

## **DEVELOPING A CURRICULUM FOR THE NUISANCE WILDLIFE CONTROL INDUSTRY IN NEW YORK**

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*Abstract:* The nuisance wildlife control industry continues to expand in New York State. Each year during the past 5 years, approximately 1,200-1,400 private Nuisance Wildlife Control Operators (NWCOs) were given authority to handle wildlife conflicts by the New York State Department of Environmental Conservation (DEC). These NWCOs were required to complete a trapper education course, and a personal interview or exam prior to obtaining a permit. The education and experience requirements for NWCOs varied by region in New York. The goals of this project were to: (1) develop a core curriculum for individuals who desired to handle nuisance wildlife and charge a fee for service, (2) standardize license requirements across the state, (3) enhance professionalism and training of individuals involved in the NWCO industry, and (4) develop a test bank of questions for administration of an examination. Existing educational programs from throughout the United States were reviewed for content and suitability in New York State. A core educational manual was developed by staff with Cornell University and a DEC review team. The curriculum will be piloted during 2003 in conjunction with legislative changes that mandate training for NWCOs in New York State.

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Public demand for wildlife control services is increasing in many parts of the United States. Concurrently, several state wildlife agencies are facing increased pressure and/or changes in conservation laws that mandate oversight of nuisance wildlife control operators (NWCOs). New York State Environmental Conservation Law (ECL) Section 11-0524 requires training and documented proficiency of all NWCOs who charge a fee for service starting in 2003. This paper describes the development of an educational curriculum designed to meet licensing and testing requirements for NWCOs in New York.

The curriculum provides comprehensive resources (approx. 250pp. manual), and is suited for both full- and part-time NWCOs. The goal was to maintain a diverse array of operators that could provide the many levels of service required by various publics. The curriculum was designed to enhance the skills and professionalism of both current and new license applicants. All NWCOs will be required to complete the training and take an exam. In addition, the training manual will be an excellent reference for DEC and Cooperative Extension staff who are interested in nuisance wildlife control.

## BRIEF SURVEY OF TRAINING PROGRAMS OF OTHER STATES AND ORGANIZATIONS

In proposing a model program for oversight of the nuisance wildlife control industry, Barnes (1997) recommended that training be required before a state wildlife agency issues a license. The National Animal Damage Control Association recently adopted a position statement that advocated the development of training curricula promoting consumer protection, humane treatment of animals, and effective and practical solutions to wildlife damage situations (Conover 2002). Within the nuisance wildlife control industry, opinions vary on the value of formal training for licensing and/or certification (Toth 1994, Miller 1996, Daniotti 1996, Zimmer 1997, Vantassel 2002, M. Dwyer, Critter Control, Inc., pers. comm.). States currently have a wide range of licensing requirements for nuisance wildlife control operators. Arizona (Sullivan 2000), Connecticut (Conn. DEP 1999), and North Carolina (Bromley 2002) have developed training curricula. In addition, Illinois (Hadidian 2002), Iowa (Hadidian 2002), and Pennsylvania require that NWCOs take written exams before a license is issued. Non-governmental organizations, notably the National Wildlife Control Operators Association (NWCOA) and Critter Control, Inc., have also developed training curricula.

## DECISIONS CONCERNING COURSE IMPLEMENTATION

In addition to the development of the training curriculum, other decisions concerning course implementation will need to be addressed. Who will teach the curriculum, and how will these trainers be trained? Typically, hunter safety and trapper education courses depend upon a corps of volunteer trainers. Until recently in New York State, issuance of a nuisance wildlife control license required attending a trapper education course. A frequent complaint of pest control companies was that the courses for trapper training were not offered frequently enough, possibly because of dependence on volunteer trainers, and the limited seasonal renewal of licenses each fall.

Other options for trainers include state agency and Cooperative Extension personnel. One possible model is the system utilized in many states for certifying pesticide applicators. Before an applicant can take the licensing exam, he or she needs to have had a 30-hour course with specific content. Anyone can host or teach such a course, but the course must have the prior approval of the state agency.

The training curriculum should provide the basic framework for handling nuisance wildlife conflicts. Details on dealing with the most frequent problem species (Braband 1990, Braband and Clark 1992, Barnes 1995, Curtis et al. 1995), such as tree squirrels (*Sciurus* spp.), raccoons (*Procyon lotor*), skunks (*Mephitis mephitis*), woodchucks (*Marmota monax*), and moles (*Scalopus aquaticus*, *Condylura cristata*, *Parascalops breweri*), should be included. However, control of damage by some species requires specialized knowledge, experience, and possibly additional state or federal permit authority. Examples include beavers (*Castor canadensis*), deer (*Odocoileus* spp.), geese (*Branta canadensis*), and gulls (*Larus*

spp.). Possibly, certification beyond the basic nuisance wildlife control license might be developed for individuals working with such species. This may involve the issuance of a special license by the state following completion of an advanced course. Alternatively, such certification could be separated from the official licensing procedure, and be administered by some other organization (such as NWCOA), if the course was acknowledged as valid by the state wildlife agency.

Barnes (1997) advocated mandatory continuing education in order for a nuisance wildlife control operator to keep his or her license. If a state decided that this was desirable, several decisions will need to be made. Often the questions addressed will be similar to those involved in the development of the basic training curriculum. What will be included in the structure and content of the continuing education program? Who will do the teaching? How will the program, including the maintenance of records, be administered? One possible approach draws again upon the licensing of certified pesticide applicators as a model. Agency staff or private individuals (Cooperative Extension, industry groups, consultants) may design and teach a course. In order for continuing education credits to be awarded, the course syllabus must first be evaluated by the state agency. Periodically, license holders submit proof (e.g., certificates) of fulfilling the continuing education requirements to the state agency.

Nuisance wildlife control operators are diverse in terms of their academic backgrounds. A large proportion has a high school degree (Barnes 1995), but many are also college educated, including degrees in wildlife biology and related fields. A formal degree should not be required for licensing. DEC will require that all NWCOs charging a fee for service complete the new curriculum and be required to take the exam. Academic training alone may not include the specialized equipment and field skills needed for nuisance wildlife control activities.

The state regulatory agency will need to decide what fees will be charged to the applicants. Barnes (1997) recommended that a state's regulatory program for NWCOs be self-supporting. Applicants could be required to purchase their own copies of the training manual. Fees might be charged for attending training (and continuing education) courses. These fees could be set by whoever teaches the course. Another fee might be charged for taking the licensing exam. Finally, all licensed wildlife control operators might be assessed an annual fee that supports the on-going administration of the program.

## **CURRICULUM FORMAT AND DESIGN**

Many factors influence the choice of format and design for training materials, including the agency's goals, the demographics and needs of the audiences, available resources, and production concerns. The following questions should prove helpful in guiding the planning of similar curricula in other states.

What are the goals of the curriculum? Is the intent primarily to explain the state regulations? To what degree will the manual focus on the tools and techniques of nuisance wildlife control? NWCOs in Connecticut receive a booklet (Conn. DEP 1999) describing the state agency's policies and procedures, which includes a series of wildlife fact sheets. This is supplemented by a training workshop during which nuisance wildlife control techniques are discussed. The

use of certain tools is demonstrated in the classroom. Curricula developed by Bromley (2002) and Sullivan (2000) include basic information about nuisance wildlife control methods.

What are the appropriate reading level, tone, and vocabulary for the curriculum's primary audience? This should reflect the level of academic training among NWCOs in the state, the length, breadth, and technical difficulty of the material, and the intended use of the publication. The DEC chose an 8-10<sup>th</sup> grade reading level for its training manual because at 250 pages, it is a long document that covers many topics and includes and much technical information (Curtis et al. 2003). To engage readers, an informal, conversational style was chosen.

During the initial planning of the agency's publication, it was helpful to envision other complementary educational materials that might build on this resource. We selected a format that will better support the future production of electronic training materials. The NYSDEC knew that it eventually wanted to offer print and online versions of the NWCO manual. Upon the advice of a web designer, the print version was organized with a repeating structure that would facilitate the development of the electronic version. Clear organization is crucial to online publications because web users will navigate the information in their own ways. Another early production decision that was influenced by the needs of the web version was the commitment to producing an index, which will suggest many natural links among the web pages. Photographs were scanned and saved in formats that would support both formats. To reduce production costs of the printed version, photographs will be reproduced in black and white. The website will include some of the same photographs in full-color.

In addition to producing multiple versions of the manual, it is possible that some sections will be used for different purposes as well. Wildlife agency or Cooperative Extension personnel may want to use the manual's species accounts as handouts during other training sessions (e.g., Master Gardener courses). If this is likely, a notebook design may facilitate these secondary uses because the pages can be easily removed and photocopied.

How often will the manual be revised? Will certain sections need updating more often than others? If that's the case, a notebook separated into sections that are numbered separately may be preferred. Only the chapters that needed revision would be reprinted, and changes in their length wouldn't affect the layout of the rest of the manual.

## **AN INTEGRATED WILDLIFE DAMAGE MANAGEMENT PHILOSOPHY**

The state regulatory agency will need to consider which nuisance wildlife control strategies it will promote in the curriculum. The integrated wildlife damage management (IWDM) philosophy used in New York supported the use of both lethal and non-lethal techniques. This was referred to as a "best practices" approach in the manual. Curtis et al. (2003) defined a "best practice" as an effective method for solving a nuisance wildlife problem that minimizes risks to the environment and promotes human safety and well-being. The overall decision-making strategy balances concerns about human safety; the humane treatment of wildlife; practicality; landowner rights; the protection of wildlife populations and habitats; and ethical, legal, financial, and aesthetic issues. The discussion of each control option addresses its advantages and disadvantages,

and suggests situations in which its use may be most appropriate—but the manual does not rank control options. Killing methods are grouped into “preferred” and “acceptable” methods for each of the species described in the manual. NWCOs are trained to use the IWDM decision-making strategy and encouraged to use best practices whenever feasible.

Another philosophical challenge arises from the choice of techniques that will be included in the curriculum. Will the agency actively discourage the use of certain methods, or simply exclude them from its training materials?

Several issues that affect nuisance wildlife control have not been well-studied, such as field euthanasia techniques for wildlife. This is an important topic that many state agencies may choose to address. If so, they will need to consider whether or not to include expert opinions in their training manuals. If anecdotal information is included, it’s important to identify it as such.

If no regulations direct the agency’s educational approach, will stakeholders from various groups be invited to participate in the development or review of the training curriculum? In developing the New York curriculum, we sought review comments from many knowledgeable individuals, university faculty, non-governmental organizations, industry representatives, health care professionals, and state and federal agencies. The massive volume of input received (one organization submitted 40 pages of typed comments) will strengthen the final publication.

## **ETHICAL CONSIDERATIONS**

Many of the potentially controversial issues involving nuisance wildlife control activities are ethical in nature. Training curricula need to promote ethical behavior by professional operators when interacting with people and animals (Patrick 1995, Vantassel 2000, Hadidian 2002). Many of the issues involved are not easy, either biologically or socially. “Hot button” topics include definitions of humaneness (Braband and Clark 1992), lethal control (Vantassel 2000, Hadidian 2002, Clark 2002), euthanasia (Schmidt 2000, Hadidian 2002, Clark 2002, Ludder et al. 1999, Bluett 2001), and animal relocation (Curtis et al. 1995, Vantassel 2000).

Carson (2002) stated that one of the distinguishing characteristics of a profession, in contrast to a trade union, is a Code of Ethics. NWCOA (Julien 2001) has a written code based on a model developed by Schmidt (1993). While not requiring that license applicants join NWCOA or a similar organization, the training materials encourage such membership and provide contact information.

## **SUMMARY**

Demands for NWCO services continue to increase while numbers of state wildlife agency personnel shrink due to retirements and budget cuts. State agencies are feeling continued pressure to provide and deliver educational courses for wildlife control operators. We anticipate that the NWCO curriculum developed in New York might serve as a model for other northeastern states.

To enhance delivery of the core content, we will be developing web-based teaching modules. If sufficient resources can be identified, we would like to add secure electronic testing capabilities to the web service. Because many NWCOs who require license renewal or application are working professionals, this is an

ideal setting for delivering course content via distance education technology. Students with access to a computer terminal can learn at their own pace during evenings and weekends. Course content could be provided on compact disc or via the internet.

Many aspects of nuisance wildlife control require hands-on activities and field experience. We encourage state and federal wildlife agencies to offer field workshops to strengthen the written curriculum. There is a potential role for Cooperative Extension educators, and private industry or organizations such as NWCOA, to offer periodic short-courses and workshops. With state agency approval of course content, these educational events could supplement licensing and continuing education needs for the industry.

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