

Dear Members of the Natural Resource Management Commission,

I wish to provide feedback to the draft report "Review of pest animal management" as a landholder and natural resource management scientist. I have formal education in wildlife management, almost 15 years hands-on experience as primary producer and over 25 years professional experience in natural resource management (NRM).

The review shows that the authors have made an effort in understanding the ecological issues of emerging pests. However, the document also shows a distinct lack in the understanding of community engagement and integration of stakeholders into natural resource management activities. There is lip service to community involvement, but no change in understanding or attitude detectable. Instead, the top-down approach is visible throughout the recommendations.

The review also suffers from the mixing of different ecological groups into an approach that has a single view of "pest" animals. Terrestrial wildlife like deer, goats, pigs and horses require a different approach to management than predators (includes cats, foxes, dogs) and aquatic species. The labelling under one "pest" banner does not do justice to the management requirements and opportunities. I qualify also, that my subsequent comments relate mainly to the terrestrial ungulate species such as pigs, goats, horses and deer.

I feel that the authors have not moved into the new area of integrated NRM that incorporates all stakeholders at respectful and mutually beneficial levels. Instead, the current institutional power structures are trying to ensure their survival by justifying higher expense (and ultimately increasing levies on the landholder community) using "emerging" pest threats. Their solution is to increase funding for the existing, old fashioned approaches, and they do not understand the underlying drivers for the failure of current pest management practices. This is marginalising the landholders to by-standers that are bearing the costs, yet they do not obtain a direct benefit, and do not have a stake in the decision making about pest management activities.

A simple economic view can be used explain the current failures (although successful community engagement requires a wider ranging understanding of institutional dynamics to achieve a working institutional arrangement):

The marginal cost and benefits of pest management increase with the amount of targeted pest activity. There is a private optimal cost/benefit ratio associated with pest management activities of the landholder. This is generally within the landholder's area of influence and is lower than the socially optimal cost/benefit ratio. The current (existing and proposed) approach is increasing the costs/efforts for the landholder to improve the socially optimal (here the Natural Resource Commission report defined) benefit. It also adds cost to the community through financing the Local Land Services (LLS) management approaches and enforcement policies. The beneficiary are the LLS as they gain more funding for their existing and proposed activities. However, there is no evidence, nor a proposal to gather evidence of the success or failure and review of the proposed measures.

The current proposal reduces marginal personal benefit from environmental (here pest) management to the land holder through enforcement and compliance that is the basis of the LLS approach and philosophical view of "pests". Instead, I suggest that we need a multifaceted approach that moves landholders and other stakeholders from by-standers to actors, specifically the hunters and the local communities where the wildlife causes problems.

I argue that targeted species management could be much improved with a more community focused approach. This approach would focus on increasing the marginal private benefit of pest management, thus reducing the gap between the privately optimal and the socially optimal cost/benefits. Increasing the value in management of non-native species is possible when enabling the landholder to value-add. A landholder will engage if they can gain profit from the use of these species and if they have a say in the way forward without the threat of enforcement and compliance penalties.

In the following I am avoiding the use of "pest", as this detracts from the quality of the targeted species for alternative economic uses (put simply, people are unlikely to eat ferals and pests, but they will enjoy wild venison, wild boar or wild goat meat). Instead, I will use the word game, as this associates these species with a value. Game management and obtaining an economic benefit from game has been a well-established activity in many countries over many decades in modern times.

There are examples of this working in Europe, where the sale of game carcasses for human consumption is providing incentives for landowners and hunters. The systems in place there are supporting the safe disposal of the game carcasses for human consumption and should be further investigated. For example, the value of game in Germany (area of less than 1/2 of NSW and where hunting statistics are collected yearly) is almost 189Mio Eu (approx 290Mio AUD) for the season 2014-15 (<https://www.jagdverband.de/daten-und-fakten/jagdstatistik/wildbretstatistik>) and there are appropriate measures in place to enable hunters to supply deer, pigs and other game species to the market. Before declaring game animals as pests, and with this, adding additional costs to landholders and society, these opportunities should be investigated first, yet they are not properly addressed in the report. There is mention of the "Market Mechanisms" in section 7.5, yet these do not go sufficiently deep into the impediments for enabling the commercial use of deer and pig carcasses. High costs of harvesting is cited as a problem. Yet, the impediments to selling individual carcasses to, for example, butcher stores and meat processing facilities are not addressed.

I suggest that the authors of the report would have done well to consult with the NSW Game and Pest Management Unit before establishing their recommendations. Specifically the recommendation about deer management are based on a limited understanding and broad statements around the deer as pest, and do not provide any evidence of causal links between management of deer and reduction in impacts on other wildlife. They do not address the economic opportunities of large iconic game species such as deer sufficiently. For example, a reference to mandatory control measures of deer are more a motherhood statement than a readily implementable measure, especially in locations where inaccessible areas intersect with agricultural land.

The basics of deer management, like most ungulate management, are a matter of population control. Much scientific and applied literature is available and I suggest, this should have been part of the review before embarking on premature recommendations. Experiences from New Zealand over the last many decades in deer management, if reviewed, would have provided a much better understanding on what is (not) workable. In fact, if the LLS would be working in coordination with the NSW Game and Pest management board and drawing on the experience of their wildlife scientists, much more productive approaches could be developed, both specifically in population management as well as stakeholder and community involvement. Incorporating this could provide a much improved way with focus on identifying synergistic economic, social and environmental benefits and improved management approaches for feral deer (and horses).

In summary, I would see the implementation of current recommendation as handing over a blank check to LLS for pest management without having put in place appropriate checks and balances to

ensure that their work is in line with community expectations and scientific evidence. There is much need to coordinate with other relevant NSW agencies, mainly the Game and Pest Management Board and associated implementation units within DPI to develop a comprehensive and truly modern and scientific wildlife management approach. Also, I suggest that a clear mechanism is needed to monitor, evaluate and review the game population control activities (be it under the auspices of LLS or the Game Management Unit), so that adjustments in directions can occur that are based on independent advice and that considers evidence of success and failure of the activities.

Finally, I would also like to raise a point of misinformation within section 6.2 "Management of deer must change". I have inquired with the NSW Game Licensing Unit for obtaining an exception for having hunters culling deer out of season, with spotlighting and from vehicles. This process would take about 2-3 weeks for a permit to be available. I suggest that this is a sufficiently speedy process and I also suggest this time would be needed in any case to put in place safety and risk management procedures associated with shooting activities for culling of animals and giving sufficient notice to and to coordinate with neighbours. Here, I would also like to emphasize that, if there is need for immediate management of problem species, landholders, their family members, and employees do not need an exemption, so control can take place immediately.

The premature development of a network of coordinators applying and enforcing old-fashioned approaches is not in the interest of productive and effective stakeholder engagement and does not bode well for a successful future of managing problem species.

Looking forward to receiving updates of the review.

Regards

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