



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

Pest Animal Survey May 2007 - Reader's note

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EXECUTIVE SUMMARY

The environmental, economic, and social impacts of invasive pest animals in Australia cost in-excess of \$700 million annually (Mcleod 2004). Invasive pest animals inhabit all regions of the State, and are well-recognised as causing significant losses to primary production, damaging environmental assets, threatening native species and communities, and impacting on social values. Effective management of pests and their adverse impacts often requires a coordinated approach between government, regional organisations and landholders. All groups have a shared responsibility to ensure the sustainable management of natural resources and to address the damage caused by pest animals throughout NSW. Information contained in this report represents the findings of one approach in monitoring and reporting aimed at presenting information on the distribution, abundance, impacts and control of pest species throughout NSW. The species addressed in this survey are feral pigs, feral goats, wild deer, foxes, rabbits, wild dogs and dingoes, feral cats, European starlings, European carp and cane toads.

In the years preceding this survey, widespread drought was thought to have caused significant reductions in the extent and associated impacts of many pest species. While localised reductions in abundance, accompanied by reductions in impacts, were observed during this period, broad-scale reductions in animal populations were not apparent. Most species were perceived to have endured the drought conditions throughout much of their range. Some species even marginally increased their range. Reluctance or an inability of many landholders to undertake control activities may have lead to some pest populations increasing during this period. Activities such as illegal transportation and release of some species were also implicated as contributing to these trends.

Of particular concern is that the range of wild deer (comprising 6 species in NSW) has increased considerably in recent years. Wild deer have been reported from an additional 30 separate locations throughout the State (equating to over 8000km²). This trend raises a concern that without development and implementation of cost-effective control strategies; adequate resourcing for control; and on-going surveillance for emergent populations, wild deer may spread further throughout the State and may become prohibitively costly to control.

Increases in pest abundance do not always directly translate to increases in pest impacts. While there were anecdotal accounts of reductions in pest impacts, the types of impacts observed throughout NSW were very similar to those reported during 2002. This report presents changes in the perceived impacts of pest animals between 2002 and 2004/05 as a benchmark for assessing future trends in impacts throughout the State. Measuring and reporting spatial and temporal trends in the impacts of pest animals, particularly in response to control or changes in control practices, is vital for the development of cost-effective management programs. This survey also indicates that the impacts of most species (and control measures implemented to counteract those impacts) were highly varied between Divisions of the State. These findings support a need for region-specific management plans and control strategies, and an equal need for monitoring programs to complement those plans.

There are a wide variety of control techniques used to counter-act the impacts of pest animals throughout NSW. Commonly used techniques include, trapping, aerial shooting,

poison baiting and the use of livestock guarding animals. For some species, commercial harvesting also remains an important control technique, and can be used to rapidly reduce populations and simultaneously provide an income. Recreational hunting is also widely used for several pest species, however, careful planning and regulation are required to ensure activities are targeted to maximise their effectiveness at reducing the impacts of pest animals. In short, mechanical control techniques were most commonly used for all species, followed by chemical control, and biological control techniques.

The development of management plans and monitoring strategies is critical in the process of controlling pest animals and their impacts. There are a wide variety of tools and techniques available for pest control, and planning an integrated approach (using a range of techniques) is considered the best way to reduce the long-term impacts of pest animals. Furthermore, adopting best-practice management principles through problem definition, identifying the pest species of concern and their geographic range, developing and implementing collaborative management strategies, and monitoring outcomes are also crucial steps in pest animal management planning (Braysher and Saunders 2007). In recent years, management authorities and land managers have been encouraged to adopt best-practice principles and develop management plans through PESTPLAN (Braysher and Saunders 2003) which provides a valuable tool to assist land managers develop regional management plans and strategies tailored specifically to their regional circumstances.

Monitoring the success of management strategies using appropriate methods is essential to maximise cost-effectiveness. This can be achieved by carefully assessing the extent and impacts of pest animals in response to control. Monitoring is also important for identifying priorities for management planning and resourcing; evaluating previous management activities; and raising awareness and education of issues, problems and opportunities. Relief from the long-term impacts of pests can only be achieved if these principles are applied. Commonly used techniques for monitoring pest populations include spotlight counts, aerial surveys, counts of animal sign, trapping techniques and various measurements of animal damage (Mitchell and Balogh 2007).

It is important that meaningful information on pest animals is made available to stakeholders during the planning of control programs. This report provides state-wide representation of pest animal extent, impacts and control to provide a platform for regional pest animal planning, and a benchmark for ongoing monitoring and reporting activities.

RECOMMENDATIONS

Several species continue to expand their range and associated impacts, despite adverse climatic conditions, intensified control programs, and increased awareness of pest management issues. As a result, there is a genuine need for regular monitoring and reporting of existing pest populations, and comparison of information over time to assess the effectiveness of current policy and management planning. There are also many other species that have the potential to become pests in NSW. Emerging species, such as wild deer, also present a significant problem if strategies for their containment, control, or eradication are not sufficiently applied. Surveillance and the development of control strategies are needed to address emerging pest species in NSW. There is also a need to develop suitable policies to support control activities (along with existing legislation) to reflect the current status of pest species throughout the State.

Arising from this report is a number of recommendations regarding monitoring of pest animals to support the NSW Invasive Species Plan.

For regional management planning, we recommend:

- regional management plans are developed within a State planning framework; and
- distribution and abundance information reported herein is used to support the PESTPLAN prioritisation process throughout regions of NSW and to promote best practice and strategic planning.

For state-level management planning, we recommend:

- continued monitoring of the distribution and abundance of established species through state-wide surveys (at suitable intervals) given persistence of many species to drought conditions throughout the State (and their potential recovery), and the risks pests may pose to exotic disease transmission and maintenance (such as foot-and-mouth disease);
- repeating this state-wide survey to update and improve baseline data to support policy development, evaluate management effectiveness, improve control, and respond to emerging issues;
- that the distribution and abundance of emerging species (such as wild deer) is used as the basis for management recommendations, and that increases are required in surveillance of emerging species such as those highlighted in Bomford 2003;
- incorporation of detailed local or regional scale data wherever available to improve state-wide information, and field verification of information to support informed decision-making regarding prioritising, planning, and resourcing of management activities;
- the development, implementation and adequate resourcing of an agreed impact monitoring framework to complement current population abundance information, to improve impact-based management decisions;
- adoption of an agreed and consistent monitoring protocol within NSW (local and regional levels), that is consistent with other states/territories to address monitoring and reporting at all levels, and to support comparisons of management across jurisdictions; and

- alignment of state monitoring and reporting activities with national activities to ensure an enduring process of monitoring against natural resource management targets.