25 January 2019

Committee Secretariat
Standing Committee on Environment and Energy
PO Box 6021
Parliament House
Canberra ACT 2600

Via email: Environment.Reps@aph.gov.au

Dear Committee Members

Inquiry into the control of cane toads

Thank you for the opportunity for RSPCA Australia to provide a submission on the control of cane toads.

RSPCA Australia recognises that under certain circumstances there is a need to control vertebrate pest species. However, all activities must be justified, effective and humane.

In the attached submission we have made a number of recommendations regarding welfare aspects relating to cane toad control. The key issues identified include:

- Increased uptake of the most humane methods available
- Prohibiting use of inhumane methods
- Requiring compliance with standard operating procedures for control methods
- Review of standard operating procedure CAN001
- Development of relative humaneness matrix for cane toad control methods
- More research on more humane methods, including lethal methods targeting tadpoles and eggs

We commend the committee for undertaking this inquiry and hope that significant animal welfare improvements can be achieved, whilst combating and preventing the further spread of cane toads.

For further information regarding this submission, please contact Di Evans, Senior Scientific Officer [redacted]

Yours sincerely

[redacted]

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RSPCA AUSTRALIA SUBMISSION

Inquiry into the control of cane toads

25th January 2019

1. Key recommendations

i) Increase uptake of the most humane methods available
ii) Prohibit use of inhumane methods
iii) Ensure publicly available methods to control or kill toads are easy to use, affordable and effective with no lasting environmental impacts
iv) Require compliance with standard operating procedures for control methods
v) Review and update standard operating procedure CAN001 Methods for the field euthanasia of cane toads
vi) Develop a humaneness matrix using the relative humaneness model for cane toad control methods
vii) Establish more community centres for cane toad control advice, training and resources
viii) Incorporate humaneness assessment for all new methods being developed
ix) Support research on more humane methods, particularly chemical ecology approaches

2. Introduction

RSPCA Australia acknowledges that cane toads have an effect on local population levels of some native species (Commonwealth of Australia 2011). Cane toads also pose a threat to companion and other animals by causing suffering and death following absorption of lethal toxin. Action is taken by individual members of the public, community groups and government to reduce cane toad numbers in endemic areas and to prevent invasion of new areas, with methods varying depending on specific circumstances.

RSPCA Australia recognises that under certain circumstances there is a need to control vertebrate pest species. As such, several policies pertaining to vertebrate pest control are included in RSPCA Policy E – Wild Animals, with the most relevant sections being RSPCA Policy E01 Wildlife - General principles and RSPCA Policy E02 Management of wild animals. The full wording of these policies is provided in **Appendix A**. Key aspects contained in these policies include;

- finding a balance between maintaining the viability of an ecosystem and protecting the welfare of individual animals;
- wherever human activities have the potential to have a negative impact on wild animals, whether directly or indirectly, we have a duty to ensure that they are conducted in a way that causes as little injury, suffering or distress to animals as possible;
- management programs must be aimed at reducing adverse impacts rather than simply reducing the number of animals. RSPCA Australia is opposed to the use of incentive methods (such as bounty systems) where these focus on killing animals rather than reducing impacts;
- the need to improve current control methods or replace them with more humane and effective alternatives;
- advocates the adoption and implementation of compulsory codes of practice and standard operating procedures for all wild animal management activities;
- all activities to control vertebrate pests must be;
    - justified - impact must be legitimate, quantified and appropriately measured to assess progress; benefits must outweigh the harms
    - effective - only proven control methods to be used based on scientific evidence and that ongoing control is achieved and

- humane – that it is recognised that pest species are sentient, and that the most humane methods are used.

3. Efficacy and welfare implications of currently available control methods and potential for new methods

3.1 Principles for humane vertebrate pest control

Although the cane toad has not been incriminated as the major cause of any species extinction, it is known that they impact on specific species thus reducing biodiversity. On this basis, the justification for cane toad control is accepted. It is also recognised that cane toads cause considerable suffering in any animal they poison and the ensuing death tends to be prolonged and painful. In addition to wild animals suffering in this way, beloved pets are often poisoned while in their own backyards and if found in time have to undergo extensive veterinary treatment to survive which may not be successful Treatment in these cases may be costly and not always affordable.

There is increasing community concern and expectations regarding the treatment of animals. In the past, little scrutiny was given to humaneness relating to vertebrate pest control. However, over the past decade, it is pleasing to see a greater focus on animal welfare but more needs to be done, especially in relation to humaneness of control methods, competency of operators and research into more humane management options.

RSPCA Australia supports the eight principles derived from 'A National Approach to Humane Vertebrate Pest Control' workshop held in 2003, jointly hosted by RSPCA Australia, the Animal Welfare Science Centre and the Vertebrate Pest Committee (HVPC Working Group, 2004). These principles provide a logical pathway by commencing with important ethical considerations regarding justification and likelihood of success of pest control, then leading into humaneness aspects of methods to be used, evaluation, ongoing maintenance and concluding with a commitment for continuous improvement. These principles are quite comprehensive and should therefore provide a robust framework in terms of meeting animal welfare requirements.

i) The aims or benefits and the harms of each control program must be clear; control should only be undertaken if the benefits outweigh the harms.

ii) Control should only be undertaken if there is a likelihood that the aims can be achieved.

iii) The methods that most effectively and feasibly achieve the aims of the control program must be used.

iv) Whether or not each control program actually achieved its aim must be assessed.

v) Once the desired aims or benefits have been achieved, steps must be taken to maintain the beneficial state.

vi) The most humane methods that will achieve the control program's aims must be used (this requires an assessment of the humaneness of all existing methods).

vii) The methods must be applied in the best possible way.

viii) There should be research to reduce the negative animal welfare impacts of existing control methods and to develop novel methods that cause less pain and distress.

3.2 Current control methods

A recent, comprehensive review by Tingley et al (2017) provides details, opportunities and limitations regarding different strategies to combat cane toads. Some methods are currently used broadly such as trapping and killing whilst others are in experimental or field evaluation phases such as intra-species competition, whereas other options are just being considered, e.g. gene drive technology. From an animal welfare perspective, some aspects of the lethal methods being used pose risks. It is essential to consider that even though cane toads are considered a major pest and repulse most people, they are sentient animals and their welfare must be considered. Furthermore, if people treat known sentient animals inhumanely, this may erode the overall level of compassion and empathy in the community. On this basis, the RSPCA advocates the promotion and use of only humane control methods and that active steps are taken to prevent the use of inhumane methods.

a) Lethal control of adults

Due to the risk to companion and other animals, many people wish to remove and/or kill cane toads on their property. In addition, community based cane toad action groups have been established in a number of areas to help reduce local populations.

Killing adult cane toads is problematic in terms of cost-efficiency, sustainability and humaneness. However, the majority of past and current action has focused on killing adult toads. A critical aspect is ensuring that the target is actually a cane toad as it is easy to mis-identify some native frogs as cane toads.

To be consistent with the principles of humane vertebrate pest management, methods must achieve a humane death which is defined as, 'when an animal is either killed instantly or rendered insensible until death ensues, without pain, suffering or distress'.

Several methods are reported to be used to kill cane toads including the following;

- Blunt trauma – many untrained individuals and groups use this method (e.g with golf clubs, bats etc) which is likely to result in pain and suffering for the toad; however, this technique can be humane if undertaken correctly; only competent operators should be permitted to use blunt trauma; community action groups play an important role in promoting the most humane methods, discouraging blunt trauma being used by the general public and where possible, providing training to help ensure that blunt trauma is only used by competent individuals.
- Chemical agents – there are risks associated with the use of spray-on chemical agents, particularly in relation to an insufficient dose being applied, especially for larger toads. Also, these products are marketed for the general public who have little knowledge or expertise in assessing when a toad is dead. Although most sprayed toads hop away and may not be located, there is a small risk that some may be disposed of whilst sedated only, thereby leading to an inhumane death if an insufficient dose has been given; therefore it is essential to check for death prior to disposal. However, if used according to label directions, registered spray-on chemical treatments are considered to be relatively humane. Also toads must not be sprayed in or near water so as to avoid environmental contamination. Dettol® is also used but is considered inhumane and a potential environmental contaminant.

- Gaseous agent – CO2 is the only gaseous agent known to be used. Strict adherence to an appropriate standard operating procedure and for this method only to be undertaken by competent and authorised operators is essential to ensure humaneness. CO2 can be aversive to some species and for amphibians, research has shown that some toads will show mild signs of distress, even at 90% concentration. To achieve death of all toads, exposure to 90% CO2 must continue for at least 4 hours after which time all toads must be checked to ensure no heart beat to confirm death prior to disposal.
- Hypothermia via cooling and freezing – research by Shine et al (2015) suggests that refrigeration followed by freezing is a humane and effective method to kill cane toads. Although this method has reportedly been used without obvious distress observed, further review is recommended to assess humaneness. Freezing alone is considered to be inhumane.
- Stunning followed by decapitation – this should only be done by a competent operator as there are significant welfare risks and human safety risks.
- Luring, trapping and killing – traps pose significant welfare risks especially if they are not monitored frequently including exposure to environmental extremes, especially heat. Also, non-target species may be captured. Anyone using a trap must be able to kill any captured toads humanely.
- Fencing water holes – although this approach appears to be innocuous, some studies have shown that many toads will remain along the fence line where they will die from dehydration. More information and steps to mitigate adverse welfare outcomes should be provided. A fence which stops a toad will also act as a barrier to many small native species.

b) Lethal control of pre-adult stages
Some progress has been made in investigating methods which reduce the number of tadpoles and/or eggs. From an animal welfare perspective, there are less risks associated with eliminating pre-adult stages. Furthermore, these approaches are likely to be more cost effective and sustainable with fewer negative environmental impacts.

Specific methods include;

- Trapping tadpoles through chemical attractant and killing by cooling and freezing – it is understood that community action groups have been set up across Queensland but that funding is required to assist with capturing data to help assess the effectiveness of this approach; this is critical work and warrants government support
- Suppression pheromone on eggs released by tadpoles – methods which cause a lethal effect on eggs avoid potentially negative welfare outcomes for young and adult toads as well as reducing risks to non-target species and animals affected by cane toad toxin; it is understood that this line of research could progress with funding
- Native species predation of cane toad tadpoles – this appears to be have potential benefits but needs to be investigated further

c) Other lethal control methods – a few potential biological control agents have been identified to kill cane toads. RSPCA Australia cautions against the use of biological control agents as disease causing organisms can cause prolonged pain and suffering. Welfare assessment should be considered an important step in determining criteria for selecting potential biological control agents. Further, non-target impacts need to be thoroughly investigated.

d) Genetic manipulation – gene editing is currently being explored by researchers as a potential tool to manage specific pest species. Tingley et al (2017) cite this approach whereby genetically manipulated non-toxic toads could be introduced to quickly spread and replace toxic toads. This approach has potential to mitigate animal welfare risks. Although, much work is needed particularly regarding social acceptability of this technology, it is likely to be many years before this approach could be used practically.

3.3 Animal welfare considerations

Animal welfare must be considered for any pest animal control including impacts on non-target species as well as the suffering of animals who are affected by the target species. In terms of cane toads, animals who absorb the toxin will suffer and possibly die unless treated quickly. Other welfare risks relate to methods used to kill young and adult toads. Therefore, RSPCA Australia urges further research into methods which minimise these risks. Using methods which kill eggs or tadpoles would reduce the overall welfare impact of cane toad control. However, it is recognised that lethal methods need to be available to remove young and adult cane toads from specific areas. Unfortunately, there is conflicting advice regarding the most effective and humane options to do this.

- **Currently available information**

The RSPCA recognises the standard operating procedure (SOP) CAN001 Methods for the field euthanasia of cane toads, as a key reference document for killing toads. However, this document is over seven years old and contains information which is contradicted by other, newer publications. For example, cooling followed by freezing is not considered acceptable in CAN001 but a number of scientists continue to dispute this. The ANZCCART (Australian and New Zealand Council for the Care of Animals in Research and Teaching) Factsheet (2016) Guidelines for the humane killing of cane toads, states that this method is acceptable, although with reservations and this is the only method described by 'Cane toads in Oz'.

In addition, a new product Croaked®, which contains eugenol, has recently been registered by the APVMA (Australian Pesticides and Veterinary Medicines Authority) for the humane control of cane toads and is not included in the CAN001 SOP. In addition, CAN001 focuses on lethal control of young and adult cane toads, but there are other new approaches for the control of tadpoles which have been developed and should be promoted in this document and recommended to community action groups.

- **Relative humaneness model**

The CAN001 SOP can be found on the Pestsmart website, which also contains SOPs for other pest species, welfare codes of practice and relative humaneness assessments. However, an assessment using the relative humaneness model (Sharp and McLeod 2011) has not been used to develop a humaneness matrix for different methods for cane toad control, whereas it has been used for several pest species. It is recommended to develop such a matrix, given the many different types of control methods being used and the welfare implications of these.

- **Community support**

Due to the inherent welfare risks associated with lethal control methods, it is essential that the following community support is provided:

  - Advice that controlling tadpoles is more humane than broad scale killing of cane toads, where appropriate, especially as many councils are supporting this initiative coordinated through the University of Queensland Cane Toad Challenge.

- Workshops to teach and promote effective and humane methods.
- Local resource centres which can accept caught toads to be killed humanely and disposed of and to have available equipment and materials for hire, loan or purchase.
- Assistance with monitoring toad population and impact of control.

The Australian Veterinary Association Information Sheet Collection, euthanasia and disposal of the cane toad, *Rhinella marina*, recommends that designated stations should be created for members of the public to drop off cane toads for euthanasia. Such centres could operate from veterinary clinics, offices of parks and wildlife services, or the premises of other relevant statutory and government departments.

- **Welfare assessment of new methods**

It is imperative that any new methods being developed are also assessed in terms of animal welfare and that this is also made a requirement by the Australian Pesticides and Veterinary Medicines Authority (APVMA) for product registration. Where government funding is used for research and development into potential new methods, RSPCA Australia urges that appropriate welfare criteria are developed and assessed as a condition of support.

4. Conclusion

It is clear that containing and eliminating cane toads will be an ongoing endeavour. With killing young and adult toads being time consuming, ineffective for long term control and in many cases inhumane, more funding is needed urgently to assess new methods based on research in chemical ecology to trap tadpoles using the cane toad's own chemical attractant and to further develop egg suppression from release of chemicals from tadpoles. Where young and adult cane toads are killed, consistent information regarding the most humane methods should be made available. A useful first step would be to review and update the CAN001 Methods for the field euthanasia of cane toads, as a priority.

5. References

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Appendix A - RSPCA policies

RSPCA Policy E01 Wildlife – General principles

1.1 RSPCA Australia recognises that the state of an ecosystem directly affects the diversity of populations, the likely survival of species and the welfare of individual animals within it. Consideration of wild animal welfare thus requires finding a balance between maintaining the viability of an ecosystem and protecting the welfare of individual animals.

1.2 RSPCA Australia believes that wherever human activities have the potential to have a negative impact on wild animals, whether directly or indirectly, we have a duty to ensure that they are conducted in a way that causes as little injury, suffering or distress to animals as possible.

1.3 RSPCA Australia supports the use of independent environmental impact assessments to determine the potential of any development to threaten the continued survival of a species, significantly alter existing ecosystems, or have a negative impact on animal welfare. Where development projects identify threats to the welfare of wild animals, conditions must be placed on the development to mitigate these threats. Where mitigation is not possible or reasonable the development should not go ahead.

1.4 RSPCA Australia believes that management practices utilising natural resources (such as mining and logging) must be designed to ensure that they cause as little suffering to animals or negative consequences for the viability of a given population as possible.

1.5 RSPCA Australia supports the establishment and maintenance of national parks and conservation zones in areas of environmental significance to preserve genetic diversity, promote biodiversity and protect native animals from human impacts. The use of such

areas should only permit activities that do not compromise animal welfare. At the same time, RSPCA Australia recognises that these areas alone are not sufficient for the conservation of biodiversity.

1.6 RSPCA Australia supports the ratification by the Australian government of international treaties, conventions and agreements which serve to protect biodiversity and promote the humane treatment of wild animals.

RSPCA Policy E02 Management of wild animals

2.1 RSPCA Australia acknowledges that in some circumstances it is necessary to manage populations of wild animals, native or introduced. There are three main reasons used to justify the management of wild animals*:

- to protect the welfare of individual animals
- to help conserve a threatened, endangered or vulnerable native species
- to reduce adverse impacts on human activities or the environment.

* It is noted that in most cases these problems have arisen as a result of human activities or interventions.

2.2 Any measures taken to manage wild animals must recognise that whether an animal is native, introduced or viewed as a 'pest' does not affect its capacity to experience pain, suffering or distress.

2.3 Programs and strategies which prescribe the management of wild animals (such as threat abatement plans and native animal management plans) must be justified, supported by scientific evidence and have clearly stated aims. Such programs should be subject to public consultation, ethical approval and review prior to implementation. Once implemented, the results of such programs should be regularly monitored, evaluated, publicly reported and used to inform future activities.

2.4 Management activities (such as on-ground intervention or control) should only be undertaken if it is likely that the aims of the program can be achieved. The methods used must be humane, target-specific and effective (see E2.10).

2.5 Once the aims of a management program have been achieved, steps must be taken to ensure that the outcomes are maintained in the long-term.

2.6 RSPCA Australia advocates the adoption and implementation of compulsory codes of practice and standard operating procedures for all wild animal management activities. See www.dpi.nsw.gov.au/agriculture/pests-weeds/vertebrate-pests/codes/humane-pest-animal-control

2.7 **Protecting the welfare of wild animals**

2.7.1 Management programs aimed at protecting the welfare of individual animals or populations may be necessary where populations are subjected to severe environmental

stress, habitat fragmentation, disease or human activity. Such programs must only be carried out under the supervision of the relevant government agency.

2.7.2 In some circumstances it is considered necessary to reduce the size of a given population of wild animals for the long-term benefit of that population. The killing of animals for this reason should only be permitted where it can be carried out humanely and there is no non-lethal, humane and effective alternative available (see E2.10).

See E3 Rescue and rehabilitation of wild animals

2.8 **Conserving native species**

2.8.1 Management programs aimed at conserving native animals, including threatened, endangered or vulnerable species centre on habitat protection, but include strategies such as captive breeding, translocation and release of animals. Care must be taken to minimise any adverse effects of these activities on the welfare of both target and non-target animals. Such programs must only be carried out under the supervision of the relevant government agency.

2.9 **Reducing adverse impacts of wild animals**

2.9.1 Many introduced animals, and some native animals, are viewed as 'pests' because of their adverse impacts on human activities, health and wellbeing or the environment. These adverse impacts include:

- land degradation, ecosystem effects, and predation and competition with native species
- losses to agricultural, horticultural and forestry production, including grazing competition, damage to crops, predation on domestic animals and damage to infrastructure
- risks to public health and safety
- other human activities such as tourism, recreation and transport.

RSPCA Australia acknowledges that, in certain circumstances, it is necessary to manage populations of wild animals in order to reduce these impacts.

2.9.2 Management programs must be aimed at reducing adverse impacts rather than simply reducing the number of animals. RSPCA Australia is opposed to the use of incentive methods (such as bounty systems) where these focus on killing animals rather than reducing impacts.

2.9.3 Wherever possible, pest control measures should be carried out as part of an integrated pest animal management program in consultation with the relevant government agency. Lethal methods must only be used where there is no non-lethal, humane alternative available that is effective at achieving the program's aims.

2.10 **Management and control methods**

2.10.1 RSPCA Australia is opposed to the use of inhumane methods of controlling or managing wild animals. A totally humane method is one which does not cause any pain, suffering or distress to target and non-target animals.

See also Policy G1 Humane killing

2.10.2 When determining the method of control, the most humane method that will effectively achieve the aims of the management program must be used.

2.10.3 The humaneness of a given control method is influenced by its application and the skill of the operator. Control methods must be applied in the best possible way by trained and competent operators.

2.10.4 RSPCA Australia supports the independent assessment of the relative humaneness of control methods and the publication of these assessments to assist in identifying the most humane available methods for a given situation.

See Sharp T and Saunders G (2008). A model for assessing the relative humaneness of pest animal control methods. Australian Government Department of Agriculture, Fisheries and Forestry, Canberra, ACT

2.10.5 RSPCA Australia believes there is a continuing need to improve current control methods or replace them with more humane and effective alternatives. The RSPCA supports research and development of humane alternatives, including the replacement of lethal methods with humane and effective non-lethal methods, such as reproductive control.

(adopted 06/12/10)