



W · I · N · G · S · P · A · N

VOLUME 9 NO. 2 / VOLUME 10 NO. 1

SEPTEMBER 2000 / MARCH 2001

MESSAGE FROM THE PRESIDENT

Dear Members,

I had a busy, but enjoyable, field season last spring. Observing nesting raptors in the spring brings into perspective why I am involved in raptor conservation. Last spring saw much activity on the RRF front as well. The ad hoc committee I charged to address RRF's mission in Eurasia completed its first report. This report discusses short-term approaches to accommodate needs in Eurasia in four broad areas: conservation, meetings, information transfer, and membership. My thanks to co-chairs Robert Kenward and Brian Millsap, and committee members Bea Arroyo, Keith Bildstein, Mike Collopy, and Jemima Parry-Jones for a superb job. The committee's next charge is to develop a long-term RRF structure for Eurasia. We progressed on publishing the proceedings of the La Paz Golden Eagle Symposium. Fundacion ARA and Centro de Investigaciones Biologicas del Noroeste contributed funds to the effort. These funds, combined with a donation from Sally Spofford, in memory of Dr. Walter Spofford, ensure adequate funding for publishing the proceedings. On behalf of RRF, I thank the contributors for their generosity. I also sincerely appreciate the efforts of Eduardo Inigo-Elias, Ricardo Rodriguez-Estrella, and Lloyd Kiff in securing funding. The Board has been active with meeting venues. The Board accepted an offer from Miguel Ferrer to host the 4th Eurasian conference in Seville, Spain in September 2001, and they accepted Jim McDonald's offer to host the annual meeting in Winnipeg, Manitoba in October 2001. The Cooper Ornithological Society and American Ornithologists' Union invited us to join the other OSNA organizations as co-sponsor of the 3rd North American Ornithological Conference and jointly hold our annual meeting with them in New Orleans in September 2002. I think this is an excellent opportunity for RRF. I engaged in a myriad of RRF activities last summer. I named Steve Sheffield as a RRF representative to the Ornithological Council Board to replace Mike McGrady who moved to Austria. Heart-felt thanks go to Mike for a stellar job of representing RRF. Steve is a familiar face with the OC and will do a great job for us. I signed a Memorandum of Agreement with the Edison Electric Institute (EEI) Avian Power Line Interaction Committee (APLIC) for the second printing of Suggested Practices for Raptor Protection on Power Lines. Under the MOA, APLIC pays printing costs, EEI sells the book, and RRF receives proceeds above printing cost. The first printing of Suggested Practices was a fundraiser for RRF, and the second holds great promise. We appreciate Bob Lehman's diligent efforts in seeing the project to fruition. I asked John Smallwood to head a committee to prepare RRF comments on a recent proposal by the USGS Bird Banding Laboratory to re-engineer permit policies and procedures. The BBL is proposing major changes that will significantly affect those who band raptors. Proposed changes can be found on the web: <http://www.nmnh.si.edu/BIRDNET/OC/expert/help/BBL3.html>. The BBL welcomes your comments. I worked with fellow OSNA Board members to resolve problems dealing with memberships and other business activities of OSNA. I thank David Bird for representing RRF as my alternate at the annual OSNA Board meeting. I wish you the best for the summer. See you in Winnipeg.

Mike



RRF ELECTION RESULTS, 2000

A total of 299 ballots was cast, representing 23% of the voting membership. Results are as follows:

President-Elect: Brian Millsap (Florida Fish and Wildlife Conservation Commission, 620 Meridian Street S, Tallahassee, FL 32399-1600; *phone*: 850-488-3831; *fax*: 850-488-6988; *e-mail*: millsab@gfc.state.fl.us)

Vice-President: Keith Bildstein (Hawk Mountain Sanctuary Association, 1700 Hawk Mountain Road, Kempton, PA 19529; *phone*: 610-756-6961; *fax*: 610-756-4468; *e-mail*: bildstein@hawkmountain.org)

International Director #2: Ricardo Rodriguez Estrella (Centro de Investigaciones Biológicas del Noroeste, km. 1 carr. San Juan de la Costa, La Paz 23000 Baja California Sur, México; *phone*: 112-536-33; *fax*: 112-553-43; *e-mail*: estrella@cibnor.mx)

North American Director #2: Laurie Goodrich (Hawk Mountain Sanctuary Association, 1700 Hawk Mountain Road, Kempton, PA 19529; *phone*: 610-756-6961; *fax*: 610-756-4468; *e-mail*: goodrich@hawkmountain.org)

Director At Large #2: Petra Bohall Wood (West Virginia Cooperative Fish and Wildlife Research Unit, P.O. Box 6125, 333 Percival Hall, West Virginia University, Morgantown, WV 26506-6125, *phone*: 304-293-3794, ext. 2433; *fax*: 304-293-2441; *e-mail*: pbwood@wvnm.wvnet.edu)

Director At Large #5: Robert Rosenfield (Department of Biology, University of Wisconsin, Stevens Point, WI 54481; *phone*: 715-346-4255; *fax*: 715-346-3624; *e-mail*: rosenfi@wsp.edu)

THE RAPTOR RESEARCH FOUNDATION, INC.

(FOUNDED 1966)

OFFICERS

PRESIDENT: Michael N. Kochert
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VICE-PRESIDENT: Keith L. Bildstein

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Wingspan is distributed twice a year to all RRF members. It is also available to non-members for a subscription rate of \$10 per year. *The Journal of Raptor Research* (ISSN 0892-1016) is published quarterly and available to individuals for \$33 per year (\$18 per year for students) and to libraries and institutions for \$50 per year from: Ornithological Societies of North America, P.O. Box 1897, Lawrence, KS 66044 USA. Add \$5 for destinations outside of the continental United States. Individual and student memberships renewed before November 15 are \$30 and \$15, respectively. Persons interested in predatory birds are invited to join The Raptor Research Foundation, Inc. Send requests for information concerning membership, subscriptions, special publications, or change of address to: Ornithological Societies of North America, P.O. Box 1897, Lawrence, KS 66044 USA.

OWL MONITORING PROTOCOL AVAILABLE:

"Nocturnal Owl Monitoring, a Recommended Standard Protocol for North America"

by D. L. Takats, C. M. Francis, G. L. Holroyd, J. R. Duncan,
K. M. Mazur, R. J. Cannings, W. Harris, and D. Holt

Information on distribution, abundance, and population trends of all North American bird species is fundamental to developing sound conservation strategies, so that species in need of particular conservation action can be identified, and so that the effectiveness of current management programs can be evaluated. Most species of nocturnal owls are poorly monitored by existing multi-species surveys, such as the Breeding Bird Survey and Migration Monitoring. Several regions of Canada and the United States have established volunteer-based nocturnal roadside surveys for breeding owls. These appear to be an effective means of monitoring many species of owls, but there is considerable variation in the methods used. In September 1999, representatives from the main surveys in Canada met in Winnipeg, Manitoba to try to develop a set of standards for owl monitoring that would allow data to be integrated across surveys, while recognizing geographic variation in target species and survey objectives. The outcome of that meeting was agreement on a set of standard components that should be incorporated into roadside surveys for breeding owls. Subsequently, these have been modified slightly, and developed into a protocol that will be incorporated into the North American Raptor Monitoring Strategy. We hope this protocol will be adopted by all organizations developing nocturnal roadside surveys for owls.

This protocol is designed for broad scale monitoring of relative abundance, distribution, habitat use, and changes in these parameters over time. The key elements are as follows:

- routes should be selected so that they are representative of the area being surveyed, within the constraints of a roadside survey,
- routes should consist of at least 10 stations, spaced at least 1.6 km apart, that can be surveyed in a single night,
- routes should be surveyed once per year at the time when the majority of species in the region are most active vocally,
- the starting position, and preferably all stations along a route should be georeferenced to allow linking of owl records to precise locations for habitat analysis,
- the protocol at each station should start with a 2-minute silent listening period,
- optionally, playback may be used at a station if particular species of owls are being targeted that respond well to playback,
- the field data form should be designed so that the intervals in which each owl is detected (i.e. before or after playback of various species) are recorded, and
- record the approximate direction and distance to the first location where each owl was detected.

For more information on this protocol, contact Lisa Takats: 7th floor, O.S. Longman Building, 6909-116 Street, Edmonton, AB T6H 4P2, Canada; phone: 780-422-9536, e-mail: lisa.takats@env.gov.ab.ca.

RAPTORS 2000
Eilat, Israel, April 2-8, 2000

by Reuven Yosef

The new millennium was welcomed by many of the world's raptor biologists and enthusiasts by coming together at a joint meeting of the worlds' two biggest raptor groups--the Raptor Research Foundation and the World Working Group on Birds of Prey and Owls--between 2-8 April in Eilat, Israel. The meeting was hosted by the International Birding & Research Center in Eilat (IBRCE). The local chairperson was Reuven Yosef, and he received support from a wide range of local businesses (Eilat Hotel Association, Avis, Golan Wines, Strauss Dairy, Israel Salt Company), government agencies (Ministry of Tourism, Ministry of Environment, National Parks and Nature Protection Authority), international organizations (Swarovski Optik, WWF-International, National Aviary in Pittsburgh, Endangered Wildlife Trust, Soros Foundation, Earthwatch), and the students and interns of IBRCE. We thank Mr. Yitzhak Goren, Director General of the Ministry of Environment for participating and chairing the session on "Population Trends and Conservation Strategies." We also thank Amit Radvani and Michal Ferro, of Gamla Nature Reserve, for their efforts in organizing the "Gamla Evening."

The scientific program, which opened on the morning of 3 April and concluded on the afternoon of 7 April at the Four Points-Red Sea Hotel, included a total of 88 oral presentations, 17 posters, and participants from 31 countries, from USA and Canada in the west to Philippines and Japan in the East, Norway in the north to South Africa in the south. The participation of delegates from Jordan and Palestine was special for all of us. The oral presentations were divided into 12 sessions according to topics. Four outstanding plenary talks were presented by Steven Piper ("How do Old World *Gyps* vultures find their food: inferences on foraging"), Alan Shlosberg ("Toxicoses in raptors from exposure to pesticides"), Robert Kenward ("Identifying the real threats to raptor populations"), and Mark Fuller and Linda Schueck ("Migration study with the Argos satellite system"), preceding the relevant sessions. In addition to contributed sessions on Vultures (S. Piper, chair), General Biology (A. J. Helbig & M. Miller, chairs), Raptors and Humans (O. Bahat & M. Anderson, chairs), Population Trends and Conservation Strategies (Y. Goren & R. Kenward, chairs), Falcons (D. A. Pepler, chair), Migration and Telemetry (M. Fuller & M. Martell, chairs), Owls (D. van Nieuwenhuysse, chair), Migration and Habitats (B. U. Meyburg & F. Khoury, chairs), and Molecular Biology (D. T. Parkin, chair), two important workshops were held on real-time solutions to problems on Ecotoxicology (A. Shlosberg, P. Mineau, & C. Eason, chairs) and the threatened Lesser Kestrel (D. Alon, D. A. Pepler & J. J. Negro, chairs). Francois Mougeot (France) won the best student award (binoculars sponsored by Swarovski Optik) for his exhilarating presentation on "Breeding density and sperm competition in diurnal raptors: a comparative analysis."

Social events and excursions associated with the scientific meeting included an informal reception and ice-breaker on the opening evening, daily excursions in the morning to either the raptor observation points in the Eilat Mountains or to the IBRCE ringing station in the Bird Sanctuary, a sumptuous evening of Gamla wines, cheese, and natural history (with emphasis on vultures), a barbecue at the Bird Sanctuary, a banquet at a Chinese restaurant, and a mid-conference excursion to the Central & Western Negev Desert, led by Israel's leading bird-finder Hadoram Shirihai. A

post-conference tour led by Reuven Yosef included many of the attractions of Israel: the barren Judean Desert, a float in the Dead Sea, the fish ponds of the Bet-Shean Valley, the volcanic landscapes of the Golan Heights, the swamp in the Hula Valley, and the rocky shore of the Mediterranean Coast of Israel. The Gamla Nature Reserve was unanimously voted the best raptor observation site on the trip.

This meeting was important in that it brought up several critical issues, allowed researchers from different disciplines to understand issues outside their focus, and facilitated first-hand collaboration between countries. The toxicology workshop was especially successful; we are aware that several international collaborative studies and conservation implementation strategies have been signed since the meeting (e.g., Israel-South Africa). Participants were asked to submit manuscripts for publication of the proceedings in book form. This is going ahead slowly, and we hope to have the book published by mid-April 2001. All donors will be appropriately acknowledged. In the interim, additional copies of the abstract booklet of papers presented at the meeting are available from IBRCE (ibrce@eilatcity.co.il) at a cost of \$US7 (includes postage costs).

THE MORLEY NELSON FELLOWSHIP

The Morley Nelson Fellowship, awarded by the Conservation Research Foundation, is a stipend of up to \$600 to support work reflecting the multi-faceted career of Morley Nelson. Priority will be given to applicants in raptor research, management, or conservation who might use the stipend to supplement or attract other funding. More than one award could be made each year, and Fellowships are broad and not restricted to raptor research; anything bearing on the conservation of raptors will be considered, such as habitat issues, education, cinematography, etc.

Send 3 copies of a brief proposal (≤ 4 pages, including a 1-page personal resume) outlining goals, objectives, and expected results/products of the study or activity, names of 3 references, total budget, and other sources of support to: William G. Mattox, Conservation Research Foundation, 8300 Gantz Avenue, Boise, ID 83709. Application deadline is October 1.

2001 ANNUAL MEETING

The Raptor Research Foundation, Inc. will hold its 2001 annual meeting in Winnipeg, Manitoba from 24-28 October at the Radisson Hotel Downtown. For information on local arrangements, contact the local organizing committee at Manitoba Conservation, Box 24, 200 Saulteaux Crescent, Winnipeg, MB R3J 3W3; phone: 204-945-7775, e-mail: wildlife@gov.mb.ca. For information on the scientific program, contact Jeff Smith, HawkWatch International, 1800 SW Temple, Suite 226, Salt Lake City, UT 84115, phone: 801-484-6758, e-mail: jsmith@hawkwatch.org. A circular of information will be mailed to RRF members later this spring. For details and updates, see the conference webpage: <http://www.networkx.net/~sparrow/rrf2001.html>.

**FOUNDING MEETING OF THE
EASTERN ALPINE GRIFFON VULTURE WORKING GROUP
Salzburg, Austria, March 20, 2000**

by Ralf Bögel

On 20 March 2000, a meeting was held at Salzburg Zoo to constitute a working group for eastern alpine / eastern European Griffon Vultures (*Gyps fulvus* ssp). Founding members of the working group include: Leopold Slotta-Bachmayr (Salzburg Zoo), Ralf Bögel (Salzburg Zoo / Berchtesgaden National Park), Nina Roth-Callies (Foundation for Conservation of the Bearded Vulture), Fulvio Genero (Riserva Naturale del Lago di Cornino), Eveline Karl (Salzburg Zoo / Frankfurt University), Michael Pohl (Salzburg Zoo), Christian Walzer (Salzburg Zoo), Richard Zink (Foundation for Conservation of the Bearded Vulture), Emilian Stoinov (Foundation for Wild Flora and Fauna), and Goran Susic (Eco Center "Caput Insulae").

The working group aims to evaluate status of the Eurasian Griffon Vulture in the Alps and eastern Europe, improve cooperation and information exchange among research groups and conservationists, monitor breeding and non-breeding parts of the population, identify interactions among colonies, evaluate interactions with other subpopulations of Griffon Vultures, and establish a management program for Eurasian Griffon Vultures which addresses habitat, public education, and poisons (which is a serious problem affecting the reestablishment of large predator populations, especially in eastern and southern European countries).

The group intends to cooperate with the Central and Eastern Mediterranean Information Network for the Griffon Vulture, the "Netzwerk Alpiner Schutzgebiete," and "La Ligne pour la Protection des Oiseaux." Cooperation with eastern European countries is of special importance, as availability of information from there has been very limited: the working group is seeking members in Albania, Greece, Hungary, central and southern Italy, Macedonia, Romania, Slovenia, Serbia, Turkey, and the Middle East. Membership is open to all interested persons. The group's work will be coordinated by Ralf Bögel (ralf_boegel@cs.com) and Leopold Slotta-Bachmayr (edu@salzburg-zoo.at). However, the group will soon establish its own e-mail address (griffon@salzburg-zoo.at) and home page (www.griffon.at) to facilitate information exchange. The group's home page will serve as repository for information bearing on the group's aims; anyone who has such information is welcome to submit it for addition to the home page. Access to certain data may be restricted by password to protect the species. The official language of the working group will be English. The group will meet annually: at the invitation of Goran Susic, the group's next meeting will be in autumn 2000 on the island of Cres (Croatia).

To increase knowledge on Eurasian Griffons in the eastern Alps and evaluate their possible interactions with other (sub)populations, a coordinated ringing program is essential. The group has devised a ringing scheme that will be employed by group members; for details, contact the group. Sophisticated research methods like satellite telemetry will have to be applied if detailed information on space and habitat use is required. To finance these activities, the group plans to prepare a EU-funding application in the "Life-Nature" or "Life-3rd countries" category. Leopold Slotta-Bachmayr

and Ralf Bögel will work on a draft proposal; however, it will be essential to find other institutions to collaborate in this matter. The extent and intensity of the ringing and radio-tracking program will depend on fund-raising.

STUDENTS !

DO YOU KNOW ABOUT RRF'S STUDENT TRAVEL AWARD ?

In 1989, the Raptor Research Foundation established the James R. Koplín Travel Award in honor of the late Dr. James R. Koplín, former Professor of Wildlife Management at Humboldt State University in Arcata, California. The purpose of the award is to assist students attending RRF's annual meetings with travel expenses. The amount of the award is \$200, presented annually.

To be eligible for the Koplín Award, a student must be an RRF member and the senior author of a paper to be presented at the meeting for which travel funds are requested. Applicants can be undergraduate or graduate students attending an accredited college or university anywhere in the world. To apply for the award, applicants must submit: 1) a project description (not to exceed 1 page, single-spaced), 2) an itemized budget of all costs associated with attending the meeting, and 3) a letter of recommendation from the student's major professor. The project description should be as detailed as 1 page will permit, and must include a brief introduction outlining the significance and importance of the research, a description of methods--including the analytical approach, and results. The itemized budget should include an explanation of how expenses not covered by the award will be met. The letter of recommendation is extremely important, and should contain a thorough evaluation of the applicant's academic abilities, the significance of the research, the student's relative contribution to the research, and his or her potential for future contributions to the field of raptor biology. The professor's evaluation may be sent under separate cover, but must arrive by the application deadline. Applicants with greater financial need will receive greater consideration. The selection committee must receive all application materials by the deadline for regular abstracts. That date is included in the announcement of RRF's annual meeting sent each year to the membership. Materials can be submitted by regular mail or email.

Send applications to:

Patricia A. Hall, Chair
James R. Koplín Travel Award Committee
5937 Abbey Road E
Flagstaff, AZ 86004 USA
pah@spruce.for.nau.edu
520-526-6222

ANNOUNCEMENTS

UPCOMING MEETINGS

2001

September 25-29

**4th EURASIAN CONFERENCE ON
RAPTORS (RAPTOR RESEARCH
FOUNDATION)**

Seville, Spain

Contact: Giulia Crema, Estación Biológica de Doñana, CSIC, Avda. de María Luisa s/n, Pabellón del Perú, 41013 Seville, Spain; phone: 34-95-4232340, fax: 34-95-4621125, e-mail: giulia@ebd.csic.es.

October 24-28

RAPTOR RESEARCH FOUNDATION

Winnipeg, Manitoba

Contact: Manitoba Conservation, Box 24, 200 Saulteaux Crescent, Winnipeg, MB R3J 3W3; phone: 204-945-7775, e-mail: wildlife@gov.mb.ca.

2002

September 24-30

RAPTOR RESEARCH FOUNDATION

New Orleans, Louisiana

PUBLICATIONS AVAILABLE

"FIRST SYMPOSIUM ON STELLER'S AND WHITE-TAILED SEA EAGLES IN EAST ASIA" Edited by Mutsuyuki Ueta and Mike McGrady, and published by the Wild Bird Society of Japan, this 116-page volume contains 11 papers: "The morphology of the bill apparatus in the Steller's Sea Eagle" (A. Ladyguin), "Aging by molt patterns of flight feathers of non-adult Steller's Sea Eagles" (T. Morioka), "Postnatal development of Steller's Sea Eagles sexing and aging techniques" (V. B. Masterov), "Steller's Sea Eagle in Magadan District and in the north of

Khabarovsk District" (E. Potapov et al.), "Numbers and current status of the population of Steller's Sea Eagles on Sakhalin Island (V. B. Masterov et al.), "Habitat preferences and factors affecting population density and breeding rate of Steller's Sea Eagle on northern Okhotia" (E. Potapov et al.), "Diet of the Steller's Sea Eagle in the northern Sea of Okhotsk" (I. Utekhina et al.), "Migration and wintering of juvenile and Immature Steller's Sea Eagles" (M. J. McGrady et al.), "Contamination by chlorinated hydrocarbons and lead in Steller's Sea Eagle and White-tailed Sea Eagle from Hokkaido, Japan" (H. Iwata et al.), "Lead poisoning in Steller's Sea Eagles and White-tailed Sea Eagles" (N. Kurosawa), "Estimation by a computer simulation of population trend of Steller's Sea Eagles" (M. Ueta and V. B. Masterov). ZIP-compressed files containing these papers may be downloaded at: <http://www.netlaputa.ne.jp/~mj-ueta/eagle.htm>. Those interested in obtaining a bound copy of these proceedings should contact the senior editor: **Mutsuyuki J. Ueta, Research Center, Wild Bird Society of Japan, Minamidaira 2-35-2, Hino, Tokyo 191-0041, Japan, fax: 81-42-593-6873, e-mail: mj-ueta@netlaputa.ne.jp.**

"ORLY BAIKALA [EAGLES OF BAIKAL LAKE]" (ISBN 5-900529-14-2) Written for a general audience by Dr. V. V. Ryabtsev, head of the scientific department at Pribaikalskiy National Park, and published in Russian by AEM "Tal'tsy" Press, this 128-page paperback book describes the biology of five eagle species inhabiting the Cis-Baikal Lake area. The book contains a map, 15 black-and-white drawings, and 8 color photos. It may be acquired by contacting the author: **Dr. Vitaliy Ryabtsev, Al. Nevskogo 61-49, Irkutsk 664047, Russia; e-mail: pribpark@sibron.ru.**

"RAPTOR BIOMEDICINE III including BIBLIOGRAPHY OF DISEASES OF BIRDS OF PREY" (ISBN 0-9636996-1-X) Once each decade, the accessible knowledge in the field of raptor biomedicine takes a quantum leap as a result of the International Raptor Biomedical

Conference. The most recent conference, the 3rd, was held in August 1998 in South Africa. These 475-page proceedings, edited by J. T. Lumeij, J. David Remple, Patrick T. Redig, Michael Lierz, and John E. Cooper, include the contribution of 89 international authors organized into sections on Microbiology, Parasitology, Pathology and Poisoning, Medicine and Surgery, Veterinary Management, Rehabilitation and Telemetry. The volume also includes the Bibliography of Diseases of Birds of Prey (4000+ entries from 1486 to 2000) in both print and CD-ROM formats. The book may be purchased for \$99 (Florida residents add \$6.54 sales tax) plus shipping and handling (\$10 for USA, \$20 for Canada and Mexico, \$35 for all other nations) from: **Zoological Education Network, P.O. Box 541749, Lake Worth, FL 33454-1749; phone: 800-946-4782 or 561-641-6745, fax: 561-641-0234; e-mail: rfaircloth@zen-inc.com, web: www.zen-inc.com.**

"RAPTOR MIGRATION IN ISRAEL AND THE MIDDLE EAST--A SUMMARY OF 30 YEARS OF FIELD RESEARCH" Written by H. Shirihai, R. Yosef, D. Alon, G. M. Kirwan, and R. Spaar, this book is the latest on raptor migration in the western Palearctic region. Hard cover, 192 pages, 55 color plates, 43 species accounts accompanied by migration maps, data tables, analytic graphs, and 187 references. The book may be purchased for \$50 (includes shipping costs) directly from: **International Birding and Research Center in Eilat (IBRCE), P. O. Box 774, Eilat 88000, Israel.** Please state that you saw the announcement in *Wingspan*. For every book sold, IBRCE will donate \$2 to the RRF Awards Committee.

ON-LINE RESOURCES

"EL SPIZIAPTERYX" is the electronic bulletin of the Argentine Raptor Project. Those interested in receiving the bulletin may contact the editor: **Miguel D. Saggese, elspiziap_terix@ciudad.com.ar.**

PHILIPPINE EAGLES The Philippine Eagle Foundation has established its new website: <http://www.philippineagle.org>.

"RAPTORBIOLOGY" is a new information and discussion list on the biology, ecology, behaviour, veterinary aspects, and rehabilitation of diurnal and nocturnal birds of prey. RaptorBiology is focused on species occurring in the Palearctic, but postings on raptors of other regions are welcome. By joining this e-mail group, you'll be able to easily send messages to fellow group members using just one e-mail address. The group is open to anybody seriously interested in raptor biology; membership can be requested by visiting the e-mail website at: <http://www.egroups.com/raptorbiology>, or by sending an e-mail requesting subscription to the moderator, **Edwin Vaassen** at: rrret@about.com.

"RAPTOR NEWS" is the new electronic circular of the World Working Group on Birds of Prey and Owls. It is e-mailed to all members whose e-mail addresses are known, as well as other interested persons. The text is simultaneously published on WWGBP's website. You may subscribe to *Raptor News* by sending an e-mail requesting subscription to wwgbp@aol.com, or by visiting WWGBP's website: <http://www.raptors-international.de>.

NEWS OF MEMBERS

RRF International Director, **Beatriz Arroyo** has new addresses: CEH Banchory, Hill of Brathens, Banchory, Kinkardineshire AB31 4BY, Scotland; e-mail: bea@wpo.nerc.ac.uk.

Ralf Bögl has a new e-mail address: ralfboegel@cs.com.

Cole and Kara-Lynn Crocker-Bedford have a new e-mail address: bedford@kpunet.net.

The **Raptor Conservation Group** and the **Vulture Study Group** have new e-mail addresses: rcg@ewt.org.za and vsg@ewt.org.za, respectively.

Reuven Yosef, Director of the International Birding and Research Center in Eilat (IBRCE), Israel, was awarded the Associate Laureate for Rolex Awards for 2000 and the Conde Nast Traveler Environmental Award for his efforts in conservation and eco-tourism in Eilat. Reuven Yosef, with a team of Israelis, has recycled the local garbage tip to convert it into a staging area for the migratory bird species that funnel through this very important bottleneck of the western Palearctic.

REQUESTS FOR ASSISTANCE

GOLDEN EAGLE RESEARCH PARTNERSHIP A project on Conservation and Management of Golden Eagles has been underway in Slovakia since 1994. The project is primarily focused on practical management and monitoring of Golden Eagles in Slovakia, Poland, and the Ukraine. Approximately 40 people, including volunteer birders, are involved. To expand project scope, the research team is seeking the assistance and financial support of a serious research partner from North America or western Europe. Available resources are adequate for travel and subsistence, but are not sufficient to purchase needed field equipment. The research team is open and flexible regarding research design, specifics of collaboration, etc. Interested researchers should contact: **Martin Kornan**, Assistant Professor in Biology, Department of Biology, Catholic University, Hrabovska cesta 1/1652, 034 01 Ruzomberok, Slovak Republic; phone: 421-848-4322709, fax: 421-848-4322708, e-mail: mkornan@ku.sk.

GOLDEN EAGLES WITH UNUSUAL PLUMAGE We are working on a paper on the range in color variation in this species and request information on unusually dark, unusually light, leucistic, etc. specimens. If you have even a vague recollection of seeing an unusual specimen (alive or dead), please contact us: **David H. Ellis**, dckellis@theriver.com or **James W. Lish**, lish@okstate.edu.

COOPERATIVE RESEARCH OPPORTUNITY The U.S. Navy is seeking to establish a Cooperative Research Agreement with an accredited university to study niche overlap and resource partitioning between American Kestrels and endangered San Clemente Loggerhead Shrikes on San Clemente Island, California. While the Navy cannot provide funds for Cooperative Research Agreements, we can provide access to our resources, transportation to San Clemente Island from San Diego, and housing, food, and transportation on the island. The results of the study could very much enhance our management strategies for recovery of the shrikes. Anyone interested in pursuing a Cooperative Research Agreement with the Navy please contact: **M. Kelly Brock**, Navy Region Southwest, Natural Resources Office, P.O. Box 357088 (Code N4515KB), NAS North Island, San Diego, CA 92135-7088; phone: 619-545-3426, fax: 619-545-3489/5225, e-mail: brock.kelly@cnrsw.navy.mil.

PEREGRINE FALCON SPECIMEN The Anniston Museum of Natural History is searching for a Peregrine Falcon specimen to place in exhibit hall. If you can assist us, or know of someone who can, please contact **Dan Spaulding**, Curator of Collections, at 256-237-6766 or dspaulding@annistonmuseum.org. Thank you.

FOR SALE

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RECENT THESES ON RAPTORS

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Arsenault, D. P. 1999. THE ECOLOGY OF FLAMMULATED OWLS: NEST-SITE PREFERENCES, SPATIAL STRUCTURE AND MATING SYSTEM. M.S. Thesis, Univ. Nevada, Reno.

I assessed the nest-site preferences of two primary and two secondary cavity-nesting birds common in New Mexico's pine-oak forests. Acorn Woodpeckers (*Melanerpes formicivorus*) excavated most often in live Gambel oak (*Quercus gambelii*) and Northern Flickers (*Colaptes auratus*) most often in ponderosa pine (*Pinus ponderosa*) snags. The size of the cavity entrance and the internal diameter and depth of cavities differentiated 84% of woodpecker nest-sites. Flammulated Owls (*Otus flammeolus*) showed a preference for Northern Flicker cavities and Western Bluebirds (*Sialia mexicana*) nested most often in Acorn Woodpecker cavities. Owls used cavities that were larger and surrounded by greater tree densities than bluebird nests and these differences can be partially attributed to the nest-site characteristics of woodpeckers. Flammulated Owls nested in cavities in areas ranging widely in composition of tree species, canopy cover and tree and shrub density that differed from unused cavities in their territories primarily by cavity size. Cavity size was more important than other nest-site or microhabitat variables in distinguishing among woodpecker, owl and bluebird nest-sites.

I also studied the spatial structure and mating system of the Flammulated Owl, a socially monogamous species often found breeding in aggregations. I found that on a broad scale owl territories were clumped with nests spaced as close as 150 m. Thus, the potential for extra-pair fertilization (EPF) in this species is presumably high as seen in other cavity-nesting birds that nest in close proximity. However, my DNA fingerprinting results show that EPF did not occur in any of 17 broods from areas ranging in density of breeding owls. I suggest that cavity distribution is the primary determinant of aggregation in the Flammulated Owl and the necessity of male parental care may maintain genetic monogamy in this species.

Bowen, P. J. 2000. DEMOGRAPHIC, DISTRIBUTION, AND METAPOPULATION ANALYSES OF THE BURROWING OWL (*ATHENE CUNICULARIA*) IN FLORIDA. M. S. Thesis, Univ. Central Florida, Orlando.

Most research on the Burrowing Owl (*Athene cunicularia*) in Florida has focused on its reproductive ecology and natural history. Little is known about the demographics, distribution, and population dynamics of the owl throughout its range in Florida. The purpose of my research was to conduct a statewide census of the Burrowing Owl and to describe its demographic characteristics, density distribution, and metapopulation patterns.

Between 15 April 1999 and 14 August 1999, I conducted a statewide census of the Burrowing Owl in Florida using data on historic and current owl sites. Volunteers from local Audubon Societies, Florida Ornithological Society, and other organizations assisted with the census. Demographic data and longitude and latitude data were recorded at each active site. ArcView, a computer mapping program, was used to map each territory and to delineate Burrowing Owl subpopulations and metapopulations.

A total of 2,509 Burrowing Owls, 1,757 adults and 752 young, was recorded at 946 territories in Florida. The mean number of adults per territory was 1.86. Nonbreeding adults, representing 8.2% of the adult

population, were observed at 144 territories. Possible polygynous matings were recorded at four territories. The mean number of young per breeding territory was 2.40. The largest number of young ($n = 428$), recorded between 16 May 1999 and 31 May 1999, coincided with peak fledging dates given in earlier studies. Chi-square analysis of adult Burrowing Owl observations was inconclusive as to whether adults were diurnal. Adults were most frequently engaged in sedate activities such as roosting ($n = 1,431$) or preening ($n = 32$). Chi-square analysis of young owl observations revealed that young Burrowing Owls were not diurnal.

The mean number of burrows per territory was 1.5. No burrows were found at seven territories; four territories had eggs laid above ground. Strong territory fidelity at these sites may have resulted in eggs being laid in unsuitable substrates. Sites in Punta Gorda were censused in 1999 and 2000 to evaluate burrow reuse. In 2000, 66.7% of the territories were reoccupied and the same burrows were reused. Burrow reuse may have been positively influenced by removal of vegetation. Reoccupied territories had a higher mean number of young in 1999 than territories that were not reoccupied.

Fifty territories were found in an agricultural habitat. This low number was impacted by lack of data on agricultural sites, reduced access to agricultural areas, and conversion of pastures to silviculture or citrus. A total of 896 Burrowing Owl territories occurred in urban habitats. The largest number of urban territories, 458 (51.1%), had burrows located on residential vacant lots; 408 of these territories were in the Southwest Region of Florida. Only 88 (9.8%) territories had burrows on residential-occupied lots. In the Southeast Region, which has a higher human density, the largest numbers of territories were found at airports ($n = 110$) and at parks, ball fields, and schools ($n = 94$). A chi-square contingency table revealed differential habitat use between Burrowing Owls in the Southeast and Southwest regions of the state.

Adult Burrowing Owl density in Peninsula Florida was 0.0138 adults per km^2 . The largest number of territories in South Florida occurred in the coastal areas. In North Florida, the largest number of territories occurred in the interior of the state. The hypothesis that Burrowing Owl densities were highest in the coastal regions was supported in South Florida but not in North Florida. The second hypothesis, densities were lowest in the recently colonized northern areas of Florida, was supported. Densities in North Florida were nearly 10 times smaller than those in South Florida.

Population viability analysis was used to classify Burrowing Owl subpopulations. Island subpopulations had four or fewer adults and a $>50\%$ probability of extinction over 100 years. Midland subpopulations had 5 to 29 adults and a $<50\%$ probability of extinction. Mainlands had 30 or more adults and a $<2\%$ probability of extinction. Using a 1.116 km dispersal buffer, 92 Burrowing Owl subpopulations were identified. Forty-eight were extinction-prone islands and eight were extinction-resistant mainlands. A 2.700 km dispersal buffer delineated 59 Burrowing Owl metapopulations. Twenty-six of these exhibited nonequilibrium metapopulation patterns and four demonstrated mainland-island patterns.

The Florida Burrowing Owl population may not be as stable as once believed. As human densities increase in Southwest Florida, Burrowing Owls may begin to use man-made habitats similar to the pattern they now exhibit in Southeast Florida.

Finn, S. P. 2000. MULTI-SCALE HABITAT INFLUENCES ON NORTHERN GOSHAWK OCCUPANCY AND REPRODUCTION ON THE OLYMPIC PENINSULA, WASHINGTON. M.S. Thesis, Boise State Univ., Boise, Idaho.

Large, mobile organisms can move swiftly through their environment and probably select resources, from those available, at a relatively coarse grain. The Northern Goshawk (*Accipiter gentilis*), a large mobile raptor, is known as a forest generalist throughout its holarctic range, yet individual populations seem to prefer specific habitats in a given region. To determine goshawk habitat relationships and the spatial scales at which they operate I surveyed all known historical nest sites on the Olympic Peninsula, Washington ($N = 30$) and compared goshawk occupancy and reproductive success at these sites to existing habitat conditions at a range of spatial scales that might be important to a breeding pair. A historical nest site was defined as a location that contained a large stick nest and was occupied by an adult goshawk at least one year between 1975-1995. I estimated goshawk occupancy one year at each historical nest site, from 1996-1998, using standardized aural broadcast surveys within a 170-314 ha circular plot surrounding the most recently built nest. I assessed among-year

variation in occupancy by surveying a subset of 10 historical nest sites each of the three years. Occupancy remained consistent among years at these 10 sites (Fisher's Exact Tests, $P \leq 0.07$) so I characterized all 30 historical sites as 'occupied' or 'unoccupied' based on one-year surveys. Reproductive success at occupied historical sites was estimated during two visits to the site during the post-fledging period. The maximum number of fledged young observed was used to index the relative success of each breeding pair.

I characterized occupancy and reproductive success at historical sites in terms of existing habitat condition by comparing them to 175 individual habitat attributes at six spatial scales--the nest tree (0.003 ha), nest vicinity (0.04 ha), nest stand (9-146 ha), nest area (38.5 ha), Post-fledging Family Area (PFA; 176.7 ha), and home range (1885.5 ha)--surrounding the historical nest sites. I measured attributes at the first three scales using ground-based silvicultural descriptions of vegetation and topographic structure. Conditions at the latter three scales describe habitat-patch dynamics within the broader landscape using a Geographic Information System. These six scales encompass the spatial range of resources available to a breeding pair of goshawks as determined by my field observations or by published estimates of goshawk space-use. I compared each discrete spatial scale to goshawk occupancy and reproductive success individually and then examined cross-scale habitat influences on goshawks using stepwise logistic regression for the binary response variable (occupancy) and linear multiple regression for the continuous response variable (reproductive success). Habitat attributes at the coarse-grained scales (i.e., the nest stand, PFA, and home range) provided the most significant correlates of goshawk occupancy although reproductive success was more strongly associated with finer-scale conditions. Habitat attributes in the nest tree (0.003 ha), nest vicinity (0.04 ha), and nest area (38.5 ha) were not useful predictors of goshawk occupancy. Goshawk were more likely to occupy historical nest sites with a deep ($\bar{x} = 28.7$ m, SE = 1.8, $N = 12$) overstory canopy depth and low percent shrub cover ($\bar{x} = 19.0\%$, SE = 4.2) in the nest stand (9-146 ha) and less non-forest cover ($\bar{x} = 11.2\%$, SE = 3.0) and heterogeneity (contrast index, $\bar{x} = 0.9$, SE = 0.4) in the home range (1885.5 ha). Reproductive success at occupied sites was most strongly correlated with reduced percent shrub cover ($\bar{x} = 15.6\%$, SE = 8.2, $N = 8$) in the nest vicinity and increasing forest decadence ($\bar{x} = 40.0$ snags (≥ 15.2 dbh)/ha, SE = 6.7; $\bar{x} = 11.5$ -m long coarse woody debris, SE = 1.3) in the nest stand. A selection of these variables combined to provide significant models of goshawk occupancy (logit [occupancy] = $3.78 - 0.061(\text{stand shrub cover}) - 0.116(\text{home range non-forest cover} * \text{home range contrast index})$; Wald $X^2 = 6.85$, $P = 0.033$, $df = 2$) and reproductive success (success = $1.28 + 0.015(\text{stand snag density}) - 0.027(\text{vicinity shrub cover})$; $F_{(2,9)} = 38.8$, $P = 0.0002$, Adj. $R^2 = 0.89$).

Forest managers on the Olympic Peninsula can promote goshawk occupancy and reproduction by limiting the amount of non-forest cover (< 20%) and heterogeneity (contrast index < 1.0) in the landscape and by maintaining potential nest stands (≥ 38.5 ha) having deep overstory canopies (≥ 25 m), and reduced shrub cover (preferably $\leq 20\%$). The landscape targets can be met by considering pre-existing landscape conditions when planning timber harvest prescriptions. Micro-scale overstory canopy and percent shrub cover targets may be easily achieved by specific planting and tree-thinning prescriptions, which can be incorporated into current forest management activities. Because habitat conditions influence goshawk historical site occupancy and reproductive success differently, both descriptors of goshawk demography must be monitored when testing the utility of these models.

Hodder, K. H. 2001. THE COMMON BUZZARD IN LOWLAND UK: RELATIONSHIPS BETWEEN FOOD AVAILABILITY, HABITAT USE AND DEMOGRAPHY. Ph.D. Diss., Univ. Southampton, Highfield.

The common buzzard *Buteo buteo* is found in a wide variety of habitats throughout the palaeartic and may utilise many prey species. In the UK, the prey and habitat preferences of buzzards during the breeding season have been described in several areas. However, quantitative models of the relationships between habitat, prey and buzzard demography have only been published for upland regions. In this research, data were collected in a 130 km² lowland area in Dorset, UK. Records of prey at the nest confirmed that the rabbit *Oryctolagus cuniculus* constituted the major food of buzzards in the breeding season. Production of young at the nest was also greater when there was a high proportion of rabbit remains in the nest. Therefore, data collection on prey availability was limited to this species. The breeding density of buzzards increased significantly with the

relative density of rabbit burrows, but the relationship between burrow density and production of young at the nest was not significant.

Using linear regression, it was possible to explain as much of the variability in nest density using habitat variables alone, as it was by including rabbit density as a predictor. This was probably due to strong correlations between rabbit density and habitat. Areas of mixed woodlands, grasslands and the total boundary length were associated with high buzzard nest densities, and wetland, heathland and suburban areas were avoided. Soil types were also important: poorly drained clay soils tended to have low buzzard breeding densities and loam soils the reverse. There were few significant relationships between nest productivity and habitat, and no indication of any density dependent effect. Habitat variables were recorded by field survey and also from remotely sensed data. Although direct comparison indicated some differences between these maps, the results obtained in analysis with rabbit and buzzard data were similar. I also compared the effects of different methods of expressing nest density and scales of sampling. Similar trends were reported for all scales and all density estimators, suggesting that results were unlikely to have arisen by chance.

Habitat preferences of buzzards radio-tracked in the autumn and winter were compared. Significantly non-random habitat use occurred in both seasons, with both of the habitat data sets, and for buzzards in two age groups. Mixed woodland and grass leys were always preferred and conifer woods and heathland avoided. The strongest preference in both seasons was for fine loam soil. The main difference was a preference for arable land in the autumn that was not found in the winter. Feeding on the ground was generally recorded in grass leys and pastures, where earthworms are most abundant. However, in the autumn after ploughing, arable land may provide more invertebrate prey. The habitat preferences were shown in the placement of home ranges within the study area and in the area of most intensive use within the range. The results were similar for several range estimators, including a novel approach to delineation of the area of most intensive use, but tended to be more significant for range outlines that fitted most tightly to the location data.

Tingay, R. E. 2000. SEX, LIES & DOMINANCE: PATERNITY AND BEHAVIOUR OF EXTRA-PAIR MADAGASCAR FISH EAGLES *Haliaeetus vociferoides*. M.S. Thesis, Univ. Nottingham, England.

The island endemic Madagascar Fish Eagle *Haliaeetus vociferoides* is considered critically endangered, with a declining global population of 63 known breeding pairs. Direct human persecution and anthropogenic habitat modification are thought to be the main causes of the low population size. However, another factor to consider is an apparently unusual breeding strategy, with possible behavioural limitations for the species' dispersion and recovery from population decline. Earlier research conducted by The Peregrine Fund reports the occurrence of a third (and sometimes fourth) adult involved with the breeding activities of the primary pair. It was suggested that extra-pair birds were progeny (possibly only male) from previous years, exhibiting a delayed dispersal strategy.

This hypothesis was tested by conducting behavioural observations totalling 549 hours during the 1999 breeding season, at four nests where individually marked trios were in attendance. Adults ($n = 13$), juveniles ($n = 1$) and nestlings ($n = 3$) were trapped, and blood samples taken to facilitate a DNA fingerprinting analysis of genetic relatedness. Based on the results, it is proposed that some Madagascar Fish Eagles exhibit a co-operatively polyandrous breeding strategy, as opposed to a monogamous strategy with extra-pair birds. It is further proposed that non-breeding juveniles (male and female) may adopt a delayed dispersal strategy, but there is no conclusive evidence to suggest that third/fourth adults are progeny from previous years. In fact, adults attending *different* nests were found to be more closely related than those attending the same nest. Third/fourth adults were all deemed to be male, and predictions of gender based on tone of call, copulatory position and morphometric measurements all correlated with molecular sexing techniques. A clearly defined male dominance hierarchy was observed at each nest, and subordinate males achieved nearly 4 times more copulations ($n = 38$) than dominant males ($n = 9$). Dominant males contributed the highest levels of paternal investment at each nest, although offspring ($n = 3$) were all sired by subordinate males.

The common theories put forward to explain the occurrence of co-operative polyandry in other avian species (i.e. food shortages, habitat saturation, resource defence) do not appear to be satisfactory explanations

for the Madagascar Fish Eagle scenario. Further research is planned, to investigate the extent of trios vs. monogamous pairs amongst the known population; the possible effect of breeding density on the formation of trios; the potential of a male biased sex ratio amongst the known population, and possible ecological factors which may affect habitat quality between territories of trios vs. monogamous pairs.

By examining the above issues, we will be in a stronger position to fully understand and interpret the potential behavioural/ecological factors which may be influencing the breeding strategy, which in turn may be influencing the apparent decline, of the Madagascar Fish Eagle.

Wellicome, T. I. 2000. EFFECTS OF FOOD ON REPRODUCTION IN BURROWING OWLS DURING THREE STAGES OF THE BREEDING SEASON. Ph.D. Diss., Univ. Alberta, Edmonton.

Food availability is an important limiting factor for avian reproduction. In altricial birds, food limitation is assumed to be more severe during the nestling stage than during laying or incubation, but this supposition has not been adequately tested. I determined both the degree and timing of reproductive food limitation for Burrowing Owls (*Athene cunicularia*) nesting in artificial burrows in southern Saskatchewan (1992-1998).

Date of female arrival correlated closely with laying date, which in turn correlated with clutch size. Effects of food and parental age on clutch size were non-significant when the influence of laying date was controlled for statistically. Mean egg size was also unaffected by food or parental age, and showed no seasonal variation. Pairs supplemented with dead laboratory mice, from clutch-initiation through clutch-completion, stored more prey in caches and regurgitated more food-pellets than did controls with similar laying dates. However, this extra food did not increase clutch or egg size, and did not affect the seasonal decline in clutch size. Similarly, natural and experimental variation in food during laying and incubation had no effect on hatching success or hatching asynchrony. In contrast, post-hatch supplemental feeding had positive effects, increasing size and mass of fledglings and allowing supplemented pairs to raise 47% more offspring than controls. This difference in fledging rates resulted from a much higher frequency of starvation within control broods than within food-supplemented broods. Also, pairs supplemented for only the nestling period produced young equal in size, mass, and number to those of pairs supplemented throughout the laying, incubation, and nestling periods.

Overall, reproduction in Burrowing Owls was not food-limited during laying or incubation, but was usually food-limited during the nestling period. Prey-cache sizes showed very low correlation between laying and early brood-rearing. This lack of seasonal predictability might explain why Burrowing Owls did not use early food conditions as a cue for adjusting egg volume, clutch size, or hatching asynchrony to suit food conditions for the nestling period. Instead, Burrowing Owls laid optimistically large clutches, hatched them asynchronously, and lost several youngest brood members to starvation and sibling-cannibalism when food availability turned out to be inadequate during the nestling period.

WINGSPAN CONTRIBUTIONS

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Wingspan welcomes contributions from RRF members and others interested in raptor biology and management. Articles and announcements should be sent, faxed, or e-mailed to the editor: Leonard Young, 1640 Oriole Lane NW, Olympia, WA 98502-4342 USA (phone/fax: 360-943-7394, e-mail: wingspan@msn.com). The deadline for the next issue is August 7, 2001.

**RAPTOR RESEARCH FOUNDATION, INC.
RESOLUTION**

WHEREAS, the mission of the Raptor Research Foundation, Inc., is to stimulate the dissemination of information concerning raptorial birds among interested persons worldwide and to promote a better public understanding and appreciation of the value of birds of prey,

AND WHEREAS, the Annual Meeting is one of the more important forums for accomplishing that mission,

THEREFORE BE IT RESOLVED, the Board, Officers, and membership of the Raptor Research Foundation, Inc. commend Jim Bednarz, members of the local organizing committee, and Jeff Smith, chair of the scientific program, for planning, organizing, and conducting a stimulating, well organized 2000 annual meeting in Jonesboro, Arkansas.

BE IT FURTHER RESOLVED, that the Board, Officers, and membership compliment the local committee, particularly the students at Arkansas State University, for quality audio visual support and an efficiently conducted meeting. The same said Board, Officers, and membership thank the local committee for hosting entertaining social events and for providing a superb forum for dissemination of information concerning raptorial birds.



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