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Author

Peacock, Anthony J.

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Advancing Vertebrate Pest Control on a Global Scale

Anthony J. Peacock

Invasive Animals Cooperative Research Centre, University of Canberra, Australian Capital Territory, Australia

ABSTRACT: Vertebrate pest animal control and research is a relatively small area of activity within the agricultural and environmental fields. However, it is critical for agricultural productivity and biodiversity. There is much to be gained by having vertebrate pest controllers and researchers collaborating worldwide. The critical mass achieved through collaboration will result in faster registration of new products, better implementation of new methods, and increased skills within vertebrate pest units. The plain fact is that vertebrate pest control involves the killing of animals, sometimes those with iconic status. Having the public, or even other scientists, recognize the need for animal control can be complicated because of people's natural concern for the welfare of animals. Those involved in the sector must become better advocates for the agricultural and biodiversity benefits of animal control. Although it is very uncomfortable for many scientists, they must face up to community dialogue in all its modern forms, and not simply rely on scientific reports and published papers speaking for themselves.

KEY WORDS: advocacy, animal welfare, biodiversity, collaboration, product development, skills training, vertebrate pests

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Published at Univ. of Calif., Davis. 2010. Pp. 2-4.

INTRODUCTION

Vertebrate pest control is vital for environmental and agricultural success in most countries, but there are some unique challenges in achieving due recognition amongst policymakers and the community. These challenges include the perception that vertebrate pests represent a "black hole" for funding, for both research and development and control itself. The fact that vertebrate pest control usually involves killing animals can mean that it is a difficult "cause" for policymakers to champion amongst other common, perhaps more publicly acceptable, environmental issues. The relatively small scale of the vertebrate pest sector leads to further challenges, including achieving a public profile, registering new products, skills training, attracting funding, and defending the sector.

Each of these challenges would be better met if vertebrate pest controllers and researchers worked on a global level to the greatest extent possible. As well as becoming better collaborators, vertebrate pest controllers and scientists need to become better communicators, engage more with the community in discussions about pest management, and become stronger advocates for pest management.

FACING UP TO A HARD ISSUE

Invasive species are one of the world's major environmental issues, most likely the major issue after climate change and habitat destruction. The cost of vertebrate pests to agriculture worldwide exceeds US\$1 billion per annum.

Virtually every country has a significant problem with vertebrate pests. The problem may be worse for some countries with exotic alien species, or for other countries with overabundant native species. Regardless of the status of the animals involved, the challenges are often the same:

- Monitoring and detection
- Limiting new invasions
- Gaining enough traction with authorities to take action
- Planning and deployment on an adequate scale
- Animal welfare concerns
- Cost effectiveness of action
- New product development
- Registration of new products and gaining permits
- Public perceptions

This paper examines the advantages of global cooperation in relation to some of the issues raised above. It is proposed that better outcomes may be achieved through more collaboration and learning from the experiences of others around the world.

MISTRUST OF SCIENCE AND GOVERNMENTS

Vertebrate pest controllers need to learn from recent debates in the world of science. Think of the debates involving climate change and evolution, for example. Many people would agree that scientists have not generally performed well in these debates. Scientists are trained to communicate in very measured ways with the peer reviewed publication as the industry standard. Publications may take years to be produced and are not an accessible means of communication for the general community.

The Internet has given any member of the community ready access to participate in scientific debate. Community members can do so quickly, without cost and often without ready access to all the facts. People don't have time to investigate facts at a scientific level and read background papers, but this does not prevent them from having a legitimate opinion on a matter of interest to them. Just like climate change and evolution, vertebrate pest control is of interest to many members of the

community. Scientists cannot simply ignore community opinion and questions, but we cannot answer in our particular language: answering a blog comment with scientific rebuttal is akin to responding to graffiti with a long letter to the editor – it simply misses the mark. We have to learn to engage with the community in such a way that we connect with them. For many scientists, this is distinctly beyond their comfort zone.

Dr. Randy Olson, marine biologist turned filmmaker, in his book *Don't Be Such A Scientist: Talking Substance in an Age of Style* (2009) advises that we must get much better at telling stories and being likable if we are to successfully engage the public. I agree. Dr. Olson tells us to not be so cerebral, so literal, such poor storytellers, and finally, not to be so unlikeable. He argues that our training as scientists makes it hard for us to be definitive, we tend to consider all the angles of an argument, and we often take a negative approach to things. In short, our training can make us unlikable and therefore untrustworthy, in a world already cynical about science and government. We need to recognize that scientific training does not necessarily leave us well prepared for winning public trust.

One current trend that is attempting to address this issue is to provide media training to Ph.D. candidates. I think this is a good idea, but there is a dangerous component to it: many training courses appear to be designed primarily for politicians or for those dealing with crisis management situations. Trainers tell us we must learn to get our three or four points across in an interview *regardless of the questions asked*. It goes like this: “Make sure they’re short answers, say 65 words, and if a difficult question is asked, give a short answer, say fifteen words, and reach back to the three or four points you’re determined to make. You **win** the interview if you get all your points across!” In my view, this type of training takes away spontaneity and interest, and it definitely does not result in the scientist appearing likable – what better way to lose trust than to fail to answer the questions asked?

My own approach would be to develop a dialogue with the interviewer or the audience, rather than giving a lecture. In my own experience, when I conduct a fortnightly half-hour *Feral Talkback* segment for local radio, my wife’s feedback goes in two ways: it worked well because you were engaging with the host, or you were in “professor mode” (bad). “Professor mode” means I was trying to get too much information across and educate my audience, rather than engage with them. People don’t like to be talked at. The political or crisis management training of scientists is very much in the “professor mode”. We have to be sufficiently confident in our subject to ease back on the lecturing.

Another issue that must be addressed is the ability to speak in public or to the media. Too many scientific organizations have very strict rules in relation to speaking to the media. Surely, the best way to break down trust is for a scientist to immediately put up barriers to speaking in public or to the media. Managers must become more confident that scientists can engage in discussions without fear of retribution. If it is impossible to allow scientists to speak freely, perhaps because it is a government

laboratory, for example, collaboration with an academic or an advocate is necessary. For example, at the time of writing there is considerable debate in the U.S. about the need to control Asian carp. Government employees are not free to express an opinion, but an academic from Notre Dame University, Dr. David Lodge, has been quoted extensively in the media saying “While we’re all talking, the fish are swimming”.

The failure of scientific organizations to delegate the authority to scientists to speak in public or to the media often results in only one side of the story being heard. Even a small delay in getting permission to speak can result in a lost opportunity with the media.

REDUCING THE TIME TO MARKET AND COST

Bringing new vertebrate pest control chemicals to market is time consuming and expensive. It has been over two decades since the introduction of the last predator control chemical.

In the human medicine research market, it is common for drug companies to collaborate closely with academic institutions in order to make significant progress. In the same way, vertebrate pest researchers cannot expect to make significant progress in small research groups; we must find the linkages that provide all the skills necessary. It is far too common for research groups to concentrate only on the identification of a new drug with possible benefits for pest control without bringing in the necessary chemical, commercial, scale-up, and regulatory skills. These skills are rarely found in one research group.

Including end users in research from the very early stage is recognized as one of the ways to reduce the time to market. But we often don’t do it because we don’t want to be seen to, or are not allowed to, “get into bed” with a commercial partner early in the process. Managers may want to competitively tender access to intellectual property at the end of a research phase, to meet government probity concerns. Unfortunately, this too often results in intellectual property that has not been adequately thought through from a commercial perspective, requiring reengineering and additional time before it reaches market.

Again, sharing our global experiences in this arena may give managers the confidence that the advantage of early commercial involvement in research outweighs the probity issues when such a small and distinct market is involved.

RESEARCH COLLABORATION

Global research collaboration has been practised by researchers for years in the vertebrate pest control sector. For example, a group of fertility control researchers has met biennially since 2001 on four occasions to compare data and cooperate on pushing for products to reach the market. The core participants have been the U.S. Department of Agriculture’s National Wildlife Research Center, the UK’s Food and Environmental Research Agency, New Zealand’s Landcare Research, and Australia’s Invasive Animals Cooperative Research Centre. However, other participants have joined in the meetings and discussions on occasion. A range of

technologies has been discussed and debated at the fertility control meetings, and a number of more formal collaborations resulted. For example, the USDA's GonaCon™ product has been tested on European wild boar in the UK and on tammar wallabies in Australia, while USDA has reported detailed results on white-tailed deer to collaborators.

In addition, there is no doubt that each of the core participants in this loose collaboration have come under funding pressure during the decade of working together. Having the collaboration in place has strengthened the case for continued support within each organisation. International collaboration is important and prestigious to managers, and they are less likely to cut support when an international partner is involved.

Progress can be significantly enhanced through collaboration. In some cases, it allows the conduct of trials to be increased beyond what would be possible in one country. For example, fertility trials on a seasonal-breeding animal can occur in both the northern and southern hemispheres. The addition of new partners can create a critical mass necessary to create momentum. As a sector, we should exchange Ph.D. students much more readily both to increase critical mass and provide better training.

INCREASING GLOBALISATION AND THE NEED FOR BETTER BIOSECURITY

To this point, it has been argued that increased cooperation and collaboration on vertebrate pest control would be helpful and would improve the rate of innovation worldwide. In this section, it is argued that improving cooperation is, in fact, necessary if we are to slow the spread of invasive vertebrates.

In general, discussion of the spread of invasive species is usually about insects or plants rather than vertebrate pests. Following European colonisation and the activities of acclimatization societies and the like, it is often assumed that the spread of vertebrates has halted, either because they have reached their full expansion potential or we have learnt the lessons of the past. Unfortunately, there continues to be a steady spread of vertebrates to new areas, and global action is needed if this is to be stopped.

The source of many new pests is the pet industry. Since World War II, virtually every pest fish in Australia has come from the aquarium industry. The U.S. is struggling with an attempt to limit further importation of python species that have become a significant pest, particularly in the Florida Everglades. These issues represent policy parallels that are worthy of discussion and collaboration, to avoid the pitfalls already experienced in one country. For example, in 2008 the Australian government made a decision to ban the importation of Savannah cats from the U.S. because of the potential environmental impact of serval genes entering in the feral cat population. This decision is likely to be taken into consideration in New Zealand, should a request be received for importation of Savannah cats into that country.

Pet industry associations can be very strong lobby groups. Commercial interests ensure that professional advocates are employed to maximize international trade

in exotic pets. The best predictor of whether a species will become invasive is whether it has done so already in another country. It therefore makes a lot of sense for close collaboration on this issue, to ensure that biosecurity concerns are adequately taken into account.

SUMMARY

Vertebrate pest control is too important to our biodiversity and our agriculture to suffer from misplaced public concerns or slow research progress. As a sector, we must become better at collaboration to address both issues. We also need better skills to communicate the importance of our work so that legitimate public concerns can be properly addressed.

LITERATURE CITED

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