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The Social Drivers of Invasive Animal Control

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Introduction

The most difficult part of wildlife management is the management of people, not
wildlife (Shaw 1985, p.1).

It is now widely accepted that an understanding of the human dimensions of wildlife
management is critical to the successful management of invasive species (Conover 2002). The
human dimensions of wildlife management can be defined as 'how people value wildlife, how
they want wildlife to be managed, and how they affect or are affected by wildlife and wildlife
management decisions' (Decker et al. 2001, p.3).

This is particularly important for the management of invasive species where there are often
conflicting views on what 'the problem' is and diverse opinions about how problems can be
solved.

This paper is based on a presentation made at the 2006 Invasive Animals CRC workshop in
Adelaide (26-27 July) and provides an overview of the research I have been involved in over
the last 10 years and its relevance to the theme of the workshop – social drivers of invasive
animal control. More specifically, it will address the following questions:

1. Are the perceptions held by wildlife managers always accurate?
2. How do public and stakeholder groups value wildlife?
3. Do different demographic groups have different opinions about wildlife and wildlife
   management approaches?
4. What lessons can we learn from one particular example of pest animal control?

1. Perceptions among wildlife managers

There is now a growing body of evidence to suggest that wildlife managers do not always
have accurate perceptions of the values and opinions of others, or even themselves (see for
example, Vining & Ebreo 1991; Siemer & Brown 1993).

During a series of interviews (n = 15) with Victorian wildlife managers in 1998, it became
clear that we often make assumptions about other people and that those assumptions are not
always consistent with reality (Miller & McGee 2001; Miller & McGee 2000b). For example, some
of the interviewees held a perception that members of voluntary conservation groups have a
lower factual knowledge of wildlife than managers. However, surveys of 13 different public (n =
639) and stakeholder groups (n = 792) revealed that some voluntary conservation groups have
higher levels of knowledge about wildlife than managers (see Miller & McGee 2001).

Another example of assumptions about stakeholders can be provided in a study that assessed
communication between licensed wildlife rehabilitators in New York and wildlife managers from
the New York State Department of Environmental Conservation’s Bureau of Wildlife (Siemer
& Brown 1993). Siemer and Brown’s study explored how rehabilitators and managers perceive
each other’s attitudes and values relating to wildlife management issues, and then compared
these perceptions with how each group actually views wildlife. The study identified a number
of areas where the perceptions each group held about the other group were inconsistent with
how each group actually views wildlife and wildlife issues. For example, wildlife rehabilitators
underestimated the strong wildlife-use orientation held by Bureau of Wildlife staff, even though
rehabilitators have direct contact with their staff. In addition, Bureau of Wildlife personnel
‘underestimated the importance rehabilitators placed on conservation of ecosystems’ (Siemer
Thus, it is important to recognise that perceptions are not always accurate and that human dimensions research is crucial in replacing ‘assumptions with knowledge for improved management decision making’ (Decker & Enck 1996, p.61).

2. Public and stakeholder values of wildlife

The surveys mentioned above give us some insight into the values and knowledge of wildlife held by Victorian residents. The study (Miller 2000) was designed to ‘measure’ the following values of wildlife within the Victorian population (Table 1).

Table 1. Values of wildlife (Miller and McGee 2000a; adapted from Kellert 1996).

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curiosity/learning/interacting</td>
<td>Interest in exploring, experiencing and learning about wildlife and nature.</td>
</tr>
<tr>
<td>Dominionistic/wildlife-consumption</td>
<td>Interest in controlling nature through consumptive wildlife activities.</td>
</tr>
<tr>
<td>Utilitarian-habitat</td>
<td>Interest in the practical value of the land.</td>
</tr>
<tr>
<td>Humanistic</td>
<td>Emotional attachment and love for animals.</td>
</tr>
<tr>
<td>Negativistic</td>
<td>Fear of wildlife.</td>
</tr>
<tr>
<td>Aesthetic</td>
<td>Interest in the physical appeal and beauty of wildlife and nature.</td>
</tr>
</tbody>
</table>

For each of the Victorian municipalities included in the study (three rural, three urban and one urban-fringe), survey respondents scored highest on the humanistic value scale; followed by the curiosity/learning/interacting value. The general public of Victoria tends not to express the negativistic, aesthetic, utilitarian-habitat and dominionistic/wildlife-consumption values (Miller 2003).

These results, together with other studies, suggest that people in Australia have strong emotional attachments to individual animals and have a high level of concern about the way in which animals are treated. The following findings illustrate this.

- Most survey respondents agreed with the statement ‘I consider myself a person who loves animals’ (86% general public) (Miller 2000).
- 91% of wildlife managers (see Miller & Jones 2005) agreed with the statement ‘Minimising animal pain and suffering should be an important consideration in wildlife programs in Australia’. This is significantly higher than the response from wildlife managers in the United States (57%; $\chi^2 = 58.4$, d.f. = 4, $P < 0.001$) (Brown et al., 1992).
- Most survey respondents agreed with the statement ‘Recreational hunting is cruel to animals’ (73% Bird Observers Club of Australia; 69% Field Naturalists Club of Victoria; 91% RSPCA; 74% Australian Conservation Foundation; 36% Parks Victoria; 7% Victorian Field and Game Association⁸; 63% general public) (Miller 2000).
- 71% of survey respondents in a survey of the Victorian population said ‘yes’ to ‘Do you have any pets?’ (Miller 2000).

⁸ Now Field and Game Australia.
Studies on invasive animal control also highlight the different perceptions that people have about invasive species. For example, a recent study on community attitudes and perceptions of wild horses in Victoria (Nimmo, Miller & Adams in prep.) found that 79% of respondents did not view wild horses as a pest species. The study also found that these perceptions were strongly tied to the level of support for the culling of wild horses and for different management techniques. Survey respondents \((n = 105)\) rejected helicopter shooting as a method of control, preferring immobilisation \((31\%)\) and mustering \((44\%)\).

3. Demographics and diversity

As highlighted above, different groups of people often have different perceptions of wildlife species and management techniques. Similarly, there are also differences between the demographic subsets within populations.

For example, many studies have found that females express the humanistic value more strongly and the dominionistic/wildlife-consumption value less strongly than males (Kellert & Berry 1987; Miller & McGee 2000a). Recent research suggests that some of these trends are relatively consistent across different populations and special interest groups, while others differ between groups. For example, male and female Australasian wildlife managers responded differently to some of the questions on a 2002 survey (Miller & Jones 2006), but the differences were only observed in the 18-30 year age category. Similarly, differences between males and females in the general population survey discussed above (Miller & McGee 2000a) were more likely to respond to survey questions differently in the rural and urban-fringe samples when compared with the urban samples.

This highlights the need for human dimensions studies for different locations and different wildlife management scenarios. Managers, researchers and educators must not assume that studies conducted elsewhere will provide the answers for the management of wildlife in an Australian context.

4. Urban possum management

Many of the social drivers relevant for invasive animal control can be seen in the case of urban possum management. It is widely known that possums, particularly the Common Brushtail Possum \((Trichosurus vulpecula)\), are considered to be pests in some parts of Australia. A study we conducted in one particular municipality in metropolitan Melbourne (Miller, Brown & Temby 1999) found that 33\% of survey respondents \((n = 142)\) held a negative view of possums – that is, that they are seen to be ‘nuisance/pest/vermin’. The study also found that many people think they have a possum problem, when they actually have a Black Rat problem \((Rattus rattus)\).

Current work is underway through Amy Whiting’s honours project at Deakin University to explore attitudes towards possums in 2006 and, more specifically, responses to the Victorian Living with Possums policy which was introduced in 1997.

Two small-scale studies in 1998 (Temby 1998) and 2002 (Picone & Miller 2002), revealed that many people are unaware of the details of this policy and that some people are responding to their possum problems using illegal practices.

This work again emphasises the importance of understanding the social dimensions of wildlife management issues. If the individuals affected by pest or invasive species do not define ‘the problem’ in the same way as managers, or if they do not understand how to solve the problem effectively, legally and humanely, then the problem may remain unresolved or more problems may arise.
Conclusions

This paper has discussed a number of recent studies that provide insight into the human dimensions of wildlife management in an Australian context. They suggest that, in any wildlife management scenario, there are a number of social drivers that will influence the decisions made and the effectiveness of management approaches. The following list, though not exhaustive, summarises some of the drivers that are relevant for the control and management of species considered to be invasive:

- Attitudes and values of wildlife and wildlife management approaches
- Awareness and knowledge
- Perceptions of the severity of the problem
- Demographic profile of special interest groups and communities
- Assumptions about the responses and values of others
- Communication between stakeholders and communities

References


