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A Conservation Dilemma— The Free-Ranging Domestic Cat*

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Domestic cats first arrived in North America with European colonists several hundred years ago. Since that time, cats have multiplied and thrived as cherished pets, unwanted strays, and semi-wild predators. Although often overlooked, cats affect other animals, often far from the homes and farms they share with people. Because we brought the domestic cat to North America, we have a responsibility to both the cats and to the wild animals they may affect. Here are some interesting and perhaps surprising facts concerning the contemporary dilemma posed by free-ranging cats in the United States.

How Cats Became Domesticated

Domestic cats originated from an ancestral wild species, *Felis silvestris*, the European and African Wild Cat. The domestic cat is now considered a separate species, named *Felis catus*. In appearance, domestic cats are similar to their wild relatives, and many of their behaviors such as hunting and other activity patterns remain essentially unchanged from their ancestral form. Cats were first domesticated in Egypt around 2000 BC.

Domestic cats spread slowly to other parts of the globe, possibly because Egyptians prevented export of the animal they worshipped as a goddess. However, by 500 BC the Greeks had acquired domestic cats, and they spread cats throughout their sphere of influence. The Romans introduced the domestic cat to Britain by 300 AD. Domestic cats have now been introduced around the world mostly by colonists from Europe.

How Many Cats Are There in the United States?

The estimated number of pet cats in urban and rural regions of the United States has grown from 30 million in 1970 to 60 million in 1990. These estimates are based on U.S. Census data and include only those cats that people claim to "own" as pets, not cats that are semi-wild or free-ranging. Nationwide, approximately 30% of households have cats. In rural areas where free-ranging cats are usually not regarded as pets, approximately 60% of households have cats. In the state of Wisconsin alone, with approximately 550,000 rural households, the number of rural free-ranging cats (not house-pets) may be as high as 2 million. The combined total of pets and free-ranging cats in the U.S. is probably more than 100 million. Because of their close association with humans, most of these cats are concentrated in areas of high human population.

The Legal Status Of Domestic Cats

The laws that relate to domestic cats vary by local government. In most areas the person that provides care for a cat is legally responsible for its welfare and control. As with other domestic animals, if ownership can be established by collars or other means of identification, a cat is considered personal property. It is usually the responsibility of the owner to control the cat's movements. In most areas, cats can be captured and either returned to the owner or turned over to authorities if they wander onto other peoples' property. Many municipalities have leash laws and require vaccination and neutering of pet cats. Because laws vary, one should check local ordinances for the appropriate way to deal with stray cats.

What Effect Do Domestic Cats Have on Wildlife?

Although rural free-ranging cats have greater access to wild animals and undoubtedly take the greatest toll, even urban house pets take live prey when allowed outside. Extensive studies of the feeding habits of free-ranging domestic cats over 50 years and four continents indicate that small mammals make up approximately 70% of these cats' prey while birds make up about 20%. The remaining 10% is a variety of other animals. The diets of free-ranging cat populations, however, reflect the food locally available.

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The Free-Ranging Domestic Cat

Observation of free-ranging domestic cats shows that some individuals can kill over 1000 wild animals per year, although smaller numbers are more typical. Some of the best data on kills suggest that cats living in small towns kill an average of 14 wild animals each per year. Rural cats kill many more wild animals than do urban, or suburban cats. Several studies found that up to 90% of rural cats' diets was wild animals, and less than 10% of rural cats killed no wild animals. Recent research suggests that rural free-ranging domestic cats in Wisconsin may be killing over 27 million mammals and 8 million birds each year.

Nationwide, rural cats probably kill over a billion small mammals and hundreds of millions of birds each year. Urban and suburban cats add to this toll. Some of these kills are house mice, rats, and other species considered pests, but many are native songbirds and mammals whose populations area already stressed by other factors such as habitat destruction and pesticide pollution.

Despite the difficulties in showing the effect most predators have on their prey, cats are known to have serious effects on small mammals and birds. Worldwide, cats have been implicated in the extinction of more bird species (33) than any other cause except habitat destruction. Cats are contributing to the endangerment of populations of Least Terns, Piping Plovers, and Loggerhead Shrikes. In Florida, marsh rabbits in Key West have been threatened by predation from domestic cats. Cats introduced by people living on the barrier islands of Florida's coast have depleted several unique species of mice and woodrats to near extinction.

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Your contributions to *The Probe* are welcome. Please send news clippings, new techniques, publications, and meeting notices to *The Probe*, c/o Hopland Research & Extension Center, 4070 University Road, Hopland, CA 95449. Articles and notes can also be sent by e-mail to rmtimm@ucdavis.edu. If you prefer to FAX material, our FAX number is (707) 744-1040. The deadline for submitting material is the 15th of each month. Opinions expressed in this newsletter are not necessarily those of NADCA.

Not only do cats prey on many small mammals and birds, but they can outnumber and compete with native predators. Domestic cats eat many of the same animals that native predators do. When present in large numbers, cats can reduce the availability of prey for native predators, such as hawks and weasels.

Free-ranging domestic cats may also transmit new diseases to wild animals. Domestic cats have spread feline leukemia virus to mountain lions and may have recently infected the endangered Florida Panther with feline panleukopenia (feline distemper), an immune deficiency disease. These diseases may pose a serious threat to this rare species. Some free-ranging domestic cats also carry several diseases that are easily transmitted to humans, including rabies and toxoplasmosis.

Domestic Cats vs. Native Predators

Although cats make affectionate pets, many domestic cats hunt as effectively as wild predators. However, they differ from wild predators in three important ways: First, people protect cats from disease, predation, and competition, factors that can control numbers of wild predators such as bobcats, foxes, or coyotes. Second, they often have a dependable supply of supplemental food provided by humans and are, therefore, not influenced by changes in populations of prey. Whereas populations of native predators will decline when prey become scarce, cats receiving food subsidies from people remain abundant and continue to hunt even rare species. Third, unlike many native predators, cat densities are either poorly limited or not limited by territoriality. These three factors allow domestic cats to exist as much higher densities than native predators. In some parts of rural Wisconsin, densities of free-ranging cats reach 114 cats per square mile. In these areas, cats are several times more abundant than all mid-sized native predators (such as foxes,

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CALENDAR OF UPCOMING EVENTS

March 17-21, 1997: Vertebrate Pest Control Workshops, Escondido, Fresno, and Chico, California. Techniques, regulations, and discussions on problems of regional interest including rodents, birds, and predators. Contact: Sydni Gillette, No. Region-DANR, UC Davis, (916) 754-8491, e-mail skgillette@ucdavis.edu, or visit http://www.davis.com/~vpc/welcome.html

April 16-19, 1997: 13th Great Plains Wildlife Damage Control Workshop, Lied Conference Center, Nebraska City, Nebraska. Will include the annual NADCA membership meeting. For information: contact Charles Lee, Kansas State University, (913) 532-5734, or Scott Hygnstrom, Univ. of Nebraska, (402) 472-6822.

ADC News, Tips, Ideas , Publications . . .

9th Northern Furbearer Conference on May 22-23, 1997 in Yellowknife, Northwest Territories, Canada: Second Announcement / First Call for Papers

This first call for papers is an invitation to present a paper orposter at the 9th Northern Furbearer Conference, to be held in Yellowknife, 22-23 May 1997. The initial announcement has generated a lot of interest, and the conference should be attended by a large number of managers, researchers, and harvesters from northwestern North America and perhaps Europe. Fur harvesting remains an important and viable component of life in the Northwest Territories. We view this conference as an opportunity to showcase the importance of fur in the lives of NWT residents.

Presentation topics may include (but are not limited to):

- Wolverine ecology and management
- Marten and lynx research and management
- Beavers and placer mining reclamation
- Otter management and pest control in fish farms
- Use of disease in arctic fox management
- The latest developments in humane trapping, the fur industry, and
- European Union regulations
- Furbearer research and management from a First Nation's (aboriginal) perspective

Participants who wish to present a paper or poster must submit an abstract by 15 March 1997 to the address below. Abstracts of studies should succinctly state the purpose, methods, results and conclusions. Abstracts of review or policy papers should summarize the main points and conclusions or recommendations. Please make sure your abstract will fit on one 8-1/2" x 11" sheet of paper with 1-1/2" margins all around, using the *Journal of Wildlife Management* format. Be sure to include associations and complete addresses for each author. For those mailing abstracts, please submit a hard copy and a file on diskette. E-mail submissions are welcome and encouraged. Presentation of your material at this conference does not preclude its publication elsewhere.

Yellowknife is accessible by air from Edmonton (6 flights daily) and Whitehorse (direct flights Mon., Wed., Fri.). Road access is also possible (1500 km from Edmonton). The Great Slave Lake area in May is picturesque (and relatively bug-free!!), and post-conference field trips and activities will be offered if there is sufficient interest.

The conference will be held at The Yellowknife Inn. A block of rooms has been set aside, with conference rates at approximately $115 CDN per night. Accommodation is also available at the Discovery Inn at $85-100 CDN per night. Registration fees will be reasonable (to help offset the high cost of accommodation!!): $30 plus banquet costs.

Details about registration and accommodations will be provided in the third announcement (and last call for papers) which will be mailed out in early 1997. For further information, contact:

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Darrel Juve to Retire

Darrel Juve, Regional Environmental Manager of the ADC Western Region, will retire in January following 30 years of federal service. In his current position since 1991, he has been responsible for many of the regional NEPA compliance and telecommunication efforts in the western states.

He has previously served in wildlife biologist and field supervisor postions in Texas and Arizona. He was Assistant State Director for the California ADC program, and State Director of the Arizona program.

Wolves Attack People in Kazakhstan

Five people were attacked by wolves in the former Soviet republic of Kazakhstan recently, according to a report by the Associated Press. One man lost his nose and one eye in one of the attacks, which occurred on the outskirts of Atyrau in northwestern Kazakhstan. Local officials have earmarked $46,000 to pay hunters to kill off some of the animals because of mounting cattle and sheep losses. The report stated that wolves in this republic have grown to about 60,000 in number since the government stopped paying hunters to kill them.

The Editor thanks the following contributors to this issue: Guy Connolly, Marilyn Davis, Mike Fall, Dwight LeBlanc, Wes Jones, Stephen Vantassel, and Robert Schmidt. Send your contributions to **The PROBE**, *4070 University Road, Hopland, CA 95449.*

Video Review

"Basic Coyote Control" produced by Tom Beaudette of High Country Control, P.O. Box 11453, Pueblo, CO 81001. Length: 120 minutes. Cost $35.00 plus $3.00 shipping and handling.

Stephen Vantassel, Special Coorrespondent, The PROBE

Tom Beaudette says he has created "Basic Coyote Control" to educate ranchers and others on how to protect their livestock from coyote predation. The video became necessary, he explains, because of the legislative changes in game laws in Colorado and presumably elsewhere. In this regard, Mr. Beaudette's video differs from other videos in that it deals directly with animal damage control.

The video is a no-frills education on removing coyotes from property. It opens with Mr. Beaudette calling in a coyote and shooting it. Given the difficulties in filming such an event, I was surprised at the clarity and quality of the filming. The viewer must remember that these videos are not filmed with state-of-the-art Hollywood equipment.

The first 44 minutes of the tape cover various aspects of summer and fall calling. Attention was paid to non-winter seasons because these are the times of highest livestock predation. Mr. Beaudette correctly begins this section by underscoring the importance of knowing where your rifle hits, asserting that 90% of calling rests on being able to shoot the animal consistently. He recommends that you be able to hit a target consistently at 250-300 yards. In discussing various weapons, he makes appropriate comments on each of their particular strengths. One of the weapons he uses is a clone of an M-16. This semi-automatic allows him greater opportunities to shoot the coyote because its twenty-round clip permits follow-up shots. Don't get the wrong idea though; Mr. Beaudette is a good shot. One of the coyotes he takes was killed at 250 yards.

Like a true professional, Mr. Beaudette refrains from outrageous claims or recommendations. Where others might be tempted to say "This call is the best," etc., Mr. Beaudette tells which brand he likes and leaves out the hard sell.

The next topic, logically enough, is "Call Selection and Calling Methods". He stresses the importance of understanding the coyote family unit and how calling exploits that information. Like a true professional, Mr. Beaudette refrains from outrageous claims or recommendations. Where others might be tempted to say "this call is the best," etc., Mr. Beaudette tells which brand he likes and leaves out the hard sell. This point is underscored by his mentioning only about 4 coyote calls. I was very impressed by the demonstration of a coyote call and then hearing coyotes respond to him. I also appreciated his demonstration of a rabbit distress call you can use that costs you nothing. Mr. Beaudette made this call by sucking on his palm. I wish he gave more information, because I couldn't make the sound like he could. The essentials of site selection and cover scents are also described.

The remaining 75 minutes are dedicated to coyote trapping. Remembering that farmers are looking to save on costs, Mr. Beaudette shows examples of the various types of traps, which are probably hanging in the barn already, that will catch coyotes. While he correctly spends most of his time on the specialized coyote traps, I think he should have underscored the importance of center frame chain attachment for coyote trapping. Nevertheless, he points out that offset laminated jaws with extra coils makes for a better coyote trap.

After equipment, Mr. Beaudette demonstrates the punchhole set which is otherwise known as the dirt hole set. Mr. Beaudette is a no frills talker. He provides the basics without fanfare or arrogance. He explains how you should choose a trap site and shows actual coyotes caught at these locations. Although he didn't say how long the coyotes might have been in the traps, they looked remarkably well. If they were actually caught in these modified coyote traps, then it is a tribute to the humaneness of the traps. Non-modified coyote traps are actually called "coyote amputators" in this video.

The tape concludes with education on dismantling a coil spring foothold and attaching modified jaws to it. The gentleman from Circle C Enterprises did a fine job demonstrating how to properly dismantle your coil spring traps. He also provided a demonstration on how he makes a dirt hole set for coyotes.

On the whole I think this video accomplishes what it said it would. For Western landowners or ADC personnel, this video should provide you with a sound beginning in coyote control. The weakness of the video lies in its lack of comprehensiveness. It doesn't cover how to use snares or M-44's in coyote control. However, it would be wrong to criticize the video, because it has to stop somewhere. In conclusion, I give the video an animal damage control grade of B+. It is a solid piece of work with clear picture and sound. The cost of the video is also reasonable given the information provided and its two-hour length. I deducted points from the tape because it didn't spend enough time on handling misfired traps or problems in calling.

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The Free-Ranging Domestic Cat

raccoons, skunks) combined. With abundant food, densities can reach over 9 per acre, and cats often form large feeding and breeding colonies (81 cats were recorded in one colony, and colonies of over 20 are not uncommon). Unlike some predators, a cat's desire to hunt is not suppressed by adequate supplemental food. Even when fed regularly a cat's instinct to hunt remains strong, so it continues to hunt.

In Summary

Free-ranging cats are abundant and widespread. They often exist at much higher densities than native predators. They prey on large numbers of wild animals, some of which are rare or endangered. They compete with native predators, and they harbor a variety of diseases. Yet cats are popular pets. In order to have and care of our pets— and still protect our native wildlife—we must make an effort to humanely limit the adverse effects free-ranging cats can have on wildlife.

What You Can Do

- Keep only as many pet cats as you can feed and care for. On farms, keep only the minimum number of cats needed to control rodents. Controlling reproduction and humanely euthanizing unwanted cats will keep cat populations from growing beyond the size that can be adequately cared for.

- If at all possible, for the sake of your cat and local wildlife, keep your cat indoors. Confinement will eliminate unwanted reproduction, predation on wild animals, and the spread of disease. Bells are mostly ineffective in preventing predation because even if the bell rings it's usually too late for the prey being stalked. Declawing may reduce hunting success, but many declawed cats are still effective predators. Keeping your cat indoors helps protect the birds and mammals around your yard and prevents your cat from picking up diseases from strays or getting injured. The two most common causes of death for rural cats in south central Wisconsin are disease and being struck by automobiles. If cats must be kept outdoors, consider using a fenced enclosure or runway.

- Neuter your cat or prevent your cat from breeding, and encourage others to do so. Support or initiate efforts to require licensing and neutering of pets. In areas where such laws already exist, insist that they be enforced. For information on local licensing and neutering laws, contact your local health department or humane society.

- Locate bird feeders in sites that do not provide cover for cats to wait in ambush for birds. Cats are a significant source of mortality among birds that come to feeders. To prevent cats from climbing, put animal guards around any trees in your yard that may have nesting birds.

- Don't dispose of unwanted cats by releasing them in rural areas. This practice enlarges rural cat populations and is an inhumane way of dealing with unwanted cats. Cats suffer in an unfamiliar setting, even if they are good predators. Contact your local animal welfare organization or the Humane Society for help.

- Eliminate sources of food, such as garbage or outdoor pet food dishes, that attract stray cats.

- Don't feed stray cats. Feeding strays maintains high densities of cats that kill and compete with native wildlife populations. Cat colonies will form around sources of food and grow to the limits of the food supply. Colonies can grow to include dozens of animals. Maintenance of colonies of free-ranging or feral cats through supplemental feeding benefits no one. The cats suffer because of disease and physical injury; native wildlife suffers from predation and competition, and colonies can be a source of disease for animals and humans. Those concerned with the welfare of animals can improve the lives of the many native species that suffer from lack of food and shelter by protecting and improving the habitats they require.

Additional Reading:

Jurek, Ronald M. 1994. A bibliography of feral, stray, and free-roaming domestic cats in relation to wildlife conservation. Calif. Dept. of Fish & Game, Nongame Bird & Mammal Program, Sacramento, CA, Report 94-5. 24 pp.

Turner, D.C. and P. Bateson (Eds). 1988. The domestic cat: the biology of its behavior. Cambridge University Press, New York. 222 pp.

Review Materials Needed

Editor's Note: Recent publications, guides, videos, and other similar materials are solicited for future review in this newsletter. If you know of appropriate materials for review, send them to Stephen Vantassel, or inform him of their availability at the address listed at the conclusion of his review on page 6.

Abstracts Published at the 3rd Annual Conference of The Wildlife Society

The following are published abstracts of papers presented at the 3rd Annual Conference of The Wildlife Society, October 1-5, 1996, Cincinnati, Ohio.

Leghold Traps: An Overview of Social and Biological Issues Behind the Controversy

William F. Andelt, Robert L. Phillips, and Robert H. Schmidt

The leghold trap is an important and traditional wildlife management tool for harvesting furbearers, controlling economic and nuisance wildlife problems, and protecting and enhancing endangered species populations. Trapping has been controversial throughout this century; numerous local, state, and national attempts have been made to ban trapping but most have failed.

However, the 1994 ballot initiative that banned trapping on public lands in Arizona and recent state (Colorado, Illinois) and national surveys indicated that the public's support for trapping is low. In these surveys, only 22-29% of respondents approved of trapping in general. The general public has concern about humaneness and selectivity of capture and restraint devices, and the public's acceptance of trapping depends on the justification for it. In Colorado, only 9 and 13%, respectively, of respondents said that trapping was okay for recreation or to obtain money, but 69% said trapping was okay to protect livestock and property, and 87% said it was okay for preventing the spread of disease. Numerous scientific studies agree that padded traps reduce foot injuries. However, padded traps are not used widely because of added costs, perceptions by trappers that they are less efficient than standard traps, and trapper concerns that agreeing to utilize padded traps on the basis of humaneness is the "foot in the door" to allow more restrictive policies and regulations, perhaps even to ban trapping, in the future.

Wildlife managers are challenged with the question: how do we maintain an important wildlife management tool such as the leghold trap? We believe that managers need to proactively adopt regulations that promote more humane treatment of animals, such as the use of padded leghold traps and daily trap checks. Adoption of national or international trap standards, which promote more humane and selective devices, likely would help sustain trapping; however negative public perceptions, antagonism toward animal restraint devices in general, and divided attitudes within the professional wildlife management community will continue to delay or prevent any firm resolution of this issue.

The Role of State Wildlife Agencies in Regulating the Nuisance Wildlife Control Industry

Thomas G. Barnes

The urban nuisance wildlife control industry is rapidly expanding. State wildlife resource agencies have primary responsibility for managing resident wildlife species; thus, while encouraging privatization of urban wildlife damage management, they must maintain oversight to ensure the well being of the wildlife resource. Because most nuisance wildlife control operators (NWCO) have only a high school diploma with little training in wildlife damage management, I propose guidelines to assist state wildlife agencies in managing this growing industry. A state committee should be formed with representation from the state wildlife agency, the Cooperative Extension Service, USDA APHIS Animal Damage Control, and the state NWCO association. This committee would develop licensing and training requirements. To be licensed, a NWCO would be required to take trapper education and basic nuisance wildlife control courses developed by the state committee. The Cooperative Extension Service would develop written materials and an open-book written examination. Licensing would be maintained by requiring continuing education hours. The committee would also dictate the types of information collected (species captured, disposition, location of relocated animals, etc.) and reported to the state wildlife agency.

Enhancing Shorebird Populations Through Predator Management

Janet L. Bucknall

Integrated wildlife programs that include predator management to benefit shorebirds are increasing throughout the U.S. The USDA APHIS Animal Damage Control Program works with other governmental agencies and the public to conduct predator management activities to benefit shorebirds in many coastal states. Some examples include: gull (*Larus argentatus* and *L. marinus*) management to protect piping plovers (*Charadrius vociferus*) in New York and predator management programs to benefit light-footed clapper rails (*Rallus longirostris*), California least terns (*Sterna antillarum*), and western snowy plovers (*C. alexandrinus*) in California. Successful management programs include harassment, avian predator reproduction control, and trapping to reduce negative impacts of predators on shorebirds. Predator management programs to benefit shorebirds may become more common as pressures increase on shorebirds and their habitats, and as people place increasing importance on conserving shorebirds. Integrated wildlife damage management programs optimize social and environmental benefits of shorebirds and predators.

Economics of Wildlife Damage Management

Guy Connolly

Wildlife damage management (WDM) has at least 3 economic dimensions: (1) amount or magnitude of wildlife damage to specific crops or resources, (2) WDM costs (expenditures for WDM actions and programs), and (3) WDM benefits (value of resources saved or amount of damage prevented by WDM). Of these 3 dimensions, WDM costs are easiest and WDM benefits are hardest to quantify. Cost:benefit ratios rarely are used to assess WDM actions or programs due to the difficulty of quantifying benefits, and probably should not be used because of the significant nonmonetary values associated with most WDM problems. In theory, the ideal WDM strategy for many problems would be to minimize the sum of (damage + WDM) costs. When governmental programs are involved in WDM, however, this approach rarely is taken because the costs of damage and WDM actions accrue to different segments of society.

Involving Communities in Wildlife Damage Management Decisions

Paul D. Curtis, Daniel J. Decker, and R. J. Stout

High white-tailed deer (*Odocoileus virginianus*) and Canada goose (*Branta canadensis*) densities have been associated with increased

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The Wildlife Society Abstracts

damage to motor vehicles, agricultural crops, ornamental plants, hobby gardens, and turfgrass. Problems have been particularly severe in suburban communities of New York and other northeastern states. Citizens' beliefs, experiences, interests, and concerns regarding wildlife are factors affecting their wildlife acceptance capacity (WAC). Different stakeholder groups in the same geographic location may have quite different WACs. To identify support for and concerns about potential wildlife management options, the New York State Department of Environmental Conservation and Cornell Cooperative Extension initiated Citizen Task Forces to obtain public input in a manner that would provide a forum for viewpoints of various stake holder groups affected by management actions. This public involvement process increased community understanding of wildlife management approaches and enhanced perceptions of wildlife agency professionalism and credibility, especially for those who did not have a strong opinion prior to the task force. Given potential controversies associated with managing wildlife in suburban landscapes, it is essential to have community involvement to muster political support, policy changes, and financial resources that may be needed to resolve human-wildlife conflicts.

Human Dimensions of Living With Wildlife— A Management Challenge for the 21st Century

Daniel J. Decker

A 21st century challenge—managing harmonious coexistence of people and wildlife in the face of diverse and strongly held public values regarding people-wildlife interactions. People are finding it increasingly difficult to share habitats with wildlife in our expanding cities and suburbs, as well as in the shrinking countryside. Solutions to people-wildlife conflicts are being demanded by stakeholders who hold diverse values, reflected in the breadth of their wildlife acceptance capacities. Concerns about wildlife range from nuisance to economic loss and threats to personal health and safety. Managers are expected to mitigate a wide spectrum of problems—nuisance impacts of Canada geese inhabiting golf courses; car accidents with deer; and human safety risks presented by mountain lions. Because of the complex human dimensions of such problems, many wildlife agencies are no longer simply receptive to unsolicited stakeholder input but are actively seeking such input through systematic inquiry; others have advanced to sophisticated public involvement processes for clarifying issues, negotiating weights for stakeholder values and finding acceptable solutions. Agency-sponsored public forums, stakeholder surveys, and citizen commitees have identified stakeholder beliefs and attitudes about the *problems*. But ideal *solutions* are evasive because the acceptability of potential management actions to solve a particular problem may vary from staunch support to complete rejection, reflecting the breadth of values about people-wildlife interactions held by stakeholders. Although the job may seem daunting, wildlife managers have been remarkably innovative in their approaches to resolving difficult people-wildlife problems, and their experience involving stakeholders has revealed clues to success. Undoubtedly, the challenge of "managing" stakeholder involvement in decision making will be a key responsibility of successful wildlife management in the 21st century.

To Kill or Not To Kill: The Science of Wildlife Population Management

Richard A. Dolbeer

It is presently fashionable to advocate nonlethal means of managing populations of wildlife species that conflict with people or other wildlife. However, there are many situations where population management through lethal control is the most efficient, cost-effective and humane means of resolving conflict situations. Repellents, exclusion, and relocation programs often only move problems from one locale to another in our increasingly crowded world. Reproductive control, even if feasible with yet-to-be registered products, is not practical for long-lived species with low annual reproductive rates. This presentation, using examples from the author's work with blackbirds, fruit bats, rats and gulls, explored the science of population management, showing where and why lethal control has and has not worked to solve real-world problems. Wildlife managers should not be afraid to recommend and implement lethal control programs to resolve wildlife conflict situation when 1) such programs are justified based on the population dynamics of the species, 2) alternate control methods are impractical or less efficient, and 3) the outcome can be monitored to evaluate the impact of killing on the target population and the conflict situation. Professional wildlife managers have an obligation to be leaders in making and defending decisions based on the science of wildlife management, and they betray their profession when they become followers of vacillating public opinion.

Australian Wants to Unleash Fatal Virus on Felines

Australian lawmaker Richard Evans wants Australia feline-free by 2020, according to an Associated Press article circulated in October. He called for unleashing a fatal virus on feral cats that roam the Outback, as well as a law requiring that pet cats be neutered so they can't breed and would eventually die out. Until that time, he recommends a cat registry and cat curfews be put in place.

Evans' proposals raised howls of protest from animal rights groups throughout Australia, as well as from the country's pet lovers. "I find it very hard to believe him seriously. He'd have to fight us all the way," said Nancy Iredale of the Cat Protection Society. The Royal Society for the Prevention of Cruelty to Animals called the plan for total eradication "outrageous and unnecessary," but allowed that cats should be controlled.

Some wildlife experts have backed Evans' plan. "I strongly support it," said Andrew Leys, of the New South Wales National Parks and Wildlife Service. "But I can never see it happening. The solution is to manage the population rather than eradicate it." Australian wildlife scientists have documented that feral cats kill significant number of Australian birds and native marsupials. Evans blames cats for the extinction of at least nine native species.

Cats were introduced to Australia 200 years ago by European settlers, and the country's cat population is now estimated at about 18 million—nearly equal to the human population. About one-third of Australian households own one or more cats, according to the Royal SPCA.

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