

# Busy Being Born: Embracing Change in Wildlife Damage Management

**JANET L. BUCKNALL**

Director, Eastern Region, USDA Animal and Plant Health Inspection Service, Wildlife Services, 4700 River Road, Riverdale, Maryland, 20737

Proceedings of the 17<sup>th</sup> Wildlife Damage Management Conference. (D. J. Morin, M. J. Cherry, Eds). 2017. Pp. 9-12.

---

In 1965, Bob Dylan released a song called “It’s Alright, Ma (I’m Only Bleeding)”, and it contained one of the decade’s most memorable lyrics – “He not busy being born is busy dying” (Dylan 1965). At the same time sobering and hopeful, the lyrics present purposeful rebirth as the salve for what otherwise would do us in. Wildlife damage management as a profession has been busy being born for decades. The work is bound to human values and communities, social and political priorities, scientific advancements, and landscape and wildlife population changes. Our profession cannot help but evolve.

The Public Trust Doctrine under the North American Model of Wildlife Conservation establishes that wildlife is owned by the public and that governments serve as trustees by managing the resource for the good of current and future generations. In 2010, The Wildlife Society (TWS) published a Technical Review of the Public Trust Doctrine and identified threats to it, including “Indifference to Wildlife” (Batcheller et al. 2010). Left unchecked, wildlife damage erodes public confidence in government and fosters indifference and devaluation of wildlife. Wildlife damage management optimizes public value of wildlife by addressing problems experienced by people - it is conservation at its best. Anchored by the Public Trust Doctrine,

wildlife damage management will continue to evolve amidst scientific discovery and social change. As professionals, our ability to embrace change in the areas of collaboration, agility, and diversity will guide our success or failure in building the future of our profession.

## **Collaboration**

Historically, wildlife damage management programs were funded and conducted with an agency and a recipient working together, and with minimal involvement of others. Gradually that changed. Collaboration among agencies and stakeholders is the foundation of wildlife damage management programs today. This is especially true for landscape level programs that cross jurisdictions and for which solutions involve a wide variety of approaches. Two such programs are those related to elimination of nutria in the Chesapeake Bay and feral swine damage management.

The Chesapeake Bay Nutria Eradication Project was initiated in 2002, and has removed nutria from more than 250,000 acres of tidal wetland. Operational work conducted primarily by USDA APHIS Wildlife Services (WS) encompasses an array of methods to remove nutria, and monitoring techniques, outreach, coordination, and communication. This Project is led by a Management Team

consisting of representatives from the U. S. Fish and Wildlife Service, WS, Maryland Department of Natural Resources, U. S. Geological Survey, and others. The effort is enhanced by support of its conservation partners. Hundreds of public and private landowners have allowed WS access and provided information essential to success.

The World Conservation Union has characterized feral swine as one of the “world’s worst invasive alien species.” The APHIS National Feral Swine Management Program’s Goal is to minimize damage associated with feral swine. The APHIS strategy is to provide resources and expertise at a national level, while allowing flexibility to manage operational activities from a local and state perspective. Beginning in 2015, APHIS personnel have worked collaboratively with other agencies at the international, federal, state, territorial, Native American Tribal, and local levels, and with private organizations and entities. At the onset of the program, the agency established a benchmark of collaboration: APHIS will seek partners in all aspects of feral swine damage management (USDA 2015).

### **Agility**

An agile wildlife damage management program thrives amidst change. Agile program managers accomplish success by constantly seeking new tools and by resisting “that’s the way we’ve always done it” thinking. Agility in wildlife damage management work today is evidenced by expansion of airport wildlife hazard management programs, emergence of genetic solutions, integration of economics, and increased use of social media. Agility is also shown in the cooperative APHIS WS rabies, feral swine, and nutria programs where resources are moved with solution accomplishment and new needs. Going forward, our agility and comfort with change

will determine our individual success and that of our organizations.

Airport wildlife hazard management has been developing since the 1950’s. Following a number of high profile crashes and Federal Aviation Administration regulatory developments, the field expanded rapidly in the 1970’s through the 1990’s, when operational wildlife hazard management programs were initiated at Atlantic City International Airport, John F. Kennedy International Airport, Chicago’s O’Hare International Airport., and Whiteman Air Force Base in Missouri. In 1998, WS assisted 193 airports and military airfields; by 2016 that number had increased to 853. Internationally, WS has conducted operational airport/airbase wildlife hazard work to other countries, including Iraq, Afghanistan and Kuwait.

Gene editing and other advances in biotechnology, including gene drives, gene silencing, and genotyping, could change how we understand damage situations and manage some wildlife damage conflicts. Genetic approaches are already assisting operational wildlife damage management work. The WS National Wildlife Research Center (NWRC) has developed an environmental DNA technique to detect swine presence through genetic markers in water. WS NWRC maintains a National Feral Swine Genetic Archive. Genetic technologies and this archive are helping WS better understand feral swine population dynamics and movements. This includes the genetic ancestry of feral swine populations and the origin of swine that seem to “pop up” where they are not expected. Genetics are used to identify source populations, and indicate whether the animals originated from domestic stock, transplants from other states, or natural range expansion from adjacent areas.

As transparency and accountability in public service increases, economics and new media-based communication with stakeholders have become integrated into wildlife damage management work. The WS NWRC brought on its first Research Economist in 2003; today the Economics Project consists of 5 Economists and a Human Dimensions specialist. While it remains critically important to document the basic economic impact of wildlife damage and costs of solutions, the development of more sophisticated economic models is essential to better characterize complex economic questions related to wildlife management. The Project's BioEcon model is used to integrate economic and biological information and estimate the benefits and costs associated with combinations of potential management actions. This model forecasts costs of management actions and can help managers determine the optimal mix of actions depending on project goals and budget constraints.

To communicate with stakeholders, agencies are now using social media, including YouTube, Facebook, FLIKR, and Twitter. APHIS' YouTube site contains videos and playlists related to rabies, feral swine, and airport wildlife hazard management, and more are being developed and planned for posting. Videos and GPS-data-based Story Maps can be profiled in tweets that lead Twitter users to other videos and presentations. These new media technologies reach more and different people than would print, television or radio.

Agile wildlife damage management programs, including APHIS/WS programs related to rabies, feral swine, and nutria, move effort across landscapes to where it is most needed. The WS National Rabies Management Program goal related to raccoon rabies is to first establish and maintain a barrier to the westward spread of the disease.

Operational efforts will move that barrier eastward until eventual elimination of raccoon rabies from North America. Towards that goal, the program's oral rabies vaccination (ORV) baits are delivered strategically along the ORV zone and as necessary where cases emerge that threaten short and long-term management objectives.

The APHIS Feral Swine Program is not like programs of the past where funding levels and effort remained static for decades. This program responds to local conditions and accomplishments within compressed time frames. In 2015 and 2016, feral swine have been eliminated from six states: ID, MD, NJ, NY, WA, and WI. The Agency will continue to monitor in these States to ensure feral swine are not reestablished. Further, the program will start shifting funding away from these areas that have achieved success towards other locales with solvable problems. Similarly, in the Chesapeake Bay, nutria project operations move through the phases of elimination of invasive species from specific areas: delimiting surveys, population reduction, verification and surveillance. The last nutria WS removed from the Chesapeake Bay was in May 2015. Now, APHIS is rotating the monitoring of six watersheds, covering 360,000 acres, annually to confirm elimination and prevent the re-infestation of the area.

### **Diversity**

Program and workforce diversity may evolve organically as collaboration and new approaches become the norm. Wildlife damage management programs now have many different components: economics, genetics, technological solutions for communication and field work, as well as new species/problem situations. As the need for wildlife damage management increases, opportunities for wildlife professionals with diverse expertise will grow. Our

responsibility is to get better at reaching out to a broad array of students and professionals to communicate the variety of wildlife damage management opportunities. TWS and Wildlife Damage Management Conference panels on wildlife careers will be important conversation starters to inspire interest in our profession. We must reach and hire people who share our public service and wildlife conservation values, and whose unique backgrounds, perspectives, and styles will bring diversity to strengthen our ranks.

We have an opportunity for legacy. By 2050, there will be an estimated 10 billion people on Earth, and there will be unprecedented pressure on the landscape and the agricultural community to feed people. Wildlife damage problems may become more severe and less tolerable as global demand for food increases. Across our organizations, collaboration will be the foundation of every important endeavor. Agility and diversity will allow our work to continue to remain relevant to society as change comes. By keeping busy being born and embracing change, we will become better stewards of wildlife resources and more effective mentors for the next generation of professionals.

## LITERATURE CITED

- Batcheller, G.R., M.C. Bambery, L. Bies, T. Decker, S. Dyke, D. Guynn, M. McEnroe, M. O'Brien, J.F. Organ, S.R.J. Riley, and G. Roehm. 2010. The Public Trust Doctrine: Implications for Wildlife Management and Conservation in the United States and Canada. The Wildlife Society Technical Review 10-01. The Wildlife Society, Bethesda, Maryland, USA.
- Dylan, B. 1965. It's Alright, Ma (I'm Only Bleeding). Copyright @ 1965 by Warner Bros. Inc.: renewed 1993 by Special Rider Music.

USDA (U.S. Department of Agriculture). 2015. Environmental Impact Statement, Feral swine damage management: A national approach. USDA, Animal and Plant Health Inspection Service, Wildlife Services, Fort Collins, CO.