University of Nebraska - Lincoln
DigitalCommons@University of Nebraska - Lincoln

Wildlife Damage Management Conferences -- Proceedings | Wildlife Damage Management, Internet Center for

1-1-2005

Wildlife Master Volunteers: A Multi-County Approach to Resolving Human-Wildlife Conflicts

Daniel Einarsen
Natural Resources & Agriculture, Colorado State University Cooperative Extension, Arapahoe County, CO, USA

Tom Mason
Natural Resources and 4-H Youth Development, Colorado State University Cooperative Extension, Jefferson County, Golden, CO, USA

Deryl Waldren
4-H Youth, Livestock & Natural Resources, Colorado State University Cooperative Extension, Boulder County, Longmont, CO, USA

Ray T. Sterner
USDA, APHIS, Wildlife Services, National Wildlife Research Center, Fort Collins, CO, USA

Follow this and additional works at: http://digitalcommons.unl.edu/icwdm_wdmconfproc

Part of the Environmental Sciences Commons

Einarsen, Daniel; Mason, Tom; Waldren, Deryl; and Sterner, Ray T., "Wildlife Master Volunteers: A Multi-County Approach to Resolving Human-Wildlife Conflicts" (2005). *Wildlife Damage Management Conferences -- Proceedings.* Paper 137.
http://digitalcommons.unl.edu/icwdm_wdmconfproc/137

This Article is brought to you for free and open access by the Wildlife Damage Management, Internet Center for at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Wildlife Damage Management Conferences -- Proceedings by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

WILDLIFE MASTER VOLUNTEERS: A MULTI-COUNTY APPROACH TO RESOLVING HUMAN-WILDLIFE CONFLICTS

DANIEL L. EINARSEN, Natural Resources & Agriculture, Colorado State University Cooperative Extension, Arapahoe County, CO, USA
TOM MASON, Natural Resources and 4-H Youth Development, Colorado State University Cooperative Extension, Jefferson County, Golden, CO, USA
DERYL E. WALDREN, 4-H Youth, Livestock & Natural Resources, Colorado State University Cooperative Extension, Boulder County, Longmont, CO, USA
RAY T. STERNER, USDA, APHIS, Wildlife Services, National Wildlife Research Center, Fort Collins, CO, USA

Abstract: The Wildlife Master (WM) Program in Colorado was modeled after the highly successful Master Gardener volunteer program. In 10 highly populated suburban counties with large rural areas surrounding the Denver Metro Area, Colorado State University (CSU) Cooperative Extension Natural Resources agents train, supervise and manage these volunteers in the identification, referral, and resolution of wildlife damage issues. High quality, research-based training is provided by university faculty and other professionals in public health, animal damage control, wildlife management and animal behavior. Inquiries are responded to mainly via telephone. Calls by concerned residents are forwarded to WMs who provide general information about human-wildlife conflicts and possible ways to resolve complaints. Each volunteer serves a minimum of 14 days on phone duty annually, calling in from a remote location to a voice mail system from which phone messages can be conveniently retrieved. Response time per call is generally less than 24 hours. During 2004, more than 2,000 phone calls, e-mail messages and walk-in requests for assistance were fielded by 100 cooperative extension WMs. Calls fielded by volunteers in one county increased five-fold during the past five years, from 100 calls to over 500 calls annually. Valued at the rate of approximately $18.00 per volunteer hour, the leveraged value of each WM was about $450 in 2005, based on 25 hours of service and training. The estimated value of the program to Colorado in 2004 was over $45,000 of in-kind service, or about one full-time equivalent faculty member. This paper describes components of Colorado's WM Program, with guides to the set-up of similar programs in other states.

Key words: agriculture, Colorado, extension, human-wildlife conflict, natural resources, nuisance wildlife, urban wildlife, volunteer, wildlife damage, wildlife master.

Proceedings of the 11th Wildlife Damage Management Conference. (D.L. Nolte, K.F. Fagerstone, Eds). 2005.

INTRODUCTION

Increased suburban development, greater preservation of urban natural areas, public policies to enhance wetlands, and public feeding of wild animals are just a few of the causes of burgeoning human-wildlife conflicts in the United States (Conover, 2002). Examples of such wildlife issues include: predation of pets by foxes (*Vulpes vulpes*, *Urocyon cinereoargenteus*) and

coyotes (*Canis latrans*), lawn/sod damage by Canada geese (*Branta canadensis*), ornamental shrub damage by deer (*Odocoileus virginianus*, *O. hemionus*), depredation of vegetable gardens by blackbirds (*Agelaius phoeniceus*) and property damage by black bears (*Ursus americanus*), raccoons (*Procyon lotor*), squirrels (*Sciurus* spp., *Spermophilus* spp.), woodchucks (*Marmota monax*) and miscellaneous rodents (*Rattus rattus*, *R. norvegicus*, *Peromyscus maniculatus*). While yielding valuable wildlife viewing opportunities for the public (Berryman 1987; Kellert 1980), some wildlife populations pose contamination, damage, and nuisance problems to homeowners (Conover 1997, 2002, Messmer 2000). Thus, while Americans love wildlife, wildlife managers frequently are hearing "not in my back yard" (i.e., "NIMBY" effect)—or more accurately, "not [abundantly or destructively] in my back yard."

County cooperative extension agencies were formed as part of the land-grant college system in 1914 under the Smith-Lever Act. Initially, an agricultural agent was assigned to one or more counties in each state to aid farmers with technical information about agricultural production. Over time, however, the services of these agencies grew to encompass youth development, consumer and family education and other activities (e.g., 4-H programs, master gardener programs), mainly as statewide educational outreach functions of the land-grant colleges.

This paper describes key components of a cooperative extension program that provides technical information to citizens about human-wildlife conflicts. Designed after the successful Master Gardener volunteer model employed by land grant university extension programs across the nation, the WM program has developed standard procedures for the training of volunteers and the handling of complaints regarding wildlife damage and management.

WILDLIFE MASTERS PROGRAM

History

In 1987, the Wildlife Masters (WM) program was begun in Jefferson County, Colorado, by Cooperative Extension Natural Resources Agent Kurt Cunningham. It was patterned after the Master Gardener model and was comprised mainly of master gardeners. The Metro Denver Area was growing rapidly in all directions, with new housing developments expanding into rural and foothill areas. This growth resulted in the creation of homes in areas formerly occupied mainly by wildlife.

As the numbers of incoming phone calls to the local extension office increased due to emerging human-wildlife conflicts, volunteers were recruited to help handle the workload. A newsletter was first published in 1998 to inform agency personnel and volunteers of ongoing research in the field, and to enable them to stay current on wildlife-related issues. The volunteer program expanded to include two adjacent counties (Arapahoe and Park Counties) in 2000, and expansion continued through 2005 as the counties of Boulder, El Paso, Gilpin, Broomfield, Elbert, Adams and Weld were added.

Design and Purpose

The WM program is designed to provide high quality customer service to local residents who call a county cooperative extension office with a wildlife damage complaint or with a question on a topic such as zoonotic disease transmission, local ordinances, conflicts with neighbors that may be feeding or harassing wildlife, translocation of nuisance animals and the

legalities of using traps, poisons, firearms, etc.

The challenges caused by declines in fiscal budgets, reductions in personnel and changes in wildlife habitats due to urban sprawl have contributed to an increased need for trained volunteers to meet public demand for information on wildlife damage mitigation.

Denver area residents have found few readily available local governmental agencies prepared or eager to receive inquiries about nuisance wildlife issues. This situation provided a niche for the establishment of the WM program. Some clients, for example, have contacted cooperative extension and reported they could not obtain satisfactory assistance from other federal, state or local wildlife management agencies due to jurisdictional or organizational constraints. For example, governmental wildlife agencies typically do not publicize their willingness to respond to public inquiries about non-game wildlife such as rodents, birds or urban wildlife. Other clients have reported unsatisfactory experiences with paid commercial vendors that they didn't trust. Still other clients maintain a "do-it-yourself" approach to their property management and are simply looking for technical assistance from what they hope is an unbiased, trustworthy source.

WM volunteers have emerged as a respected source of information and technical assistance in a 10-county area of central Colorado during the past two decades. By conducting the WM program on a multi-county basis, extension field faculty, staff and volunteers have all benefited from joint training sessions, newsletters, educational activities, and the synergies of shared experience.

The ISOTURE Model[1]

Cooperative extension programs in Colorado subscribe to the ISOTURE model of volunteer administration. This acronym serves to identify the following concepts and actions required for conducting a volunteer program: Identification, Selection, Orientation, Training, Utilization, Recognition, and Evaluation. Each of the steps is described as follows:

Identification: the process of finding people who have the competence and attitudes essential to fill specific leadership positions. County extension faculty identify and recruit new and returning volunteers using news releases, contact lists, flyers, word of mouth, CSU websites, and county volunteer websites.

Selection: the process of studying volunteers and motivating them to fill selected positions. Each candidate submits an application that is screened by extension staff, and all candidates are interviewed, either in-person or by telephone.

Orientation: the process of orienting recruits in the role expected of the successful volunteer. Selected candidates are invited to join the CSU WM Program. New trainees receive a comprehensive two-day, 15-hour orientation and training. WMs receive a three-ring binder of subject matter information, a CD ROM of the same information, plus handouts, lectures, and PowerPoint presentations. This information prepares the trainee to successfully answer wildlife-conflict questions posed by the public in the Colorado counties.

Training: the process of stimulating and preparing volunteers to acquire knowledge and to develop attitudes and skills necessary to enable them to be successful in their leadership roles. Second-year returning WMs receive the same

[1] See: http://4h.wsu.edu/volntr/recruit/isoture.html ; http://www.fourh.umn.edu/staffonly/support/isoture/; http://4hweb.ext.colostate.edu/handbook/section1.pdf

orientation and training as first-year recruits. Third-year returning WMs are invited to the training, but are not required to attend. All WMs are required to attend two advanced training sessions during the year; those sessions are offered throughout Colorado.

Advanced WMs (beyond the second year) are only required to attend two advanced training sessions, but are always invited (not required) to attend the two-day orientation as a "refresher." Other options for the completion of advanced training credits include: community outreach in the form of providing educational seminars for school, homeowner or youth groups; researching or writing articles for the quarterly newsletter; coordinating advanced training sessions for other WMs; and working on a field wildlife habitat project.

The content of basic training sessions includes a lengthy segment devoted to procedures for handling the wildlife complaints, telephone courtesy, documentation and record keeping. This segment also provides introductions to human-wildlife conflicts and solutions, relevant state legislation, information about commercial products (e.g., repellents, rodenticides, fruit-tree netting, pesticide labels) and other selected topics. This "policy and procedures" training is conducted by county and/or state extension faculty and staff. Advanced sessions include field trips, hands-on workshops and seminars offering more in-depth information on wildlife species and other special topics. The continuing education of volunteers is integral to the WM program.

Advanced training sessions involve invited speakers consisting of faculty and specialists from university fisheries and wildlife departments, staff from U. S. government research centers, State division of wildlife offices, private/commercial wildlife control companies and other organizations with topical experts. Table 1 presents a selected list of basic and advanced training topics offered during the period 2000 through 2005.

Utilization: the process of providing the opportunity for volunteers to put acquired knowledge and skills into action in the most appropriate way, and providing them with opportunities to function in a supportive environment. Trained volunteers sign up for two or three weeks of telephone duty. Volunteers work from their homes/offices and call into a voice message box system to retrieve messages regarding wildlife inquiries.

Volunteers are instructed to respond to calls within 24 hours, although conflicts may not be resolved that quickly due to difficulties in the parties' being able to reach each other. WMs are encouraged to send information electronically whenever possible to save on postage costs and extension staff time. For clients without e-mail service, hard copies of the information are mailed by extension staff.

Additionally, volunteers are invited to write articles for any of the four annual issues of the CSU WM Newsletter. Counties may also design special projects for advanced WMs including working with municipalities and homeowner's associations to place information about the WM program in local bills and newsletters.

Recognition: the process of recognizing and rewarding sound volunteer performance. WMs are honored annually with completion certificates. In addition,

Table 1. Partial list of basic and advanced Wildlife Master training sessions offered during the period 2000 through 2005.

Representative Training Topics
<u>Basic Orientation</u>: Handling Public Concerns - Solutions, Resources, Fact Sheets, Paperwork (i.e., WM notebook, fact sheets, websites, agencies, reporting wildlife calls, advanced training and record keeping) Wildlife Conflict Resolution Part 1: Mitigation of Wildlife Damage Caused by Snakes, Bats, Voles, Mice/Rats, Ground Squirrels, Tree Squirrels and Pocket Gophers Wildlife Conflict Resolution Part 2: Mitigation of Wildlife Damage Caused by Deer, Elk, Coyote, Fox, Skunk, Rabbit, Porcupine, Prairie Dogs and Raccoons Wildlife Disease Issues: West Nile Virus, plague, Hantavirus, Balis Ascaris (round worms in raccoons) Wildlife Regulations—Handling, Capture, Relocation, Migratory Birds, Permits, State Laws and Regulations Chemical Registration Issues: Regulations, Requirements and Reading Labels on Registered Products <u>Advanced Sessions</u>: Geese Management and Social Behaviors of Several Common Colorado Rodents Humane Solutions to Wildlife Problems and Living with Wildlife The Fascinating Turtle Beavers –the Ultimate Dam Builders Endangered Species of Colorado – TBA Planning Principles to Enhance Wildlife Rodent Management for Homeowners Zoonotic Diseases as Bio-terrorism Agents Cougar, Bear and Lynx: Discussion on Ways to Minimize Encounters While Sharing Habitats and a Review of the Status of the Lynx Re-introduction Program Backyard Conservation Human - Wildlife Conflicts and Solutions - Top 10 Species - Latest Research Wildlife Habitat: Key to Attracting and Evicting Wildlife Colorado Laws & Regulations Being a CSU Volunteer and Risk Management Issues Managing Rodents In Colorado: Understanding Biology, Behavior and Regulatory Oversight Humane Solutions to Wildlife Conflicts: Philosophy, Methods, Tools, Ideas Biological, Behavioral and Pesticide Concepts in Wildlife Damage Management

many counties hold recognition events to thank the WMs and to promote for better communication among staff and volunteers.

Evaluation: the process of determining results of volunteer performance and providing volunteers useful feedback. The WM program is evaluated in several ways. At orientation and training, participants complete a comprehensive evaluation of the program. Results are summarized and shared within extension to better plan the following year's orientation and training.

All volunteer WMs are asked to complete an annual evaluation of the program, outlining strengths and weaknesses, and offering suggestions for improvements. In addition, some counties have conducted surveys of clients who use the CSU WM program, asking about their satisfaction with the program, how much information was known before and after the consultation, and if any of the volunteer's recommendations were adopted.

Program Operations

On a daily basis, requests for assistance in handling wildlife conflicts are fielded by county extension staff, principally the natural resources agent, who supervises from one to 26 WM volunteers. Due to the workload of the extension agent, most of the day-to-day calls are referred to a WM volunteer who is on call during the week. Each WM serves a minimum of two weeks on duty during the calendar year. A few WMs serve four or more weeks per year, depending on their interests and the needs of the county staff. WMs are authorized to retrieve calls from a remote site, using a password-protected voice mail system. Other referrals to WMs come from county animal control agencies, Colorado Division of Wildlife officers, and other agencies such as local health departments.

Volunteers complete a client inquiry/response form for each call. Weekly phone logs are submitted to the extension office and are forwarded to the extension natural resources agent for analysis of seasonal wildlife behaviors, and for a tally of the species counts and calls per week. Client follow-up surveys and evaluations are done via mail and telephone to monitor quality and consistency of information provided by volunteers to the public and to assess client satisfaction.

WMs are expected to provide a response within 24 hours of each telephone contact. Options and solutions for mitigating wildlife conflicts or damage are discussed over the telephone or via e-mail, and technical information for dealing with wildlife-human conflicts is disseminated. WMs rarely offer direct wildlife conflict intervention, and are not trained to conduct site visits, repairs or damage assessments, since their role is phone consultation rather than "field work." Typically, only indirect technical assistance is offered. Site visits, if requested by a client, are conducted by Extension Agents with user fees charged for cost recovery.

Acquisition of wildlife control supplies or equipment is left to the individual client. Repair work and installation of devices such as fencing or one-way doors are up to the client as well. A limited list of manufacturers and local vendors of wildlife products is available, but WMs are obligated to tell clients that cooperative extension is not sponsored by any business or vendor, and does not seek to endorse or discriminate against any particular product or service, unless research indicates that one method or product is superior to another, or a method or product simply doesn't work.

WMs often refer clients to other individuals or organizations in Colorado such as local wildlife rehabilitators or the

state herpetological society to assist clients in finding additional resources. Telephone lists of commercial nuisance wildlife control operators and other agencies within the area that could provide direct assistance to the homeowner/citizen are maintained for referral, although WMs are prohibited from endorsing a particular business, individual or website.

Volunteer Management Philosophy and Overview

WMs serve as a point of contact between the public and the state land-grant university. As such, they function as troubleshooters and advisors to those who are searching for answers, and to clients who feel they have been given the "runaround." The goal of the program is to match qualified, trained volunteers who possess people skills and wildlife savvy with curious, frustrated, or irritated clients who may remark, "I don't want to kill anything, I just want the critter(s) to leave my property alone, and I'm not sure where to begin."

To make the match between volunteer and client, WM volunteers are recruited and selected via word-of-mouth marketing, public news releases, website inquiries, and references from professionals in the field. The public is alerted to the existence and availability of the wildlife hotline via similar marketing methods. Potential volunteers are screened via an application and interview process. Many effective and respected volunteers come from the ranks of Master Gardeners or retired teachers. Volunteers are expected to value the needs of wildlife as well as people, and to be able to communicate professionally and effectively with the public.

During the selection process, if it appears that the potential volunteer only focuses on protecting wildlife to the exclusion of resolving human frustration, or doesn't express an interest in providing to clients a range of appropriate options based on research and common sense (e.g., eviction methods, exclusion techniques, use of repellents or traps, encouraging tolerance, discussing pros and cons of relocation, or describing lethal options), that person may not be a good fit for the program. The rationale is that some wildlife enthusiasts may lean to one extreme or the other along the continuum of human-animal perspectives. Such attitudes may cloud a person's judgment or unduly bias his or her answers. Hence, the WM program seeks to avoid volunteers who represent the ends of the spectrum characterized by either political activism for animal rights on the one end, or wanton extermination of nuisance animals on the other. Otherwise, the credibility of cooperative extension could be compromised, and advocacy one way or another could pose a liability.

Thus, WMs are expected to approach wildlife issues with a balanced perspective, regardless of personal conviction or affiliation. Volunteers are instructed to avoid recommending unproven home remedies and expressing strictly personal opinions when advising clients.

Interested applicants are invited to attend a fee-based intensive training program for two days. The enrollment fee in 2005 was $60 for new volunteers, and $22 for returning volunteers, to cover the expenses of training materials, speakers, meals, and overhead.

Upon completion of basic training, an open-book test is administered, with results and clarification of issues discussed between extension agents and volunteers on an individual basis. Final placement is based on test results, continued interest and mutual agreement.

Each WM commits to handling phone inquiries for a minimum of two weeks during the calendar year, and is

required to attend two additional approved advanced training sessions (approximately four hours), to complete the annual commitment to the program.

Year-end evaluations and satisfaction surveys are administered by county staff. The county agent may ask some WMs to volunteer for additional service. An annual volunteer-appreciation event is conducted by several county extension programs. At the recognition event, WMs enjoy a catered meal, receive certificates of completion, draw for door prizes, receive peer recognition, and join in celebrating the contributions of all volunteers.

PROGRAM EFFECTIVENESS

Client Feedback and Survey Results

Feedback from clients over a period of 18 years indicates a positive response to the WM program. As a result, not only has the WM program been valued enough to expand from one to 10 Colorado counties, but specialty training sessions are also being offered to small landowners, animal control officers, and district wildlife managers in the region. Valued at the rate of approximately $18.00 per volunteer hour, the leveraged value of each WM was about $450 in 2005, based on 25 hours of service and training. The estimated value of the program to Colorado in 2004 was over $45,000 of in-kind service, or about one full-time equivalent faculty member.

A feature story on the WM program appeared in the January-February 2002 issue of *Colorado Outdoors*, a bi-monthly publication of the Colorado Department of Natural Resources, Division of Wildlife (Young, 2002). The article presented a summary of the results of a customer satisfaction questionnaire. This survey by Jefferson County Cooperative Extension indicated that 92 per cent of callers followed the advice offered by WMs.

During the autumn of 2004, a second client-satisfaction survey (5-point Likert items) with 12 questions was sent to 133 clients who had requested technical assistance from 18 CSU Wildlife Masters serving in Boulder County, Colorado, during the year (those clients who had provided accurate mailing addresses). The survey and process were both approved through the CSU Internal Review Committee. Fifty surveys were returned (38%). Table 2 gives the survey questions, results and additional comments. A significant increase in the knowledge gained from the consultation with the WM was noted by clientele, improving from a 2.53 to a 3.85 mean. Forty-nine per cent of those surveyed adopted some of the WMs' recommendations.

Respondents reported a 4.35 mean item rating (5 point scale) for the confidence placed in the WM's ability or competence. Forty-four per cent of the respondents indicated property damages totaling $8,490.00 (mean reported value of property damage was $606; median loss was $500). Other callers described damage in verbal terms with comments such as: "loss of crops," "severe garden damage," "two mature evergreen bushes," or "emotional distress." Seventy-three per cent of the respondents lived in urban or suburban settings, while 27 per cent resided in rural settings, along the foothills or in the mountains.

Table 2. 2004 CSU Wildlife Master User Survey results and comments.

This survey was sent to 133 CSU Wildlife Master users in Boulder County from 2003 and 2004. These were users with usable addresses. A follow-up survey mailing was also done. Fifty surveys were returned for a 38% final return rate.

1. Overall, how would you rate your consultation? **1. – 0 45 responses** **2. – 2 197 points** **3. – 3 4.38 mean** **4. – 16** **5. – 24**	2. To what degree did the wildlife consultant treat you with respect and courtesy? **1. – 0 48 responses** **2. – 0 230 points** **3. – 1 4.79 mean** **4. – 8** **5. – 39**
3. How well do you feel the wildlife consultant understood your particular problem? **1. – 0 49 responses** **2. – 1 220 points** **3. – 3 4.49 mean** **4. – 16** **5. – 29**	4. To what extent did the wildlife consultant use terms that were easy to understand? **1. – 0 47 responses** **2. – 0 223 points** **3. – 1 4.75 mean** **4. – 10** **5. – 36**
5. How much confidence do you have in the wildlife consultant's ability or competence? **1. – 0 48 responses** **2. – 1 209 points** **3. – 4 4.35 mean** **4. – 20** **5. – 23**	6. Please list the name(s) of the animal(s) that your call concerned? • **Woodpeckers / Flickers – 3** • **Squirrels – 6** • **Voles 5; Moles 1; Mice – 3; Pack rat - 1** • **Bats - 2** • **Pocket Gophers – 1; Chipmunks - 1** • **Bear - 1** • **Raccoons- 10; Rabbits- 3** • **Garden Snake - 5** • **Deer - 1** • **Fox - 2** • **Birds/mosquitoes – 3; Geese – 1** • **Prairie Dogs - 3** • **Skunks – 2**
7. Rate your knowledge of this species and the problem you encountered before your Wildlife Master consultation. **1. – 12 47 responses** **2. – 10 119 points** **3. – 15 2.53 mean** **4. – 8** **5. – 2**	8. Rate your knowledge of this species and the problem you encountered after your Wildlife Master consultation. **1. – 1 48 responses** **2. – 0 185 points** **3. – 11 3.85 mean** **4. – 29** **5. – 7**

9. I live in the following type of community: urban - suburban - rural - mountainous - foothills **Urban – 16 – 31%** **Surburban – 22 – 42%** **Rural – 9 – 17%** **Mountainous – 3 – 6%** **Foothills – 2 – 4%**	10. I have adopted/used at least one of the Wildlife Master consultant's suggestions. **1. – 5 43 responses** **2. – 1 148 points** **3. – 16 3.44 mean (49% adopted some of the** **4. – 12 consultant's recommendations.)** **5. – 9**
11. Did your wildlife problem result in property damage? Yes No **Yes – 21 responses, 44%** **No – 27 responses, 56%** If YES, approximate dollar amount - **$8,490.00 total** • Loss of crops • Severe garden damage • Emotional Distress • Two mature evergreen bushes • $1,000.00 • $30.00 • $50.00 • $800.00 • $10.00 • $100.00 • $500.00 • $1,000.00 • $200.00 • $600.00 • $500.00 • $400.00 • $300.00 • $3,000.00	12. What prompted you to call Colorado State University Cooperative Extension? • Woodpeckers were attacking the sides of my house • Animal control suggested it • Conversation / advice from a friend (2x) • Referral from county/ city • No one else to call • Your specialty with creatures • I am aware of the services of the ext. service • I have used the Master Gardeners program for years- very satisfied. (2x) • Raccoons were eating all the grapes we grew on our trellis. We couldn't make them go away. They came every night. • We trust them • Robin digging in my garden, uprooting plants. • Trained as a Master Gardener, so was aware of the other services. (2x) • Needed additional information to keep raccoons away. • Recommended by McGuckin's Hardware. • Afraid of snakes. • I felt that they would have the most information. • Trying to solve an agricultural problem. • Wasn't sure how to control the problem with geese. They ended up leaving the property on their own. • Skunk considering residing under porch. • Directed through county agencies. • To avoid fox kept on coming back to dig under the front porch; to remove raccoons from the fire place. • Believe they are most likely to have people with knowledge and experience with my problem. • Best solution offered by another person, not you. Raccoon pooping on shed's roof – offended neighbor. • Hope that Extension was more adept at mammals than flora. • I have received good past information from them. • Tried to get an answer from five people whom I called. The phone number was given to me.

	• The place to go for this type of problem. • Free service. • Seemed like the logical thing to do. • No idea what to do about woodpecker damage. • Distraught over damage. • Previous experience with CSUCE was positive. • Had called before and received good information. • I feel yours is the only such information. • Boulder County gave me the phone number. • Looking for more suggestions on ways to discourage this particular spot to hang at night (sic). • Inquired friends who to call for help. • I have a Master Gardener certificate and knew the Extension Office as a resource.

Additional comments that were given.

- Wildlife consultant recommended hot sauce and/or mothballs to keep the squirrels from chewing the wiring under the hood of my vehicles. I tried the hot sauce first and they loved it! Ate all the rest of the cable they'd been chewing on. Then I tried the mothballs and they seemed to work. Let's research what's common to the wires that squirrels like.
- I was impressed with the professional way my problem with squirrels chewing on my tree was addressed. The mothballs worked great!
- I am still fighting the critters.
- We got very good advice to try using a water scarecrow. We didn't purchase any at the time, because growing season was over, but we'll buy one or two if the raccoons come back.
- We were impressed that they tried to help us by searching their records. Thank you!
- It was suggested I study and get an applicator's license which I did. The gas canisters from the Ag Department were not very effective, but the gas pellets (aluminum phosphide) were very effective.
- I no longer use the backyard since we cannot discourage the snakes from living there.
- I was very happy with the prompt and courteous and knowledgeable information I was given.
- Previous information from CSU on raccoons and treatment is similar for discouraging residency.
- There was no follow-up regarding my situation, and I believe that would have been the prudent way of dealing with my issue.
- I did nothing; problem soon disappeared. Extension agent calming.
- My experience with CSU about plants, trees has been dismal. Interns or whatever had no knowledge relating to any solution to my queries, e.g., pests, plants, diseases. The lack of interest was apparent. The squirrel expert knew his stuff and aided me.
- I think the trimming back of evergreen trees and adjacent evergreen bushes to allow a space for clean-up of clippings, etc. was a great help. This and other things were suggested (to me).
- I put food and water out for birds. The man next door thinks mosquitoes are hatching from the water. I talked to five city and county animal control persons. One person said city water contains chlorine and would kill larvae. What I tried to find out was which birds eat mosquitoes, and the estimated percentage of kill. Your man recommended the library. I spent about four hours going through bird books to no avail. Where can I find statistics on what birds eat? What insects?
- Agent tried very hard to find solutions. Appreciated the help.
- A raccoon damaged my new roof to get to the warmth. The money spent was a preventative measure (sheet metal reinforced area).

Volunteer Satisfaction and Retention Survey Results

Another measure of the impact of the WM program is a survey of the volunteers themselves and their responses to such questions as: "Why did you volunteer?," "What did you enjoy most?" and "How can customer service be improved?" The volunteer survey is administered at the end of each calendar year. Questions are pointed and generally open-ended; survey responses are treated as anonymous.

Table 3 is a copy of this survey, which was developed in Jefferson County and used extensively by the other participating counties. The results from the 2004 survey in Jefferson County indicated a high degree of WM satisfaction. A majority of WMs return to the program year after year, due to their enthusiasm for wildlife education and the satisfaction they receive from assisting clients. In Arapahoe County, the annual retention rate from has been over 60 per cent during the five years of the program (2000-2005). The retention rate in Jefferson County is roughly 85 per cent. Jefferson County still retains some active volunteers who were involved from the very beginning in 1987. Several current Jefferson WMs have served for over a decade.

One of most telling questions on the annual volunteer survey is Item 12: "Do you want to continue participating as a Wildlife Master?" As discussed, most volunteers responded "Yes." Those who responded "No" still tended to provide positive comments and suggestions as they moved on to other activities in life. Nevertheless, the service of all volunteers has been valuable to the extension program and beneficial to the taxpayers who supplied the funding. Volunteers who dropped out of the program did so for various reasons such as career changes, unmet expectations, or the desire to focus on outdoor habitat projects or classroom programs for elementary students. Other volunteers succumbed to boredom with telephone duty or failed to fulfill requirements of advanced training.

Liability Concerns

Due to their official appointment as volunteers who serve at the request of, and under the supervision of, State employees, WMs in Colorado are protected under the same liability law as staff and faculty. If, in the course of providing educational information to community clients, WMs stay within the bounds of published research results and provide information and options based on the educational materials provided by Colorado State University and other government agencies, they should not be held liable for acts of negligence or for providing misinformation. This legal status emphasizes the need for extension agents to provide up-to-date training to WMs and for WMs to incorporate this research and training information into the advice provided to clients.

Table 3. Wildlife Master Volunteer Survey Form.

Here's your chance to help improve the Wildlife Master program. We value your input so please take a moment to complete this form and mail it back to us in the self addressed, stamped envelope.

Cooperative Extension Mission Statement: Colorado State University Cooperative Extension is committed to implementing our land-grant University's outreach mission, which is to provide the public with access to knowledge that can improve their daily lives.

1. Why did you volunteer for CSUCE's Wildlife Master Program?
2. Has your volunteer experience met your expectations? Yes_____ No_____ Comment:
3. Did you receive the training, resources & support to complete your volunteer work?

   Yes_____No_____Comment:
4. I have participated in the following Wildlife Master activities (mark all that apply)

_____ Attendance at one or more of the quarterly meetings.

_____ Development of the WM display for the Jefferson County Fair.

_____ Staffed the WM booth at the Jefferson County Fair

_____ Contributed to the newsletter (article, photo, book review etc.)

_____ Attendance at one of the advanced training sessions listed in the newsletter.

_____ Attendance at a training session NOT listed in the newsletter.

_____ Worked with a local service group on wildlife issue(s)

_____ Other:_____

5. Did your volunteer service require more time than expected? Yes_____ No_____

Comment:

6. What do you consider the primary benefits of serving as a volunteer for Cooperative Extension?
7. What do you enjoy most about being a Wildlife Master?
8. What do you think we could have done better and how?
9. Please indicate the best times for you to attend advanced training sessions (1-3, 1=1st choice etc.)

Weekdays: _____Morning _____Afternoon _____Evening _____All day session

Weekends: _____Morning _____Afternoon _____All day session Other:_____

10. I would like to highlight the talents and knowledge of our volunteers. Would you be interested in teaching an advanced training session? _____Yes _____No (If yes, please call Nancy with expertise)
11. Do you have any topic, subject or venue ideas for advanced training sessions? Can you provide us with a name and phone number?
12. Do you want to continue participating as a Wildlife Master volunteer? Yes_____ No____

Comment:

13. I think customer service can be improved by:
14. Comments on expanding the program into cyber space (email inquiries).

START UP PROCEDURES FOR WM PROGRAMS

Sample copies of newsletters, application forms, surveys and other materials to be used in establishing a new WM program are also available for a nominal fee. Several websites contain information about human-wildlife conflicts or Wildlife Masters programs (Colorado State University 2005; USDA 2005; Jefferson County Agricultural Extension Services 2005; Boulder County Agricultural Extension Services 2005; Arapahoe County Cooperative Extension Natural Resources, 2005). These website addresses are:

1. Managing Conflicts with Wildlife – Colorado State University http://www.coopext.colostate.edu/wildlife/
2. USDA, APHIS, CO http://www.aphis.usda.gov/ws/statereports/colorado.html
3. Jefferson County Extension Natural Resources, Wildlife http://www.coopext.colostate.edu/jefferson/natural/index.htm
4. Boulder County Extension Natural Resources, Wildlifehttp://www.coopext.colostate.edu/boulder/Natural%20Resources/index.shtml
5. Arapahoe County Extension Natural Resources Wildlife http://www.coopext.colostate.edu/arapahoe/agri/wildlife/wildlifemgmt.html

Additionally, organizations or individuals interested in establishing a WM volunteer program may contact the authors of this paper for assistance.

ACKNOWLEDGMENTS

We thank James Gionfriddo, Craig Ramey and Kathleen Fagerstone for reviews of the manuscript.

LITERATURE CITED

ARAPAHOE COUNTY COOPERATIVE EXTENSION, NATURAL RESOURCES. 2005. Wildlife. 4 Apr., 2004, Sept. 6, 2005, <http://ww.coopext.colostate.edu/arapahoe/agri/wildlife/wildlifemgmt.html>.

BERRYMAN, J. H. 1987. Socioeconomic values of wildlife. Pages 5-11 *in* D.J. Decker and G.R. Goff, editors. Valuing wildlife: Economic and social perspectives. Westview Press, Boulder, CO, USA.

BOULDER COUNTY COOPERATIVE EXTENSION, NATURAL RESOURCES. 2005. Wildlife. 7 July, 2004, Sept. 6, 2005, <http://www.coopext.colostate.edu/boulder/Natural%20Resources/index.shtml>.

COLORADO STATE UNIVERSITY. 2005. Managing conflicts with wildlife. 28 Jan., 2003, Sept. 6, 2005, <http://www.coopext.colostate.edu/wildlife/>.

CONOVER, M. 1997. Wildlife management by metropolitan residents in the United States: Practices, perceptions, costs and values. Wildlife Society Bulletin 25:306-311.

_____. 2002. Resolving human-wildlife conflicts: The science of wildlife damage. Lewis Publishers, New York, NY, USA.

JEFFERSON COUNTY COOPERATIVE EXTENSION, NATURAL RESOURCES. 2005. Wildlife. 9 May, 2005, Sept. 6, 2005, <http://www.coopext.colostate.edu/jefferson/natural/index.htm>.

KELLERT, S. R. 1980. Contemporary values of wildlife in American society. Pages 31-59 *in* W.W. Shaw and E.H. Zube, editors. Wildlife values, U.S. Forest Service, Rocky Mountain Forest and Range Experiment Station, Instructional Service Report 1.

MESSMER, T. A. 2000. The emergence of human-wildlife conflict management: Turning challenges into opportunities. International Biodeterioration and Biodegradation 45:97-102.

YOUNG, C. 2002. Wildlife Masters help Colorado citizens make the right choices in solving wildlife conflicts. Colorado Outdoors 51(1):11-13.

USDA/ANIMAL PLANT HEALTH INSPECTION SERVICE. 2005. Wildlife Services—State of Colorado. Fiscal Year 2004, Sept. 6, 2005, <http://www.aphis.usda.gov/ws/statereports/colorado.html>.