

prey dangling from the talons of her outstretched foot, the harrier glided approximately 50 m before landing. The harrier remained on the ground plucking her kill for 8 min while the surviving willet continued circling and calling overhead. When the harrier rose carrying the dead willet in two feet pressed close to her body, and flew approximately 0.5 km to the northeast, the remaining willet ceased calling.

An observation by Watson (1976) for the Hen Harrier (*Circus cyaneus cyaneus*) in Europe, concerns the taking of a mobbing Lapwing (*Vanellus vanellus*) in a similar fashion. In that instance, the Lapwing was released alive several minutes later. Harriers are dietary generalists capable of taking relatively large prey (Errington & Breckenridge 1936; Bent 1937; Craighead & Craighead 1956; Hamerstrom 1969). However, in the course of my three-year study, this is the first time predatory behavior was observed during mobbing.

ACKNOWLEDGMENTS

I thank C. Safina, J. Greenlaw, K. Blumer and W. Kolodnicki for providing helpful comments on an earlier draft of this paper. K. Bildstein, W. Scharf and J. Schmutz greatly improved the manuscript by their suggestions. Special thanks to the Theodore Roosevelt Sanctuary for cooperation during field season and the Huntington Audubon Society for a grant in partial support of 1984 research.

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Theodore Roosevelt Sanctuary, 134 Cove Road, Oyster Bay, New York 11771.

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NEWS AND REVIEWS

Working Bibliography of the Golden Eagle and the Genus *Aquila* by Maurice N. LeFranc, Jr. and William S. Clark. National Wildlife Federation. Scientific Technical Series No. 7, 1983. xxx + 234 pp. Price \$14.95 U.S. + \$1.55 U.S. postage and handling. Available from Institute for Wildlife Research, National Wildlife Federation, 1412 16th St. N.W., Washington, D.C. 20036.

The Raptor Information Center of the National Wildlife Federation has earned a debt of gratitude from raptor biologists worldwide for its production of a series of working bibliographies on major taxa of birds of prey. This is the third of these keyworded, computer-generated reference works, having been preceded by volumes dealing with owls (Clark, R.J., D.G. Smith and L.H. Kelso, 1978. Working Bibliography of Owls of the World, NWF Scient./Tech. Ser. No. 1) and the Bald Eagle (Lincer, J.L., W.S. Clark and M.N. LeFranc, Jr. 1979. Working Bibliography of the Bald Eagle, NWF Scient./Tech. Ser. No. 2). The three books are the concrete results of a project devoted to the compilation of literature citations that was begun under Jeff Lincer's administration as first director of the Raptor Information Center and continued to successful completion under his successor, Bill Clark.

Because the present volume includes references to the genus *Aquila* worldwide, the organization of the specific format is more like that of the owl volume than the Bald Eagle bibliography. This format, by now familiar to raptor students here and abroad, consists of introductory material followed by a master list of citations, arranged alphabetically by author, with each entry assigned a reference number. This is succeeded by a permuted list of keywords, which provides cross-references to each author entry on the basis of up to a dozen or more selected keywords, which

collectively describe the major content of that particular entry; hence specific keywords deal with such subjects as nesting, distribution, research techniques, management and conservation.

The highlight of the introductory material in this volume is a foreword written by the late Leslie Brown (in his inimitable salty style) wherein he reviews some general features of the genus and describes the tedious "hack-work" (his word) required of raptor students who attempted to conduct literature searches before working bibliographies of this type were available. Chapter 1 contains the authors' introduction and acknowledgments, with information on the production and organization of the bibliography. Chapter 2 is an introduction to the members of the genus *Aquila*, with a paragraph or two devoted to the description, range and general characteristics of each of ten species (instead of 9 as recognized by Brown and some other authorities; the authors state their good reasons for treating the Steppe Eagle, *Aquila nipalensis*, as a full species instead of as a race of *A. rapax*). This completes the general and introductory material, and the working bibliography itself comprises the remainder of the chapters, which are arranged as follows: Chapter 3 - Master List of Citations (3459 entries), Chapter 4 - Permuted List of Keywords ("Abandonment" through "Wintering Population"), Chapter 5 - Species Index to Citations (ranging from 18 for Gurney's Eagle to 2305 for the Golden Eagle), Chapter 6 - Geographic Index of Citations (listed by sub-

region, nation, state, province, etc., for each continent), and Chapter 7 - List of Citations of Occurrences. There is also an appendix, with a useful glossary or dictionary of all keywords used in the bibliography.

Many good things could be said about the finished product, but its ultimate value will lie in the utility it provides in the context of an otherwise tedious literature search. I, for one, am grateful that the authors have not felt it necessary to restrict entries to only those appearing in referred scientific journals. Golden Eagle aficionados are aware that much useful information may be gleaned from the semi-popular or anecdotal accounts of the species that are included (e.g., Gordon, S.P. 1955. *The Golden Eagle, king of birds*, Citadel Press, New York, Olendorff, R.R. 1975. *Golden Eagle Country*, A.A. Knopf, Inc., N.Y.), and even from fictional works (e.g., Murphy, R. 1965. *The Golden Eagle*, E.P. Dutton & Co., N.Y.)

As is to be expected, the work is not without flaws. Any product that is largely the result of computer programming is bound to suffer from a few "glitches" and inconsistencies. My main concern is with the ambiguity which inevitably results from the use of keywords, which are the utilitarian "heart" of the method. The number of keywords assigned to a given entry ranges from a minimum of 3, generally for short notes with limited information, to 20 or more for more extensive monographs. What constitutes a valid or relevant keyword, and what criteria are used to determine the number of them selected to cross-reference a given bibliographic entry? Obviously, this is largely a matter of arbitrary choice by the compilers, and it is bound to produce some confusion and unsatisfactory allocations of information. To cite a few examples: there is only one entry under the keyword "Nest Construction" (!); the 13 entries under "Nest Adornment" do not include several references which should be listed, including the important monograph by D.H. Ellis (1979). Development of behavior in the Golden Eagle, *Wildlife Monographs*, No. 70. The Wildlife Society, Inc.); the book by Olendorff (1975) is cited under the keyword "Popular Monograph," but the equally anecdotal work by Gordon (1955) is not; Walter Spofford's report on the Golden Eagle aerial shootoff in west Texas (1964. *The Golden Eagle in the Trans Pecos and Edwards Plateau of Texas*, Audubon Cons. Rept. No. 1. National Audubon Society), is not listed under

"Conservation" despite its bearing the label of a conservation report; nor is it listed under the keyword "Aircraft."

There are numerous other examples, but these are enough to emphasize the cautionary message; use of a given keyword does not guarantee that all literature containing that specific information will be cited thereunder. People using the bibliography will soon discover this problem and adjust their search methods accordingly, and no doubt all readers will recognize the difficulty facing the editors in determining how many different keyword entries to extract from a given publication.

Among other items that would benefit from clarification, the heading of Chapter 7, "List of Citations of Occurrences," is somewhat misleading, and needs to include the further information given on page xx of the introduction so that readers will understand that this is a list of additional locality references for the Golden Eagle not included in the master list of citations (Chapter 3). I found another inconsistency in the fact that some foreign titles were given English translations in parentheses, while others were not. I wondered why some entries were listed as "title only," with no keyword cross-referencing. A case in point is the manuscript report by Glover and Heugly (1970). *Golden Eagle Ecology in West Texas*. Report to Natl. Audubon Soc., Colorado Coop. Wildl. Res. Unit. Fort Collins), which contains important information on economic relations and management of eagles *vis a vis* livestock; perhaps the compilers didn't have access to a copy. Among other minor errors, I noticed that the two-part paper on Black Eagles in Tanzania by E.G. Rowe (1947). *The breeding biology of Aquila verreauxi* Lesson. *Ibis* 89:387-410 (Part I); 576-606 (Part II) was cited in reverse order, i.e., the second part is cited (and numbered) first.

These comments are not intended to detract from the basic value and genuine contribution of the book as a labor-saving repository of a great deal of useful information. Given the rapid rate of expansion of published material on the genus, it is to be hoped that the compilers of the parent organization will plan to update the listings from time to time (this should be another of the virtues of the computer-generated approach). The community of raptor enthusiasts are well served by these bibliographers; let's hope that the momentum will continue, and that similar works on other taxa will be forthcoming. — Joseph R. Murphy.

The 1986 Annual Meeting of The Raptor Research Foundation, Inc. — the Raptor Research Foundation will hold its annual meeting at the University of Florida, Gainesville, FL. 20-23 November 1986. MICHAEL W. COLLOPY, Dept. of Wildlife and Range Sciences, 118 Newins-Ziegler Hall, Univ. of Florida, Gainesville, FL 32611, will chair the Local Committee. KEITH L. BILDSTEIN, Dept. of Biology, Winthrop College, Rock Hill, SC 29733, will chair the Programs Committee.

European *Haliaeetus* East-West Symposium 1986. The European *Haliaeetus* Symposium is organized as a forum for the exchange of scientific findings in the field of raptor biology, as well as for an exchange of experience between experts from East and West on the subject of nature conservancy and conservation of species. The symposium is scheduled to take place 18 - 28 September 1986 in Heidelberg, Federal Republic of Germany. Plenary meetings will take place from 19 - 21 September, and excursions and tours are scheduled to take place 22 - 28 September, plus another series of meetings dealing with specialized topics. Please address inquiries regarding the symposium to: Deutsche Greifenwarte (German Raptor Center), Burg Guttenberg or Claus Fentzloff, D-6954 Burg Guttenberg/Neckar, Federal Republic of Germany.

RESOLUTIONS

The following resolutions were adopted by the Board of Directors and the General Membership of The Raptor Research Foundation, Inc., at The 1985 Raptor Research Foundation International Meeting and Symposium on the Management of Birds of Prey held 2 - 10 November 1985 in Sacramento, California.

Resolution #85-1. RE: The California Condor

WHEREAS, the wild population of California condors, currently only six birds, has been rapidly approaching extinction, in spite of all efforts to counteract the man-induced mortality factors that are the principal causes of the decline; and

WHEREAS, no effective means to reduce these mortality factors are yet in sight, and these mortality factors appear to be associated with existing foraging traditions of the population; and

WHEREAS, there appears to be no hope for recovery of the species in the absence of a fully viable captive population; and

WHEREAS, the fraction of the 21 currently-held captives that may become effective breeders is unknown; and

WHEREAS, the genetic viability of the existing captive population has been seriously questioned by all population geneticists that have been consulted by the recovery team; and

WHEREAS, the capture of the remaining wild birds might significantly increase the chances that a viable captive population can be achieved; and

WHEREAS, effective methods have been developed for reestablishment of wild vulture populations from captivity;

THEREFORE BE IT RESOLVED that (1) the remaining wild California condors be taken captive as soon as possible; and (2) until a healthy self-sustaining captive population has been achieved, no release of captives to the wild should be attempted, and (3) that releases of California condors to the wild be made as soon as advisable, and that they be directed to historic regions that offer effective protection from detrimental human influences.

THE RAPTOR RESEARCH FOUNDATION, INC.

Jeffrey L. Lincer
President, The Raptor Research Foundation, Inc.

WITNESS my hand and official seal, this 19th day of December, A.D. 1985

Joan Ann Carter
Notary Public, State of Florida

Resolution #85-2. RE: Old Growth Management on Federal, State, and Private Lands

WHEREAS, many of the raptor species inhabiting the forests and woodlands of the United States, including such sensitive species as the Goshawk, Great Grey Owl and Spotted Owl, are wholly or partially dependent on mature and old growth trees and/or snags for nesting, roosting, cover and/or foraging; and

WHEREAS, present silvicultural systems do not adequately address the maintenance and recruitment of old growth tree groves in densities to sustain adequate raptor populations;

THEREFORE BE IT RESOLVED that The Raptor Research Foundation, Inc., does hereby take the position that comprehensive old growth policies, in the spirit of multiple use-sustained yield principles, be implemented which allow for natural fluctuation and movement of raptor populations by local, state and federal agencies responsible for management of wildlife populations and their habitats.

THE RAPTOR RESEARCH FOUNDATION, INC.

Jeffrey L. Lincer
President, The Raptor Research Foundation, Inc.

WITNESS my hand and official seal, this 19th day of December, A.D. 1985

Joan Ann Carter
Notary Public, State of Florida

Resolution #85-3. RE: Appreciation to RRF Founders

WHEREAS, the need for an organization focusing on communication, raptor management and conservation was apparent in the mid-1960s because of widespread population declines and habitat loss; and

WHEREAS, in an effort to accomplish the above goals, Donald V. Hunter, Jr., Byron E. Harrell and Paul F. Springer became the founding members, and George M. Jonkel, the first secretary of the Raptor Research Foundation; and

WHEREAS, the Raptor Research Foundation (RRF) has since grown in stature, membership, and influence as a result of those original efforts; and

WHEREAS, the efforts of RRF and its membership is believed to have significantly contributed to the increased awareness, conservation, and proper management of birds of prey;

NOW, THEREFORE BE IT RESOLVED that The Raptor Research Foundation, Inc., formally, and with great pleasure, recognizes the insight, commitment and leadership of our founding members, Donald V. Hunter, Jr., Byron E. Harrell and Paul F. Springer and its first secretary, George M. Jonkel;

FURTHER, that a copy of this resolution, appropriately prepared, be presented to these key individuals.

THE RAPTOR RESEARCH FOUNDATION, INC.

Jeffrey L. Lincer
President, The Raptor Research Foundation, Inc.

WITNESS my hand and official seal, this 19th day of December, A.D. 1985

Joan Ann Carter
Notary Public, State of Florida

Resolution #85-4. RE: Societal Priorities

WHEREAS, birds of prey, being at the top of the food chain, are extremely sensitive to environmental degradation such as habitat loss and chemical pollutants; and

WHEREAS, these negative impacts are all directly or indirectly the result of human population pressures; and

WHEREAS, conservation issues cannot be fully addressed until socioeconomic justice and political stability are achieved;

THEREFORE BE IT RESOLVED that The Raptor Research Foundation, Inc., recognizes that human population and increasing per capita resource use in the developed world are one of the greatest threats to the survival of raptor populations and that The Raptor Research Foundation, Inc., encourages appropriate agencies to effect the transition from a growth and consumer-oriented society to a stable conserver society.

THE RAPTOR RESEARCH FOUNDATION, INC.

Jeffrey L. Lincer
President, The Raptor Research Foundation, Inc.

WITNESS my hand and official seal, this 19th day of December, A.D. 1985

Joan Ann Carter
Notary Public, State of Florida

Resolution #85-5. RE: Government Game and Nongame Programs

WHEREAS, non-game wildlife provides important recreational, aesthetic, ecological, existence, economic, and genetic benefit to the people of the United States; and

WHEREAS, the U.S. Fish and Wildlife Service and other federal agencies are charged with the responsibility of managing and protecting migratory birds; and

WHEREAS, recent surveys and studies clearly demonstrate that the public supports management of non-game wildlife and prevention of extinction; and

WHEREAS, fish and wildlife service programs for non-endangered wildlife species currently are predominantly game-oriented; and

WHEREAS, early detection of species declines is an important part of species protection and prevention of extinction;

WHEREAS, current bird monitoring programs do not adequately represent trends for many bird species, including raptorial birds;

NOW, THEREFORE BE IT RESOLVED that The Raptor Research Foundation, Inc., urges the U.S. Fish and Wildlife Service to redirect its research and management efforts to create a reasonable balance between game and non-game programs; and

BE IT FURTHER RESOLVED that The Raptor Research Foundation, Inc., urges the U.S. Fish and Wildlife Service and other appropriate agencies to adopt, as a principal objective of their non-game programs, the prevention of non-game wildlife from becoming threatened or endangered and that the non-game program include, but not be limited to, monitoring non-game bird populations that are not now being effectively monitored.

THE RAPTOR RESEARCH FOUNDATION, INC.

Jeffrey L. Lincer
President, The Raptor Research Foundation, Inc.

WITNESS my hand and official seal, this 19th day of December, A.D. 1985

Joan Ann Carter
Notary Public, State of Florida

Resolution #85-6. RE: Welfare of Raptors in Mexico

WHEREAS, Mexico is comprised of high ecological diversity and varied natural habitats; and

WHEREAS, there exists very little knowledge on natural resources in terms of inventories, management, conservation, and possible impact of industries, for example, petroleum; and

WHEREAS, the high species diversity of raptors is under constant threat by habitat modification, pollution, hunting pressure, and trade;

THEREFORE BE IT RESOLVED that The Raptor Research Foundation, Inc., respectfully suggests that the government of Mexico pay special attention to the following points:

- (1) urgently ratify and implement the convention on trade in endangered species;
- (2) habitat conservation and management;
- (3) stopping the illegal trade of wildlife, with particular emphasis on Peregrine Falcons and other raptors, at the national and international levels;
- (4) develop educational programs for wildlife conservation integrating the concept of planned development;
- (5) monitor the use, abuse and impact of pesticides on wildlife with particular emphasis on raptors;
- (6) support the training and education of specialists in wildlife management either in the country or abroad; and
- (7) support long-term research projects oriented toward the integration of conservation strategies into the developmental process of the country.

BE IT FURTHER RESOLVED that The Raptor Research Foundation, Inc., willingly offers its assistance to the Mexican government and expertise that would facilitate the accomplishment of these objectives.

THE RAPTOR RESEARCH FOUNDATION, INC.

Jeffrey L. Lincer,
President, The Raptor Research Foundation, Inc.

WITNESS my hand and official seal, this 19th day of December, A.D. 1985

Joan Ann Carter
Notary Public, State of Florida

Resolution #85-7. RE: Illegal Trade of Peregrine Falcons in Mexico

WHEREAS, *Falco peregrinus* is a bird species in danger of extinction, included in Appendix I of the cites convention, and protected by the convention on migratory birds signed by Canada, USA, and Mexico; and

WHEREAS, information from international organizations indicates that an illegal international trade exists between Mexico and other countries of the world involving live and dead individuals of the species; and

WHEREAS, some of those individuals have been identified as migratory birds from the northern breeding grounds in transit through Mexico to their wintering areas to the south;

THEREFORE BE IT RESOLVED that The Raptor Research Foundation, Inc., supports the ongoing trade investigations aimed at ending violations of relevant Mexican and international laws protecting *Falco peregrinus*.

THE RAPTOR RESEARCH FOUNDATION, INC.

Jeffrey L. Lincer
President, The Raptor Research Foundation, Inc.

WITNESS my hand and official seal, this 19th day of December, A.D. 1985

Joan Ann Carter
Notary Public, State of Florida

Resolution #85-8. RE: International Year for Birds of Prey

WHEREAS, birds of prey are found in virtually every country of the world, often migrating freely across international borders; and

WHEREAS, birds of prey, being at the top of the food chain, constitute important barometers of environmental change; and

WHEREAS, there is an international recognition and appreciation for birds of prey; and

WHEREAS, there is international concern for the welfare of those birds of prey due to declines in some populations because of habitat loss, widespread pollution, illegal trade, persecution and other human-related problems; and

WHEREAS, the ICBP World Working Group on Birds of Prey is hosting the next world conference on birds of prey in Eilat, Israel in 1987; and

WHEREAS, The Raptor Research Foundation, Inc., consists of over 700 specialists on the biology, conservation, and public awareness of birds of prey, from all over the world;

THEREFORE BE IT RESOLVED that The Raptor Research Foundation, Inc., urges the United Nation's UNEP-IUCN to proclaim 1988 as "The International Year for Birds of Prey."

FURTHER, that copies of this resolution be sent to the executive director of the Office of Environmental Programs, UNEP, and all other appropriate international bodies.

THE RAPTOR RESEARCH FOUNDATION, INC.

Jeffrey L. Lincer
President, The Raptor Research Foundation, Inc.

WITNESS my hand and official seal, this 19th day of December, A.D. 1985

Joan Ann Carter
Notary Public, State of Florida

Resolution #85-9. RE: Falconer's Contribution

WHEREAS, important raptor conservation techniques, including captive breeding and reintroduction of raptors, have been pioneered and developed largely by falconers;

THEREFORE BE IT RESOLVED that the conservation community owes falconers a debt which seldom has been recognized, and encourages the continued participation of falconers in raptor conservation projects.

THE RAPTOR RESEARCH FOUNDATION, INC.

Jeffrey L. Lincer
President, The Raptor Research Foundation, Inc.

WITNESS my hand and official seal, this 19th day of December, A.D. 1985

Joan Ann Carter
Notary Public, State of Florida

Resolution #85-10. RE: Grassland Raptors

WHEREAS, many birds of prey are vitally dependent upon grasslands for their food base, i.e., small rodents; and

WHEREAS, the absence of this food base will reduce breeding effort or cause these species to not breed at all; and

WHEREAS, some of these species of raptors are considered as endangered or threatened in many states; and

WHEREAS, grasslands also are important to many species of ground nesting birds; and

WHEREAS, the conversion of grasslands to cropland has resulted in serious soil erosion problems; and

WHEREAS, the "sodbuster" and conservation reserve provisions will protect and restore grassland habitat;

THEREFORE, BE IT RESOLVED that The Raptor Research Foundation, Inc., strongly urges Congress to include the "sodbuster" and conservation reserve provisions in the 1985 farm bill.

THE RAPTOR RESEARCH FOUNDATION, INC.

Jeffrey L. Lincer
President, The Raptor Research Foundation, Inc.

WITNESS my hand and official seal, this 19th day of December, A.D. 1985

Joan Ann Carter
Notary Public, State of Florida

Resolution #85-11. RE: Gray's Harbor Bay

WHEREAS, the 500 acre section of Gray's Harbor Bay known as *Bowerman Basin* has been documented to be the largest concentration of migrant shorebirds on the Pacific coast south of the Copper River Delta, Alaska; and

WHEREAS, Bowerman Basin is an intensively used feeding and resting area for 3 subspecies of wintering and migrant Peregrine Falcons; and

WHEREAS, the port of Gray's Harbor proposes to fill this estuarine wetland/mudflat for speculative industrial development; and

WHEREAS, federal and state environmental protection acts/regulations and the respective federal and state resource agencies have been unable to secure permanent protection of Bowerman Basin;

THEREFORE, LET IT BE RESOLVED that The Raptor Research Foundation endorses and supports proposals to establish the *Bowerman Basin National Wildlife Refuge*.

THE RAPTOR RESEARCH FOUNDATION, INC.

Jeffrey L. Lincer
President, The Raptor Research Foundation, Inc.

WITNESS my hand and official seal, this 19th day of December, A.D. 1985

Joan Ann Carter
Notary Public, State of Florida

Resolution #85-12. RE: Appreciation to Local Committee

WHEREAS, the 1985 annual RRF meeting in Sacramento, California, was an unprecedented success, involving approximately 900 individuals, representing 40 countries; and

WHEREAS, the success of this meeting was due primarily to the efforts of the local committee co-chairmen, Butch Olendorff, Nancy Venizelos, Dave Harlow, and their committee members; and

THEREFORE, BE IT RESOLVED that the RRF gratefully expresses their appreciation for a job well, done to those individuals; and

FURTHER, the RRF similarly expresses their appreciation to the BLM, San Francisco Zoological Society, USFWS, and other agencies and organizations for allowing their employees the time to make this annual professional meeting the success that it was.

THE RAPTOR RESEARCH FOUNDATION, INC.

Jeffrey L. Lincer
President, The Raptor Research Foundation, Inc.

WITNESS my hand and official seal, this 19th day of December, A.D. 1985

Joan Ann Carter
Notary Public, State of Florida

Hawk Mountain Sanctuary Association 10th Annual Award for Raptor Research - The Hawk Mountain Sanctuary Association is accepting applications for its 10th annual award for raptor research. To apply for the \$750 award, students should submit a brief description of their research program (5 pages maximum), a curriculum vitae, and 2 letters of recommendation by **15 October 1986 to Stanley E. Senner, Executive Director, Hawk Mountain Sanctuary Association, Route 2, Kempton, Pennsylvania 19529**. The Association's Board of Directors will make a final decision early in 1987. Only students enrolled in a degree-granting institution are eligible. The award will be granted on the basis of a project's potential to improve understanding of raptor biology and its ultimate relevance to the conservation of North American raptor populations.

Leslie Brown Memorial Grant (Deadline Extended) — The Raptor Research Foundation, Inc., announces the availability of a \$500 grant to provide financial assistance to promote the research, or the dissemination of information, on birds of prey. Applicants must send a resume (vitae), specific study objectives, an account of how funds will be spent, and a statement indicating how the proposed work would relate to other work by the applicant and to other sources of funds. Proposals concerning African raptors will receive highest priority between proposals of otherwise equal merit.

Application material must be received by **7 November 1986**. Proposals, donations and inquiries about tax-exempt contributions to the fund should be sent to: **Dr. Jeff Lincer, Chairman, RRF Leslie Brown Memorial Fund, 4718 Dunn Drive, Sarasota, FL 33583, U.S.A.**

THESIS ABSTRACTS

THE BIOGEOCHEMISTRY OF PEREGRINE FALCON FEATHERS

Secondary remiges were collected from 92 Peregrine Falcon (*Falco peregrines*) nestlings in the summer of 1979 and 1980 at 1 West Greenland and 4 North American breeding localities. This study's purpose has been to determine if natal origin of peregrines could be identified using feather trace element quantities obtained by instrumental neutron activation analysis (INAA). Gamma-ray spectra analysis of irradiated feather samples identified 14 trace element quantities present in the distal most feather portion. Multivariate discriminant function analysis of spectral data provided a means of separating Peregrine Falcons from 5 breeding localities into groups of similar natal origin.

Twenty-two additional feather samples were collected from migrant peregrines at South Padre Island, Texas and Mobile Point, Alabama during autumnal migration periods. Trace element analysis of migrant peregrine feather samples and comparison with nestling peregrine feather sample analyses provided a method potentially useful in predicting natal origin of North American migrant peregrines with substantial accuracy. Variation in prediction capability results when groupings of selected traced element quantities are utilized in formulating predictive multivariate discriminant functions.

Trace element analysis of feathers using INAA provided an effective means of identifying levels of environmentally harmful elements such as Mercury which could adversely affect population densities in remote regions of the peregrine's range. As peregrine wintering locality studies by others expand in Latin America, similar "ground truth" data from feathers grown by peregrines in these regions will enhance isolating discrete wintering localities of remote northern breeding populations, information vital to overall management of this endangered species. **Parrish, J.R., M.S. Thesis, Univ. of Alabama, Tuscaloosa. Thesis directed by D.T. Rogers, Jr., 1983.**

SOME ASPECTS OF THE REPRODUCTIVE BIOLOGY OF TUNDRA PEREGRINE FALCONS

A dense, productive population of tundra peregrine falcons (*Falco peregrinus tundrius*) was studied over five years on a 450 km² study area located along the northwest coast of Hudson Bay. The number of territorial pairs varied over the years from 17 to 26. A mean internest distance of 3.3 km represents a nesting density for the population that is among the highest on record for the species. Morphometric and plumage characteristics of adults in the study population