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## **Enhancing Private Sector Wildlife Damage Management with a Comprehensive Curriculum**

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**ABSTRACT:** Wildlife agencies face the complex, often difficult, challenge of managing nuisance wildlife complaints. State agencies are under increasing pressure to provide better training for individuals in the private sector who provide such services. In July 2002, New York State (NYS) passed a law that mandated both training and documented proficiency for all nuisance wildlife control operators (NWCOS) who charge a fee for service. A team of NYS Department of Environmental Conservation (DEC) and Cornell Cooperative Extension (CCE) staff was organized to produce a curriculum and certification exams. The goals were to enhance the skills and professionalism of both current NWCOS and new license applicants, while maintaining a diverse array of operators that could provide the many levels of service required by various publics. Additionally, the training manual was designed to be a reference for DEC and CCE staff and others who are interested in nuisance wildlife control. The central philosophy of the manual was integrated wildlife damage management (IWDM), referred to as "best practices" in the manual. A best practice was defined as an effective method for solving a nuisance wildlife problem that minimizes risks to the environment and promotes human safety and well-being. Development of the curriculum (both hard copy and electronic versions) and the associated electronic test bank involved extensive and comprehensive research, reviews, and pilot testing. The curriculum and licensing examinations have been implemented in NYS, and the curriculum has won three different awards from state wildlife, extension, and stakeholder associations. Currently, a NWCO curriculum for the eastern United States is being developed, and it will provide a comprehensive, science-based, peer-reviewed training that satisfies stakeholder-identified needs. This regional curriculum fills an important gap that would otherwise likely be addressed by each state individually. The credibility of the training manual and certification exam will likely prove beneficial to NWCOS as the public becomes aware of this new process. The emphasis on best practices and the responsible treatment of wildlife will also resonate with the public.

**KEY WORDS:** best practices, integrated wildlife damage management, New York State, nuisance wildlife control operator, training curriculum

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### **INTRODUCTION**

The American public places a high value on wildlife, yet at the same time, wildlife may cause formidable and expensive problems. Public demand for wildlife control services has increased but government support for on-site assistance has not kept pace. Consequently, the commercial pest control industry is filling this need. Several state wildlife agencies are facing increasing public pressure to strengthen their oversight of this rapidly expanding industry.

### **NEW YORK EXPERIENCE**

#### **Background**

In the past, the New York State Department of Environmental Conservation (NYS DEC) has licensed private nuisance wildlife control operators (NWCOS) to trap and/or transport problem wildlife. Training requirements for obtaining a license varied throughout the state and usually consisted of taking the fur trappers course. In July 2002, a new law required training and documented proficiency of all NWCOS. A team of DEC and Cornell Cooperative Extension staff was organized to develop an educational curriculum to meet the licensing and testing

requirements. 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 a proficiency examination.

#### **Curriculum Development and Review**

Previously produced NWCO training materials and other resources from throughout the country were collected and evaluated. The NYS curriculum promotes integrated wildlife damage management (IWDM), which is referred to as "best practices" in the training manual. A best practice is an effective method for solving a nuisance wildlife problem that minimizes risks to the environment and promotes human safety and well-being.

More than 90 individuals from universities, state and federal wildlife agencies, the NWCO industry, animal welfare groups, and other non-governmental organizations reviewed the 280-page manual. An electronic version of the course was made available on the web (<http://wildlifecontrol.info> or [www.nwco.net](http://www.nwco.net)). The print

version was organized with a template that facilitated the development of the electronic version. Learning objectives were developed to guide the reader to the most important information in each chapter. An electronic test bank of 350 questions was developed under the supervision of an educational psychologist, Dr. William Altman, of Broome County Community College, Binghamton, NY. The questions were directly linked to the learning objectives in the manual.

### Curriculum Validation

The curriculum was validated with the help of over 170 volunteers (roughly equal numbers of NWCOs and DEC staff). The pre-determined passing rate for the exam was 80% of the multiple-choice questions correct. Among the NWCOs, the percentage who passed rose from 39% on the pre-test to 88% on the post-test, after 2 weeks of studying the manual. The non-NWCO sample showed a similar increase, from 39% to 89%. The average point gain was 12 points.

In addition, we asked the participants to fill out a survey. On a scale of 1-5, with "5" meaning "strongly agree," this is how they answered three crucial questions (statewide average):

<i>Was the test fair?</i>	4.2
<i>Did the manual teach you new information?</i>	4.4
<i>Will the manual be useful in your business?</i>	4.5

### Results to Date

The NYS DEC mailed a hard copy of the manual to all 1,000+ licensed NWCOs in the state. All current NWCOs were required to take and pass the exam in order to maintain their licenses. The first examinations were held throughout the state during summer 2004. Of the over 800 NWCOs who took the exam in 2004, 82% passed with a grade of 80 or higher, similar to the curriculum validation. By February 2006, 1,116 individuals had taken the exam, with a cumulative passing rate of 87%.

### REGIONAL CURRICULUM

During the 2002 Northeastern Fish and Wildlife Conference, 7 northeast state wildlife agencies expressed strong support for the development of a regional training curriculum for wildlife control operators. With funding from the Northeast Integrated Pest Management Center, the regional NWCO curriculum was developed. Geographical coverage is from Maine through North Carolina, west to (but not including) the Plains States.

Objectives of the regional curriculum include:

- Teach wildlife control operators in the Northeast the integrated pest management approach to wildlife damage management, promoting best practices to enhance the professional standards of the wildlife control industry.
- Strengthen interstate collaboration among wildlife agencies and stakeholders.
- Provide a comprehensive, scientifically based, peer-reviewed curriculum that satisfies a stakeholder-identified need, filling an important gap that would otherwise likely be addressed by each state individually.

Expected benefits of the regional curriculum are consistent educational requirements, better service by NWCOs, responsible treatment of wildlife, and a focus on IWDM that promotes long-term and preventative approaches to wildlife damage. Each state will need to develop the state regulations section for the curriculum, and possibly additional species descriptions. Currently, the revised curriculum has been submitted to a book publisher for layout and design. The anticipated publication date is fall 2006. The regional version will include a new test bank that could be adopted by any state.

### FUTURE POSSIBILITIES

States and organizations may choose to build upon the NWCO curriculum in a variety of ways. Possibilities include the individualization of instructional materials and "advanced" certification for specific species (e.g., beaver, coyotes, deer, etc.) that require specific skills or permits.

Many aspects of wildlife control require hands-on activities and field experience. There is a potential role for Cooperative Extension educators and private industry organizations to offer periodic short-courses and workshops to strengthen the educational value of a state's training program. Such a collaborative training approach has existed in Connecticut for nearly a decade between the Connecticut Department of Environmental Protection and the Connecticut NWCO association. Clemson University is offering a NWCO workshop based on this curriculum during March 14-15, 2006.

### SUMMARY

The credibility of well-researched and comprehensively reviewed training materials and associated licensing examinations will likely prove beneficial to NWCOs as the public becomes aware of this new process. The emphasis on best practices and the responsible treatment of wildlife will resonate with the public. The NYS NWCO curriculum has become a valuable reference resource for biologists, extension personnel, and others throughout the northeast and beyond.