

JOB PROGRESS REPORT

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State: California

Project Number: W-54-R-14 Project Title: Nongame Wildlife Investigations

Job Number: II-4 Job Title: Captive Raptor Breeding Program

Period Covered: July 1, 1981 - June 30, 1982 Job Type: Captive Breeding

SUMMARY:

From April 1970 to June 30, 1982, permits were issued to 44 individuals and institutions authorizing them to conduct captive breeding research under authorization from the California Fish and Game Commission and under the direction of the California Department of Fish and Game. Most projects during this time period were conducting scientific captive breeding research. During January, 1980, changes in regulations were made to allow persons to breed raptors primarily for recreational purposes. Since that time, the Commission has issued 18 new permits for recreational purposes. Three persons, formerly in the scientific captive breeding program, have switched to recreational breeding. There have been 3 new permits issued for scientific breeding. Three persons who had scientific projects opted to also conduct recreational breeding. As of June 30, 1982, there were 26 scientific breeding permits and 18 recreational breeding permits (3 persons hold both kinds of permits). During the decade of this program, there have been 5 projects terminated for various reasons.

As of December 1981, there were 229 raptors of 21 species authorized in State and Federal scientific captive breeding permits for these projects. There were 123 breeding raptors held in 22 projects. A total of 306 young have been produced; 39 percent of the young have been released to the wild, 27 percent have been transferred to falconers and the remaining 34 percent have been either transferred to other breeding projects, retained for falconry or breeding purposes, or have died. Changes in both the scientific and recreational breeding regulations were made during 1981. These changes allow for transfer of raptors produced in scientific breeding projects to falconers. The Recreational breeding program was transferred to the Wildlife Protection Branch. The Wildlife Management Branch now only deals with the 26 scientific breeding projects which were frozen in a moratorium through Fish and Game Commission action in 1981.

During 1980 and again in 1981, new regulations were developed to administer the Captive Raptor Breeding Program. With the approval of the California Fish and Game Commission, revocable permits to propagate raptors for scientific and educational or recreational purposes are issued by the Department of Fish and Game. Permits are subject to Section 678, Division 1 of Title 14 of the California Administrative Code which states that breeding any raptor except as authorized by such a permit is a violation.

Prior to these regulations, captive breeding was authorized under appropriate regulations dealing with scientific collecting and falconry. The Commission and the Department recognize the value of a Captive Raptor Breeding Program and the need to develop expertise in California to accomplish the objectives of the program. The U.S. Fish and Wildlife Service has an extensive and costly captive breeding program for endangered species at the Patuxent Wildlife Research Center in Laurel, Maryland. The Department does not presently have the expertise or budgetary means to establish a

similar research facility. Consequently, we are seeking to conduct the research needed to develop the technology of raptor breeding through institutions and private individuals who possess the necessary expertise and resources.

OBJECTIVE:

The primary objective of the Captive Raptor Breeding Program is to develop the technology by which a self-sustaining captive population can be maintained for reestablishment of endangered and rare species into the wild. Additional goals include the use of birds for educational and recreational purposes.

PROCEDURES:

Prior to regulation changes, the Fish and Game Commission accepted proposals for captive breeding research and forwarded them to the Department of Fish and Game for review. A Captive Breeding Advisory Committee aided the Department in the review of proposals, and recommendations reflecting concerns of both the Department and the Committee were sent to the Commission which made decisions whether to approve or deny permit requests.

Since changes in regulations were instituted, the review process for breeding proposals is essentially the same, except that now the Fish and Game Commission requests a review of proposed research by the Department and the Raptor Research and Management Advisory Committee. This Committee is made up of captive raptor breeders, falconers, agency representatives, university faculty, and conservation organization representatives. Based on recommendations received from the Department and Advisory Committee, the Commission reaches a decision on the issuance of a permit authorizing research with a specified number and species of breeding raptors. Captive breeders must obtain authorization from the Department for renewal or modification of permits.

Once the permit has been authorized for issuance by the Commission, the Wildlife Protection Branch of the Department prepares a permit with conditions and regulations which permittees must adhere to.

FINDINGS:

Results of breeding during the past decade indicate that three species, the Prairie Falcon (Falco mexicanus), the Harris' Hawk (Parabuteo unicinctus), and the Peregrine Falcon (F. peregrinus) comprise the bulk of all progeny produced (Table 1 and 2). This pattern was true, especially for Prairie Falcons and Harris' Hawk from the first successful breeding beginning in the mid-70's. Only in the past two years have significant numbers of Peregrine Falcons, and especially the American subspecies (F. p. anatum), been produced.

The proportion of birds released and transferred to falconry has evened out somewhat recently as well. In 1979, for example, 28% were released while 48% went to falconry. In 1981, more birds were released than were transferred to falconers (Table 2). The Santa Cruz Predatory Bird Research Group and those projects affiliated with it are responsible for most releases of Prairie Falcons, Harris' Hawks, and Peregrine Falcons.

There were 229 raptors of 21 species authorized for breeding purposes. One hundred twenty-three breeders were held in 22 projects. Three hundred and six young have been produced since the beginning of the Captive Breeding Program (Table 1 and 2).

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Table 1. Summary of Disposition of Progeny by 19 Successful
Captive Raptor Breeding Projects, 1970-1981.

Project No.	Species	Released	Falconry	Breeding	Retained*	Died	Other	Total
1	Peregrine x Merlin		1			2		3
	Merlin				3			3
	Prairie Falcon		1					1
2	Prairie Falcon	6	24	6	4 ^{1/}	5	6 ^{2/}	55
3	Harris' Hawk	4	10		1	3	1	20
4	Prairie Falcon		1	1	1	5		8
5	Peregrine Falcon	5		2	5 ^{7/}	3	6 ^{8/}	21
6	Prairie Falcon	13	3		1 ^{5/}	1		18
	Harris' Hawk	16	2	1				19
7	Prairie Falcon			5				5
8 ^{9/}	Harris' Hawk	1			1			2
9 ^{10/}	Goshawk				1 ^{5/}			1
10	Peregrine Falcon		6		1	1		8
	Prairie Falcon		3		1			4
11 ^{10/}	Red-tailed X Harris'		5					
12	Barn Owl	3				1		4
13	Prairie Falcon	6	5					11
	Prairie X Peregrine		1		1 ^{5/}			2
14	Prairie Falcon		5		1			6
15 ^{10/}	Harris' Hawk	3 ^{4/}	8					11
16 ^{9/}	Harris' Hawk				2 ^{6/}			2
17	Prairie Falcon	2			1			3
18	Harris' Hawk	5 ^{4/}	2				1 ^{2/}	8
	Peregrine Falcon	3				2		5
19	Prairie Falcon	28	7 ^{3/}	1	7	1		44
	Harris' Hawk	7		1	1	1		10
	Peregrine Falcon	17		6	9			32
	TOTAL	119	84	23	41	25	14	306
	PERCENT	38.39	27.94	7.5	13.4	8.2	4.6	100.0

*For breeding unless otherwise noted

1/ 3 breeding; 1 falconry

2/ Unknown disposition

3/ For conditioning and eventual release

4/ Released by SCPBRG in Harris' Hawk re-introduction program

5/ Falconry

6/ 1 breeding; 1 falconry

7/ Falconry and breeding

8/ 1 lost; 5 unknown disposition

9/ Switched to Recreational

10/ Terminated

Table 2. Summary of Captive Raptor Breeding Results,
Disposition of Progeny by Species 1970-1981.

Disposition of Progeny

<u>Species</u>	<u>Released</u>	<u>Falconry</u>	<u>Breeding</u>	<u>Retained</u>	<u>Died</u>	<u>Other</u>	<u>Total</u>	<u>Percent</u>
Goshawk				1			1	0.3
Harris' Hawk	36	22	2	5	4	2	71	23.2
Red-tail X Harris'		5					5	1.6
Peregrine Falcon	25	6	8	15	6	6	66	21.6
Prairie Falcon	55	49	13	16	12	6	151	49.3
Prairie X Peregrine		1		1			2	0.7
Merlin				3	2		3	1.0
Peregrine X Merlin		1			2		3	1.0
Barn Owl	3				1		4	1.3
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TOTAL	119	84	23	41	25	14	306	100.0
PERCENT	38.9	27.4	7.5	13.4	8.2	4.6	100.0	

In addition to raptors produced in 26 scientific breeding projects, several are being produced in newly established recreational breeding projects. Many of the 18 individuals and institutions involved with recreational breeding are experiencing the same difficulties that the early scientific breeders did (i.e., nesting failures, and difficulties obtaining suitable breeding stock). As these problems become resolved over a period of time, more breeding exclusively for falconry will occur. The Wildlife Protection Branch administers recreational breeding.

Changes in captive breeding regulations allow more progeny to be available for falconry from scientific breeding projects. The demand for captive-reared birds is expected to be filled primarily by scientific breeders, until more recreational projects become viable.

ANALYSIS:

It takes time to establish a viable captive breeding program. Although the program is over eleven years old, production of significant numbers of young has occurred only during the past 3 years. In addition, significant numbers of raptors had not been released to the wild until 3 years ago. Prior to that time, most progeny that survived were transferred to falconers. The demand for captive-reared birds for falconry remains high and is expected to increase as more birds become available. The Santa Cruz Predatory Bird Research Group at U. C. Santa Cruz is responsible for most raptors produced for release to the wild and if it weren't for them, a large percentage of raptors produced would be going to falconers with relatively little left to support wild resource oriented programs.

Largely through the efforts of the Santa Cruz project, a program designed to reestablish a breeding population of Harris' Hawks into former range on the Lower Colorado River in Southern California and Arizona has enjoyed a good deal of initial success. Efforts to effect recovery of the American Peregrine Falcon (F. peregrinus anatum) have been helped greatly since production of this species has increased in the past two years.

RECOMMENDATIONS:

1. Continue administration of Scientific Captive Raptor Breeding Program.
2. Maintain moratorium on issue of new scientific captive breeding permits to keep program at a manageable level.
3. Continue to focus Department funds and manpower on those projects that will provide benefits to wild raptor populations.
4. Ensure that significant numbers of raptors produced in scientific breeding projects are used for resource oriented programs.
5. Work toward reducing the take of certain species of raptors from the wild as falconry demand for these birds is met through captive propagation in recreational breeding projects.

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