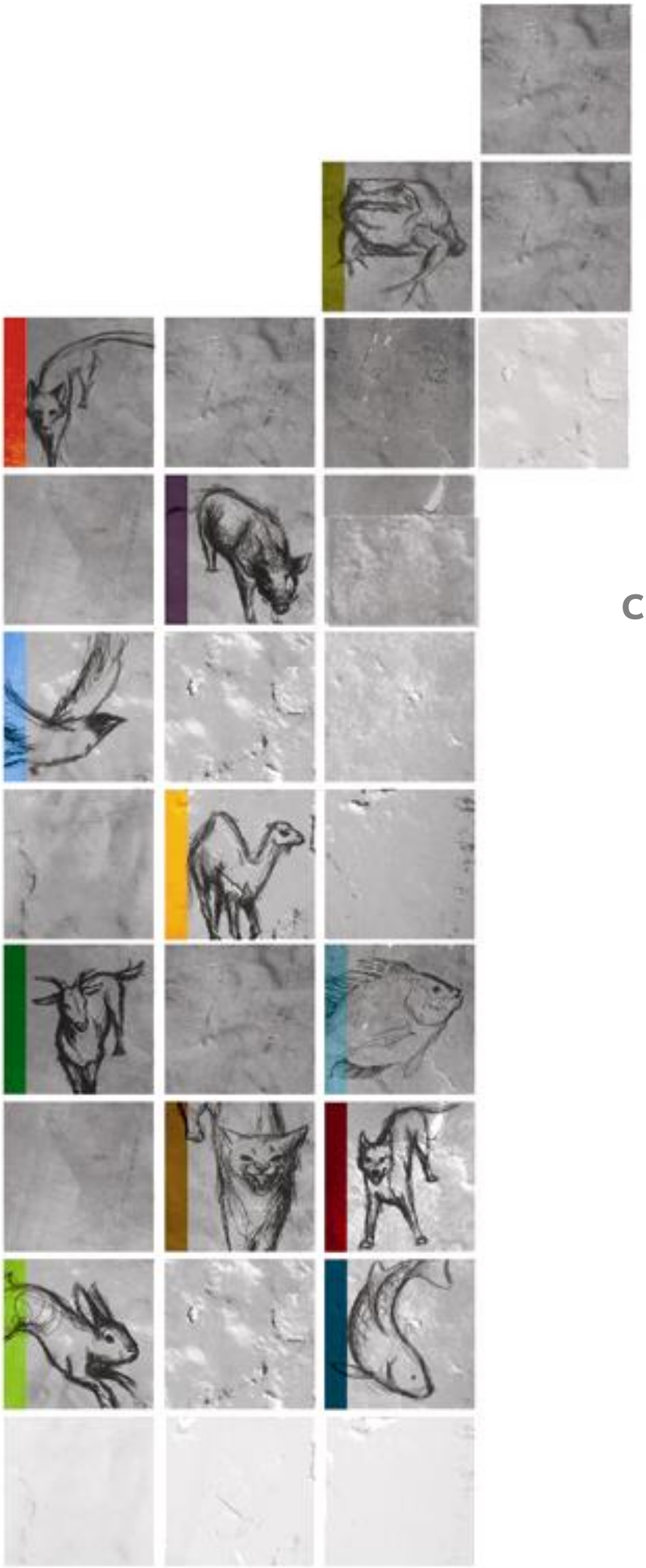


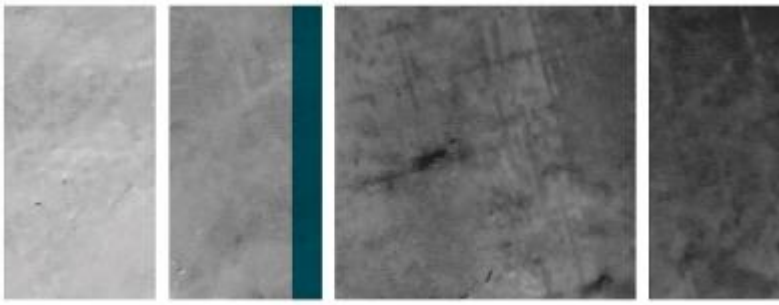
PESTSMART

Understanding the capacity of NRMs to manage invasive animal impacts:

Results from the 2013 National NRM Survey

Jessica Marsh & Annette Brown

Invasive Animals CRC



Understanding the capacity of NRMs to manage invasive animal impacts:

Results from the 2013 National NRM Survey

By Jessica Marsh and Annette Brown

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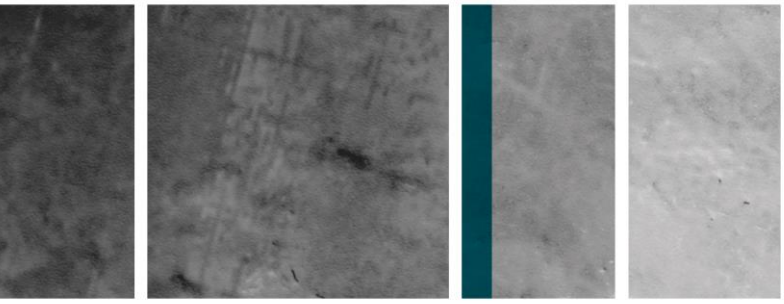
2013

An IA CRC Project



Summaries of discussions held at the National Feral Cat Management Workshop are included in these proceedings to provide addition information on issues raised by participants. These summaries have been edited for brevity, to avoid repetition or where comments were unclear. In some instances, attribution may be incorrect. The reader is advised that individual participants and their organisations have not endorsed the views expressed.

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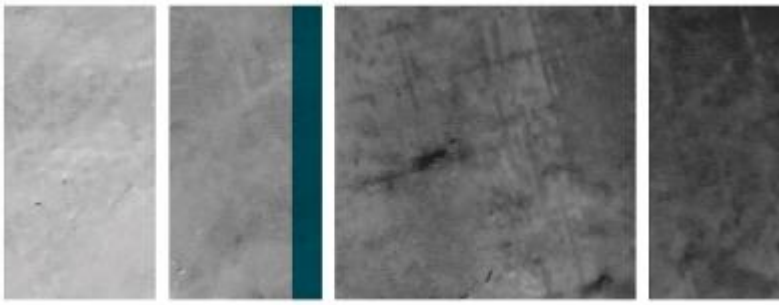

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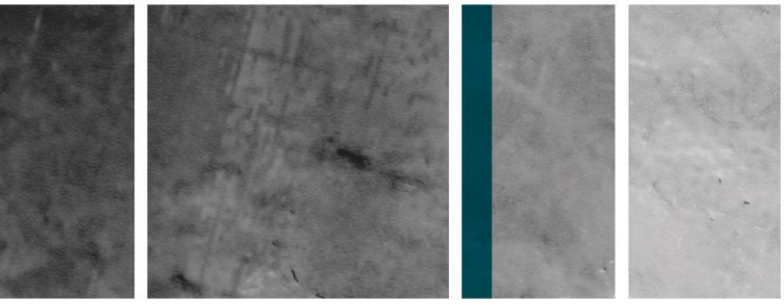
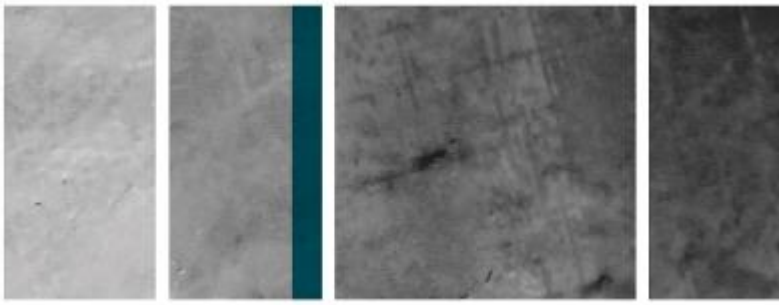




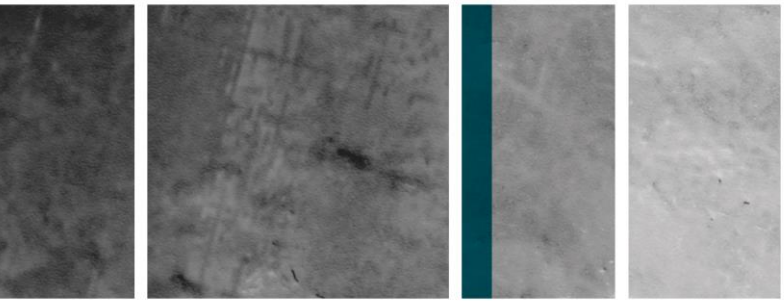
Introduction

Why are we doing the Survey?

As part of an Australian Government initiative, a network of 56 Natural Resource Management (NRM) regions was established across Australia in 2004. The NRM regional agencies (or NRMs), which operate differently in each State and Territory, are all responsible for the delivery of various government environmental and NRM programs under the auspices of the Australian Government Caring for our Country program. Over the course of their development, the NRMs have sought ad hoc advice and assistance from the Invasive Animals Cooperative Research Centre (IA CRC) on how to effectively manage pest animals in order to meet their strategic goals and regional targets. The need for better interaction and coordination on pest management with the NRMs and other important stakeholder groups led to the establishment of the NRM Liaison and Engagement project (referred to as 'the NRM project').

Regional capacity to deal with pest issues can be significantly increased through greater awareness of relevant natural resource issues and threats, increased knowledge of management techniques and skills in planning, implementation and monitoring as well as regular communication and dialogue across the NRM sector. The NRM project aims to provide specialist support to the NRM regions and other land managers via the National NRM Facilitator role and targeted capacity building activities, to help develop the knowledge and skills required to counteract the impacts of pest animals on agricultural production and biodiversity. The project brings public and private land managers together to adopt an integrated approach towards reducing the impacts of invasive animals using best practice management techniques, producing better long-term outcomes for all stakeholders and Australia's natural resources.

In order to ensure the NRM project is meeting the needs and expectations of its target audience, we surveyed staff responsible for pest animal management in each of the 54 NRM regions. The National NRM Survey (hereafter, the 'NRM Survey') was designed to collect regional NRM staff thoughts, needs and issues regarding pest animal management information and expertise.



Methods

How did we do it?

The NRM Survey was first run in 2011 as a series of phone interviews with key NRM staff using a semi-randomised approach, in an attempt to determine the level of knowledge, skills and overall capacity of the NRMs to effectively manage invasive animal issues. In this study, we qualitatively analyse an online survey of a sample of NRM staff to identify areas where their capacities for the management of invasive animals could be improved.

Using the questions asked during the 2011 survey as a reference point, an online survey questionnaire was designed using Survey Monkey software. Respondents from the 2011 survey and other known pest animal staff from the 54 NRM organisations throughout Australia were contacted via email about the online survey, with 55 people from 49 of the regions opting to participate by accessing the survey using the link provided. Respondents from each of the NRMs were asked about:

- Their personal details, job role and general responsibilities
- Pest animals and their work
- Their organisation
- Any specific feedback (e.g. about pest animal issues or the NRM Facilitator's role).

Survey questions were designed to identify the following underlying themes:

- Perceived issues and barriers to effective pest animal management
- Sources of information on pest animals and media preferences
- Ways to improve pest animal management and engagement between the IA CRC and the regions, and among NRM bodies.

The online survey responses were recorded and exported into Microsoft Excel. Data was qualitatively analysed to reveal common responses and contrasts between organisations and States and Territories.

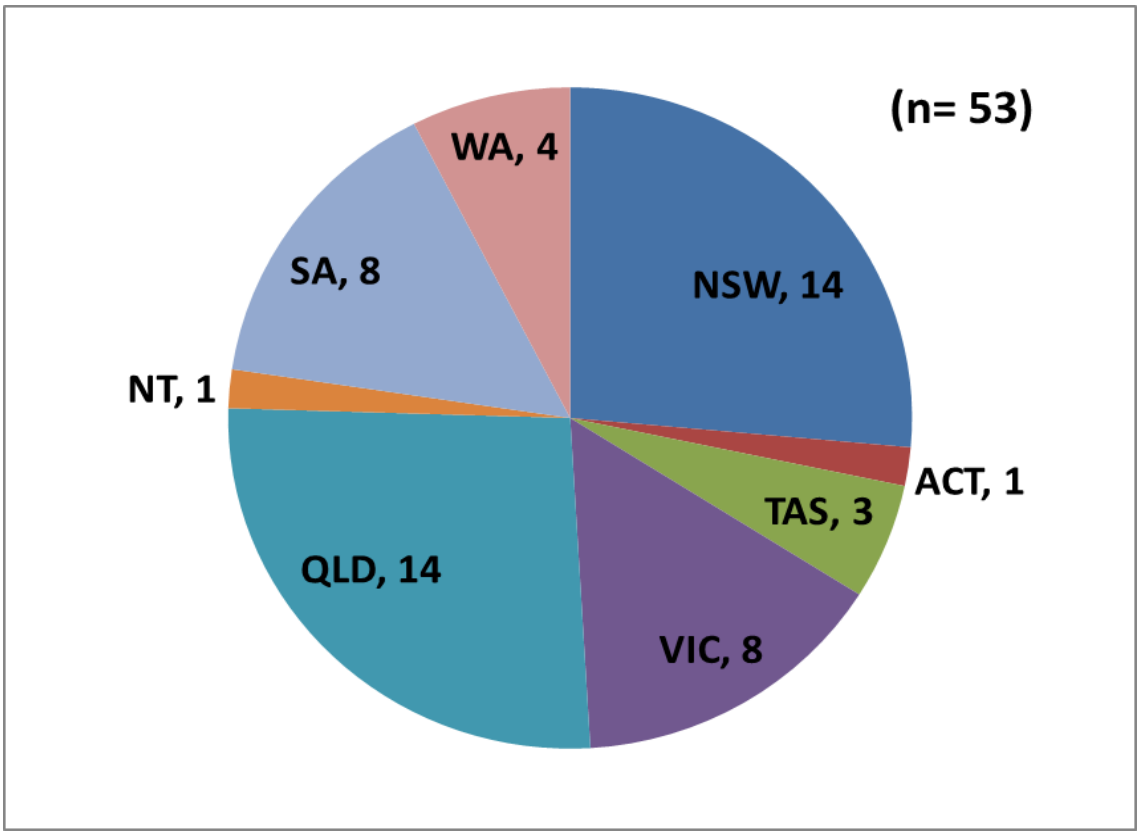
Results

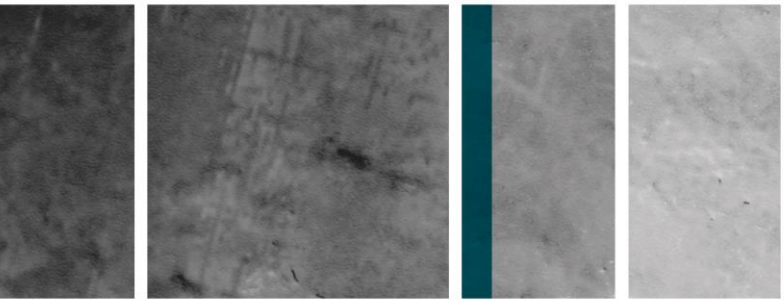
What did we find out?

A total of 56 people participated in the survey from 49 of the 54 NRM regions across Australia. Two respondents did not enter any valid responses and therefore could not be included in the results. Responses from two staff from one of the NRM agencies in Tasmania were aggregated to form a single response, as one of the respondents was a new employee and did not feel experienced enough to provide an accurate response on behalf of the region. The survey team encountered major difficulties in identifying a staff member responsible for pest animal management or related projects at several of the NRM agencies. Out of 56 NRM staff surveyed in 2011, 23 were no longer in the role and/or did not choose to participate in the current survey.

Half of all respondents were from New South Wales and Queensland-based NRM agencies, with 14 staff participating from each state (see Figure 1). There were no respondents from Torres Strait NRM, Perth NRM, Corangamite CMA or Glenelg Hopkins CMA.

Figure 1: Location of respondents by state and territory.





Respondents had a combined average of around 4 years of experience in their current job roles. A range of job roles were represented in the survey including senior managers/executive (10 out of 56), Project Managers (15 out of 56), Catchment Officers (6 out of 56), Invasive Species Officer (3), Authorised Pest Officer (2) and Regional Landcare Facilitator (1). The remainder of respondents identified their job role as 'Other', with specifications such as Team Leader, Biodiversity Manager, Biodiversity Coordinator and Biodiversity Officer.

Perceived issues and barriers to effective pest animal management

The majority of respondents (48 out of 53) agreed that land and water degradation caused by pest animals is considered a big problem in their catchment. Most respondents (47 out of 53) also agreed that their organisation considers pest animals a high priority for work and allocation of funding. However only 11 out of 53 respondents agreed that their NRM organisation has adequate funding to address pest animal issues, and even fewer respondents (9 out of 53) claimed to have a workload that is more than 80% dedicated to pest animals. More than half of all respondents claim that they personally have adequate skills, knowledge and training in pest animal management (34 out of 53), or that there were staff within their organisation with adequate skills, knowledge and training to address pest animal problems (38 out of 53).

According to most respondents, funding was the most important factor influencing the capacity of regional staff – and their organisations – to better manage pest animals. All respondents were aware of the availability of Caring for our Country (CFOC) funding and the Biodiversity Fund, while only a third were aware of Community Landcare Grants and even less were aware of other funding sources such as the Carbon Farming Initiative (CFI) and state government NRM funding. The majority of respondents (40 out of 53) said they used CFOC funding for pest animal projects. All regions except ACT said they were applying or would be applying for additional funding in 2013 to carry out NRM projects, with all of these applications involving an aspect of pest animal management. Only 20% of respondents were directly responsible for applying for funding.

The extent of pest problems, availability of skilled labour (including project managers and staff), and available time frame were listed as other major factors affecting ability of NRM organisations to achieve their pest animal related goals or targets. Respondents said training, greater access to pest experts, longer job contracts, and having skilled staff and ongoing support from external staff would help improve individual staff capacity to do their job of managing pests better.

Sources of information and preferences

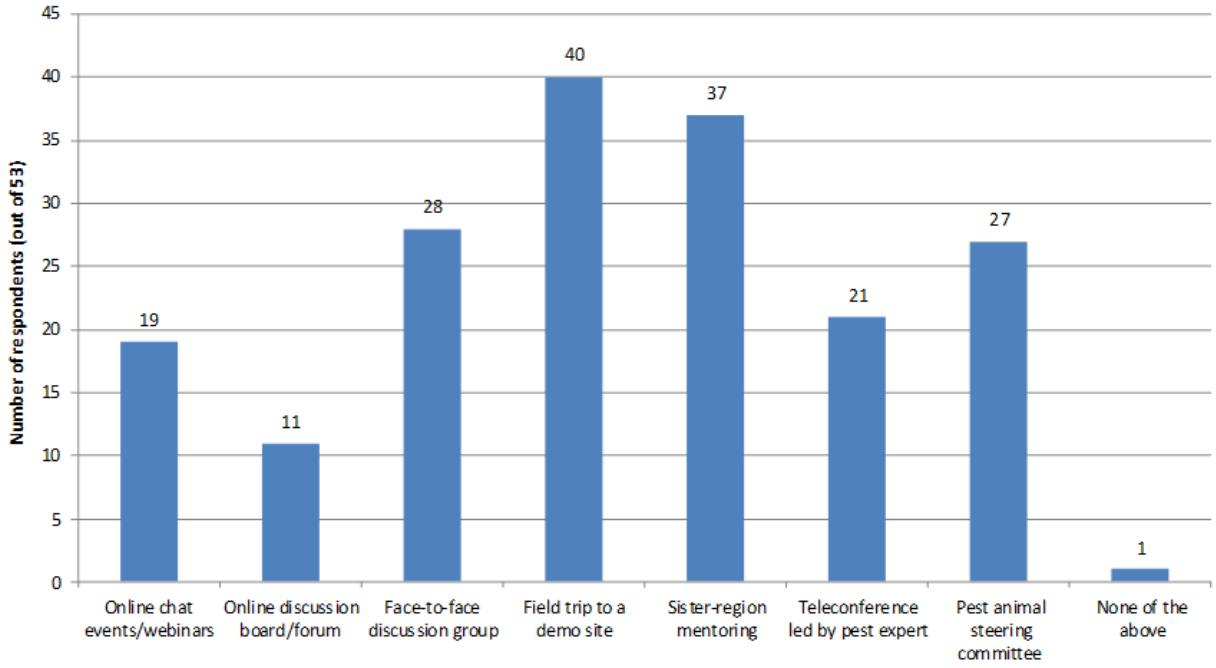
More than 70% of respondents listed farmers and community members as a key source of pest animal information. Primary information providers were research institutions, the feral.org.au website, other NRM agencies and IA CRC facilitators. However 90% of respondents stated that their state government agricultural and/or environmental departments were the most frequently used source of pest animal expertise.

Newsletters as attachments to email and e-newsletters were the most preferred way to

receive pest animal information however only about two-thirds of all respondents are subscribers to IA CRC e-newsletters NRM Notes and Feral Flyer (34 and 33 out of 53 respectively). Respondents also favoured the more traditional methods of information gathering such as one-on-one advice and seminars, workshops and conferences. Formal or informal training courses, websites, mail and social media were also listed as other sources of information.

Most respondents (40 out of 53) said that they would participate in a field trip to a demonstration site to learn more about pest management if it was available in their region. Many also expressed an interest in participating in sister-region mentoring with another NRM region (37 out of 53) or a steering committee with a pest animal focus (27 out of 53). Face-to-face discussion groups, teleconferences and online discussions or events were less favourable among respondents.

Figure 2: Preferred activities for sharing knowledge about pest animal management.



Survey respondents also raised some specific issues they wanted help with, such as:

- Ways to improve or change community attitudes towards pest animals
- How to increase participation in pest animal management
- Better ways to share ideas and information
- Tools and strategies to measure pest animal impacts, to help with prioritisation
- Educating senior managers, policy makers and local government about best practice pest management and the need for long-term planning, funding and landscape-scale coordination.

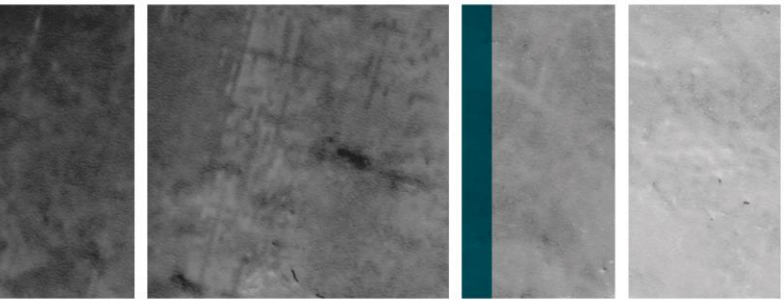
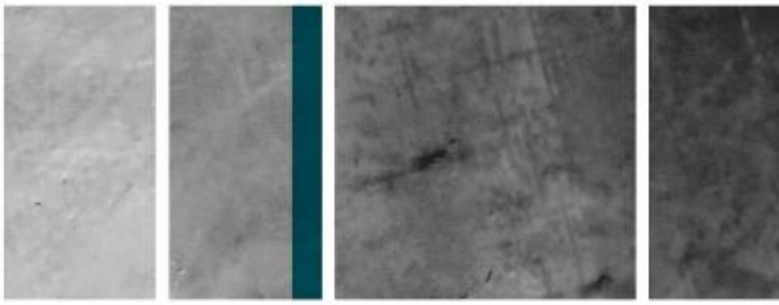


Table 1: Summary of key information seeking behaviours and sources of information for regional NRM pest management staff.

Information seeking behaviour
• Newsletters (hard copy and electronic format) • Personal one-on-one contacts • Professional networks, conference and workshop attendance • Directly through organisational web sites • Internet • Social media • Facilitators • Other – private contractors, scientific journals
Local & State sources of pest information
• Specific state departments are typically the first place people go for pest animal information • Some regions have access to active pest animal groups or networks (e.g. NIPAC) • Community members, farmers, peers are highly valued sources of information
National sources of information
• Department of Agriculture, Fisheries and Forestry (DAFF) • Invasive Animals CRC • CSIRO • Universities • Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) • Industry groups • National forums or conferences (attended by some managers) • Consultants – through commissioned research?
Perceived issues and barriers to effective pest management
• Funding • Skilled staff • Specific training • Access to pest expertise • Ongoing support from external staff • Relevance to regional context – Lack of capacity to apply 'generic' information to specific regional needs. Information is available on a state or national level but not always available at a regional level.



Discussion

What does it mean?

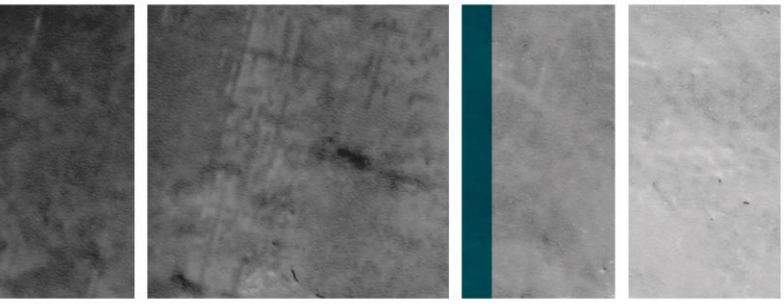
It is evident that regional NRM bodies face challenges when attempting to access, use and share pest animal research, expertise and information however the role of the IA CRC's National NRM Facilitator has made significant inroads to address this issue over the past three years. One-on-one time with the NRM Facilitator remains one of the most favoured methods of engagement, along with the NRM Project's quarterly email newsletter *NRM Notes*. Many survey respondents commended the "support and professional approach" of NRM Project staff and requested additional help from the NRM Facilitator with their regional planning, project support and networking activities. Although the NRM Facilitator is proactive and highly adaptable in carrying out her duties, there are a number of barriers to improved engagement with the NRM agencies, including:

- time and resources required to travel to various parts of rural and regional Australia
- competing priorities (of the Facilitator and of NRM agencies and staff)
- one staff member to "service" 54 different regional NRM agencies

Furthermore, regional NRM agencies are generally not the lead authority on pest animal management, so engagement becomes more complex and often extends across many organisations including local government (e.g. regional councils in Queensland), state government, and volunteer and community groups (e.g. Landcare). This is particularly taxing on the NRM Facilitator as she needs to constantly determine who the right person to contact is, and whether all the necessary stakeholders are being involved in the pest planning process. In many cases, this process forces a more ad hoc, reactive approach to engagement where the Facilitator responds to demand from the NRMs. While not ideal, this approach allows NRMs that are managing their pest programs well (or who do not currently have any pest programs) to continue to operate self-sufficiently, knowing that specialist support is available if needed. The NRM Facilitator can then spend more time assisting those groups who approach her and request intensive help, e.g. to establish a pest animal committee or write a multi-stakeholder regional plan.

The difficulties we encountered with identifying correct personnel for the survey highlights the issue of high staff turnover and unrest in the industry. Constant staff and agency name changes, shifting responsibilities, and short-term funding cycles leads to a lack of program continuity over the longer term, which directly conflicts with recommended best practice in pest management. It also impacts on the community, who often struggle to identify the right person to talk to, or which agency to contact regarding pest animal issues. A community survey in the South East NRM region (URPS, 2009) in South Australia found a significant community perception that local Councils were responsible for pest control, despite changes to legislation that transferred responsibility for pest plant and pest animal control to the regional NRM Boards, which are now part of the South Australian Government's Department of Environment, Water and Natural Resources (DEWNR).

An interesting aspect of the survey results was the high rating given to information obtained from other farmers and community members. NRMs appear to access pest animal information

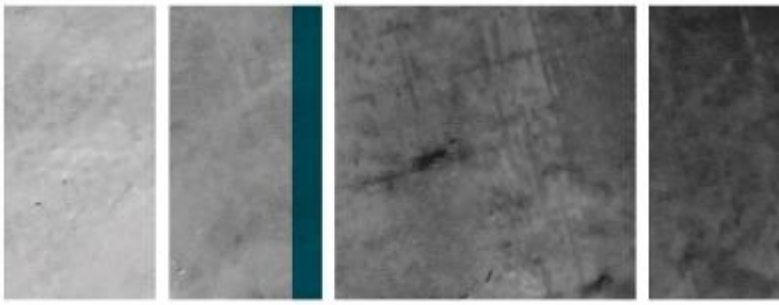


from a variety of sources, however many regional staff tend to rely on their own local contacts and favour certain sources over others. This response highlights that the traditional 'top down' information flow from the researcher to the farmer is no longer the primary communication route and 'horizontal transfer' of information is important to pest and land managers. Our results support similar findings by the Australian Farm Institute which also identified that "innovation and knowledge gained by leading farmers [is] being transferred to other growers" by extension staff (e.g. commercial advisors, regional officers). This shift in knowledge flow has major implications for the pest management industry as a whole, and particularly for the IA CRC and the way in which we communicate our research discoveries. We need to carefully consider the following:

- Is our information (i.e. research findings, expert opinion) reaching the right people? If so, then how does it affect the way that pest animals are being managed?
- Are our key messages being accurately communicated by knowledge brokers (i.e. advisors, farmers) in a consistent manner?

If regional land managers are seeking pest animal information and advice from alternative sources (e.g. State governments, other farmers), then we need to ensure these 'sources' are adequately trained and knowledgeable – or at least have access to, and know where to find, the best available information. It is encouraging to see that the NRMs continue to have strong links with credible sources including state government agencies and universities, as Seymour et al (2008) also identified in their survey of staff from catchment management organisations (i.e. NRMs).

Regional NRM staff act as knowledge brokers to a broader network than the IA CRC does, so it is crucial for the NRM Facilitator to continue building their capacity to communicate key pest management messages, which involves the application of technical knowledge and practical skills.



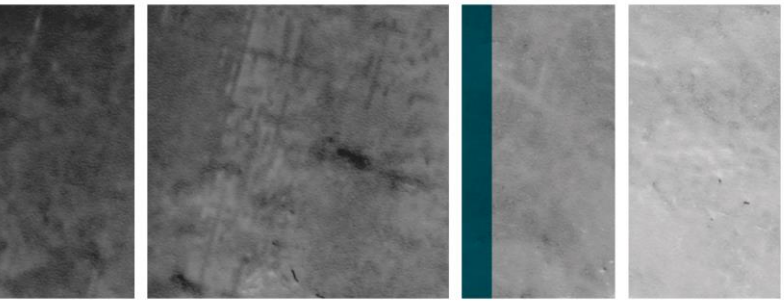
Conclusions and Recommendations

You spoke, we listened: what now?

This survey provides evidence that the regional NRM agencies are generally aware of the damage caused by pest animals and are actively addressing pest animal issues as best as they can, given the resources available. The NRM Facilitator is playing an effective and integral role in sharing best practice pest animal management knowledge and skills with regional groups, particularly where those groups are led by proactive individuals who seek training, advice and assistance.

The following list includes some suggested activities that the NRM Facilitator could undertake:

- Identify three to five NRM regions to visit each year, ideally capitalising on opportunities to 'piggyback' off existing events such as Field Days, conferences, committee meetings, planning days and/or workshops.
- Develop links with commercial advisors such as agronomists and chemical suppliers (or facilitate partnerships between pest control manufacturers and suppliers) to engage them in information dissemination and hands-on demonstration workshops, and ensure they are delivering accurate and consistent pest management advice to landholders. The IA CRC is seeking to address this issue through the Land Pests – Commercial Products program in conjunction with its commercial partners (e.g. Animal Control Technologies Australia (ACTA)).
- Create an electronic calendar or 'App' of pest animal management 'reminder messages' tailored to different regions and seasons, to prompt and/or assist NRMs in organising coordinated group control programs, and encourage attendance at short courses and training days.



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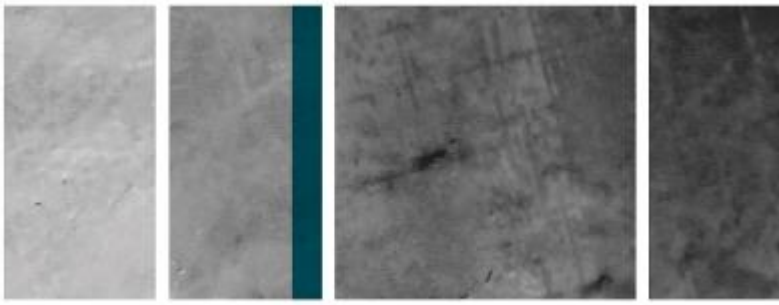

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