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Group Newsletter

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TWS Wildlife Damage Management Working Group Newsletter:Spring 1999 - Volume 6(2)

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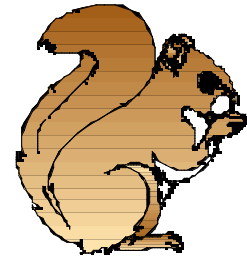
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TWS WILDLIFE DAMAGE MANAGEMENT WORKING GROUP newsletter

Spring 1999 - Volume 6(2)



FORWARD -- Scott Craven

My special assignment is keeping me busy, but the end is in sight. By late summer, I hope to be caught up with everything, and will be serving the Working Group in full capacity.

The annual meeting of the Wildlife Damage Management Working Group will be held 8 September 1999 from 4 - 6pm in the Live Oak Room, at the 6th TWS Annual Conference. This is a perfect place to discuss issues, raise concerns, and "get in on the action". Your attendance is welcomed and I hope to see you.

Also at the Annual Conference, the Working Group will be sponsoring 2 symposia, "Improving Public Perception of Wildlife Damage Management", 11 September from 8:00am - 12:10pm, which will be followed after the lunch break by "Bats and Humans: Education, Conservation, and Management" from 1:20 - 5:30 pm (Pages 4 and 9 - Editor). Both sessions should prove to be interesting. Please show your support of the Working Group by attending these symposia.

The Working Group should be pleased with the very positive reviews of "Managing Canada Geese in Urban Environments" in The Probe, newsletter of the National Animal Damage Control Association, and "International Pest Control" published by Research Information Ltd, Hertfordshire, UK. As of the middle of May, the manual had sold over 2,350 copies! Thanks to the members of this Working Group who formed part of the review process. Your efforts helped produce a timely, well received, and well distributed product. The manual and accompanying video should be an excellent model for subsequent projects.

One such product is a similarly focused manual for white-tailed deer. After much deliberation, consultation, and consideration, Tony DeNicola has taken lead on writing this manual. Tony hopes to start writing in early June, and perhaps bring a draft to the September annual meeting. Reviewers are being sought for various sections of this project, please contact Art Smith if you are interested in volunteering your expertise.

While the TWS policy statement of feral/free-ranging cats is not a Working Group project, a number of Working Group members are involved. A first draft has been completed. Work on a wildlife contraception review committee, again not an official Working Group project, but involving

Working Group members, is summarized on page 10.

See you in Austin!

1999 Wildlife Damage Management Working Group Officers:

Chair: Scott Craven (608) 263-6325, fax (608) 262-6099, srcraven@facstaff.wisc.edu
Chair Elect: Robert Timm (707) 744-1424, fax (707) 744-1040, rmtimm@ucdavis.edu
Past Chair: Scott Hygnstrom (402) 472-6822, fax (402) 472-2964, shygnstr@unlinfo.unl.edu
Sec/Tres Gary Witmer (970) 266-6095, fax (970) 266-6089, gary.w.witmer@usda.gov

Board Members

Bill Andelt (970) 491-7093, fax (970) 491-5091, billan@cnr.colostate.edu
Russ Mason (435) 797-1348, mason@cscfs1.usu.edu
Dale Rollins (915) 653-4576, fax (915) 658-4364, d-rollins@tamu.edu
Gary San Julian (814) 863-3439, jgs9@psu.edu
Robert Schmidt (435) 797-2536, fax (435) 797-1871, rschmidt@cc.usu.edu
Becky Stout (501) 671-2285, fax (501) 671-2185, rstout@uaex.edu

Newsletter Editor:

Art Smith (608) 263-5687, fax (608) 262-6099, aesmith1@facstaff.wisc.edu

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CONTRIBUTORS TO THIS ISSUE

Thanks to the following individuals for contributing to this issue: Gustavo Arnaud, Scott Craven, Tony DeNicola, Kathleen Fagerstone, Scott Hygnstrom, Lorraine LeSchack, Russ Mason, Jim Miller, John Shivik, Dennis Slate, Bob Timm, and Yanin Walker.

Wildlife Damage Management Around the World - Part 4

Most research and literature on wildlife damage management are focused on species and events specific to North America. This is somewhat unfortunate since many of the problems we face are not unique, and are shared by others throughout the world. The following article was contributed by a member of this Working Group who lives and works outside of North America. This is the fourth of a 5-part series, which will culminate in an overview by Jonathan Reynolds, United Kingdom. My thanks to those members whose contributions appeared in this and past issues.

Wildlife Damage Management in Mexico

Gustavo Arnaud

*Titular Researcher, Project Chief
Centro de Investigaciones Biologicas del Noroeste, S.C.
Apdo. Postal 128, La Paz, Baja California Sur, Mexico.*

*Biologist: Univ. Autonoma de Nuevo Leon, Mexico
MS: Universidad Nacional Autonoma de Mexico.
Ph D. Universite Paris Nord (XIII), France.
Specialty in Animal Behavior.*

Specific interests:

*Research and Management for Wildlife
Damage and Wildlife
Conservation, particularly about Mammals.*

The management of the wild fauna in Mexico, has centered on species that have economic value, as well as in those that are threatened or in danger of extinction. A secondary concern are those species that cause negative effects to the economy (predominantly agricultural and cattle raising), as well as those that may affect public health or other wild species (introduced species to islands). Mostly because of a lack of documentation of the damage that they cause, management of the damage-causing species has not been correctly performed.

The wild fauna species that cause damage in Mexico are numerous and vary geographically. In farming regions, the main pest species are rodents (mice, rats, ground and tree squirrels, and gophers), hares, rabbits, raccoons, coyotes, woodpeckers, starlings, crows and quail. Livestock (cows, goats, sheep) raising regions are mainly affected by predation by coyotes, feral dogs, and less so by fox and bobcats. The species that directly affect man are skunks which transmit rabies, rodents and doves which contaminate grains with their excrement or urine, and rattlesnakes and nauyacac which cause approximately 100 human deaths annually in Mexico. In the islands northwest of Mexico, there are many endemic species affected by the presence of introduced animals. Domestic cats and goats are the most intrusive species reported
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in the literature, both having extirpated diverse species of fauna (mammals and reptiles) and vegetation.

Traditionally, the animals causing damage have been killed to reduce their populations. In the agricultural areas, farmers carry out the control of wildlife damage, primarily through the use of toxic substances. Some of the commonly used substances are zinc phosphate, Warfarin, compound 1080 and strychnine. In spite of the fact that the use of some of these substances are forbidden, they are easily bought by the farmers. Because of the non-specific nature of these products and incorrect useage, beneficial species are commonly eliminated in addition to the pest species. Although traps are used, their efficiency is minimized because they are incorrectly used and in scare supply.

In livestock raising areas, traps and poisoned baits are used to hunt coyotes and feral dogs. Firearms are occasionally used. Coyotes have traditionally been blamed for the disappearances of cows, goats or sheep, in spite of the fact that they may not have caused the death. Therefore, unjustified coyote hunts are carried out in the livestock zones in northern Mexico. Groups of feral dogs attack areas near towns, but generally are not hunted or poisoned.

Animals which cause death or transmit diseases to man, are feared by the peasants, and are systematically killed without justification. Few efforts have been carried out in the islands northwest of Mexico to control the introduced animals that have caused the extinction of several resident species.

In the Center of Biologicas Investigations of the Northwest, S.C., headquartered in La Paz, Baja California Sur, Mexico, we are investigating more efficient handling procedures of the damage-producing species. The goal is to develop a permanent campaign of damage prevention instead of attempting to correct the damage once it has occurred. Our project is also developing a program of environmental education so that peasants will understand the role of wild fauna in nature, and will be cognizant of their conservation.

NEXT EDITION DEADLINES

If there are any items you wish to have included in the next newsletter, the Summer 1999 issue,

please get them to me no later than 31 July.
Thanks.
Art Smith
(608) 263-5687 - voice, (608) 262-6099 - fax,
aesmith1@facstaff.wisc.edu - email.

CONDITIONED FOOD AVOIDANCE FOR PREDATOR DEPREDATION ALERT

Russ Mason brought this subject to my attention, wrote the introduction, and provided John Shivik's letter. Scientific rigor is the basis for proper analysis of scientific techniques, and to defend results against those unaware of, or unwilling to accept previous study results. If you are also concerned about the conference presentation, please contact John Shivik or Russ Mason - Editor.

At a meeting of wolf biologists in Chico Hot Springs several weeks ago, the issue of using conditioned food avoidance as a wolf depredation management strategy was raised by the late Carl Gustavson's son, a physician from southern California. Dr. Gustavson showed old films of his father's wolves acquiring food avoidance responses, and a number of the conference participants were excited about the potential application of the technique. No mention was made of the extensive controversy surrounding the use of conditioned food aversions for depredation management, nor the substantial data set indicating the technique's lack of success. When questioned about the method by one of the few conference participants with knowledge of the area, Dr. Gustavson dismissed more than a decade of studies by stating that 'they were so flawed as to be scientifically worthless'. The letter that follows was distributed by Dr. John Shivik of the National Wildlife Research Center to conference attendees (Excerpted to fit newsletter, any reduced readability or modified interpretation from the original letter is the fault of the newsletter editor).

"The flavor avoidance conditioning concept was introduced in its simplest form at this year's Wolf Conference in Chico, MT.

... A disservice was done to the attendees when a speaker ignored and belittled the extremely large volume of research on the subject that was performed since the 1970s. The video shown was not a scientific study but a well-edited testimonial. In the presentation, the method was oversimplified to the point that a reasonable person not familiar with the subject would conclude that the chemical could be the "magic bullet" that would solve predator depredation problems. Thus, the application of conditioned food avoidance is once again being considered as a depredation management technique. Given over 20 years of data, there is almost no evidence to support the use of this method in field situations and an abundance of information arguing against the utility of the technique for conditioning free ranging wolves not to eat livestock.

I believe that every possible tool for managing human wildlife conflicts should be investigated. . . . If a technique shows promise it should be developed, but it is extremely important to temper claims of theoretical efficacy with practical reality. Food avoidance learning (whether mediated by LiCl or another unconditional stimulus) has not been successfully applied to predation management. . . . Because of its controversial history and extremely variable effectiveness, the use of lithium chloride for predation control has been dropped from most research and control programs.

Flavor avoidance conditioning is a useful method of limiting consumption of a food and it has been used with some success in management situations. For instance, some authors were able to stop begging coyotes from eating food at campgrounds. Unfortunately, flavor avoidance conditioning is not an effective means of reducing attack and kill behaviors by predators. An extremely important concept in animal behavior is that the predatory sequence can be separated into two functionally distinct components: the appetitive (including the attack and kill) component, and the consumatory component. Conditioning for one component is not necessarily conditioning for the other. That is, it is much easier to condition a wolf not to eat treated carcasses than it is to condition a wolf not to kill fresh prey. An aversively conditioned wolf that kills fresh prey will quickly learn that fresh prey is an appropriate food, but that treated baits and carcasses are not. The behavior that must be modified to protect livestock is the killing behavior, not the consumatory behavior. As with many other aversive techniques, the problem is to get them to transfer the conditioning to the thing we are trying to protect. . . .

Logistically, the technique is demanding. Carcasses and bait stations cannot be littered throughout the environment indiscriminately, yet a large number of carcasses would be required in an attempt to condition a pack of wolves. A method of targeting only wolves and excluding other scavengers must be devised. . . . It would be irresponsible to promote the use of substances without first assessing its environmental hazards. Furthermore, it would be illegal to use LiCl without first obtaining pesticide registration with the EPA and the states involved.

The exacting requirements for successful flavor avoidance conditioning would make its development for use in an open range situation extremely difficult, if not impossible. Because it is not likely to work, it is not likely to be used, and no organization to date has been willing to spend the estimated 1-3 million dollars required to acquire a label for use (in the United States) as required by FIFRA and regulated by the EPA. . . . Because the efficacy is so poor it is rarely used anywhere. For instance, in Canada a large-scale conditioned food aversion program was administered by the Saskatchewan Agriculture Department. In a 1994 study done by the Berryman Institute, only 1 program participant (out of 81) was using the technique 13 years after its introduction and 69% of the participants gave the reason that is was "not sufficiently effective" as their reason for abandoning this technique. If the technique was biologically efficacious it would be used widely in Canada, but it is not.

... There are certain situations where one may be able to apply the concepts of conditioned flavor avoidance to husbandry situations, and I am happy to investigate such possibilities. My ultimate goal is to help resolve the predator depredation problems effectively and efficiently, and I am constantly in search of appropriate tools that may accomplish that task. I hope that this information allows you to make informed decisions about the possible use of lithium chloride for managing wolf depredation.

Sincerely,

John A. Shivik, Leader, Predator Depredation Project, USDA-APHIS-WS, National Wildlife Research Center, Fort Collins, CO.

PRELIMINARY PROGRAM

6TH ANNUAL CONFERENCE * SEPTEMBER 7-11, 1999

Plenary: Conservation Challenges for the 21st Century: Are Wildlife Biologists Ready?

SYMPOSIA

- Accomplishing Wildlife Management in Latin America: An Opportunity for North-South Cooperation - 1 day**
Hugo Fernando Lopez, Arevalo, Colombia
William P. Kuvlesky, Jr., U.S. Fish & Wildlife Service
E. Lee Fitzhugh, University of California
TWS International Wildlife Management Working Group
- Thinking Globally and Acting Locally for Wildlife - _ day**
Brian Czech, University of Arizona
TWS Local Governance Working Group
- Motivating the Masses: Foundations and Changing Practices in Extension Conservation Education - _ day**
Terry A. Messmer, Utah State University
Shari L. Dann, Michigan State University
TWS Public Conservation Education and Extension Working Group
- Conserving Biodiversity on Non-Industrial, Private Lands - _ day**
David L. Ledford, Stone Container Corporation
TWS Biological Diversity Working Group
- A Half-Century of A Sand County Almanac - _ day**
Richard L. Knight, Colorado State University
- Perspectives on the Future of Wildlife Management from the New Professionals - _ day**
Coleen F. Brown, University of Arizona
Cathy Crawford, University of Arizona
Patrick Devers, University of Arizona
- Emerging Issues in Wildlife Management on Private Lands and the Economic Outlook for User Funding - _ day**
Webb M. Smathers, Jr., Clemson University
TWS Wildlife Economics Working Group
- Improving Public Perception and Understanding of Wildlife Damage Management - _ day**
Art Smith, University of Wisconsin
TWS Wildlife Damage Management Working Group
- The Use of Genetic Analysis in the Conservation and Management of Wildlife Species - _ day**
Mary Maltbie, Los Alamos National Laboratory
Sara Oyler-McCance, Colorado State University
- Large Mammal Restoration: Ecological and Sociological Considerations - 1 day**
David S. Maehr, University of Kentucky
Jeffery L. Larkin, University of Kentucky
Reed F. Noss, Conservation Biology Institute
- Role of Private Lands in Waterbird Conservation Along the Gulf Coast - _ day**
Clinton Jeske, U.S. Geological Survey
Wayne Norling, U.S. Geological Survey
- Balancing Social and Ecological Factors in Management of Urban/Suburban Wildlife - _ day**
Rebecca Field, U.S. Geological Survey
Michael Conover, Utah State University
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Larry W. VanDruff, State University of New York

- Merging Ecology and Diversity in the Next Millennium: Scientific and Cultural Values of Human Resource Diversity in the Natural Resources Profession - _ day**
Annette Dominguez, Texas Parks and Wildlife Department
Keith Miles, U.S. Geological Survey
- Bats and Humans: Education, Conservation, Controversy and Conflict - _ day**
Dennis Slate, USDA, APHIS, Wildlife Services
Gary San Julian, Pennsylvania State University
Jim Kennedy, Bat Conservation International
- Wildlife Dispersal: Population Implications - _ day**
R. Scott Lutz, University of Wisconsin
William M. Giuliano, California Univ. of Pennsylvania
- Analysis of Radiotelemetry Data: Past, Present, and Future - 1 day**
Joshua J. Millspaugh, University of Washington
John M. Marzluff, University of Washington
Mark R. Fuller, U.S. Geological Survey
David Morton, U.S. Geological Survey
TWS Geographic Information Systems and Remote Sensing Working Group

WORKSHOPS

- Data Stewardship: Biological Metadata to Ensure Data Longevity - 1 day**
Sharon S. Shin, U.S. Geological Survey
Jennifer Gaines, U.S. Geological Survey
- Using GIS and Remote Sensing for Better Decision Making - _ day**
Kass Green, Pacific Meridian Resources
- Excellence in Wildlife Education: An Exchange of Ideas - _ day**
Dean F. Stauffer, Virginia Tech
TWS College and University Wildlife Education Working Group
- Managing Endangered Species in an Urban Environment - _ day**
Lisa K Harris, University of Arizona
Scott Richardson, Arizona Game and Fish Department

SPECIAL POSTER SESSION

- Wildlife Toxicology: Contaminant Issues in the Southwestern U.S. and Gulf of Mexico**
Steven Sheffield, Clemson University
TWS Wildlife Toxicology Working Group

TWS 6th Annual Conference Working Group Sponsored Sessions

At the upcoming annual TWS conference in Austin, TX, the Wildlife Damage Management Working Group will be sponsoring 2 paper sessions. Both cover timely and important topics and your attendance will be welcomed.

“Bats and Humans: Education, Conservation, and Management”

Organizers:

*Dennis Slate, USDA-APHIS-WS, Concord, NH
Gary San Julian, Pennsylvania State University
J. Kennedy, Bat Conservation International*

Bats represent a unique and diverse group of mammals that are a treasured natural resource. However, they are often misunderstood by a large segment of the public. Some species, most notably the big brown and little brown bats, are commonly found in houses and other dwellings that provide easy access to roost sites. Conflicts that arise when bats occupy dwellings can often be traced to poor carpentry or aging buildings. Various means of enclosure can usually be applied to resolve such problems.

Rabies in bats continues to have a major influence in shaping public health policy. The challenge to the wildlife professional is to promote bat conservation while helping resolve conflicts and providing input for sound public health policy.

The purpose of this symposium is to stimulate discussion and debate on bat conservation programs and initiatives, conflicts and public health policy. The first half of the symposium will provide overviews of bat conservation and the types of conflicts that occur between bats and people. Methods to address conflicts will be discussed. The second half of this symposium will focus specifically on the merits of contemporary rabies control strategies.

“Improving Public Perception and Understanding of Wildlife Damage Management”

Organizer:

Art Smith, University of Wisconsin, Madison, WI

Urban sprawl combined with the surprising ability of many animal species to thrive in human dominated landscapes, have increased the number and severity of human/wildlife conflicts throughout North America. Although most people enjoy and treasure experiences with wildlife, few understand what lead to an unpleasant or unexpected encounter with a wild animal in their own back yard. To alleviate or understand the conflict, wildlife managers are called in to consult or fix the problem.

One of the manager’s first tasks is to attempt to educate the public about the animal and how the problem developed. Education reduces the citizen’s immediate concern, creates an opportunity to discuss policy and legal details, and helps prevent future problems. Few wildlife managers receive formal training enabling them to develop educational programs, yet they are responsible for designing and implementing a multitude of educational needs of a very diverse public. The need for successful wildlife damage educational products for a diverse public combined with increasing numbers of conflicts and the need for cost effectiveness are now commonplace throughout the wildlife damage management field.

This symposium will provide wildlife biologists with a well rounded review of the status of wildlife damage education. The symposium will include background on wildlife damage management, utility of successful techniques, analysis and advice on past wildlife damage educational efforts, and a final assessment of the feasibility of educating citizens on wildlife damage issues.

The speakers represent multi-disciplinary backgrounds including: USDA Wildlife Services, Extension Service, animal welfare, university researchers, state natural resources, and product marketing.

PROCEEDINGS OF THE 18TH VERTEBRATE PEST CONFERENCE held March 2-5, 1998 in Costa Mesa, CA are now available

For those who were unable to attend this outstanding and very interesting conference, you can now find out what you missed!

The cost for the paperback proceedings (433 pages) is: \$25.00 plus \$4.00 for shipping/handling (U.S.); \$7 surface or \$13 air mail for international orders. Postal or other money orders are acceptable, credit cards are not (checks must be drawn on U.S. bank in U.S. funds). Checks should be made payable to:

**VERTEBRATE PEST CONFERENCE
c/o T.P. Salmon, Bus. Mgr.
DANR: North Region
University of California
One Shields Avenue
Davis, CA 95616-8575**

In Memory: William D. Fitzwater

Bill Fitzwater died in Albuquerque, NM on February 18, 1999 at the age of 81. He had been limited in pursuing activities he enjoyed during his retirement, including writing, photography, and traveling, as a result of a stroke he suffered in September 1992.

Bill is survived by his wife of 56 years, Ann; two sons, three daughters, 11 grandchildren, and one great-grandchild. Born April 25, 1917 in Brooklyn, N.Y., he received his B.S. and M.S. degrees in wildlife management from the New York State College of Forestry in Syracuse in 1939 and 1941. During World War II he served with the U.S. Army Medical Corps in New Guinea and the Philippines.

His career in wildlife damage control started as Mammal Control Agent in the New York-Ohio District of the Predator and Rodent Control, U. S. Fish & Wildlife Service. He moved upward to Assistant District Agent for the 8 north-central states, and then became Regional Biologist for the Southwest Region (Region II) in 1960. In 1966, he spent 9 months in Jodhpur, India as a UNESCO consultant on desert gerbil control. From 1968 to 1971 he was Extension Wildlife Specialist at the University of California, Davis, during which time he had a 3-month assignment on weaver finch control in the Dominican Republic and Haiti sponsored by UNFAO. He then joined the staff of the newly-formed Environmental Protection Agency in Washington, D.C., setting up training programs for pesticide applicators including an assignment in the U.S. Virgin Islands. He retired in 1978 and soon became an active participant in the formation of the National Animal Damage Control Association.

Bill's body was donated to the UNM Medical School. His family will celebrate his life at a gathering at some future date. Contributions in Bill's name may be made to ABQ Stroke Club, c/o Easter Seals Society, 2819 Richmond NE, Albuquerque NM 87107, or The Salvation Army, 411 Broadway SE, Albuquerque NM 87102, or to a charity of one's choice.

Condolences may be sent to his family at 7104 Bellrose NE, Albuquerque NM 87110.

NEXT EDITION DEADLINES

If there are any items you wish to have included in the next newsletter, the Summer 1999 issue, please get them to me no later than 31 July. Thanks.

*Art Smith
(608) 263-5687 - voice, (608) 262-6099 - fax,
aesmith1@facstaff.wisc.edu - email.*

The paper should be completed by September 1, 1999.

In Memoriam: Jack H. Berryman

Jack passed away March 3, 1999. A graduate of Utah State University, he became one of the country's first Extension Wildlife Specialists, serving at USU until joining the U.S. Fish & Wildlife Service. With this agency, he was the director of the Wildlife Services program, and he also established the Office of Extension Education within FWS. Following his retirement from FWS, he became Executive Vice President/Executive Director of the International Assoc. of Fish & Wildlife Agencies, and he continued to serve this Agency for many years following his "official" retirement as Counselor Emeritus.

Jack was the recipient of many awards, including the Aldo Leopold Award from The Wildlife Society. In honor of his work advancing the field of wildlife damage management, the Jack H. Berryman Institute was established in 1993 at Utah State University.

Jack was a long time mentor, friend, and leader in the wildlife profession. He will certainly be missed by those of us who knew him personally, and his many professional contributions will be a lasting legacy to a fine professional steward who had a remarkably successful career. His leadership will always be remembered by those he influenced, and the encouragement and counsel he provided to me and many others over the years will always be treasured.

The address for those who wish to send condolences to the family is:

*Mrs. June Berryman and Family
2082 Steeple Place
Lake Ridge, VA 22192*

--Jim Miller, President, The Wildlife Society

A Wildlife Contraception Technical Review Committee

has been formed by The Wildlife Society and involves several members of this Working Group. The general purpose of the committee is to review the literature on the use of contraceptives in wildlife management and write a technical review paper on the topic to address the need, rationale, and safety issues surrounding contraceptive use. Members of the committee include: Kathleen Fagerstone (chair), Michael Coffey, Paul Curtis, Richard Dolbeer, William Lance, Robert Garrott, and Linda Wilmot.

CALL FOR PAPERS
19th VERTEBRATE PEST CONFERENCE

March 6 - 9, 2000, San Diego, California, USA

You are invited to attend and participate in the 19th Vertebrate Pest Conference to be held March 6-9, 2000 at the Mission Valley Hilton Hotel, San Diego, California. The Vertebrate Pest Conference is an educational event for discussing and exchanging information on problems and solutions to wildlife damage and undesirable interactions between wildlife and people. This conference is held every two years and is one of the largest and most recognized conferences of its kind. Participants and attendees include leading authorities on vertebrate pest management from the United States, Canada, and throughout the world. All papers are presented in English. Presentations range from practical management to more technical papers concerning research or new technology.

Papers will be accepted in (but not limited to) the following vertebrate pest categories:

- Commensal rodent management
- Field rodent and rabbit management
- Bird management (urban or agricultural)
- Predator problems and their management
- Urban wildlife (problems and solutions)
- Wildlife and reforestation problems
- New wildlife management chemicals, materials, or techniques
- Human, domestic animal, and wildlife health
- Alternative management methods and materials (repellents, exclusion, etc.)
- Endangered species programs and vertebrate pest management
- Economic, social, and political aspects of vertebrate pest problems and their management

Papers can be of a practical nature or more technically and research oriented.

Submit a proposed title and an abstract by May 30, 1999 to the Program Chairpersons:

**Vertebrate Pest Conference
c/o Dr. Desley Whisson
Dept. of Wildlife, Fish and Conservation Biology
University of California
One Shields Ave.
Davis, CA 95616-8751 U.S.A.**

Submissions may be made by mail, by FAX (530) 752-4154 attn: D. Whisson, or by email to <dawhisson@ucdavis.edu>.

Contributed papers will be selected by the Vertebrate Pest Council on the basis of scientific merit, newness, uniqueness of topic, usefulness, and appropriateness for the overall conference program and its objectives. Summaries of work in progress are acceptable. Summaries received after May 30, 1999 will be considered as space is available. Contributed papers should not have been presented, submitted, or published elsewhere. All speakers are expected to submit an electronic version as well as a written paper at the conference. Papers meeting scientific publication standards will be published in the conference Proceedings.

Commercial Exhibits

Space is available for exhibits of commercial products and services. For information, contact:

**Pierre Gadd
Sonoma County Dept. of Agriculture
2604 Ventura Ave., Rm. 101
Santa Rosa, CA 95403-2810 U.S.A.
telephone (707) 527-2371
fax (707) 527-3850**

**Further information about the Vertebrate Pest Conference is available on the VPC home page:
<http://www.davis.com/~vpc/welcome.htm>**

**or from the program chairpersons:
Dr. Desley Whisson <dawhisson@ucdavis.edu>
Dr. Robert M. Timm <rmtimm@ucdavis.edu>**

If you wish to be added to the mailing list to received the preliminary program for the conference, contact Sydney Gillette at (530) 754-8491 or email <skgillette@ucdavis.edu>.

Art Smith
Department of Wildlife Ecology
1630 Linden Dr., Rm. #226
University of Wisconsin
Madison, WI 53706

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Annual basic membership dues are \$53.00 of which 15% pays for the bimonthly newsletter, *The Wildlifer*, which is received by all members. Dues for full-time students are \$27.00. TWS accepts U.S. dollars drawn on a U.S. bank only or by credit card.

WITH YOUR PAID MEMBERSHIP you may subscribe to the *Wildlife Society Bulletin* for an additional \$22.00. The *Journal of Wildlife Management with Wildlife Monographs* for an additional \$25.00, or ALL publications for an additional \$47.00. Members may also join a section, chapter, and/or working groups.

WORKING GROUP DUES (\$5.00 each)

01 - Wildlife Planning & Administration
02 - Wildlife Economics
03 - Biological Diversity
04 - Biometrics
05 - College and University Wildlife Education
07 - Geographic Information Systems & Remote Sensing
08 - Restoration

11 - Sustainable Use of Ecosystem Resources
12 - Wildlife Damage Management
13 - Wildlife Toxicology (\$7.00)
14 - Urban Wildlife
16 - International Wildlife
17 - Public Conservation, Education & Extension
18 - Local Governance

