

# Animal Justice Party



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Submission on the RHDV K5 virus release

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# 1 Introduction

The Animal Justice Party (AJP) is a political party premised on the belief that animals are not resources, and that we can live healthier and less environmentally destructive lives without exploiting them. We therefore view with considerable concern the release of another rabbit hemorrhagic virus; RHDV K5.

AJP policy is that all wildlife control measures, where desirable, should be non-lethal. That's a demanding policy which may not be technically feasible at all times and places, but it does at least require that alternatives be assiduously investigated.

We believe that the RHDV K5 release is primarily to protect Australia's sheep and cattle industries. This is illustrated by the repeated references (e.g., here<sup>1</sup>, here<sup>2</sup>, here<sup>3</sup>), to \$200 million dollars in economic losses; presumably to the cattle and sheep industries.

On both environmental and health grounds, Australia's sheep and cattle industries don't deserve any kind of protection. They produce<sup>4</sup> 2.2 million tonnes of methane annually. A tonne of methane will cause about 105 times the warming of a tonne of CO2 during the 20 years following<sup>5</sup> its release. At a carbon price of \$20 per tonne, these industries do around \$4.6 billion dollars of climate damage annually; they cause more warming than all our coal fired power stations. According to the Cancer Council these industries also cause thousands of bowel cancer cases<sup>6</sup> annually. Instead of gaining protection, these industries should be phased out.

More precise measurements of the full climate impact of Australia's animal industries puts it at approximately 50%<sup>7</sup> of our entire climate impact.

Rabbits also produce methane, and this alone makes them also a serious environmental problem. But calculating their climate damage needs a reasonable estimate of total rabbit biomass; we don't know of any such estimate, but have seen nothing to indicate that the biomass of rabbits is close to that of sheep and cattle.

Rabbits *are* an environmental problem, but they are not our biggest by any means, and the long standing approach of victimising them and allowing *death by any means* is morally repugnant and scientifically simplistic.

Our concerns relate not only to the wild rabbits being targeted by this virus, but also to the many companion rabbits who are loved and cherished by their owners. Companion rabbits are currently already under threat from RHDV V2, for which there is no vaccine, and the testing of the existing RHDV vaccine against K5 has been cursory. Companion rabbits deserve protection and their interests, as well as those of their owners, are being destroyed to protect industries that contribute significantly to climate destabilisation as well as giving people cancer. This is unconscionable.

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<sup>1</sup><http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/pest-animals/invasive-animal-management/established-invasive-animals/rhd-boost>

<sup>2</sup><http://www.thecourier.com.au/story/4282070/200-million-dollar-problem/>

<sup>3</sup><http://minister.agriculture.gov.au/joyce/Pages/Media-Releases/funding-for-rabbit-controls.aspx>

<sup>4</sup>[http://unfccc.int/national\\_reports/annex\\_i\\_ghg\\_inventories/national\\_inventories\\_submissions/items/9492.php](http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/9492.php)

<sup>5</sup><http://science.sciencemag.org/content/326/5953/716>

<sup>6</sup><http://www.abc.net.au/news/2015-10-27/processed-meats-cause-cancer-says-un-agency/6886882>

<sup>7</sup><http://ijc.cgpublisher.com/product/pub.185/prod.269>

But before further discussion of the ethics, let's consider the mechanics of the problem in more detail.

## 2 Background

Australia is currently occupied by some 27 million cattle and 71 million sheep<sup>8</sup>. At the beginning of the 1990s, there were 170 million sheep in Australia and concern about rabbits was even more intense than it is today. In the 1950s, the myxoma virus had been released and rabbit populations crashed. But by the 1990s, myxoma was no longer the potent killer that it had been and both rabbits and fear of rabbits was growing.

In 1991, Department of Primary Industries expert on introduced animals, Gary Twyford described the introduction, and more importantly, the spread of rabbits in Australia (1):

*... the sheep's habit of close grazing make the feed the ideal length for the rabbits to eat. Rabbits do not like long grass; in fact long grass is the greatest deterrent to the increase in numbers and spread of rabbits. ... [sheep] were grazing everywhere and opening up country that would have been unsuitable for rabbits before the sheep arrived.*

Sheep and cattle have always had similar impacts to rabbits on native flora and fauna, but since they can also be profitable, they are rarely defined as a problem. Double standards are the norm. People will look at an overgrazed and devastated landscape with little reaction, but froth at the mouth before a small pockmarked hillock made by rabbits. We need objective comparisons of damage to rank the respective problems.

The interactions between sheep and rabbits are just one of a host of interactions that make the situation complex for those seeking a scientific understanding of the issues. There are also interactions between cats and rabbits, not to mention foxes and cat and rabbits.

## 3 The prey-switching debate

In 2015, a major study (10 authors) of feral cat food sources (2) cautioned that people wanting to reduce rabbit populations should beware of cats switching to other prey. The implication is that if such actions aren't carefully planned, any reduction in rabbits could result in devastation of other, presumably more valued, species. This is just one of a number of recent calls for caution on killing as a population control method. Another<sup>9</sup> came from one of Australia's foremost experts on mammal extinctions; Chris Johnson. Note that these calls for care and caution aren't coming from animal rights activists, but scientists who aren't at all shy about killing large numbers of animals if it helps some conservation goal. Johnson listed what he considers to be successful killing campaigns, but notes that: "\*" ... successes like these are most likely to be won under quite particular conditions."\*

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<sup>8</sup><http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/7121.0Main%20Features52014-15?opendocument&tabname=Summary&prodno=7121.0&issue=2014-15&num=&view=>

<sup>9</sup><https://theconversation.com/culling-pest-animals-can-do-more-harm-than-good-40702>

The K5 virus release runs counter to Johnson’s advice. It isn’t being released into a single eco-system where all the relevant variables are known and where the result has some chance of being predicted. This virus release will affect different eco-systems with very different sets of circumstances across Australia. It may depress rabbit populations without impacting endangered plants or animals in some of these while causing extinctions in others.

A considered response to Doherty came from Greg Mutze (3) of Biosecurity SA.

Mutze claims that Doherty’s conclusions aren’t supported by his data. Mutze argues that the natural state for rabbit populations in Australia is boom and bust and during every bust episode, prey switching by cats may occur. In contrast a single reduction and control of rabbits, such as is hoped from K5 will certainly raise the possibility of prey switching; but only once, not over and over again as is currently the case. He further claims that the cat population will reduce as the rabbits die that support the high cat population. But because the rabbit population will stay low, the cat population won’t be able to bounce back.

Here are Mutze’s two scenarios; the first is how he sees the current situation:

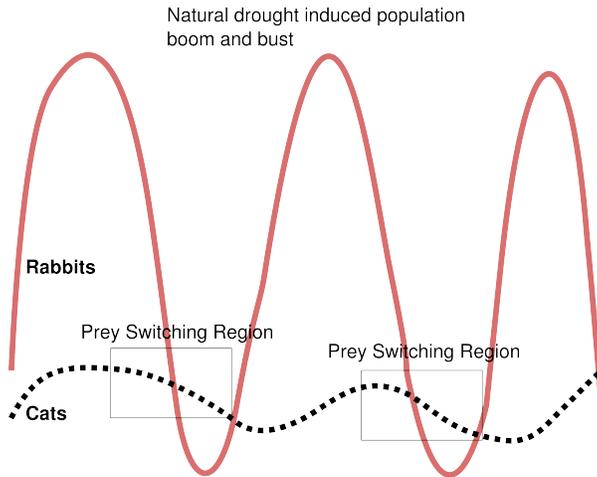


Figure 1: Rabbit boom and bust

And now his predictions following any permanent reduction in rabbit numbers.

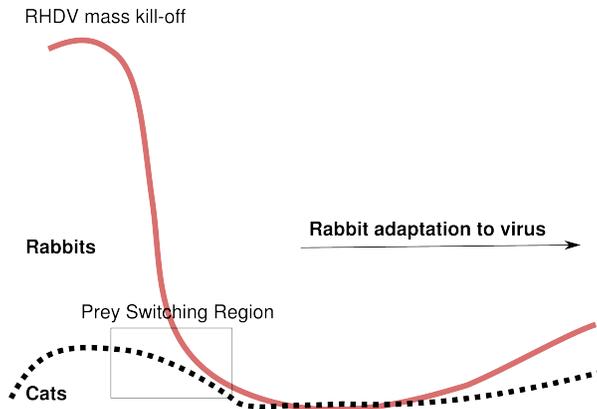


Figure 2: Rabbit bust and cat decline

I've drawn these pictures as best I could to capture the essence of the argument, but it's important to understand that I could have drawn 20 figures that are plausible. They will all have a different initial ratio of the sizes of the rabbit to cat populations. They will all have a different length of prey switching window. Mutze gives an example of a study done after the initial escape of RHDV back in 1996 in which the cat population crashed quickly. That might indeed happen in one or some regions. But the Doherty data makes it extremely clear that the food habits of cats are incredibly different across Australia and that we should expect the width of the prey switching window to vary considerably from place to place.

In some places, the process may look more like this:

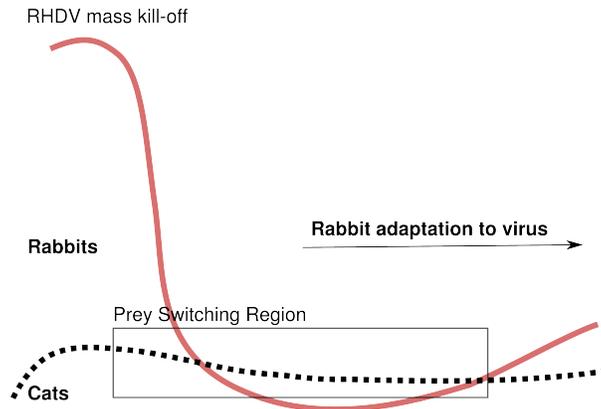


Figure 3: Rabbit bust and cat decline

The above image shows conditions where cats aren't quite so dependent on rabbits and the population takes a long time to decline and never really crashes at all. Will such circumstances be likely? Based on Doherty's data, it is more likely certain. Doherty presents data from a variety of studies on what was found in cat scats and stomach contents. In the majority of studies, rabbits are only found in less than 50 percent of samples.

Here's an image from Doherty's paper. Each blue dot represents a study of cat scats and/or stomach contents and the Y-axis is the percentage containing rabbit.

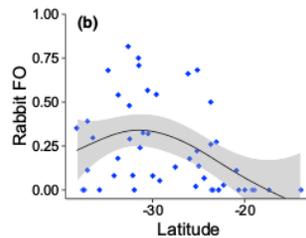


Figure 4: Rabbit frequency in cat scats/stomachs

The often stated maxim that cats will use rabbits as a staple food if they are available (a maxim even repeated by Doherty) simply isn't supported by the data.

## 4 Conclusion

Johnson's argument for caution should be self evident. Eco-systems are complicated and there is rather a long history of interfering with them and being unpleasantly surprised when things don't go as planned. The outcome of any eco-system interference will depend intimately on the circumstances within that eco-system.

The K5 release constitutes the opposite of caution. It will inevitably be national, and across a considerable range of ecosystems. On technical grounds it is environmentally irresponsible.

The AJP also opposes the release on ethical grounds.

Suppose a virus existed which, by death, could rapidly reduce the human population by 90 percent. Such a reduction could benefit the remaining people enormously, in addition to perhaps restabilising the climate and preventing further wildlife extinctions. Would anybody release it? No-one, including obviously, the AJP, would support such a release and I can't envisage a release by any Government; despite the postulated positive impacts on several pressing problems; including the possibly existential one of a warming planet.

However much some people are drawn to a utilitarian calculus which chooses actions based on aggregation of suffering, they seem rather more reluctant when their own lives are at risk, even if it is for the *greater good*.

The rabbit problem forces us all to think very carefully about our ethical philosophy. It is true that rabbits are far too successful for their own good, let alone that of some other species; rather like we are. But does that mean we should subject them to deliberate lethal controls? The AJP doesn't think so. We don't believe in risky mass killing to support carcinogenic eco-vandal industries like the cattle and sheep industries. We have urgent environmental issues to deal with and it is appalling that we protect and subsidise the industries at fault.

But even if we can develop compassionate non-lethal controls, such as immunocontraception, for example, Johnson's plea for caution is still relevant. Any broad scale intervention will have different impacts in different regions and if the protection of endangered species is a high priority, then there may well be some catastrophic outcomes at a local scale.

Johnson's caution implies that methods should be local and preferably slow and reversible so that we can monitor progress and change our approach if things aren't going to plan; which they invariably won't.

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### References

1. G. Twyford, *Australia's introduced animals and plants* (Reed, 1991).
2. T. S. Doherty *et al.*, A continental-scale analysis of feral cat diet in australia. *Journal of Biogeography*. **42**, 964–975 (2015).
3. G. Mutze, *Journal of Biogeography*, in press, doi:10.1111/jbi.12859<sup>10</sup>.

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<sup>10</sup><https://doi.org/10.1111/jbi.12859>