

RAPTOR MANAGEMENT

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INTRODUCTION

"Raptor Management" is a topic most appropriate to the theme of this convention "Wildlife and Society-Conflict in the 70's". We in the west, and especially California, are truly blessed with a diversity and abundance of raptors. Out of 339 species of hawks and owls found in the world, 46 are found here in the west. Three species are endangered and others are of concern because of man's eagerness to alter the earth for his selfish interests. The alarming raptor decline on the east coast, to which the Audubon Society and other Conservation groups have publicized, is not occurring here in California. We feel some species, such as the white-tailed kite and American kestrel, have actually increased in abundance in the last 20 years.

Raptors evolved in the Paleocene era, 63 million years ago. Since the beginning of recorded history, man has held birds of prey in high esteem or condemned them. Raptors were probably used to obtain food as long ago as 2,000 B.C. in Asia and China and 1,700 B.C. in Babylonia. Eagles, falcons and hawks were used by kings and noblemen in the sport of falconry since early Egyptian culture. There is conclusive evidence of the practice of falconry in Assyria 722 to 705 B.C.

Raptors have probably been slaughtered equally as far back in history because of alleged, more than real, competition with man.

Raptors are a life form at the top of the food chain and because of this dubious honor they can serve as indicators of the degradation of the world's environment. It behooves man, who share this environment, to take heed to the lessons we can learn from our fellow creatures, if for no other reason, our own survival.

Values

Many values and uses are made of our raptor resource:

1. Symbolic - Eagles were carried on the standards of the legionnaires, hawk's wings decorated the helmets of the Norse sea-rovers, eagle feathers formed the war bonnets of North American Indians. Today the eagle is commonly found on the coats-of-arms of many nations, our currency and stamps and many more, too numerous to relate.
2. Aesthetic - This value is an intangible thing, impossible to evaluate in cold dollars and cents, but very real to an ever increasing army of people enjoying outdoor recreation. We all have looked up with envy to seek a hawk or eagle soaring in the sky.
3. Scientific - Birds and especially raptors have been studied since man pursued his thirst for knowledge on flight. Early inventors tried to copy the bird's wing so he also could fly. The California condor is believed by some to be the most aerodynamic creature that lives.
4. Economic - It is evident that hawks must play an important role in nature or they wouldn't be as abundant and widely distributed as they are, but until a comparatively few years ago man had very little conception of what that might be. One example might be as related by Clayton M. White in his research findings. In fulfilling the Bounty Act of 1885 in Pennsylvania, \$90,000 was paid for bounty on raptors in a 1-1/2 year period. The estimated worth of each raptor to the farmer was \$20.00 per year. Thus, the destruction of hawks and owls during this period in Pennsylvania was calculated to be \$3,850,000 to save less than \$2,000 worth of poultry. More recently, studies in Utah indicated 12-30 black-tailed jack-rabbits eat as much forage as one sheep. The jackrabbit is the principle prey species (90%) for the golden eagle, ferruginous hawk, red-tailed hawk, Swainson's hawk, and great horned owl. Yes, raptors are economically important in many ways.
5. Direct Use - Condor quills were once used for gold storage in the days of the 49ers; the demand continues even today for eagle feathers by special permit for use in ceremonial head dresses; but the primary use of the resource today is used in the sport of falconry.

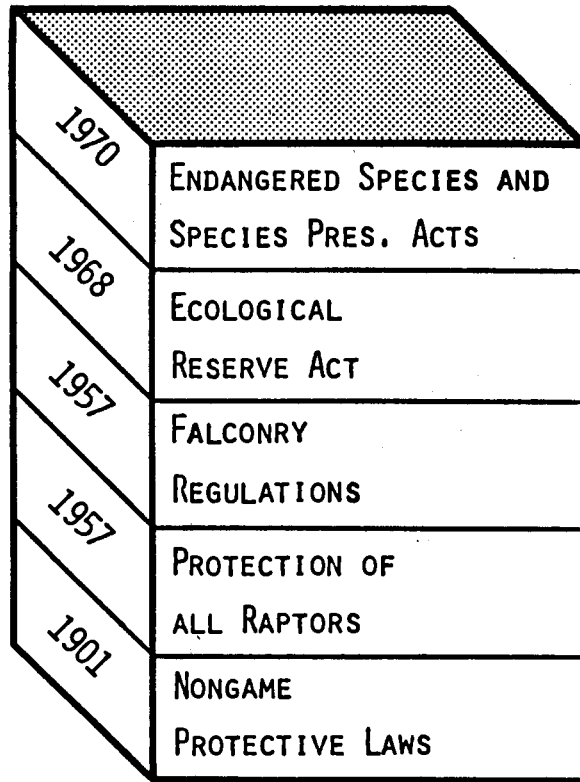
Eras of Management

Raptor management is in the process of passing through or entering three eras:

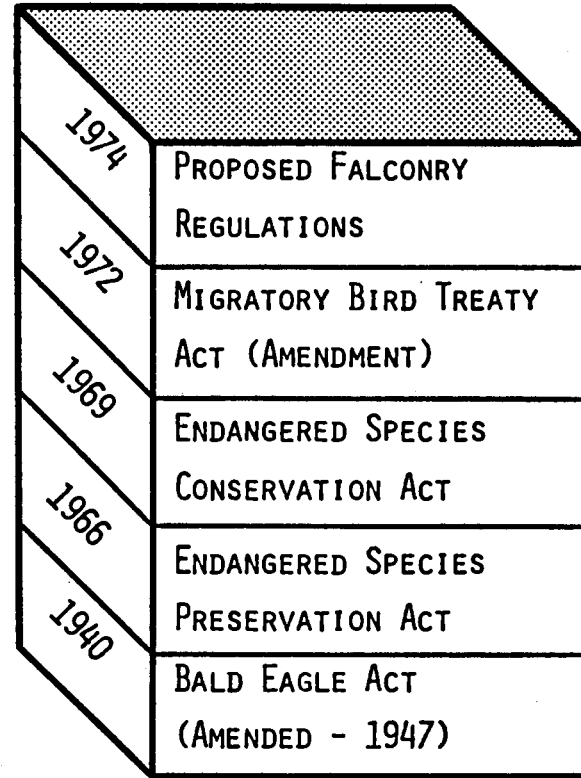
1. No protection - Raptors have often been stereotyped; a hunter sees them as taking game birds, a farmer sees them as a chicken hawk stealing a prized hen. Thus the vermin on earth, those species which we feel are competitors, must go.
2. Partial protection - After years of research and 2,700 hawk and owl stomachs later, Dr. A. K. Fisher published, in 1893, a classic "The Hawks and Owls of the U. S. in Their Relation to Agriculture." Dr. Fisher's work shook up the more concerned people that there was a great deal of benefit to having the so-called vermin around. Laws were passed by many states in the early 1900's to protect many raptor species. Those still considered vermin were bird hawks and the duck hawk. These were not protected by law in California until 1957.

In 1935 John May published additional findings on the food habits of raptors and reiterated the urgent need to protect raptors. T. Gilbert Pearson, early president of the National Audubon Society,

FIGURE 1
RAPTOR CONSERVATION MILESTONES



STATE



FEDERAL

writes in the foreword of this publication "So deeply seated is the prejudice against these birds--change in public sentiment from the days when every farmer or poultry raiser looked upon a hawk as a menace to his livelihood, has come about slowly. --Protective statutes remain unenforced in many states because most game wardens decline to make arrests for their infraction, and if arrests are made, magistrates often have refused to impose fines." Sad but true, even as late as the 60's and today in many states. You probably know of some instances where this occurs today in California or other parts of the west.

3. Management - I am optimistic that we are entering this era in California and the west. After reviewing the protective laws, falconry regulations, research programs of many western states, I feel conservation minded people throughout the west and the country, feel the raptor truly fills a predatory niche in the scheme of things in the ecology of the avian world.

RAPTOR MANAGEMENT

We've talked about a lot of interesting points regarding raptors, but just what is being done.

Legislation

Measures taken to protect and enhance raptor populations include federal and state legislation (Figure 1). Until the March, 1972 amendment to the Migratory Bird Treaty with Mexico, most raptor species, excepting eagles, were under the jurisdiction of the states.

Programs in the Western States

Member states of the Western Association of State Game and Fish Commissioners¹ were contacted in September 1973 to determine what protective measures, research studies and management programs have been taken with regard to raptors. Of the eleven western states responding (1) all indicated they have state laws protecting all hawks and owls; (2) eight states have at least conducted limited research, Nevada has recently initiated a program, Idaho has no program but is cooperating with the University of Idaho and Idaho State University, who have graduate studies in progress and New Mexico has no raptor research program, and (3) eight of the members have falconry regulations which allow for the use of the raptor resource in the sport of falconry; Alaska hasn't had falconry since 1969 and with statute changes they anticipate they will adopt regulations in 1974. Oregon and Hawaii are without falconry regulations, Oregon allows the import of raptors taken elsewhere, but they can fly their birds only on non-protected nongame birds which include only the English sparrow and starling. Of the eight states with falconry regulations, all had some restrictions on the use of some raptors in the sport. Washington has a prairie falcon management program which issues permits for the capture of a limited number (9 in 1973).

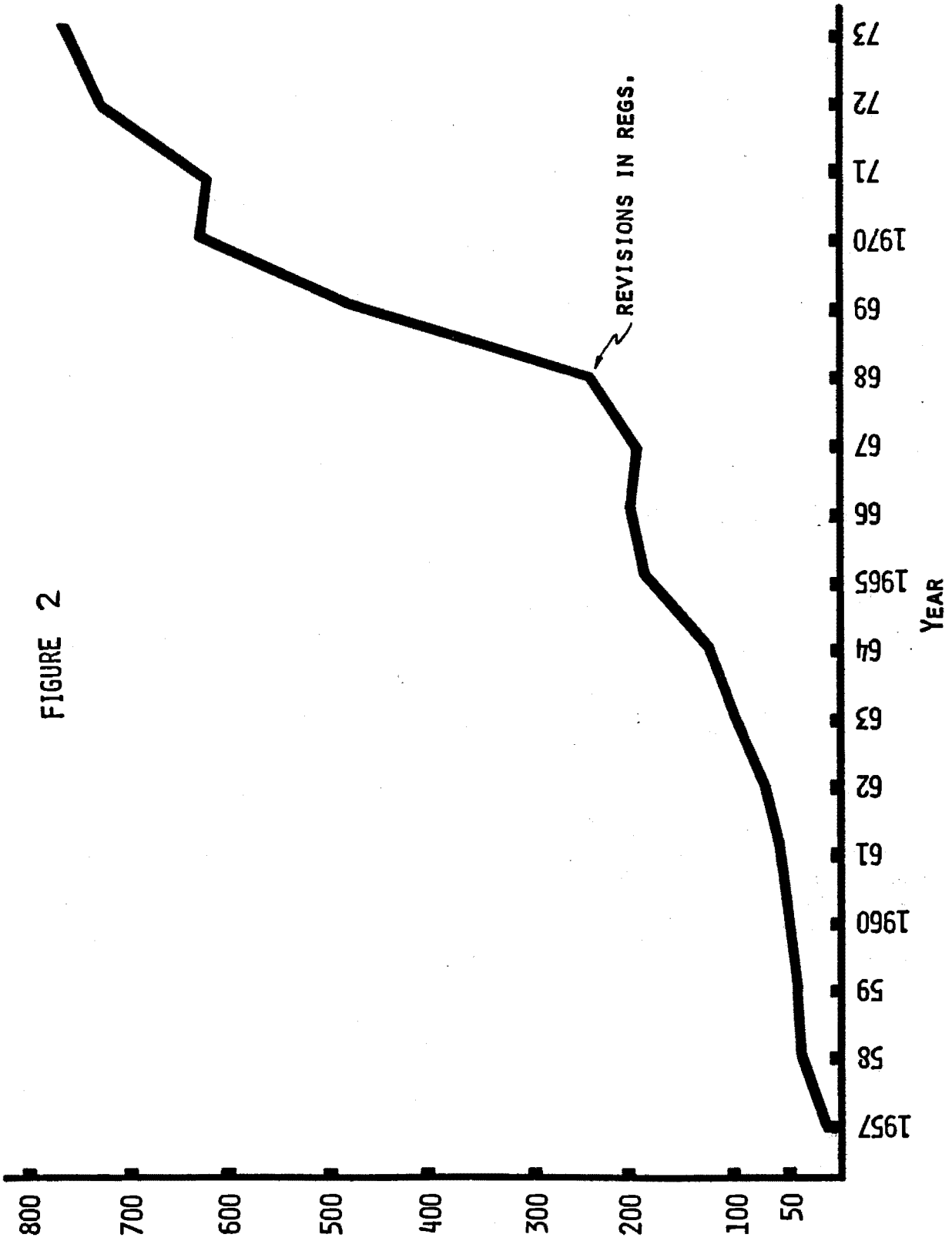
CALIFORNIA RAPTOR MANAGEMENT

Endangered Species

Special emphasis is placed on the preservation of threatened raptor species, as it should be. Many of the western states and federal agencies have completed studies on, or are initiating studies on many endangered species.

¹Members of the Western Association of State Game and Fish Commissioners include: Alaska, Arizona, British Columbia, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming.

FIGURE 2



Special studies have been conducted on the three endangered species in California:

1. California condor - A California Condor Advisory Committee was established by the Regional Forester to advise the U. S. Forest Service on matters involving the condor on National Forest lands. This committee initiated action to establish a survey team to organize the first annual condor survey in 1965. Surveys, coordinated by the California Department of Fish and Game, were conducted annually through 1972. Surveys will be conducted on an intermittent basis in the future. Agencies concerned with condor preservation are members of the California Recovery Team, formerly the Condor Technical Committee. This team of experts is currently drafting a condor recovery plan designed to ensure the survival of the condor.

The National Audubon Society assigned a naturalist to work on the condor in 1965, Bureau of Sport Fisheries and Wildlife assigned a biologist to a study of the condor in 1968 and U. S. Forest Service assigned a biologist to develop a management program for the condor on National Forest lands in 1969.

Programs which have or are being initiated to save the condor are:

- a. U. S. Forest Service has taken administrative action prohibiting firearms in and near the Sespe Condor Sanctuary.
- b. State Legislature passed a law in 1973 making it illegal for aircraft to fly below 3,000 feet over 3 important condor areas.
- c. U. S. Forest Service has closed or re-located trails and closed a road to reduce disturbance in key areas.
- d. U. S. Forest Service has established two observation stations where condor are often viewed by the public in areas which will not disturb birds.
- e. Private land holdings in or near to Sespe Condor Sanctuary are being purchased at a price in excess of \$750,000.

All the programs and more are to ensure the survival of 50 to 60 California condors.

1. Peregrine falcon - Because a survey in 1971 by Steve Herman indicated a minimum of two breeding pairs remain in California, subsequent information indicates approximately 15 pairs may exist. The Morro Rock Ecological Reserve was created by the California Fish and Game Commission and the Department of Parks and Recreation. This being done to prevent disturbance to the peregrine eyrie at Morro Rock known worldwide. Preparations are being completed to post and protect the rock from trespass. Negotiations to purchase another eyrie to ensure its protection is being considered.
2. Southern bald eagle - Carl Thelander, a graduate student working for the Department, from San Luis Obispo State University recently completed a study on the status of bald eagles in California. A minimum of 19 breeding pair were reported, but various forms of disturbance continue to be a factor to their survival. Recommendations were made to encourage programs which will save our national bird. The U. S. Forest Service has already taken action to protect known nest sites before the study was completed. Study results show further considerations are needed in planning for recreation and harvesting timber on federal, state and private lands.

Threatened Species

Completed studies to determine the status of other California raptors include:

1. Osprey - Dave Garber, graduate student from Humboldt State University working for the Department, conducted a two-year study on osprey in Lassen and Plumas counties (1970-71). U. S. Forest Service biologist Jack Kahl established an Osprey Management Area at Eagle Lake in Lassen County, and Dave had the pleasure of assisting. This management area approximately 1/2 mile wide and 3 miles long is located on the west shore of Eagle Lake in Lassen County. The area is closed to vehicles from April 1 to September 15 and human activity is not permitted within 1/8 mile of nests during the same period. To improve nesting habitat 15 trees were topped and 20 large cedar poles were literally planted in areas where nest sights were not available. Platforms or nest boxes were constructed on the tops of each. The program has been extremely successful, the first nesting year in 1972 saw 13 artificial nest sights being used and new tenants were happy with improved housing conditions.

Federal, state and private interests now give more consideration to saving osprey nesting habitat. The U. S. Forest Service annually inventory active nest sites on Forest Service lands and furnish this Department their findings.

2. Prairie falcon - Dr. Ronald Garrett completed a two-year study on the status of this species in 1972. A total of 218 territories were studied. His results indicated that the statewide population in California has experienced a general decline in utilization of historical nesting territories, especially around the central valley and in southern California. The reason for this decline is unknown. Pesticides, land use changes, and reduction in prey species are all probable factors. Some geographical areas may support a controlled use of this resource for falconry. A prairie falcon management program is being considered here in California in which a limited number of birds may be captured and used in falconry. We are optimistic that such a program will also provide a means whereby birds, after a two-year period, can be re-established back into the wild in depleted areas.
3. Spotted owl - Gordon Gould, a graduate of Humboldt State University, will be conducting a study to determine the status of this illusive bird of California in 1974. U. S. Forest Service and this Department are cooperating in this study being conducted primarily on Forest Service lands.
4. Golden eagle - Arrangements are being completed so that Carl Thelander, now working on a degree at San Jose State University, can determine the current status of the golden eagle. Recommendations will be made for management programs which will ensure its survival.

Survey and Inventory Program

An on-going raptor survey is providing much needed information on distribution and relative abundance of many of the more common raptors. Forty-one routes, established in areas of high raptor concentrations, were surveyed during 1973 resulting in a report of 6,184 raptor sightings of 16 species. Routes were run during the months of January, March and May. Nearly 5,100 miles were logged and 121.6 raptors were observed for each 100 miles of travel. This survey, although modified some, has been run since 1971. An evaluation of these data is being made to determine the frequency the survey should be made and how it can be improved.

An inventory is maintained by the Department on some 493 eyries of selected raptor species; 38 red-shouldered hawks, 4 Swainson's hawks, 49 golden eagles, 66 bald eagles, 304 osprey, 7 peregrine falcon, 22 prairie falcon and 3 goshawks. These nest sights are not all active and we do not have a complete inventory, but available information is being used to provide protection to many eyries by cooperating agencies. This we can't do if eyrie locations are unknown. We continually seek new eyries and welcome locations reported from all sources. Reproduction indices have been obtained for several species from these data.

Captive Raptor Breeding and Research

The Bureau of Sport Fisheries and Wildlife has extensive facilities being used to develop captive breeding methods for endangered wildlife species. Most states, like California, do not have facilities or budgetary means to establish such a program. The California Fish and Game Commission and this Department recognizes the value of such a program. To do this the Commission has issued five captive raptor breeding and two research study permits. Five are to private individuals who have developed an approved breeding or research program and one to the University of California at Davis for research on raptors. All have the expertise to successfully conduct such programs. Successes in a breeding program, we believe, will provide an opportunity to re-establish endangered species back into the wild and provide a source for birds in falconry. No endangered species are being removed from the wild for these breeding projects. One of these truly dedicated people with an approved raptor breeding program has as much as \$25,000 vested in equipment and facilities.

Successes have been achieved in this country and Canada on captive breeding of peregrine and prairie falcons, Harris' hawk, sparrow hawk and others. Dr. Cade at Cornell University reports he has a grant of \$100,000 to conduct a peregrine and lanner falcon breeding and reintroduction program.

Needless to say we are working closely with people conducting these programs. In fact the Department is assisting in the acquisition of some birds for one breeding program.

Rehabilitation

A number of raptors each year come into the possession of the Department, some confiscated, shot, injured, sick, etc. The Department has done limited work in rehabilitating these birds for release. Most birds are turned over to interested people, many falconers, and conservation organizations who handle the big job of treatment and rehabilitation. These dedicated people donated veterinary services, housing facilities, food and most of all the long hours in labor to condition birds to fend for themselves. We owe them a debt of gratitude.

Falconry

A program involving raptors which is most controversial in California and the nation is falconry. The Legislature and the California Fish and Game Commission recognize falconry as a legitimate and highly sophisticated sport. At the same time, they wish to be assured that the sport, in its use of raptors, in no way jeopardizes California's population of 32 native birds of prey or contributes to the depletion of the world's raptors threatened with extinction.

California falconry regulations were first initiated in 1957 when three permits were issued (Figure 2). Number of permits issued each year has grown to 773 in 1973. Falconers renewing their permits in 1973 reported they had 333 raptors in their possession on January 1, 1972. During the

year 38 species were maintained for the sport of falconry. Seventeen species were native to North America, only species of owl reported was the great horned owl. A reported 394 raptors were acquired at some time during the year and 293 were released, escaped, died, shot, stolen, transferred to breeding projects, etc. Four hundred and thirty-four birds were in the possession of falconers at the end of the year.

Yes, a large number of birds are used in falconry which points out a need to have enforced controls.

An amendment to the Migratory Bird Treaty Act in 1971 placed raptors in a category of being a migratory bird under the primary jurisdiction of the Bureau of Sport Fisheries and Wildlife. The federal government is drafting a set of general falconry regulations at this time, which may become law in 1974.

In California, where 773 falconry permits were issued in 1973, we could not wait on the assumption these laws would be enacted. At the California Fish and Game Commission meeting on January 11, the Department urged the passage of its proposed regulations to further control the use of this valuable resource. As a result of Commission action added protection is assured raptors. With continuing studies we can keep abreast of the demands placed on raptors and ensure against over utilization.

Education

Although protective laws are passed, man continues to be the number one enemy of raptors. Man's ignorance continues to take its toll of raptors by indiscriminate shooting, destruction of raptor nests, or with mass pollution of the environment and destruction of habitat. Laws are being enacted for raptor protection, but it comes down to the basic attitudes of us, the people, whether the laws are effective in the protection of this resource.

We need to expand our conservation education program to increase the public's awareness to the plight of our raptor population as a whole and especially the endangered species. Education at all levels in our educational system are needed; yes, even post education, we are never too old to learn. You say, "Yes, but the Department and other agencies do have leaflets on raptors available for distribution to the public and for use in hunter safety programs." True, but we need to reach the masses to make them aware of protective laws and enlist their help in the fight to provide added protection to the valuable resource. Raptors are of benefit to us all if for no other reason than a welcome addition to the outdoor experience.

In conclusion, Maurice Strong, executive director of the U.N.'s Environment Programme, recently wrote something I believe is very appropriate; "We have often said that 'technology may cause man's death', it may also make possible his survival."