

The National Wildlife Control Training Program: an evolution in wildlife damage management education for industry professionals

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Abstract: Managing wildlife and reducing damage in rural areas has traditionally been achieved by hunting and trapping problem species or by preventing animals from accessing crops and entering buildings. With urban sprawl, specialized tools and management approaches often are needed to reduce wildlife conflicts in developed landscapes. To address these issues, the private wildlife control industry has grown considerably during the past 2 decades. State wildlife agencies have regulatory authority and oversight of this industry, and there is an increasing trend toward licensing or certification of commercial wildlife control operators (WCOs). Regulations differ in every state, however, and no consistent standard for training WCOs exists. We developed the National Wildlife Control Training Program (NWCTP) to provide a uniform standard for demonstrating core competency and understanding of integrated wildlife damage management (IWDM) principles. The NWCTP includes modules on basic principles of IWDM, physical safety, wildlife diseases, site inspection, general control methods, trapping, exclusion, toxicants, animal handling, euthanasia, legal, and ethical issues, and professionalism. The NWCTP was designed to be easily adapted for use in any state or province, and we encourage wildlife agencies that lack training materials to adopt the NWCTP.

Key words: human–wildlife conflicts, integrated pest management, training, wildlife control, wildlife damage management

THE AMERICAN PUBLIC places a high value on wildlife; yet, at the same time, wildlife may cause challenging and expensive problems. Wildlife may damage property, threaten human health and safety, endanger native species and habitats, or become a nuisance. National estimates of the cost of wildlife damage to agriculture exceed \$1.5 billion annually, and similar losses were associated with accidents caused by collisions between wildlife and vehicles (Conover et al. 1995). In addition, wildlife can spread diseases to people, livestock, or pets, and nearly all segments of society are vulnerable to the negative impacts of wildlife.

Integrated pest management (IPM) is an approach to dealing with pest problems that transcends the “spray and pray” approach to dealing with insects, weeds, fungi, and other pests. It emphasizes an ecological approach to pest management “that focuses on long-term prevention of pests or their damage through a combination of techniques, such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties” (University of California–Davis

IPM Program 2015). Many definitions of IPM exist, all of which focus on holistic solutions to pest problems using cost-effective and environmentally-friendly methods to arrive at a management solution. We focus on the development of a new curriculum for wildlife control professionals that integrates principles used in both integrated wildlife damage management (IWDM) and IPM.

Integrated WDM uses the same ecologically-based, multi-method approach as IPM to solve human–wildlife conflicts. Key components of the IWDM framework include assessing the problem, choosing management options, determining costs (both economic and environmental), implementing a solution, preventing future problems, and evaluating outcomes. Successful practices are based on the best available information, which includes both scientific knowledge of wildlife species and field experiences of wildlife biologists and wildlife control operators (WCO). To become and remain a successful practice, a technique or method of damage prevention needs to be continually refined by time and experience.

Urban and suburban sprawl have put more people and wildlife in proximity, increasing the likelihood of negative interactions. Safety issues, exposure to zoonotic diseases, damage to buildings and landscapes, plant damage, and food spoilage are increasing. Traditionally, government agencies handled many of these conflicts (U.S. General Accounting Office 2001). While public demand for on-site wildlife management services has increased, agency support for on-site assistance has not kept pace. Professional WCOs who have the technical skills and experience to deal with problem wildlife are needed.

Brief history of the wildlife control profession

The commercial wildlife control industry seeks to provide professional and competent WCOs. The industry has increased dramatically in the last 2 decades (Braband and Clark 1992, Curtis et al. 1993), and has adopted the concept of a basic training program and a standard code of ethics (Schmidt 1993). The need for improved professionalism in the industry led to the development of the National Wildlife Control Operators Association. State wildlife resource agencies are facing increasing public pressure to strengthen their oversight of this expanding industry. Several states (e.g., New York, Delaware, Connecticut, and Oklahoma) have developed licensing and testing requirements for commercial WCOs. Most states lack training programs for wildlife control operators (WCOs), while several wildlife agencies either lack regulations or are in the process of developing regulations for this industry.

In proposing a model program for oversight of the wildlife control industry, Barnes (1997) recommended that state wildlife agencies require applicants to receive training before issuing a WCO license. A training curriculum should provide the basic framework for handling wildlife damage situations, including details on dealing with the most frequent problem species (Braband and Clark 1992, Curtis et al. 1993). The National Animal Damage Control Association (NADCA) 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 varied on the value of formal training for licensing or certification (Toth 1994, Daniotti 1996, Hadidian 2001, Julien 2001, Vantassel 2002). Wildlife-related conflicts or potential management actions often include complex ecological, financial, and social issues. Ethical questions are raised by controversial topics such as the definition of “humane” (Braband and Clark 1992), the justification for lethal control (Clark 2002), euthanasia (Schmidt 2000, Clark 2002), and animal translocation (Curtis et al. 1993). To promote an IPM approach for solving wildlife damage problems, a training curriculum must address these ethical concerns, as well as legal considerations and safety issues (Schmidt 1993, Patrick 1995).

Wildlife control operators have diverse educational backgrounds. A large proportion have a high school degree (Barnes 1995), but many also are college-educated with degrees in wildlife biology or related fields. Curtis et al. (2004) suggested that, when choosing an appropriate reading level, tone, and writing style, academic backgrounds be considered for this audience. The length and technical difficulty of the material also should influence these decisions. For example, the New York State Department of Environmental Conservation chose an eighth to tenth grade reading level, and an engaging, informal writing style for its 250-page training manual, which covered many topics and included a great deal of technical information (Curtis et al. 2004).

Developing a new basic training program

The National Wildlife Control Training Program (NWCTP) was developed in response to the ongoing need for a core set of basic educational materials to train beginning WCOs, no matter where they might be located in North America. The NWCTP was designed to be easily adapted for use in any state or province, and we encourage wildlife agencies that lack educational materials for WCOs to adopt the NWCTP. The emphasis of the curriculum is on solving problems and managing wildlife damage, not necessarily on killing and controlling wildlife. The NWCTP methodology is similar to an IPM approach for resolving human–wildlife conflicts. It has taken

decades of research and development to create the NWCTP.

The core of the NWCTP was based on the book *Best Practices for Nuisance Wildlife Control Operators: A Training Manual* (Curtis et al. 2004). This manual was funded by the New York State Department of Environmental Conservation and was partially supported by the New York State IPM Program. An IPM philosophy and IWDM approach were integrated into how WCOs should perform their job. All WCOs were encouraged to define clearly the wildlife problem and look for a solution that is minimally invasive, cost-effective, and long-term. An emphasis was placed on prevention and deterrence rather than just trapping and killing. Curtis et al. (2004) emphasized what they called a “best practice,” which at that time meant “an effective method for solving a nuisance wildlife problem that also minimizes risks to the environment and our health and well-being. This decision-making strategy balances concerns about safety; the humane treatment of wildlife; practicality; landowner rights; the protection of wildlife populations and habitats; and ethical, legal, financial, and aesthetic issues.” The manual emphasized using IPM approaches in an IWDM context.

Additionally, a second book, *Prevention and Control of Wildlife Damage* (Hygnstrom et al. 1994), provided the important research-based, biological and ecological information on dozens of common wildlife species that cause problems. This volume included information on wildlife identification, damage identification, economic costs, animal handling methods, and damage prevention and control techniques. Hygnstrom has been a leader in the field of IWDM and has pushed for language that moves away from the emphasis on pest or animal damage control. Rather than emphasize best practices, he advocates for the timely use of a variety of cost-effective, environmentally safe, and socially acceptable methods to reduce human–wildlife conflicts to a tolerable level.

These 2 books, woven together along with decades of field experience, are the basis of the NWCTP. The training program takes both novice and veteran WCOs through a series of topics that cover the basic principles of IWDM, physical safety, wildlife diseases, site inspection, general control methods, trapping, exclusion,

toxicants, animal handling, euthanasia, legal and ethical issues, and professionalism. Additional customized versions of the training program cover state-specific legal information and requirements to perform the services of a professional WCO. These books recommended practices based on the best available research for dealing with problem wildlife in an integrated, systems-based approach.

Maintaining and delivering the curriculum

Developing and managing the NWCTP has been a challenging task. It has required collaboration among land grant extension wildlife specialists; federal, state, and local government staff; and private organizations. The core of the educational program includes a web-based, learning management system for online training, and an e-commerce store for cost recovery and continued sustainability. The NWCTP also maintains a collaborative website for authors and agencies to work together, a public website to provide information to users, and a printed copy of the training program that can be distributed in book form (Curtis et al. 2015). The NWCTP book and training program have been reviewed and certified by the National Wildlife Control Operators Association and serve as the basis of the face-to-face training programs that have been offered at the annual National Pest Management Association Wildlife Expo. We acknowledge the regional IPM centers and universities that have provided support to make the project viable. Putting the training program together is one thing, keeping it going is another challenge.

Much more work needs to be done. An updated version of the NWCTP curriculum has just been released (Curtis et al. 2015), and a new version of the book *Prevention and Control of Wildlife Damage* is due out later in 2015. The Internet Center for Wildlife Damage Management (ICWDM), a web-based clearing house for wildlife damage management, is being edited and revised. After years of university stewardship, the NWCTP now has a hybrid private–university structure that allows it the autonomy to function as a business with the applied research credentials of a university.

We want to share our programmatic successes and challenges with other universities and

agencies that are trying to reach out to the public with online educational programs. Our curriculum and delivery methods have undergone several modifications in the last 5 years, and we expect more changes to come. We face constant demands to keep up with new technology and are in the process of moving much of our content to the Cloud. More information on the NWCTP can be found at <http://wildlifecontroltraining.com>, and we welcome comments and suggestions.

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RAJ SMITH retired after working for Cornell University for more than 30 years in the information technology profession. He has worked as a research librarian, career development specialist, and electronic designer of the Cornell Pest Management Guidelines. For the last 10 years, he has worked with Paul Curtis in the Department of Natural Resources producing wildlife damage



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