

JOB PROGRESS REPORT

Schwartz, K. 1981

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State: California

Project Number: W-54-R-12 Project Title: Nongame Wildlife Investigations

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

Period Covered: July 1, 1979-June 30, 1980 Job Type: Captive Breeding

SUMMARY:

From April 1970 to December 1979, permits were issued to 26 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. All 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 January, the Commission has issued 5 new permits for recreational purposes. Three persons, formerly in the scientific captive breeding program, have switched to recreational breeding. There have been 2 new permits issued for scientific breeding. Three persons who had scientific projects opted to also conduct recreational breeding. At present (December 1980) there are 23 scientific breeders, 7 recreational breeders, and 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 1980, there were 302 raptors of 17 species authorized in State and Federal captive breeding permits for these projects. There were 147 breeding raptors held in 33 projects. A total of 213 young have been produced; 37 percent of the young have been released to the wild, 32 percent have been transferred to falconers and the remaining 31 percent have been either transferred to other breeding projects, retained for falconry or breeding purposes, or have died.

Prior to regulation changes allowing recreational breeding, permits authorized raising birds primarily for release to the wild or for use in various kinds of scientific research. A secondary objective of the program, use of progeny by falconers, has allowed the largest portion of the progeny to be used in falconry. However, benefits now are accruing from the scientific captive breeding program and although few birds were released to the wild in the early years, the techniques of successful captive raptor breeding were being developed. Only recently have programs been initiated for massive releases of captive reared birds. Several captive birds have been utilized in nest site augmentation and hacking programs involving Prairie Falcons, (Falco mexicanus) and a project attempting to re-establish a breeding population of Harris' Hawks (Parabuteo unicinctus) in southern California along the lower Colorado River.

BACKGROUND:

During 1980 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 re-establishment of endangered and rare species into the wild. Additional goals include the use of birds to further our scientific knowledge of raptors and to provide 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:

As of December, 1980, 147 birds of 12 species had been placed in the program. From these birds, 347 fertile eggs were laid and 213 young of 8 species have been successfully hatched and raised to fledging age (Table 1). Of the 213 surviving young, 81 (37%) have been released to the wild (Table 2). Seventy birds (32%) have been transferred for use in falconry, including some transferred out of state and to foreign countries; sixteen birds (7%) have been transferred to other raptor breeding programs; and 30 (14%) have been retained in individual projects. The remaining 20 birds (9%) have had other dispositions including some that have died. Although the program has been in existence for almost a decade, about 64% of production successes (young) have occurred in 1979 and 1980. More Prairie Falcons (Falco mexicanus), 118 (54%), have been produced than any other species and 42 (36%) of these were transferred to falconers while 48 (41%) have been released to the wild (Table 2).

Prairie Falcons and Harris' Hawks (Parabuteo unicinctus) represent about 77% of all raptors produced in the program (Table 1). Most of this production has occurred within the past five years. The Peregrine Falcon is the primary species for which the program was initiated. About 14% (30 of 217) of the raptors produced were Peregrines. The Santa Cruz Predatory Bird Research Group project is expected to be the primary producer of Peregrine Falcons in the near future. The past few years have been devoted to acquisition of suitable breeding stock. They now have nine pair of Peregrines and anticipate continued production of Peregrine Falcon progeny. In addition to Peregrines, the Santa Cruz project will continue to produce and coordinate production of Harris' Hawks and Prairie Falcons at its own facilities and those of several other projects with which it maintains close working relationships.

Table 1. Summary of 33 Captive Raptor Breeding permits authorized 1970-1980.

Species Authorized	Number of Permits	Number of Raptors Authorized	Number of Raptors Possessed	Results to Dec. 1980	
				Fertile Eggs	Surviving Young
Goshawk	4	14	6	7	1
Cooper's Hawk or Sharp-shinned Hawk	2	8	0	0	0
Red-tail Hawk	2 ^{1/}	26	1	0	0
Harris' Hawk	9 ^{1/}	46	23	70	50
Red-tail X Harris'	1	0	0	18	5
Golden Eagle	1	4	4	0	0
Gyr Falcon	4	8	6	0	0
Prairie Falcon	12	46	37	179	114
Peregrine Falcon	11	78	56 ^{3/}	37	30
Prairie X Peregrine	2 ^{2/}	0	1 ^{3/}	13	6
Merlin	2 ^{4/}	8	6	16	3
Merlin X Prairie	4 ^{4/}	0	0	1	0
American Kestrel	1	40	0	0	0
Aplomado Falcon	1	4	1	0	0
Common Falcon	2	6	2	0	0
Red-headed Falcon	1 ^{5/}	4	0	0	0
Barn Owl	1 ^{5/}	0	0	6	4
Great-horned Owl	1	5	4	0	0
Short-eared Owl	1	5	0	0	0
Totals	62 ^{6/}	302	147	347	213

^{1/} Covered in Red-tail and Harris' permits
^{2/} Covered in Prairie and Peregrine permits
^{3/} Semen donor (Peregrine)

^{4/} Covered in Merlin and Peregrine permits
^{5/} No longer in program
^{6/} Since some permittees are authorized multiple species, the total is greater than 33.

Table 2. Summary of Captive Raptor Breeding Results,
Disposition of Progeny by Species 1970-1980.

Species	<u>Disposition of Progeny</u>							<u>Percent</u>
	<u>Released</u>	<u>Falconry</u>	<u>Breeding</u>	<u>Retained</u>	<u>Died</u>	<u>Other</u>	<u>Total</u>	
Goshawk				1			1	.5
Harris' Hawk	20	22	2	4		2	50	23.0
Red-tail X Harris'		5					5	2.3
Peregrine Falcon	10		8	6		6	30	13.8
Prairie Falcon	48	42	6	15	5	6	118	54.4
Prairie X Peregrine		1		1			6	2.8
Merlin				3			3	1.4
B. Owl	3				1		4	1.8
Total	81	70	16	30	6	14	217	100.0
Percent	37.3	32.2	7.4	13.8	2.8	6.5	100.0	

^{1/} Released figure includes releases of juvenile and adult birds in breeding projects and placement of eggs in wild nests.

ANALYSIS:

It takes time to establish a viable captive breeding program. Although the program is ten years old, production of significant numbers of young is only now occurring. In addition, significant numbers of raptors had not been released to the wild until two 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 if it were not for a single project, the Santa Cruz Predatory Bird Research Group at U.C. Santa Cruz, 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 re-establish 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. It is expected that this program and efforts to effect recovery of the American Peregrine Falcon (F. peregrinus anatum) will involve most progeny of these species produced in captive raptor breeding projects.

RECOMMENDATIONS:

1. Continue administration of Captive Raptor Breeding Program.
2. Review all projects and reduce total number to a manageable figure: between 20 and 25 scientific and recreational projects. Retain only projects which have greatest scientific merit and record of contribution to Department raptor management programs.
3. Continue to focus Department funds and manpower on those projects that will provide benefits to wild raptor populations.
4. Ensure that raptors produced in scientific breeding projects are used exclusively 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.

Prepared by:

Ronald W. Schlorff
Ronald W. Schlorff
Wildlife Biologist

Approved by:

Robert D. Mallette
Robert D. Mallette
Nongame Wildlife Coordinator

Approved by:

Eldridge A. Hunt
Eldridge A. Hunt, Chief
Wildlife Management Branch

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