Department also needs to become more deeply involved with an effort to maintain old-growth forest ecosystems. With the current projection of 20 years until all commercially available old-growth forest is cut in California, there is little time to act. This is even more important when we realize that it takes 150 to 400 years for this forest type to regenerate. Are we ready to monetarily support captive populations for more than a century before suitable habitat exists before some species can survive on their own in the wild?


The Department should be surveying for Elf Owls on an annual basis. This is needed because of the critically small population left in California.

RECOMMENDATIONS:

1. Continue involvement in the U.S. Forest Service planning program which is establishing the agency's management guidelines to perpetuate Spotted Owls on their lands.
2. Evaluate the current guidelines being used by the U.S. Forest Service in their planning process. Also, evaluate the compliance by individual forests with those guidelines.
3. Write a Spotted Owl Management Plan which would summarize the known information on the species and recommend management guidelines which could be used instead of current guidelines. The document also should contain a statement of policy regarding Spotted Owls and the maintenance of old-growth forest habitat.
4. Establish a monitoring program and schedule for Elf, Great Gray, Spotted and Barred Owl populations as part of a management scheme for owls in California.
5. Survey additional areas of suitable habitat for all four species of owls and encourage the U.S. Forest Service to complete basic inventories for Spotted and Great Gray Owls on all forests in California.

6. Continue to support the U.S. Forest Service's studies on the habitat requirements necessary for successful breeding of Great Gray and Spotted Owls and make similar studies of those requirements for Elf Owls.
7. Preserve the Elf Owl population north of Needles, San Bernardino County, through direct land purchase.
8. Increase Department involvement and expertise in the management of owls through Department conducted surveys and research.


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Table 1. Known distribution of spotted owls in California, July 1, 1984

County	Present Number of Known Territories	Number of Northern Spotted Owl Territories	Number of California Spotted Owl Territories	
			Sierra Nevada	South Coast
Alpine	3		3	
Amador	6		6	
Butte	20		20	8
Calaveras	11		11	
Colusa	2	2		
Del Norte	40	40		
El Dorado	75		75	
Fresno	24		24	
Glenn	12	12		
Humboldt	117	117		
Kern	13		10	3
Lake	18	18		
Lassen	11		11	
Los Angeles	13			13
Madera	24		24	
Marin	20	20		
Mariposa	29		29	
Mendocino	37	37		
Modoc	1	1		
Mono	1		1	
Monterey	9			9
Napa	4	4		
Nevada	12		12	
Orange	2			2
Placer	40		40	
Plumas	83		83	
Riverside	4			4
San Bernardino	28			28
San Diego	21			21
San Luis Obispo	8			8
Santa Barbara	17			17
Shasta	36	22	14	
Sierra	27		27	
Siskiyou	248	248		
Sonoma	5	5		
Tehama	55	44	11	
Trinity	144	144		
Tulare	37		37	
Tuolumne	43		43	
Ventura	6			6
Yuba	8		8	
TOTALS	1314	714	489	111

Table 3. Summary of spotted owl survey work, F.Y. 1983-84

County	New Territories Reported		Territories Re-checked		Present Number of Known Territories
	1983-84	prior years	1983-84	prior years	
Alpine					3
Amador					6
Butte	2	8	1		20
Calaveras					11
Colusa				1	2
Del Norte	4	14	41	5	40
El Dorado				1	75
Fresno	1				24
Glenn	1		2		12
Humboldt	5	44	44	55	117
Kern	2		7	3	13
Lake			2		18
Lassen					11
Los Angeles					13
Madera					24
Marin	1	4	3	4	20
Mariposa		1	1	1	29
Mendocino	1		3	2	37
Modoc					1
Mono					1
Monterey			1	5	9
Napa					4
Nevada					12
Orange					2
Placer					40
Plumas		1		1	83
Riverside				2	4
San Bernardino		3	4	7	28
San Diego	1	1		1	21
San Luis Obispo					8
Santa Barbara					17
Shasta	2		4		36
Sierra					27
Siskiyou	7	4	24	10	248
Sonoma					5
Tehama			22	6	55
Trinity	12	17	27	35	144
Tulare	2		6	10	37
Tuolumne		3	2	7	43
Ventura					6
Yuba		1	1		8
TOTALS	41	101	195 (141)*	156 (111)*	1314

*indicates the number of different territories re-checked.

Total number of different territories re-checked was 215.