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Economy and
Infrastructure Committee

Wildlife roadstrike in Victoria

Inquiry

November 2025

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About the Committee

Functions

The Legislative Council Economy and Infrastructure Committee inquires into and reports on any proposal, matter or thing concerned with agriculture, commerce, infrastructure, industry, major projects, public sector finances and transport.

The Committee consists of members of the Legislative Council from the government, opposition, and other parties.

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Terms of reference

Inquiry into wildlife roadstrike in Victoria

On 26 August 2024, the Economy and Infrastructure Committee agreed to the following self-referral motion:

That the Economy and Infrastructure Committee inquire into, consider and report by 30 November 2025 on wildlife road strike in Victoria, in particular the Committee should consider:

- (1) The scope, application, and enforcement of relevant legislation and regulatory frameworks, and their ability to monitor wildlife road strike, promote driver education and raise public awareness;
- (2) The involvement, training and expenditure of paid and volunteer rescue and rehabilitative organisations and individuals in attending to, and managing, road strike incidents;
- (3) New and emerging technologies and infrastructure used to prevent road strikes;
- (4) The impact of road strike on Victorian motorists, including major trauma incidents and motor vehicle damage;
- (5) The impact of development and infrastructure on incidents of wildlife road strike;
- (6) International best practice standards to decrease wildlife road strike;
- (7) Current methods of collating data on wildlife road strike and its effectiveness; and
- (8) Any other related matters.

Chair's foreword

The injuring and killing of native animals as a result of collisions with motor vehicles, or wildlife roadstrike, is a crisis in Victoria that causes enormous suffering for the animals but also substantially increases the risk of death and injury to motorists.

Anyone driving in regional and outer suburban roads is likely to be confronted every day by the distressing sight of dead or dying animals. As our cities grow and human activity spreads further into land that has historically been the habitat of kangaroos and other native animals, the incidence of collisions between the wildlife and motor vehicles are being repeated many times every day.

This report seeks to highlight the extent of the problem and suggest some solutions that may be able to reduce the carnage.

I would particularly like to pay tribute to the animal rescuers who give up their time, resources and, in many cases, their psychological and emotional well-being, to respond to roadstrike events day and night. This work is both arduous and distressing. They do this not for any recognition or rewards, as there is very little of either, but out of compassion for the animals. I hope that the implementation of recommendations in this report may make their lives easier.

I would like to thank the members of the Committee who have engaged with this Inquiry in a professional and collegiate manner and who have all made a positive and constructive contribution to the final outcome.

As always, I would also like to thank the Secretariat of the Committee who have provided invaluable professional support to the work of the Committee. Committee Manager Michael Baker, Inquiry Officer Jessica Summers, Research Assistant Adeel Siddiqi and Senior Administrative Officer Julie Barnes, along with the Committee Office's administration team, have all made a substantial contribution to this Inquiry with collating and analysing submissions, arranging hearings and assisting in the drafting of this report. The Committee greatly appreciates their efforts. I would also like to thank Mervyn Piesse, of the staff of the Australian Senate, who assisted the Inquiry in its initial stages and who made a significant research contribution.



Georgie Purcell MLC
Chair

Findings and recommendations

2 Wildlife roadstrike management

FINDING 1: The laws and regulations governing wildlife do not address the issue of unintentional roadstrike and do not require motorists to render assistance or report roadstrike, except to the extent they are covered under the *Prevention of Cruelty to Animals Act 1986* (Vic).

7

RECOMMENDATION 1: That the Victorian Government consider amending the *Road Safety Act 1986* (Vic) to require motorists to stop and render assistance to wildlife they have struck when safe to do so. Rendering assistance could mean simply reporting the collision to a wildlife rescue organisation, noting that this will require a matching State-wide notice and dispatch system agreed and adopted by all active stakeholders, including volunteer organisations.

7

RECOMMENDATION 2: That the Victorian Government establish a single, statewide phone number for reporting wildlife–vehicle collisions, to ensure motorists can quickly access assistance and wildlife rescue services regardless of their location. This number should be widely promoted and integrated with existing emergency response and wildlife rescue systems to improve coordination, response times, and animal welfare outcomes.

7

FINDING 2: Volunteers incur substantial costs when delivering voluntary rescue and shelter services. This is an enormous burden to be borne by the volunteer sector.

13

RECOMMENDATION 3: That the Victorian Government adopts the option for Victorians to voluntarily contribute a nominal amount through yearly vehicle registration. The funds collected would go directly to supporting wildlife rescue and shelter in Victoria.

13

RECOMMENDATION 4: It is desirable that the Victorian Government adopts the option for Victorians to voluntarily contribute a nominal amount through yearly vehicle registration. However, before any systemised funding solution can or should be attempted the volunteer rescue community will first need to consult and collectively determine the framework under which they would operate under a state-wide system, and the level of governance and compliance they would accept under the system. Once formalised, the chosen governing entity could then suitably receive and distribute voluntary donations received through vehicle registration.

14

FINDING 3: Wildlife roadstrike response in Victoria relies almost entirely on volunteer wildlife rescuers, shelter operators and veterinarians. **15**

FINDING 4: The current volunteer-based model is no longer sustainable. **15**

FINDING 5: The management of wildlife roadstrike, like the regulatory framework, is fragmented and ill-defined, which makes responsibility for mitigation unclear and leaves an unreasonable burden on voluntary organisations and individuals who operate without sufficient support. **15**

FINDING 6: The wildlife rescue and shelter sector is largely made up of an aging volunteer demographic. Without reform, the sector will lack the capacity to respond to the sheer volume of wildlife roadstrike incidents. **15**

FINDING 7: Wildlife rescue is highly skilled and dangerous work. **17**

RECOMMENDATION 5: That the Victorian Government, in close consultation with volunteers, consider providing recurrent funding and reimbursements to wildlife rescuers and carers to ensure timely and sustainable response to roadstrike incidents. **17**

RECOMMENDATION 6: That the Victorian Government consider the establishment of a program to professionalise and fund the volunteer wildlife rescue sector. **17**

RECOMMENDATION 7: That the Victorian Government, in consultation with key stakeholders, develop a Code of Practice for accredited agencies responding to wildlife roadstrike, including local councils, police, SES, carers and rescuers. **17**

FINDING 8: The safety protocols and equipment available to volunteer wildlife rescuers is not sufficient to mitigate the dangerous risks they face when responding roadside. **18**

RECOMMENDATION 8: That the Victorian Government consider implementing stronger safety protocols to protect volunteer wildlife rescuers when responding roadside. **18**

FINDING 9: Wildlife rescue organisations, such as Vets for Compassion, are exploring innovative ways to encourage their volunteers to set and maintain healthy boundaries. The Committee commends and encourages this work.

19

3

The causes of wildlife roadstrike

FINDING 10: Data collection on wildlife roadstrike is fragmented and inconsistent. Wildlife rescue organisations, insurance companies, councils, road authorities and wildlife carers all maintain separate records. This results in significant under-reporting and an incomplete picture of the problem, hindering evidence-based decision-making and investment in mitigation strategies.

23

RECOMMENDATION 9: That the Victorian Government consider the establishment of a centralised, publicly accessible wildlife roadstrike data collection system database, in conjunction with and for adoption by all. This system should integrate data from wildlife rescuer groups, insurance claims, council reports, police data and individual wildlife rescuer call-outs, ensuring data method consistency and transparency, and ‘single point of truth’ data curation.

23

FINDING 11: While kangaroos are the victims of more roadstrike cases than any other individual species, all wildlife are at risk from motor vehicles and pose a risk to motorists.

27

FINDING 12: Victoria’s rapid population growth, particularly in peri-urban regions such as Macedon Ranges Shire, Hume, Sunbury and the outer west, is intensifying rates of wildlife roadstrike due to habitat destruction and landlocking of native wildlife.

29

RECOMMENDATION 10: That the Victorian Government embed mandatory wildlife-sensitive planning measures into all new housing, infrastructure projects and planning schemes. This should include:

- departmental guidelines for biodiversity sensitive urban design
- mapped wildlife corridors along existing riparian zones
- expanded buffer zones; and
- compulsory environmental impact assessments addressing the specific risks of roadstrike.

30

FINDING 13: Wildlife protection is currently seen as an optional extra in urban planning and is given low priority in the planning of new developments. This exacerbates the frequency and severity of collisions between wildlife and motor vehicles, putting both the animals and the motorists at risk.

31

RECOMMENDATION 11: That the *Planning and Environment Act 1987* be amended so that planning schemes must include mechanisms for wildlife protection in all proposed developments, and this includes strategies that ensure wildlife populations are not landlocked and have corridors that enable them to move without crossing major roads.

32

FINDING 14: Climate change is increasing the risk of wildlife roadstrike by destroying habitat due to drying conditions and increasing frequency and severity of natural disasters, particularly floods and bushfires. This leads to increased movement of wildlife which increases the risk of them crossing roads and being struck by vehicles.

33

RECOMMENDATION 12: That the Fauna Sensitive Road Design Guidelines be reviewed and updated where necessary to ensure that they include all of the latest available technology and infrastructure to assist in wildlife protection from roadstrike. It should be mandatory for the guidelines to be included in all development documentation and that they be addressed in all development proposals.

34

FINDING 15: Travelling at slower speeds can reduce the severity of a collision.

38

FINDING 16: There is currently no official service in place for the emergency response and management of non-native wildlife such as deer.

41

FINDING 17: The Kangaroo population is less convincing as an explanation for wildlife roadstrike than to urban expansion and planning limitations, changes in climactic conditions and excessive speed and driver behaviour.

41

4 Mitigation strategies and technologies

FINDING 18: The evidence was overwhelmingly of the view that virtual fencing trials had failed in most cases. The more rigorous the study, the more these failures were evident. The strongest evidence of these failures being provided by the proponents of the trials themselves, with the exception of Surf Coast Wildlife Rescue. Some of these trials have been small-scale, fragmented and inadequately funded, which limits the trials impact. One project manager was sharply critical of trials that lacked rigour.

47

FINDING 19: There was limited evidence that could justify further funding for virtual fencing on the basis of those technologies presented. The Committee could recommend funding if new technologies emerged; but we should not double down on those that have already been demonstrated to be ineffective. 47

FINDING 20: It is difficult to reconcile the many anecdotal reports of virtual fencing success with the academic body of evidence which casts significant doubts over the effectiveness of virtual fencing in Australia. 47

RECOMMENDATION 13: Further funding of virtual fencing should be tied to the emergence of new, more viable technologies only. All funding should be conditional on strict trials, statistically credible test design and data capture methodologies. 47

FINDING 21: It is unclear whether the noise and sound stimuli emitted by virtual fencing produces an appropriate response in Australian wildlife. 49

FINDING 22: Further research and behavioural trials are required to validate that noise and sound stimuli used by virtual fencing is appropriate to the biology and behavioural responses of Australian animals. 49

FINDING 23: Virtual fencing is not a set-and-forget wildlife roadstrike mitigation technology — it requires ongoing maintenance to stay operational. 50

FINDING 24: Internationally, wildlife crossing structures and exclusion fencing have been shown to significantly reduce animal-vehicle collisions. The Committee notes examples from Canada and the Netherlands where large-scale investment has significantly reduced collision rates. 53

FINDING 25: Stakeholders highlighted that improved evidence collection would assist in evaluating how effective wildlife crossing structures are. 53

FINDING 26: The upfront costs of wildlife crossing structures and exclusion fencing are considerable. A cost-benefit analysis with data would be beneficial before proceeding in Victoria. 54

RECOMMENDATION 14: That the Victorian Government consider a program of major wildlife crossings, beginning with pilot sites in high-risk corridors, with the long-term objective of network-wide rollout. 55

RECOMMENDATION 15: That the Victorian Government develop a Wildlife Roadstrike Strategy that focuses on proactive population management, a centralised state-wide database, and targeted investment in crossings and fencing at verified hotspots. 55

FINDING 27: According to data collected by AAMI, 40% of drivers ignore standard static wildlife road signs. 55

FINDING 28: Intelligent signage is a promising wildlife roadstrike mitigation measure that has been successfully implemented in other Australian states and internationally. 59

FINDING 29: Intelligent signage and animal detection systems are being deployed internationally but remain underutilised in Victoria. 59

RECOMMENDATION 16: That the Victorian Government undertake research to trial innovative animal detection systems and explore how artificial intelligence and machine learning tools can improve the accuracy of these systems. 59

FINDING 30: Emerging in-vehicle animal detection system technologies show significant potential to mitigate wildlife roadstrike. 60

FINDING 31: Not driving to the conditions, particularly during dawn and dusk, increases the likelihood that wildlife will be struck by vehicles at faster speeds during these high-risk periods. 62

RECOMMENDATION 17: That the Victorian Government examine the feasibility of variable speed limits, supported by cameras and enforcement, in known high-risk zones. These measures should be applied particularly at dawn and dusk when animal movement peaks. 62

FINDING 32: Public awareness of the risks and responsibilities associated with wildlife collisions is low. 62

RECOMMENDATION 18: That the Victorian Government develop and deliver a public education campaign on wildlife roadstrike, including information on seasonal risks, safe driving practices and appropriate responses when encountering injured wildlife.

63

What happens next?

There are several stages to a parliamentary inquiry.

The Committee conducts the Inquiry

This report on the Inquiry into the wildlife roadstrike in Victoria is the result of extensive research and consultation by the Legislative Council Economy and Infrastructure Committee.

The Committee received written submissions, spoke with people at public hearings, reviewed research evidence and deliberated over a number of meetings. Experts, government representatives and individuals expressed their views directly to us as Members of Parliament.

A Parliamentary Committee is not part of the Government. The Committee is a group of members of different political parties (including independent members). Parliament has asked us to look closely at an issue and report back. This process helps Parliament do its work by encouraging public debate and involvement in issues.

You can learn more about the Committee's work at: <https://www.parliament.vic.gov.au/get-involved/committees/legislative-council-economy-and-infrastructure-committee>.

The report is presented to Parliament

This report was presented to Parliament and can be found at: <https://www.parliament.vic.gov.au/get-involved/inquiries/WildlifeRoadstrike/reports>.

A response from the Government

The Government has six months to respond in writing to any recommendations made in this report.

The response is public and put on the inquiry page of Parliament's website when it is received at: <https://www.parliament.vic.gov.au/get-involved/inquiries/WildlifeRoadstrike/reports>.

In its response, the Government indicates whether it supports the Committee's recommendations. It can also outline actions it may take.

Chapter 1

Background to the Inquiry

1.1 What is wildlife roadstrike?

Wildlife roadstrike is being defined for the purposes of this Report as any incident of a collision between a motor vehicle and a non-domestic or agricultural animal. Such collisions can be deliberate or accidental, but for the most part they are accidental. Roadstrike can not only severely injure or kill the animal, but can cause the motorist involved to be injured or killed by the impact or resultant loss of control of the vehicle.

Evidence presented to the Committee strongly suggested that incidents of wildlife roadstrike are increasing. However, precise numbers are difficult to gauge as data is fragmented and imprecise, and incidents are likely substantially under-reported.

The rising number of wildlife deaths and injuries from vehicle collisions is a serious issue affecting animal welfare, contributing to the extinction crisis and posing risks to human safety. With the increasing urban sprawl pushing further into land on the edges of towns and cities, wildlife are increasingly coming into contact with human activity, especially motor vehicles.

1.1.1 Impacts on motorists

Vehicle collisions with wildlife can cause serious harm or death to both the animal and motorist. Victoria Police records indicate that for the five-year period to 31 December 2024, there were approximately '20 people killed in collisions where striking or avoiding a wild animal was identified as one of the contributing factors' – or 1.7% of all people killed on Victorian roads.¹

Victoria Police also recorded '921 injury collisions involving a wild animal being struck'² during the same five-year period:

- 68% of injury collisions involved a kangaroo or wallaby.³
- 74% of injury collisions occurred on high-speed roads, with speed limits of 80 kilometres an hour or higher.⁴
- Most collisions occurred in the twilight hours of dawn and dusk, between 4am to 8am and 6pm to 10pm.⁵

¹ Assistant Commissioner Glenn Weir, Road Policing Command, Victoria Police, public hearing, Melbourne, 1 September 2025, *Transcript of evidence*, p. 45.

² Assistant Commissioner Glenn Weir, *Transcript of evidence*, p. 45.

³ Ibid.

⁴ Ibid.

⁵ Ibid.

Wildlife roadstrike can also have a significant financial impact upon drivers. Drivers may have to pay healthcare and vehicle repair costs or higher insurance premiums following a vehicle collision with wildlife.⁶ The Committee also heard that vehicle damage can lead to substantial productivity losses for farmers and other professionals that rely upon having access to transport.⁷

A collision with wildlife can cause the driver emotional stress. Such drivers often experience ‘shock, trauma, guilt and anxiety’⁸ following a collision. The Committee heard many accounts about how distressing wildlife roadstrike can be and how such experiences can have a lasting impact.⁹ Even the presence of dead or injured wildlife on the roadside is deeply disturbing to some drivers.¹⁰

1.2 The Inquiry

The Committee adopted the terms of reference as a self-reference on 26 August 2024, but the Inquiry did not commence until early in 2025 due to another Inquiry that was being undertaken during the second half of 2024. The terms of reference required the Committee to examine and report on:

1. The scope, application, and enforcement of relevant legislation and regulatory frameworks, and their ability to monitor wildlife roadstrike, promote driver education and raise public awareness;
2. The involvement, training and expenditure of paid and volunteer rescue and rehabilitative organisations and individuals in attending to, and managing, roadstrike incidents;
3. New and emerging technologies and infrastructure used to prevent roadstrike;
4. The impact of roadstrike on Victorian motorists, including major trauma incidents and motor vehicle damage;
5. The impact of development and infrastructure on incidents of wildlife roadstrike;
6. International best practice standards to decrease wildlife roadstrike;
7. Current methods of collating data on wildlife roadstrike and its effectiveness; and
8. Any other related matters.

⁶ Rebecca Cook, Head, Prevention, RSPCA Victoria, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 54.

⁷ Scott Young, President, Livestock Council, Victoria Farmers Federation, public hearing, Geelong, 20 August 2025, *Transcript of evidence*, p. 25.

⁸ Erin Ashmore, Macedon Ranges Wildlife Network, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 40.

⁹ Karl Dawson, Wildlings Woodend Wildlife Shelter, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 42, Nicole De Haan, Operations Manager, Vets for Compassion, public hearing, Geelong, 20 August 2025, *Transcript of evidence*, p. 3, Jason Cichocki, Founding Member, Surfcoast Wildlife Rescue, public hearing, Geelong, 20 August 2025, *Transcript of evidence*, p. 55.

¹⁰ For example, see Miranda Brown, *Submission 4*, p. 1; Linda Henderson, *Submission 6*, p. 1; Sarah Owen, *Submission 25*, p. 1; Daniel Lacey, *Submission 161*, p. 1; Ted Howard, *Submission 190*, p. 1; Joanne Fischer, *Submission 296*, p. 1; Tripta Kaur, *Submission 357*, p. 1.

1.3 The submissions

At the commencement of the Inquiry, the Committee wrote to key stakeholders seeking their input by submission. In addition, the Committee advertised the Inquiry through social media and the Parliament website and called for submissions from the community.

The Committee received 469 submissions to the Inquiry. These were from wildlife rescuers, both individual and organisations, wildlife shelters, academics, local government councils, as well as welfare groups and concerned individuals.

The submissions have been published on the Inquiry webpage at the Parliament of Victoria's website at <https://www.parliament.vic.gov.au/get-involved/inquiries/WildlifeRoadstrike/submissions>.

1.4 Public hearings

The Committee held three days of public hearings, two of which were in regional centres and one in Melbourne. At the hearings, the Committee heard from a range of wildlife rescuers, academics, state and local government representatives, an insurance company and Victoria Police, as well as a professional shooter and game and conservation organisations. A full list of the witnesses who appeared before the Committee is provided in Appendix A.

1.5 Roundtable discussion

In addition to the formal hearings, the Committee held a roundtable discussion with invited people with particular interest and expertise in the issue. This roundtable provided invaluable insights and while it was not a formal parliamentary proceeding like public hearings, the Committee found it extremely useful. It is likely to become a feature of future Inquiries.

1.6 The Report

The Report is made up of 4 chapters. After this introductory chapter, which simply describes the Inquiry process, Chapter 2 provides an overview of the regulatory and administrative oversight of wildlife roadstrike. The legislative and regulatory structures, as well as the administrative arrangements, are limited and the Committee makes recommendations that will address the deficiencies.

Chapter 3 discusses the major causes of wildlife roadstrike. It is clear from the Inquiry that one of the key issues facing policy makers is the dearth of reliable and accessible data, and the Committee addresses this issue in this chapter. The chapter also addresses issues including the impact of urban development and expansion on wildlife populations, as well as driver behaviour and the effect of excessive speed on wildlife roadstrike.

Chapter 4 considers mitigation strategies that are being used here and in other jurisdictions, along with emerging technologies and approaches that may be options for Victoria to consider.

Chapter 2

Wildlife roadstrike management

2.1 Laws and rules regulating incidents of wildlife roadstrike

The laws and regulations covering wildlife roadstrike in Victoria are fragmented and decentralised, spanning numerous pieces of legislation and regulatory and policy frameworks. As discussed in Chapter 3, planning issues significantly contribute to wildlife roadstrike, yet the planning legislation provides no guidance or protections to reduce collisions with motor vehicles.

The following sections provide an overview of the current legislative and regulatory framework that covers wildlife generally.

2.1.1 *The Wildlife Act 1975 (Vic)*

The main piece of legislation regulating the management of wildlife in Victoria is *the Wildlife Act 1975 (Vic)*, which seeks to establish procedures to promote the protection and conservation of wildlife.¹ Under this Act, wildlife refers to all animals that are native to Australia, as well as some non-native animals such as deer and certain birds.² Its definition of protected wildlife includes animals commonly struck by vehicles on the road, such as kangaroos and wombats.³

Offences under *the Wildlife Act*

There is no explicit mention of wildlife roadstrike as an offence in *the Wildlife Act*. The Act does make it an offence to:

- hunt, take or destroy threatened or protected wildlife⁴
- willfully disturb or injure protected wildlife.⁵

2.1.2 *Prevention of Cruelty to Animals Act 1986 (Vic)*

The Prevention of Cruelty to Animals Act 1986 (Vic) (POCTA Act) seeks to:

- prevent cruelty to animals

¹ *Wildlife Act 1975 (Vic)*, s 1A.

² *Ibid*, s 3.

³ *Ibid*.

⁴ *Ibid*, s 41.

⁵ *Ibid*, s 58.

- encourage considerate treatment of animals
- improve community awareness about the prevention of cruelty.⁶

As with *the Wildlife Act*, there is no explicit mention of wildlife roadstrike in the *POCTA Act*. *The POCTA Act* makes it an offence to act cruelly to an animal, which includes wounding or mutilating an animal. However, cruelty would require a deliberate act, rather than an accidental collision.

Some stakeholders told the Committee that they understood the *POCTA Act* to legally obligate motorists to stop and render assistance to wildlife they have struck.⁷

In communications with the Committee Secretariat, Chief Conservation Regulator Kate Gavens clarified that accidental wildlife roadstrike ‘is not an offence and therefore not within [the Conservation Regulator’s] remit’.⁸ She confirmed, moreover, that ‘[t]here is no legal obligation ... obligating motorists to check on animals struck by vehicles or to render assistance’.⁹

2.1.3 Wildlife (Game) Regulations 2024

The Wildlife (Game) Regulations 2024 have no implications for wildlife roadstrike as they are designed to regulate game hunting.

2.1.4 Road Safety Act 1986 (Vic)

As discussed, there are currently no laws or regulations that make the unintentional striking of an animal in a motor vehicle an offence, even if the driver is at fault due to excessive speed, inattention or other forms of negligent driving.

RSPCA Victoria suggested amending s 61 of the *Road Safety Act 1986* (Vic) – which requires drivers to stop and render assistance if they strike a person or property, including pets – to include wildlife.

Many other stakeholders were also supportive of the introduction of a legal requirement for motorists to stop and render assistance if they hit wildlife, for example by calling a rescue organisation.¹⁰

⁶ *Prevention of Cruelty to Animals Act 1986* (Vic), s 1.

⁷ See, for example: Ian Slattery, Wildlife Rescuer, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 32; Fiona Williamson, *Submission 336*, pp. 5–6; Manfred Zabinskas, *Transcript of evidence*, p. 41.

⁸ Kate Gavens, Chief Conservation Regulator, Conservation Regulator, Department of Energy, Environment and Climate Action, personal communication, 21 August 2025.

⁹ Kate Gavens, Chief Conservation Regulator, Conservation Regulator, Department of Energy, Environment and Climate Action, personal communication, 21 August 2025.

¹⁰ See, for example: Cherie Wilson, *Submission 250*, p. 1; Angela Steffensen, *Submission 273*, p. 2.

FINDING 1: The laws and regulations governing wildlife do not address the issue of unintentional roadstrike and do not require motorists to render assistance or report roadstrike, except to the extent they are covered under the *Prevention of Cruelty to Animals Act 1986* (Vic).

RECOMMENDATION 1: That the Victorian Government consider amending the *Road Safety Act 1986* (Vic) to require motorists to stop and render assistance to wildlife they have struck when safe to do so. Rendering assistance could mean simply reporting the collision to a wildlife rescue organisation, noting that this will require a matching State-wide notice and dispatch system agreed and adopted by all active stakeholders, including volunteer organisations.

RECOMMENDATION 2: That the Victorian Government establish a single, statewide phone number for reporting wildlife–vehicle collisions, to ensure motorists can quickly access assistance and wildlife rescue services regardless of their location. This number should be widely promoted and integrated with existing emergency response and wildlife rescue systems to improve coordination, response times, and animal welfare outcomes.

2.2 Who is involved in managing wildlife roadstrike?

Responsibility for the management of wildlife roadstrike in Victoria is ill-defined and fragmented, spanning numerous government and non-government entities, and various pieces of legislation. This section describes the responsibilities of government agencies in preventing and responding to wildlife roadstrike.

Much of the ‘responsibility’ for managing the effects of wildlife roadstrike falls on unpaid volunteers. The role of these non-government actors, including volunteer organisations and individuals in responding to roadstrike, is considered later in this chapter. Section 2.2.1 focusses on the role and responsibilities of government agencies. The volunteer sector and the role they play is examined in detail at Section 2.2.5.

2.2.1 Department of Energy, Environment and Climate Action

The Department of Energy, Environment and Climate Action is broadly responsible for the management of wildlife in Victoria. At a public hearing, the Department’s Chief Biodiversity Officer, James Todd, explained that this involves ‘setting statewide policy for the conservation, management and sustainable use of wildlife through the administration of the *Wildlife Act 1975* and the *Flora and Fauna Guarantee Act 1988*’.¹¹

¹¹ James Todd, Chief Biodiversity Officer, Department of Energy, Environment and Climate Action, public hearing, Melbourne, 1 September 2025, *Transcript of evidence*, p. 52.

However, '[the Department's] policy mandate does not extend to the direct care of or outcomes for individual wildlife affected by accidental road trauma, including injury or death'.¹²

Notwithstanding this, the Department:

- Hosts a Help for Injured Wildlife tool on its website, which provides guidance for members of the public who encounter injured wildlife including on the road.
- Develops strategies and guidelines for living with and managing wildlife, including the Living with Wildlife Action Plan, the Guidance Note for managing kangaroos in Victoria's growth areas, and the Kangaroo Harvest Management Plan.
- Provides grants and guidelines for wildlife rehabilitators.
- Through the Conservation Regulator, monitors compliance with and enforces relevant laws, and issues licences and permits for wildlife rescuers and rehabilitators.

On its website, the Department hosts a Help for Injured Wildlife tool designed to assist users to locate and contact relevant wildlife carers and rehabilitators when they encounter injured native wildlife.¹³ The tool prompts users to identify the type of animal that has been injured, whether the animal is alive, and if so, what is wrong.¹⁴ Depending on how the user answers, the tool explains what the user should do.¹⁵ For example, if a user encounters an injured kangaroo or wallaby that has been struck by a vehicle but is still alive, the tool:

- cautions the user about traffic
- asks them to wrap up any baby animals thrown from their mother's pouch
- provides them list of the closest volunteer organisations to contact.¹⁶

The Committee notes the tool's value in assisting and educating motorists who have been involved in a wildlife-vehicle collision. However, it reflects the Government's lack of leadership in responding to wildlife roadstrike, placing the burden instead on well-meaning and professional, but underfunded volunteer organisations.

Living with Wildlife Action Plan

In 2018, the Department's predecessor the Department of Environment, Land, Water and Planning developed a *Living with Wildlife Action Plan*.¹⁷ In its Action Plan, the

¹² Ibid.

¹³ Department of Energy, Environment and Climate Action, *Help for Injured Wildlife*, <<https://www.wildlife.vic.gov.au/injured-native-wildlife/wildlife-tool>> accessed 19 September 2025.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ Department of Environment, Land, Water and Planning, *Living with Wildlife Action Plan*, <<https://www.wildlife.vic.gov.au/our-wildlife/living-with-wildlife-action-plan>> accessed on 11 November 2025

Department explained that '[a]s Victoria's human population grows and urban development expands, wildlife-human interactions are becoming more frequent', including road collisions.¹⁸ To respond to this, the Department put forward short- and medium-term actions for effective wildlife management, which included:

- a review of the Authority to Control Wildlife system
- a review of the effectiveness of the kangaroo management planning process
- development of a Victorian Kangaroo Management Strategy.¹⁹

At a public hearing, Hume City Council's Deputy Mayor Cr Naim Kurt explained that the Action Plan 'guides a lot of the work that [Council] does', but that 'a lot of the recommendations have not been followed through' including development of the Kangaroo Management Strategy.²⁰ In its submission, Hume City Council recommended that the Department of Energy, Environment and Climate Action deliver on actions in the Action Plan.²¹ RSPCA Victoria likewise recommended the Victorian Government review the Action Plan and include actions on avoiding or mitigating wildlife roadstrike.²²

Guidance Note for managing kangaroos in Victoria's growth areas

In 2024, the Department published a *Guidance Note for managing kangaroos in Victoria's growth areas*.²³ The document seeks to provide guidance to 'landowners, ecological consultants, and Councils to assist with understanding the complexities of kangaroo management and ensuring that animal welfare and human safety are protected', as well as 'on the development of kangaroo management plans'.²⁴

The Guidance Note covers ways of preventing wildlife roadstrike, including:

- staging development to minimise the risk of landlocking kangaroos
- installing permanent fencing to discourage kangaroos from entering roads
- kangaroo warning signs.²⁵

¹⁸ Ibid, p. 9.

¹⁹ Ibid.

²⁰ Cr Naim Kurt, Deputy Mayor, Hume City Council, public hearing, Melbourne, 1 September 2025, *Transcript of evidence*, pp. 5–6.

²¹ Hume City Council, *Submission 210*, p. 20.

²² RSPCA Victoria, *Submission 362*, pp. 26–27.

²³ Department of Energy, Environment and Climate Action, *Guidance Note for managing kangaroos in Victoria's growth areas*, Victorian Government, September 2024, p. 2.

²⁴ Ibid.

²⁵ Ibid, p. 9.

Conservation Regulator

The Conservation Regulator is an independent regulator responsible for the regulation of fire prevention, use of public land, wildlife and biodiversity in Victoria.²⁶ This includes:

- monitoring compliance with, investigating and enforcing relevant laws
- issuing licences, permits and authorisations to manage and protect wildlife, including Authorities to Control Wildlife, and
- encouraging voluntary compliance through education.²⁷

In communications with the Committee Secretariat, Chief Conservation Regulator Kate Gavens explained that wildlife roadstrike does not ‘fall under any law that the Conservation Regulator is responsible for enforcing except in the extraordinary circumstances where a motorist is deliberately seeking to hit and injure wildlife with a vehicle’.²⁸ However, tangential to roadstrike, Gavens confirmed the Regulator is responsible for:

- authorising wildlife rehabilitators under the Wildlife Act
- issuing permits for the control of kangaroo populations.²⁹

The Wildlife Act allows the Secretary of the Department of Energy, Environment and Climate Action to authorise a person to control wildlife – which includes hunting, taking or destroying, and buying and selling – if the Secretary is satisfied the authorisation is necessary, for example for the purposes of wildlife management.³⁰ In practice, this allows the Conservation Regulator to authorise landowners to shoot, relocate or trap kangaroos on their land.³¹ Before granting an Authority to Control Wildlife to landowners, the Conservation Regulator requires the landowner to have considered practical non-lethal control methods.³²

2.2.2 VicRoads

Stakeholders throughout the Inquiry referred to VicRoads in its capacity as a road authority. In 2020, however, VicRoads’ responsibility over freeways and arterial roads transferred to the Head of Transport for Victoria, who sits within the

²⁶ Conservation Regulator, *Conservation Regulator*, 30 August 2024, <<https://www.vic.gov.au/conservation-regulator>> accessed 23 September 2025.

²⁷ Victorian Government, *About the Conservation Regulator*, <<https://www.vic.gov.au/about-us-conservation-regulator#our-responsibilities>> accessed 11 November 2025.

²⁸ Kate Gavens, Chief Conservation Regulator, Conservation Regulator, Department of Energy, Environment and Climate Action, personal communication, 21 August 2025.

²⁹ Ibid.

³⁰ *Wildlife Act 1975* (Vic) s 28A.

³¹ Conservation Regulator, *Wildlife management and control authorisations*, <<https://www.vic.gov.au/wildlife-management-and-control-authorisations>> accessed 23 September 2025.

³² Ibid.

Department of Transport.³³ Transport Victoria's website explains responsibility for the management, maintenance and development of Victoria's roads is largely shared between the Department of Transport, municipal councils, toll-road operators, and other government departments including the Department of Energy, Environment and Climate Action.³⁴

In 2012, VicRoads published its *Fauna sensitive road design guidelines*.³⁵ These were 'developed to assist VicRoads staff promote the movement of wildlife across roads'.³⁶

According to its website, VicRoads is responsible primarily for 'manag[ing] registration and licensing services on behalf of the Victorian state government'.³⁷

2.2.3 Victoria Police

Victoria Police play a central role in road safety through enforcement of road rules and relevant legislation. In evidence before the Committee, Assistant Commissioner Glenn Weir said that wildlife roadstrike incident response includes responding to emergency calls for service where a vehicle has collided with an animal, an emergency police response if required and coordinating with other emergency services as necessary. This response includes wildlife rescuers if the animal requires care. It may also involve euthanising seriously injured animals on compassionate grounds, and recording and investigating all reported collisions unless there is no injury to any party.³⁸

The Committee heard that Victoria Police officers are often called to euthanise wildlife.³⁹

Erin Ashmore, Macedon Ranges Wildlife Network, told the Committee that although Victoria Police sometimes fills this gap, euthanising wildlife is a specialist skill that police officers do not always have.⁴⁰ This view was shared by Nicole de Haan, Vets for Compassion, who explained that Victoria Police have recently engaged the organisation 'to train [Victoria Police's] highway patrol unit in emergency response, including humane euthanasia'.⁴¹ She also noted that Victoria Police rely on Vets for Compassion's darters to safely tranquilise mobile animals.⁴²

³³ The Victorian Government, *About the Department of Transport and Planning*, <<https://www.vic.gov.au/about-department-transport-planning>> accessed 11 November 2025

³⁴ Transport Victoria, *Road types and responsible authorities*, <<https://transport.vic.gov.au/road-and-active-transport/business/road-and-traffic-management/road-types-and-responsible-authorities>> accessed 23 September 2025.

³⁵ VicRoads, *Fauna sensitive road design guidelines*, August 2021, pp. 1-42.

³⁶ VicRoads, *Biodiversity*, <<https://www.vicroads.vic.gov.au/planning-and-projects/%20environment/biodiversity>> accessed 23 September 2025.

³⁷ VicRoads, *About VicRoads*, <<https://www.vicroads.vic.gov.au/about-vicroads#:~:text=We%20manage%20registration%20and%20licensing,of%20the%20Victorian%20state%20government>> accessed 23 September 2025.

³⁸ Assistant Commissioner Glenn Weir, *Transcripts of evidence*, p. 43.

³⁹ See, for example, Erin Ashmore, *Transcript of evidence*, p. 40.

⁴⁰ Erin Ashmore, *Transcript of evidence*, p. 48.

⁴¹ Nicole de Haan, Operations Manager, Vets for Compassion, public hearing, Geelong, 20 August 2025, *Transcript of evidence*, p. 34.

⁴² Ibid.

2.2.4 Local government

Local governments play a key role in managing and reducing the wildlife road toll. Approximately 85% of roads in Victoria are owned and maintained by local government. Local government authorities have responsibility for maintaining roads, including the roadside vegetation. For peri-urban local government authorities, the issue is of great importance as they are having to manage substantial developments pushing into land that has been habitat for native animals, particularly kangaroos. Local governments also have a significant role in planning decisions, which while not specifically a wildlife issue, does have significant impact on wildlife roadstrike. This issue is considered in detail in Chapter 3.

Although the majority of regional roads are ‘local government’ roads, the Committee has been told that the limitations of current regulations make it challenging for Council to reduce speed limits without the Department of Transport and Planning approval, even in known wildlife corridors.⁴³ Local government authorities are also limited in what they can physically do to assist in reducing wildlife roadstrike due to their stretched resources and increasing responsibilities in meeting the demands of their communities. Despite these limitations, the Committee has been told that local government works with organisations like Wildlife Victoria and wildlife shelters within their boundaries.

Individual local government authorities provided submissions to this Inquiry and raised several concerns and recommendations for state government. These are addressed in the relevant sections of this Report.

2.2.5 Volunteer organisations

Many are surprised to learn that Victoria’s wildlife roadstrike response relies almost entirely on volunteer rescuers, shelter operators and veterinarians. These volunteers carry a heavy financial and emotional burden. However, very few receive any government support. The Committee heard that:

- Volunteer rescuers and shelters are largely self-funded.
- A volunteer-based model is no longer sustainable and is at a crisis point.
- Changes need to be made to better support volunteer rescuers and shelters.
- To date, there is an acknowledged lack of reflection or consensus within the volunteer organisation community as to how they could or would want to be collectively managed under a centralised, co-ordinated, formalised system that would add the financial and operational support sought.

The Committee heard that without significant reform and additional supports, the wildlife rescue and rehabilitation sector will lack the capacity to respond to the increasing volume of wildlife roadstrike incidents.

⁴³ Macedon Ranges Shire Council, *Submission 59*, p 1.

Volunteer rescuers and shelters are largely self-funded

It is a significant expense, and I know for a fact that we have lost a lot of rescuers doing this work because they cannot afford it.

Ian Slattery, Wildlife Rescuer, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 31.

Many volunteer rescuers and shelters personally pay all their own operating costs. Operating costs include the costs volunteers incur when traveling to, capturing or euthanising and rehabilitating injured wildlife. The Committee heard that these costs can be substantial and are a significant burden for volunteers to bear. For example, the Committee heard that Trevor Crawford, Wildlings Wildlife Rescue, spends ‘\$700 a week’ in vehicle running costs to attend rescues⁴⁴ and Manfred Zabinskas, Macedon Ranges Wildlife Network, spends ‘well over \$60,000 a year’ in running an animal shelter.⁴⁵

Some volunteers do receive small government grants or are reimbursed for certain costs they incur. For example, the Department of Energy, Environment and Climate Change Action offers \$2000-\$3000 grants to wildlife carers⁴⁶ and some wildlife rescue organisations reimburse some rescuer costs⁴⁷ or provide a fixed fee for rescues.⁴⁸ However, even those volunteers who do receive some external funding still are required to pay some costs personally.

The Committee heard that particularly in a cost-of-living crisis, volunteering in this sector can cause significant financial stress. For some, the costs involved in wildlife rescue are prohibitive and mean that they can no longer afford to keep volunteering.⁴⁹ The Committee considers that volunteering should not be the source of significant financial stress, as is the case for a large network of wildlife rescuers and shelter operators.

FINDING 2: Volunteers incur substantial costs when delivering voluntary rescue and shelter services. This is an enormous burden to be borne by the volunteer sector.

RECOMMENDATION 3: That the Victorian Government adopts the option for Victorians to voluntarily contribute a nominal amount through yearly vehicle registration. The funds collected would go directly to supporting wildlife rescue and shelter in Victoria.

⁴⁴ Trevor Crawford, Wildlings Wildlife Rescue, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 41.

⁴⁵ Manfred Zabinskas, Macedon Ranges Wildlife Network, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 47.

⁴⁶ Jo Fischer-Morrissey, Wildlife Rescue and Information Network, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 25.

⁴⁷ Nicole De Hann, *Transcript of evidence*, pp. 40–42.

⁴⁸ Ian Slattery, Wildlife Rescuer, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, pp. 30–31.

⁴⁹ Ian Slattery, *Transcript of evidence*, p. 31.

RECOMMENDATION 4: It is desirable that the Victorian Government adopts the option for Victorians to voluntarily contribute a nominal amount through yearly vehicle registration. However, before any systemised funding solution can or should be attempted the volunteer rescue community will first need to consult and collectively determine the framework under which they would operate under a state-wide system, and the level of governance and compliance they would accept under the system. Once formalised, the chosen governing entity could then suitably receive and distribute voluntary donations received through vehicle registration.

A volunteer-based model is no longer sustainable and is at a crisis point

We are at risk of losing responders – not due to lack of compassion but burnout and financial ruin. These are not safe or sustainable jobs.

Nicole De Hann, Operations Manager, Vets for Compassion, public hearing, Geelong, 20 August 2025, *Transcript of evidence*, p. 34.

The current volunteer-based model of wildlife rescue and rehabilitation is no longer sustainable. Many wildlife rescuers and carers spoke of being ‘overwhelmed’,⁵⁰ ‘fatigued’⁵¹ ‘pushed to a breaking point’,⁵² and ‘burnt out’.⁵³ Further, the Committee heard that wildlife rescuers have access to very limited, if any, formalised mental health supports – compounding the mental distress experienced by many volunteers in the sector.

Krysti Severi, wildlife rescuer, told the Committee:

We pour our hearts and souls into rescue. We give everything, and still we are broken – financially, emotionally and personally – and worst of all, the animals still suffer. The work we do as wildlife rescuers can be soul-destroying. It challenges your faith in humanity to see animals left to suffer from catastrophic injuries without help.⁵⁴

Jason Cichocki, founding member and Director of Surfcoast Wildlife Rescue, told the Committee:

It is quite traumatising having to point a gun at a kangaroo and pull the trigger, especially when you are doing this because you love the animals.⁵⁵

⁵⁰ Dr Elaine Ong, Founder, Vets for Compassion, public hearing, Geelong, 20 August 2025, *Transcript of evidence*, p. 37.

⁵¹ Lisa Palma, Chief Executive Officer, Wildlife Victoria, public hearing, Geelong, 20 August 2025, *Transcript of evidence*, p. 45.

⁵² Krysti Severi, Rescue Rehabilitate Release, public hearing, Melbourne, 1 September 2025, *Transcript of evidence*, p. 13.

⁵³ Lisa Palma, *Transcript of evidence*, p. 45.

⁵⁴ Krysti Severi, *Transcript of evidence*, p. 13.

⁵⁵ Jason Cichocki, *Transcript of evidence*, p. 60.

Lisa Palma, CEO and Executive Director of Wildlife Victoria, told the Committee:

For the rest of my days I will never forget the imploring eyes of suffering wildlife impacted by roadstrike that I personally have responded to.⁵⁶

Nicole De Haan, Operations Manager at Vets for Compassion, told the Committee:

Multiple times a week volunteers are the ones responding to these harrowing scenes. They are not just darting and euthanising wildlife with compound fractures dragging themselves from the roadside, they are also the ones consoling and counselling visibly distressed members of the public. This emotional labour means they are late to work, miss family commitments and go without sleep continuously. This is the toll of a broken system, and it is one volunteers carry silently every day.⁵⁷

Wildlife rescue and rehabilitation is an important public service that many assume is being delivered by a government department. Wildlife Victoria is the states leading wildlife emergency response service. However, only 7% of its operating costs are covered by state government grants.⁵⁸ This is also the case for many other rescue and shelter organisations who told the Committee that they too receive little, if any, government support for the public service they provide. Given the increasing volume of wildlife roadstrike, the Committee heard that ‘it is just not sustainable [for volunteers] to continue providing a public service of this size and scale without fundamental change’.⁵⁹

FINDING 3: Wildlife roadstrike response in Victoria relies almost entirely on volunteer wildlife rescuers, shelter operators and veterinarians.

FINDING 4: The current volunteer-based model is no longer sustainable.

FINDING 5: The management of wildlife roadstrike, like the regulatory framework, is fragmented and ill-defined, which makes responsibility for mitigation unclear and leaves an unreasonable burden on voluntary organisations and individuals who operate without sufficient support.

FINDING 6: The wildlife rescue and shelter sector is largely made up of an aging volunteer demographic. Without reform, the sector will lack the capacity to respond to the sheer volume of wildlife roadstrike incidents.

⁵⁶ Lisa Palma, *Transcript of evidence*, p. 45.

⁵⁷ Nicole De Haan, *Transcript of evidence*, p. 33.

⁵⁸ Lisa Palma, *Transcript of evidence*, p. 48.

⁵⁹ Ibid.

Changes need to be made to better support volunteer rescuers and shelters

We want to do it. We just need to be supported better.

Meaghan Willis, Macedon Ranges Wildlife Network, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 49.

Several changes need to be made to better support the individuals who provide rescue and shelter services. To improve the sustainability of the sector, the Committee heard that volunteers:

- should be recognised and reimbursed for the work they do
- need greater protections when responding roadside, and
- deserve greater supports to reduce burnout.

These potential reforms are discussed in further detail below.

Volunteers should be recognised and reimbursed for the work they do

Wildlife rescue is highly skilled and dangerous work.⁶⁰ Such work should be recognised ‘as a specialist skill and acknowledged with adequate funding for that specialist skill’.⁶¹ Nicole De Haan, Vets for Compassion, asked the Committee why wildlife rescue should be treated any differently to other forms of emergency response:

When every other person involved in a call-out, from emergency services to government staffing, is being paid and every other department is funded for its role, how can it be justified that the experts with the most specialised, niche skill set are the only ones expected to work for free? This is a systemic failure – one that has real-world consequences for animals, for responders and for everyday Victorians.

Some stakeholders acknowledged that ‘paying full-time wages for everyone in wildlife rescue is unsustainable’.⁶² However, emphasised that volunteering should not leave people ‘out of pocket’ or in financial stress.⁶³ At a minimum, volunteers should be reimbursed for the reasonable costs they incur in carrying out wildlife rescue and rehabilitation.

The Committee notes that with more formalised funding structures comes increased bureaucratisation and compliance requirements. Whilst larger organisations like Wildlife Victoria do manage a large number of volunteers, there are many smaller organisations or individuals also conducting wildlife rescue and shelter operations. It appears to the Committee that there is no widely accepted leadership within the sector that most volunteers would be content to concede oversight too. Therefore, it is unclear

⁶⁰ Lisa Palma, *Transcript of evidence*, p. 51; Erin Ashmore, *Transcript of evidence*, p. 48.

⁶¹ Erin Ashmore, *Transcript of evidence*, p. 48.

⁶² Lisa Palma, *Transcript of evidence*, p. 51.

⁶³ Ibid.

who would implement a more formalised funding structure in practice. Based on the evidence the Committee collected, it is concerned that any increased oversight and regulation which accompanies more formalised funding would not be acceptable to many volunteers. Any reform to provide increased supports through a more formalised funding structure should be done in close consultation with volunteers.

FINDING 7: Wildlife rescue is highly skilled and dangerous work.

RECOMMENDATION 5: That the Victorian Government, in close consultation with volunteers, consider providing recurrent funding and reimbursements to wildlife rescuers and carers to ensure timely and sustainable response to roadstrike incidents.

RECOMMENDATION 6: That the Victorian Government consider the establishment of a program to professionalise and fund the volunteer wildlife rescue sector.

The Committee also notes that the current patchwork response to wildlife roadstrike of councils, SES, carers and voluntary rescuers is inefficient, and that developing a Code of Practice that outlines the roles and responsibilities for accredited carers, including local councils, SES, carers and rescuers, would result in better outcomes.

RECOMMENDATION 7: That the Victorian Government, in consultation with key stakeholders, develop a Code of Practice for accredited agencies responding to wildlife roadstrike, including local councils, police, SES, carers and rescuers.

Volunteers need greater protections when responding roadside

Responding to injured wildlife on the roadside is a high-risk situation for volunteer rescuers. Karl Dawson, Wildings Wildlife Rescue, described ‘having no option but to walk along the road to reach the animal, often in 80 or 100-kilometre-an-hour zones and often at night’.⁶⁴ Similarly, Ian Slattery, senior wildlife rescuer, spoke about being frequently called out to dart ‘a 70-kilo kangaroo injured by a car on the Calder Freeway, with motorist driving past at 110 kilometres an hour’.⁶⁵

Many rescuers are very aware of the dangers of roadside rescue. However, the safety equipment available to them is minimal and self-funded. Rescuers must rely upon their vehicles hazard lights during rescues, as they are legally unable to use equipment such as flashing beacon lights. Many rescuers told the Committee that hazards lights are

⁶⁴ Karl Dawson, *Transcript of evidence*, p. 43.

⁶⁵ Ian Slattery, *Transcript of evidence*, p. 35.

not enough to make them identifiable.⁶⁶ Despite legal restrictions, some rescuers would ‘rather illegally use a beacon light than be hit by a car that does not want to slow down’.⁶⁷

Stakeholders called for ‘stronger safety protocols to protect roadside responders from becoming victims themselves’.⁶⁸ Safety protocols used by the SES and CFA could guide reform for wildlife roadside rescuers.⁶⁹

FINDING 8: The safety protocols and equipment available to volunteer wildlife rescuers is not sufficient to mitigate the dangerous risks they face when responding roadside.

RECOMMENDATION 8: That the Victorian Government consider implementing stronger safety protocols to protect volunteer wildlife rescuers when responding roadside.

Volunteers deserve greater supports to reduce burnout

Volunteers ‘are not volunteers for any reason other than the care of the animal’.⁷⁰ It is because of this care, that many ‘volunteers contribute a significant amount of their time and money into doing this work’.⁷¹ Krysti Severi, wildlife rescuer, told the Committee:

I used to rescue seven days a week, day or night. My phone would ring at any hour, and I would answer, but burnout has caught up with me. My family life would suffer, and my social life suffered. My body will no longer allow me to work at that level.⁷²

Despite facing burnout and exhaustion, many volunteers ‘feel pressure to respond’⁷³ to call outs, particularly those late at night where not a lot of people are available.⁷⁴ To assist their volunteers to manage their workloads, Vets for Compassion are developing an app to monitor volunteers’ hours via a traffic light system. Nicole De Hann told the Committee they believe it ‘is something that will help [volunteers] actually recognise and maybe think twice about accepting jobs’.⁷⁵ The Committee considers that innovative solutions that assist volunteers to set and maintain boundaries should be explored and implemented by wildlife rescue organisations.

⁶⁶ Deborah Gwyther-Jones, Macedon Ranges Wildlife Network, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 42.

⁶⁷ Deborah Gwyther-Jones, *Transcript of evidence*, p. 42.

⁶⁸ Erin Ashmore, *Transcript of evidence*, p. 40.

⁶⁹ Ian Slattery, *Transcript of evidence*, p. 35, Lisa Palma, *Transcript of evidence*, p. 51.

⁷⁰ Jo Fischer-Morrissey, *Transcript of evidence*, p. 29.

⁷¹ Mhairi Roberts, Policy and Advocacy Manager, RSPCA Victoria, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 58.

⁷² Krysti Severi, *Transcript of evidence*, p. 13.

⁷³ Nicole De Haan, *Transcript of evidence*, p. 37.

⁷⁴ Ibid.

⁷⁵ Ibid.

Further, volunteers are also regularly exposed to highly distressing scenes with limited formalised mental health support. Greater mental health supports could assist volunteers to manage ‘burnout’ and ‘compassion fatigue’⁷⁶ by ensuring they are supported to manage the trauma inherent in rescuing and rehabilitating injured wildlife.

FINDING 9: Wildlife rescue organisations, such as Vets for Compassion, are exploring innovative ways to encourage their volunteers to set and maintain healthy boundaries. The Committee commends and encourages this work.

⁷⁶ Lisa Palma, *Transcript of evidence*, p. 45.

Chapter 3

The causes of wildlife roadstrike

3.1 The data gap

A recurring theme throughout the Inquiry has been the paucity of empirical data on wildlife roadstrike, which both makes the problem less visible and inhibits clear mitigation policy development. There are some useful datasets available, as found in the next section, however, it has limitations and is somewhat disjointed.

Anecdotal evidence clearly suggests that the problem is significant and growing, but without reliable and comprehensive published data to support it, the community and policy makers may not give it the priority that it warrants.

Much of the data is collected at the organisational level, sometimes by small volunteer groups with limited resources. Some organisations, such as Wildlife Victoria, collect more comprehensive and multi-layered data and this data has been used extensively in this Report.

Lisa Palma, Chief Executive Officer, Wildlife Victoria, told the Committee in a public hearing that they have ‘the majority of the data to inform what is happening over multiple years’ and that their ‘data provision and analysis of that data ... has enabled local government to get a really good understanding of what is going on right down to the GPS location.’¹

However, as suggested by the Macedon Ranges Wildlife Network in its submission, many collision events go entirely unreported and therefore unrecorded.²

Additionally, various stakeholders hold separate data, with veterinarians who treat road injured wildlife, councils and DEECA officers who remove carcasses, and local rescue groups all keeping their own records. These datasets are not integrated.

As suggested in the Macedon Ranges Wildlife Networks submission, the lack of a centralised database or reporting mechanism makes it difficult to pinpoint true hotspots or track trends over time. The submission stated that ‘without unified data, the scope of the roadstrike problem is likely underestimated, and opportunities for targeted intervention are missed’.³ This concern over the fragmentation of the data

¹ Lisa Palma, *Transcript of evidence*, p. 50.

² Macedon Ranges Wildlife Network, *Submission 54*, p 7.

³ *Ibid.*, p 8.

collection and dissemination was echoed by a substantial number of submissions, which expressed the view that this would significantly reduce the effectiveness of mitigation strategies.⁴

Despite the quality of the Wildlife Victoria data and the valuable data being produced by other organisations, the lack of a central accessible database is likely to hinder policy development. Much of the data seen by the Committee is pointing in the same direction, but differences in focus, parameters and collection methodologies makes it difficult to reach conclusions with any certainty and therefore to develop effective mitigation strategies.

Dr Helena Bender said in her submission that there are multiple datasets that are capturing the impacts of wildlife roadstrike including from concerned citizens and government agencies (e.g., Womsat, TurtleSAT, iNaturalist, Bionet); the Office of Road Safety, the Transport Accident Commission, and insurance companies. She stated that ‘there is little to no connectivity between these different datasets.’⁵ It was Dr Bender’s view that the ‘creation of a centralised dataset would make identifying hotspots easier (and) it could be used to develop an app that provides motorists with location specific warnings of high-risk areas’.⁶

This view was echoed by a number of other submissions and witnesses.⁷

In correspondence to the Committee, Wildlife Victoria said that it was necessary to charge people to access their data as ‘maintaining this database is a significant undertaking for Wildlife Victoria, costing many thousands of dollars each year. With \$500,000 provided annually by the State Government toward operating costs of more than \$7 million, our current capacity means we’re able to provide more detailed datasets to local governments on a fee-for-service basis’.⁸

While the Committee understands that Wildlife Victoria’s financial situation makes providing data on a fee-for-service basis necessary, it is not the ideal way for information to be collected and disseminated. Local authorities, in particular, have limited funds available and not having access to data without paying is likely to reduce the effectiveness and evidence-base of policy development.

⁴ See for example Macedon Ranges Wildlife Network, *Submission 54*, p. 7; Janet Heald, *Submission 159*, p. 17; Naomi Moodie *Submission 194*, p. 1; Hume City Council, *Submission 210*, p. 7; Sharon Bondy, *Submission 218*, p. 3; Southern Koala and Echidna Rescue (SKER), *Submission 271*, p. 1; Law Institute of Victoria, *Submission 302*, p. 8; Tim Hawthorne, *Submission 321*, p. 7; Richard Hudson, *Submission 386*, p. 59.

⁵ Helena Bender, *Submission 61*, p. 2.

⁶ Ibid.

⁷ For example, see: Nillumbik Shire Council, *Submission 72*, p. 7.

⁸ Correspondence to the Committee, 25 September 2025.

FINDING 10: Data collection on wildlife roadstrike is fragmented and inconsistent. Wildlife rescue organisations, insurance companies, councils, road authorities and wildlife carers all maintain separate records. This results in significant under-reporting and an incomplete picture of the problem, hindering evidence-based decision-making and investment in mitigation strategies.

RECOMMENDATION 9: That the Victorian Government consider the establishment of a centralised, publicly accessible wildlife roadstrike data collection system database, in conjunction with and for adoption by all. This system should integrate data from wildlife rescuer groups, insurance claims, council reports, police data and individual wildlife rescuer call-outs, ensuring data method consistency and transparency, and ‘single point of truth’ data curation.

3.2 How often are animals getting struck?

As discussed in the previous section, accurate and comprehensive data on wildlife roadstrike is lacking. However, some of the figures provided to the Committee provide a stark and somewhat distressing picture of the extent of the problem.

Data from several different sources has been provided to the Committee during the Inquiry which provides at least an indication of the extent of the problem.

Much of the data the Committee has seen is regionally based and is collected by individual groups from their own area. For example, the Macedon Ranges Wildlife Network said in its submission that in FY2022–23, it handled 2,226 wildlife rescue cases, increasing nearly 20% to 2,652 cases in FY2023–24.⁹ The submission suggested that this growth highlighted escalating pressures in the region, which ‘has become the highest wildlife rescue incident area in Victoria’.¹⁰ According to the submission, volunteer rescuers now respond to an average of 7.2 incidents daily, significantly straining local resources. Macedon Ranges Shire represents nearly 5% of the total statewide rescue case volume and is 200% higher than the second-highest wildlife rescue region.¹¹

In its submission, the Macedon Ranges Shire Council supported these figures, and suggested that since 2019, more than 5,000 native animals have been struck by vehicles in the Macedon Ranges Shire through Wildlife Victoria data alone.¹² However, the submission suggests that this number likely underrepresents the true scale of the

⁹ Macedon Ranges Wildlife Network, *Submission 54*, p. 1.

¹⁰ Ibid.

¹¹ Ibid.

¹² Ibid., p. 3.

issue, 'as it does not include unreported incidents or data from other sources'.¹³ The submission stated that its internal analysis suggests the actual number of roadstrike cases may be significantly higher.¹⁴

Wildlife Victoria provided the Committee with a statewide snapshot of the problem and the extent to which it is increasing. Its submission stated that wildlife hit by vehicles is one of the key reasons for calls for assistance and that wildlife roadstrike cases have increased by 288% across the last 10 years, with a persistent and ongoing increasing trend across the last 5 years.¹⁵

In a public hearing, Wildlife Victoria provided the Committee with further evidence of the extent of the problem. Lisa Palma told the Committee that in 2024 alone they answered over 160,000 calls for help from the public for sick, injured and orphaned wildlife and assisted more than 97,000 native animals across 450 different species.¹⁶ These calls for assistance were more than double what they were five years ago, and were largely due to human impacts on native species.¹⁷ While these numbers do not only represent roadstrike but include all calls for assistance, the roadstrike numbers are substantial and increasing at a concerning rate.

Wildlife Victoria's submission broke down some of the numbers over several years. It stated that on average between 2015 and 2019 Wildlife Victoria handled an average of 6,488 wildlife roadstrike cases per annum.¹⁸

The submission suggests that the case numbers handled in 2024 were 266% higher than that average. Post 2020, wildlife roadstrike cases have increased year on year and demonstrate an escalating trend.¹⁹

This increase in numbers is expected to continue, with case volume handled to date for 2025 showing an increase again for the current calendar year compared to 2024.

Figure 3.1 shows the increase in wildlife roadstrike cases according to data collected by Wildlife Victoria in the 10 years from 2015 to 2024.²⁰

¹³ Macedon Ranges Shire Council, *Submission 59*, p. 3.

¹⁴ Ibid.

¹⁵ Wildlife Victoria, *Submission 193*, p. 2.

¹⁶ Lisa Palma, *Transcript of evidence*, p. 44.

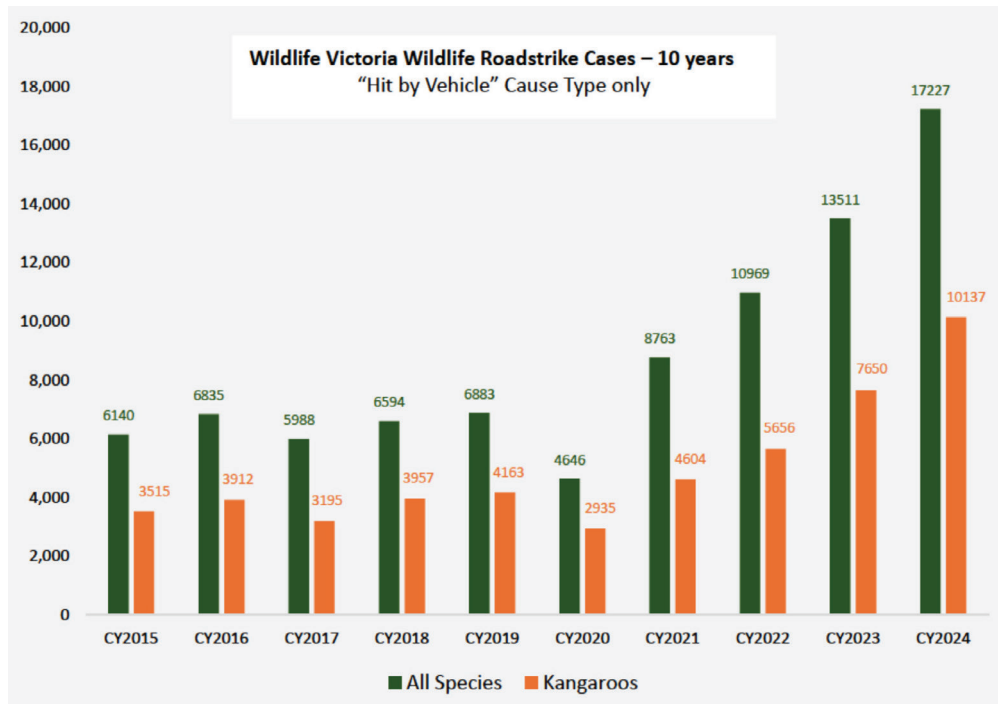
¹⁷ Ibid.

¹⁸ Wildlife Victoria, *Submission 193*, p. 11.

¹⁹ Ibid.

²⁰ Ibid., p. 10.

Figure 3.1 Roadstrike Trends 2015–2024



Source: Wildlife Victoria, *Submission 193*, p. 10.

Wildlife Victoria's data is the best and most comprehensive seen by the Committee. Each case is allocated a case number and contains comprehensive information including time stamp, recording of the call, location specifics, circumstances, identity of the caller, species, age and sex of the species, details of the responder and outcome of the case.²¹

However, as discussed in the previous section, different agencies and organisations collect data based on different parameters and may therefore differ in results, and may well be focussed on different elements. Victoria Police collect data on accidents overall. Assistant Commissioner Glenn Weir told the Committee in a public hearing that Victoria Police records indicate that for the five-year period to 31 December 2024, there were 1182 fatal crashes, resulting in 1265 fatalities and many more serious injuries. Of these 1182 fatal collisions, approximately 20 people – or 1.7 per cent of all people killed – were killed in collisions where striking or avoiding a wild animal was identified as one of the contributing factors.²²

Assistant Commissioner Weir told the Committee that over the same five-year period, Victoria Police recorded a total of 921 injury collisions involving a wild animal being struck. The majority of these collisions involving wildlife roadstrike, 74 per cent, occurred on high-speed roads, with speed limits of 80 kilometres an hour or higher.²³

²¹ Wildlife Victoria, *Submission 193*, p. 10.

²² Assistant Commissioner Glenn Weir, *Transcript of evidence*, p. 51.

²³ Ibid.

Most of the collisions happen in the twilight of dawn and dusk, when some animals are more active and mobile.

The Committee was also provided with figures by Suncorp Insurance which gave an estimate of the numbers of claims they received for vehicles damaged in a collision with an animal. In a public hearing, Brenton Kennedy of the Suncorp Group, told the Committee that ‘national data shows that 10 million native animals die on our roads every year and that between 2018 and 2022 there were 36 fatal crashes caused by a vehicle hitting an animal’.²⁴

Mr Kennedy further supported the data from Wildlife Victoria and told the Committee that the data they worked with shows that ‘collisions with animals on Australian roads have been increasing over the past decade’.

3.3 What kind of animals are getting struck?

There are a range of animals that become victims of roadstrike. While kangaroos are the most visible, both because of their size and mobility, all native animals are vulnerable. According to Wildlife Victoria, total roadstrike cases they have handled have spanned 311 different species, with kangaroos forming a significant proportion of total cases at typically between 50% and 60% of total wildlife roadstrike cases.²⁵

Despite this predominance of kangaroos as victims of roadstrike, submissions received by the Committee discussed a wide range of animals, including those that may not be as obvious. For example, in its submission Birdlife Australia suggested that ‘there is less public awareness around the ongoing threat to birds from vehicle collision – particularly when it comes to endangered species birds across Australia’.²⁶ To put the threat into context, the submission stated that ‘It is estimated that colliding with cars and windows kills 12 per cent of the population of Powerful Owls in Sydney each year’.²⁷

The limited accessible data discussed earlier in this chapter makes accurately quantifying the different species of native animals killed difficult.

The Shire of Nilumbik provided some details of the different species struck in 2021–22 in Nilumbik Shire. While these figures only relate to that region, it gives a snapshot of the number of species impacted by roadstrike.

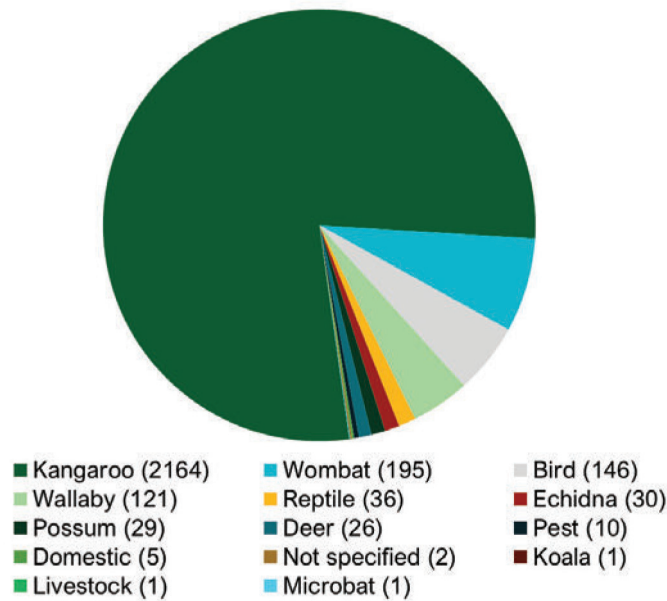
²⁴ Brenton Kennedy, Executive Manager, Motor Claims Customer Management and Experience, Suncorp Group, public hearing, Melbourne, 1 September 2025, *Transcript of evidence*, p. 24.

²⁵ Wildlife Victoria, *Submission 193*, p. 11.

²⁶ Birdlife Australia, *Submission 375*, p. 1.

²⁷ *Ibid.*, p. 2.

Figure 3.2 Nilumbik Shire, Roadstrikes 2021–22, by species



Source: Nilumbik Shire Council, *Submission 72*, p 2.

Again, the lack of a centralised and comprehensive database means that statistics are localised and their collection and accessibility is dependent on the priorities of the local authorities concerned. Given the substantial differences between regions, the financial limitations of local government and the fact that many roadstrike cases are not reported, providing an accurate picture of the specific species being impacted is not currently possible.

FINDING 11: While kangaroos are the victims of more roadstrike cases than any other individual species, all wildlife are at risk from motor vehicles and pose a risk to motorists.

3.4 Key causes of roadstrike

There is no single cause of roadstrike and the increasing incidents of the collisions. During the Inquiry, the Committee heard evidence suggesting a number of factors, including urban development; environmental changes including climate change; the lack of adequate infrastructure that protects animals and motorists from collisions; limitations of road rules and regulations, and the difficulties in enforcing them and driver behaviour. It has been proposed that the displacement of kangaroos due to habitat destruction compels them to enter areas where vegetation is readily available, potentially exacerbating human-wildlife interactions.

3.4.1 Urban development

The Committee heard evidence throughout the Inquiry that a key factor in the increasing number of roadstrike cases is the expansion of housing developments into previously rural land, thus displacing or trapping wildlife and bringing them in constant contact with humans, and particularly cars. There are a number of different impacts of this urban expansion on wildlife. The Committee will focus here on two of these impacts: habitat destruction and the resultant dislocation of wildlife; and the failure of planning schemes to consider the impacts of wildlife.

Habitat destruction is also occurring as a result of other human activity, such as logging and mining in state forests. However, most evidence received during this Inquiry related to urban development and this is the focus of this section.

3.4.2 Habitat destruction and land locking

A key factor in the increase in numbers of wildlife roadstrike cases has been the destruction of the habitat that the animals have traditionally inhabited as a result of encroachment by human housing development. Animals have been forced to relocate as their habitat is destroyed.

A significant number of submissions referred to this process as a leading cause of collisions between native animals and motor vehicles.

A submission from vet and wildlife rescuer, Melinda Darer, described the process succinctly. Suggesting that ‘as cities expand and farmland intensifies, native habitat is carved into smaller and more isolated patches. Wildlife is forced to navigate a matrix of roads, fences, and urban developments in search of food, mates, and shelter – placing them at direct risk of vehicular collision’.²⁸

It was suggested that this encroachment and destruction of habitat leads to peril for animals that are endangered. A submission from the Royal Botanic Gardens Victoria stated that ‘of particular concern is the impact on species of conservation significance, such as the Southern Brown Bandicoot, which is nationally listed as endangered. Repeated strikes threaten local populations, especially where habitat is fragmented by roads’.²⁹

The impact of urban spread and human land development on native wildlife, particularly with respect to vehicle collisions, was a theme of many submissions.³⁰

Witnesses in public hearings also considered habitat destruction to be a significant factor in roadstrike of wildlife.

²⁸ Mel & the Menagerie, *Submission 339*, p. 2.

²⁹ Royal Botanic Gardens, *Submission 179*, p. 3.

³⁰ For example, see Bendigo Animal Welfare & Community Services – (BAWCS), *Submission 145*, p. 3; Animals Active Australia, *Submission 178*, p. 2; Gariwerd Animal Biodiversity Alliance (GABA), *Submission 331*, p. 9.

During public hearings, many witnesses raised the issue of habitat destruction and the impact it has on the frequency of wildlife roadstrike. It is a widespread issue that is not confined to semi-rural areas. Elaine Ong, of Vets for Compassion, said that habitat destruction due to development is happening everywhere. She listed Werribee, Geelong, Sydenham, Wollert, Bundoora, Epping, Pakenham and Berwick as examples. At a public hearing she stated that habitats are being ‘bulldozed and the animals are becoming landlocked and they have no shelter, no grass, no water, and then the law states that they have to be shot, or you just bulldoze through them so they go out on the road.’³¹

Several submitters and witnesses discussed the issue of land locking, where animals become trapped by developments and roads being built that surround their usual territories so they cannot move to a different location without crossing roads. These roads are often major carriageways that have high speed limits, which pose a high risk to both animals and motorists.

At a public hearing Rheya Linden of Animal Active Australia said that landlocking particularly impacts kangaroo mobs who are hardwired to pursue access to formerly safe long-established interconnecting movement corridors.³² She told the Committee that ‘we bear witness to the slow annihilation of a native species, because very slowly and inexorably they are being annihilated by the landlocking and by the surrounding roads and their needs for survival in search of food, water and mating options’.³³

Ms Linden raised issues with some of the reactive solutions that have been tried or discussed, including:

- speed reductions – which can be effective with adequate signage
- translocation of the animals
- underpasses and overpasses.³⁴

In particular, Ms Linden suggested that translocations were problematic for kangaroos, as it induces high stress levels and capture myopathy and ‘their ability to find their way back from a new site if it is within a 20-kilometre radius of where they are moved from makes it really dangerous’.³⁵

FINDING 12: Victoria’s rapid population growth, particularly in peri-urban regions such as Macedon Ranges Shire, Hume, Sunbury and the outer west, is intensifying rates of wildlife roadstrike due to habitat destruction and landlocking of native wildlife.

³¹ Elaine Ong, *Transcript of evidence*, p. 36.

³² Rheya Linden, Campaign Director, public hearing, Melbourne, 1 September 2025, *Transcripts of Evidence*, p. 63.

³³ Rheya Linden, *Transcript of evidence*, p. 65.

³⁴ Ibid.

³⁵ Ibid.

RECOMMENDATION 10: That the Victorian Government embed mandatory wildlife-sensitive planning measures into all new housing, infrastructure projects and planning schemes. This should include:

- departmental guidelines for biodiversity sensitive urban design
- mapped wildlife corridors along existing riparian zones
- expanded buffer zones; and
- compulsory environmental impact assessments addressing the specific risks of roadstrike.

3.4.3 Failure of planning schemes

It was a recurring theme throughout the Inquiry that one of the cases of the increasing incidence of wildlife roadstrike has been the inadequacy of the planning schemes to accommodate mitigation measures. A number of stakeholders told the Committee that there is no obligation on developers of new subdivisions and housing estates to consider wildlife safety when planning their developments.³⁶

This omission also has the consequent effect of reducing human safety as the risk of collisions with wildlife is increased.

In its submission, the Macedon Ranges Wildlife Network stated that the ‘current planning and development approvals often do not adequately assess or mitigate impacts on wildlife movement’ and ‘there is a lack of mandatory consideration of wildlife connectivity in road and urban planning’,³⁷ with developers typically having little or no obligation to invest in wildlife safety infrastructure.

Local authorities agreed that the current planning frameworks were either inadequate in addressing the issue, or were even an impediment to doing so. The Nillumbik Shire Council in its submission said that planning frameworks ‘do not appear to be effective enough in reducing wildlife roadstrike, and in some instances (e.g. housing reform and increasing urbanisation) exacerbate the potential for wildlife roadstrikes’.³⁸

The Hume City Council supported this view, telling the Committee that new road projects ‘have not systematically incorporated wildlife-sensitive design features, particularly as wildlife movement corridors are not identified early in the planning process, and there is no binding process that ensures this consideration’.³⁹

³⁶ See, for example: Macedon Ranges Wildlife Network (MRWN), *Submission 54*, p. 6; Naomie Moodie, *Submission 194*, p. 2; Hume City Council, *Submission 210*, p. 14; Michelle Mead, Wildlife Rescue and Information Network, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 26; Jo Connellan, Animal Active Australia, public hearing, Melbourne, 1 September 2025, *Transcript of evidence*, p. 64.

³⁷ Macedon Ranges Wildlife Network (MRWN), *Submission 54*, p. 6.

³⁸ Nillumbik Shire Council, *Submission 72*, p. 4.

³⁹ Hume City Council, *Submission 210*, p. 14.

The Council also suggested that limited coordination with state road authorities has been a further impediment to the development of effective mitigation strategies. As a result it has been difficult to implement 'consistent approaches to mitigation where road management responsibilities overlap or shift between agencies'.⁴⁰

This lack of a consistent approach has been seen by participants in the Inquiry as a contributing factor in developers not seeing the incorporation of wildlife protection measures as a priority. In a public hearing, Jo Connellan, Animal Active Australia, suggested that if every planning scheme in Victoria had to have wildlife corridors in them 'it would not be a subdivision-by-subdivision proposal, which it currently is' but would become a universal requirement.⁴¹

One of the reasons for wildlife not being given priority within planning schemes, it has been suggested, is that there appears to be an insufficient understanding of ecological principles and wildlife biology and the result is fragmentation of habitats. Naomi Moodie in her submission stated that native animals require space and safe passage between locations to thrive and maintain healthy ecosystems and 'when their natural movement is obstructed by roads and developments, collisions become an inevitable consequence'.⁴²

It is not clear whether the lack of understanding of the behaviour of the animals is the reason that wildlife is not being given priority in development planning or whether it is understood but is still not given priority. It is clear, however, that wildlife protection is not a priority of the planning system and that there is limited consultation with individuals and organisations with an interest in wildlife protection. In her submission, Karen O'Reilly-Briggs told the Committee that because local and state government planning legislation approvals do not consider animal welfare, there is no avenue for animal advocates to object to new developments on wildlife welfare grounds.⁴³

Throughout the Inquiry, the need to make wildlife protection an integral and mandatory part of the planning process was widely seen as essential to reducing wildlife roadstrike and it should not be an afterthought or an optional extra, as it appears to be seen as now, by both government and developers.⁴⁴

FINDING 13: Wildlife protection is currently seen as an optional extra in urban planning and is given low priority in the planning of new developments. This exacerbates the frequency and severity of collisions between wildlife and motor vehicles, putting both the animals and the motorists at risk.

⁴⁰ Hume City Council, *Submission 210*, p. 14.

⁴¹ Jo Connellan, Animal Active Australia, public hearing, Melbourne, 1 September 2025, *Transcript of evidence*, p. 67.

⁴² Naomie Moodie, *Submission 194*, p. 1.

⁴³ Karen O'Reilly-Briggs, *Submission 122*, p. 2.

⁴⁴ See Hilary Hobart, *Submission 55*, p. 1; Clare Paterdon, *Submission 92*, p. 2; Naomie Moodie, *Submission 194*, p. 2; Hume City Council, *Submission 210*, p. 10; Virginia Carter, *Submission 223*, p. 3; Michelle Mead, *Transcript of evidence*, p. 26; Jo Connellan, *Transcript of evidence*, p. 64.

RECOMMENDATION 11: That the *Planning and Environment Act 1987* be amended so that planning schemes must include mechanisms for wildlife protection in all proposed developments, and this includes strategies that ensure wildlife populations are not landlocked and have corridors that enable them to move without crossing major roads.

3.5 The impact of climate change

Another factor raised in evidence is the impact of climate change and other environmental elements in increasing the number and severity of roadstrike cases. Changes in climate are seeing greater numbers of native animals moving to areas where they were previously not seen, or less commonly seen. Wildlife move to areas where they will have plentiful food and water and as the climate changes, the availability of both may become limited in their current habitat. For example, the Committee was told that wildlife, especially kangaroos, are drawn to greener areas like golf courses during droughts, increasing fence breaches and road crossings. This puts them in direct contact with roads and motor vehicles.⁴⁵

Longer, hotter and drier summers are likely to lead to greater wildlife movement and so the problem of wildlife roadstrike is likely to worsen in the coming years. Climate change is having a number of effects which can lead to increased wildlife roadstrike.

Climate change, along with the previously discussed land clearing, is pushing wildlife into urban areas, including streets and parks. Droughts, bushfires, and extreme weather events force animals to seek food and water near roadsides and closer to human developments. This is increasing the roadstrike risks.⁴⁶

In addition to forcing animals to move in search of food and water, climate change is causing seasonal migration patterns to shift which makes traditional wildlife movement predictions unreliable.⁴⁷ Climate change also broadly alters wildlife behaviour and breeding patterns, increasing their exposure to roads and vehicles.

Another key effect of climate change is the increasing frequency and severity of natural disasters, in particular floods and bushfires. The Committee was told that post-disaster displacement (e.g., bushfires) correlates with spikes in wildlife trauma cases, especially macropods.⁴⁸

It is well understood that kangaroos and many other species are killed in large numbers during fires and floods,⁴⁹ and that the death toll can continue to mount in

⁴⁵ Lucas Cooke, Chief Executive Officer, Field and Game Australia, public hearing, Geelong, 20 August 2025, *Transcript of evidence*, p. 10.

⁴⁶ See for example: Victorian National Parks Association, *Submission 303*, p. 15; RSPCA Victoria, *Submission 362*, p. 22; Lisa Palma, *Transcript of evidence*, p. 46; Bernie O'Sullivan, Chief Executive Officer, Macedon Ranges Shire Council, public hearing, Bendigo, *Transcript of evidence*, p. 7; Janet Heald, *Submission 159*, p. 4.

⁴⁷ Patrick Francis, *Submission 222.9*, p. 21.

⁴⁸ RSPCA Victoria, *Submission 362*, p. 22.

⁴⁹ International Fund for Animal Welfare (IFAW), *Submission 407*, p. 5; Kerrie Allen, *Submission 461*, p. 9.

the days, weeks and months after a natural disaster. However, in addition to the direct death toll of the event itself, there is significant movement of animals from the affected area as the usual food and shelter is destroyed. This movement raises the risk of roadstrike substantially.

As the climate change impacts worsen, this risk is going to rise.

FINDING 14: Climate change is increasing the risk of wildlife roadstrike by destroying habitat due to drying conditions and increasing frequency and severity of natural disasters, particularly floods and bushfires. This leads to increased movement of wildlife which increases the risk of them crossing roads and being struck by vehicles.

3.6 Inadequate infrastructure

The Committee heard during the Inquiry that the infrastructure that might mitigate the risk and severity of wildlife roadstrike is either inadequate or is missing altogether.

As suggested earlier in this Chapter, rapid urban growth and the development of new housing estates are fragmenting habitat and increasing wildlife roadstrike.⁵⁰ In addition, it has been suggested in submissions that tourism and major projects are also causing an increase in roadstrike as they are substantially increasing the volume of traffic, often on roads that usually are not used by heavy transport vehicles.⁵¹

Despite this increase in development and its consequences for wildlife, a number of participants in the Inquiry raised concerns about the lack of wildlife-sensitive planning and the fact that there is no obligation on developers to consider wildlife in the development of infrastructure. This means that mitigation infrastructure is optional and is therefore inconsistent and often minimal.⁵²

Victoria does have a set of Fauna Sensitive Road Design Guidelines, which are intended to:

- Minimise Impacts: Reduce the negative effects of roads and traffic on fauna movements and habitats.
- Facilitate Movement: Ensure the continuity of wildlife corridors by providing effective crossing points for animals to move between fragmented habitat zones.
- Protect Biodiversity: Support a viable ecosystem that sustains a variety of fauna species by protecting existing habitats and vegetation.

⁵⁰ See Erin Ashmore, *Transcript of evidence*, pp. 39–40; Karl Dawson, *Transcript of evidence*, p. 43; Macedon Ranges Wildlife Network (MRWN), *Submission 54*, pp. 4–5; Virginia Carter, *Submission 223.1*, p. 2.

⁵¹ South Gippsland Landcare Network, *Submission 388*, p. 4.

⁵² Simon Validzic, *Submission 180*, p. 2; Macedon Ranges Wildlife Network (MRWN), *Submission 54*, pp. 5–7; Wildlife Victoria, *Submission 193*, p. 27; Law Institute of Victoria, *Submission 302*, p. 7; City of Whittlesea, *Submission 385*, p. 2.

The Key Design Considerations proposed by the guidelines include:

- Fauna Crossing Points: Incorporate underpasses or overpasses to allow safe passage for animals across roads.
- Road Design: Consider Road speeds, curvature, and alignment in relation to fauna movement patterns.
- Habitat Protection: Preserve existing native vegetation, including trees with hollows, leaf litter, and other habitat components, within and around the project area.
- Ecosystem Fragmentation: Implement methods to mitigate the fragmentation of ecosystems caused by road construction.
- Fauna Monitoring: Establish approaches for monitoring fauna movements and the effectiveness of implemented mitigation measures.⁵³

The Guidelines, which are not mandatory, seek to aid in the assessment of potential impacts of roads on fauna movements and the identification of options for sensitive design and are used during road design and construction to promote the movement of wildlife and provide information on best practices. The guidelines are also intended to help in the management of fauna along roadsides to provide better understanding and context for decision-making.⁵⁴

Although these guidelines are a useful starting point, the Committee has been told that they were developed in 2012 but are somewhat out of date. For example, 'Section 6 of these guidelines offer some fauna sensitive road design suggestions but does not include more recently introduced technologies and infrastructure solutions.'⁵⁵

RECOMMENDATION 12: That the Fauna Sensitive Road Design Guidelines be reviewed and updated where necessary to ensure that they include all of the latest available technology and infrastructure to assist in wildlife protection from roadstrike. It should be mandatory for the guidelines to be included in all development documentation and that they be addressed in all development proposals.

Similarly, several participants in the Inquiry highlighted the fact that wildlife impact assessments were not compulsory in all development proposals and this leads to poor planning and development outcomes for wildlife. There were substantial numbers of submissions that called for such assessments to be a mandatory and formal part of the development planning and approval process.⁵⁶

⁵³ Vicroads, *Biodiversity*, <<https://www.vicroads.vic.gov.au/planning-and-projects/%20environment/biodiversity>> accessed 6 October 2025.

⁵⁴ Ibid.

⁵⁵ Wildlife Victoria, *Submission 193*, p. 24.

⁵⁶ See, for example, Gemma Freeman, *Submission 132*, p. 2; Gabriella Barrett, *Submission 211*, p. 4; Ruth Weston, *Submission 219*, p. 1; Wildlife Victoria, *Submission 193*, p. 4; Macedon Ranges Wildlife Network (MRWN), *Submission 54*, p. 6; Sharon Bondy, *Submission 218*, p. 2.

Several infrastructure solutions were also suggested, including underpasses, overpasses (land-bridges), rope/canopy crossings, glider poles, virtual fencing, exclusion fencing, guiding fences and speed reductions. It was a recurring theme that these technologies and innovative infrastructure should be standard for all developments.⁵⁷

It has been suggested that much of the promising technology, such as virtual fencing, AI detection, thermal sensors, motion-activated signs, and smart signage, exists but remains underfunded, untrials or stalled in Victoria.⁵⁸

New technologies and international best practice infrastructure examples are discussed elsewhere in this Report. However, it is reasonable to assert that at this stage there are significant evidence gaps in determining the effectiveness of some of the infrastructure, and that may be an obstacle to more investment in roadstrike mitigation. The Committee has been told in submissions that the effectiveness of some measure, particularly in the longer term, have not been measured and more effort needs to go into trialling different infrastructure.⁵⁹

3.7 The impact of speed

It is generally accepted in both the literature, and in submissions to this Inquiry, that one of the main risk factors in wildlife roadstrike is the speed at which people drive, particularly at the high-risk times of dusk and dawn, when animals are at their most mobile. The Committee has been told by multiple submitters and witnesses that speed greatly increases the chances of hitting an animal when driving and increases the severity of the impact. It also increases the chances of the motorist being injured or killed as the driver is more likely to lose control of the vehicle on impact.

On many regional roads the signed speed limits are too high and greatly increase the risk of roadstrike, with both wildlife and motorist at greater risk. Even where lower speeds are mandated, a lack of enforcement allows the limits to be ignored. Therefore, these suggested, rather than mandated, lower speed limits in the hours between dusk and dawn appear to have little effect. Erin Ashmore told the Committee in a public hearing that lower speeds will save lives, suggesting that there needs to be 'dusk-to-dawn speed reductions in high-risk areas.' She said that other jurisdictions have implemented this and seen real results and that 'lower speeds save lives; they save life for humans and wildlife'.⁶⁰

This view was echoed by some witnesses and in submissions to the Inquiry.

⁵⁷ Sharon Bondy, *Submission 218*, pp. 2-3; Susan Koci, *Submission 212*, p. 2; Mornington Peninsula Shire, *Submission 412*, pp. 2-6; National Transport and Research Organisation, *Submission 469*, pp. 3-5; City of Whittlesea, *Submission 385*, p. 4.

⁵⁸ See, for example, Erin Ashmore, *Transcript of evidence*, p. 40; John Strieker, *Submission 93*, p. 2; Susan Koci, *Submission 212*, p. 2; Sharon Bondy, *Submission 218*, p. 2; National Transport Research Organisation, *Submission 469*, pp. 3-5.

⁵⁹ Patrick Francis, *Submission 222.8*, pp. 1-17; Letter from council to Patrick Francis; City of Whittlesea, *Submission 385*, p. 4; National Transport Research Organisation, *Submission 469*, pp. 3-5.

⁶⁰ Erin Ashmore, *Transcript of evidence*, p. 40.

In both submissions and the public hearings there were a number of issues that were raised in very similar terms. These issues are summarised below.

- **High-speed roads are deadly for wildlife, especially at dawn and dusk.** Many contributors reported frequent kangaroo and wombat strikes on roads that have a speed limit at 80 kph and above. This increases the risks to both the wildlife and the motorists. In addition to the higher speeds making avoiding collisions more difficult, the severity of the impact is likely to be far greater and is more likely to kill the animal and severely damage the vehicle.⁶¹

Assistant Commissioner Glenn Weir of Victoria Police told the Committee that ‘the majority of these collisions involving wildlife roadstrike occurred on high-speed roads, with speed limits of 80 kilometres an hour or higher – 74 per cent of those collisions occurred on that type of road. And the collisions mostly occurred in the twilight hours of dawn or dusk – so 4 am to 8 am and 6 pm to 10 pm.’⁶²

Data gathered at a local level on Cowes-Rhyll Road on Phillip Island was presented to the Committee by Mr Ron Day as part of a broader study into the effectiveness (or otherwise) of virtual fencing. One of the authors of the study, Dr Christine Connelly, told the Committee that over the course of our study – 38 months in total – they identified a total of 1127 roadkill instances, comprising 24 species. The death rate for the study was about 8.24 individuals that were killed per month per kilometre.⁶³

Over a three-month period between November–December 2019 and January 2020, the number of vehicles and the speeds were recorded of those vehicles. The road had an 80 kph speed limit. Mr Day told the Committee that over that three-month period 188,496 vehicles were recorded, travelling in both directions. Speeds were between 80 and 95 kilometres an hour, 37 per cent were exceeding the speed limit, and a further 6 per cent, 10,554, were exceeding 95 kilometres an hour on that section of road.⁶⁴

- **Wildlife strikes cause secondary dangers to rescuers and other motorists.** After the initial impact and the damage done by it to the animal and the vehicle, there is a significant risk of the driver losing control of the vehicle and hitting a tree or another vehicle. Even when the driver manages to stop safely, there is a risk involved in getting out of the vehicle to inspect the vehicle and checking on the welfare of the animal.⁶⁵

⁶¹ See, for example: Juliana Hummerston, *Submission 39*, p. 1; Robin Ramsay, *Submission 98*, p. 1; Sarah Walker, *Submission 119*, p. 2; Karen O'Reilly Briggs, *Submission 122*, p. 2; Erin Ashmore, *Transcript of evidence*, p. 39; Wilga Kottek, *Submission 168*, p. 1; Vicki Clark, Vets for Compassion, public hearing, Melbourne, 1 September 2025, *Transcript of evidence*, p. 16; Jason Cichocki, *Transcript of evidence*, p. 61; Assistant Commissioner Glenn Weir, *Transcript of evidence*, p. 45.

⁶² Assistant Commissioner Glenn Weir, *Transcript of evidence*, p. 45.

⁶³ Dr Christine Connelly, Lecturer, Environmental Science, Victoria University, public hearing, Geelong, 20 August 2025, *Transcript of evidence*, p. 14.

⁶⁴ Ron Day, Citizen Scientist, Phillip Island, public hearing, Geelong, 20 August 2025, *Transcript of evidence*, p. 18.

⁶⁵ Macedon Ranges Wildlife Network, *Submission 54*, p. 5; Erin Ashmore, *Transcript of evidence*, p. 39.

This risk was illustrated very tragically during this Inquiry when two young women were killed on the Hume Highway when they stopped to assist a kangaroo that had been struck.⁶⁶

- **In addition to speed limits being too high in certain high-risk areas, there are concerns that drivers do not drive according to the prevailing conditions.** There may be poor visibility due to the time of day, the weather conditions or the roadside vegetation and yet some drivers tend to treat the speed limit as the only factor to be considered. Driving to the conditions includes not only driving at a speed that will reduce the chance of hitting an animal that jumps out in front of a vehicle (from the side, which is very common), but also leaving enough space between the vehicle and the one in front so that should they be confronted by an animal, there is time to avoid a vehicle to vehicle collision.⁶⁷
 - **Local government Councils lack the authority to reduce speed limits without state government approval, even in known wildlife corridors.** Macedon Ranges Shire Council told the Committee in its submission that the Council operates within the frameworks set out by the *Road Management Act 2004* and *Flora and Fauna Guarantee Act 1988*, and that ‘the limitations of current regulations make it challenging for Council to reduce speed limits without DTP approval, even in known wildlife corridors’.⁶⁸ In a public hearing, the CEO of Macedon Ranges Shire Council reiterated this, adding that ‘respectfully I would say that is not a fast process.’⁶⁹
 - **Speed zoning is based on human fatalities, not wildlife strikes.** At this stage, decisions about whether a speed limit is appropriate for a road or section of road does not consider the impact on wildlife or the risks collisions pose. Witnesses and submitters suggested that wildlife data should be considered in speed reviews.⁷⁰
- Assistant Commissioner Weir, in evidence, told the Committee that if speed limits were set because it was a particularly hot zone for animal strikes and there was a view by local government or the department that the speeds needed to be lowered to mitigate the risk, then Victoria Police would assist that by having some enforcement.⁷¹
- **Driver education on wildlife risks is lacking, especially for new drivers.** A recurring theme throughout the Inquiry has been that many motorists, particularly those based in cities and who do not drive in the country all the time, do not understand the risks of wildlife roadstrike and therefore do not drive appropriately in high-risk

⁶⁶ Australian Broadcasting Corporation, *Two women killed on Melbourne's Hume Freeway had stopped to help an injured animal, police say*, 5 September 2025, <<https://www.abc.net.au/news/2025-09-05/vic-hume-freeway-double-fatal/105738162>> accessed 8 October 2025.

⁶⁷ See, for example: Annemaree Docking-Cehun, *Submission 40*, p. 1; Jus Webse, *Submission 96*, p. 1; Linda Hell, *Submission 67*, p. 1.

⁶⁸ Macedon Ranges Shire Council, *Submission 59*, p. 1.

⁶⁹ Bernie O'Sullivan, *Transcript of evidence*, p. 3.

⁷⁰ See, for example: Naim Kurt, *Transcript of evidence*, p. 6;

⁷¹ Assistant Commissioner Glenn Weir, *Transcript of evidence*, p. 51.

areas. This is particularly true of new drivers who are not taught about the risks of collisions with animals in their driver training.⁷²

- **Driver behaviour other than speed can be a contributing factor.** Driving without considering the risk of wildlife roadstrike is, of course, not restricted to city drivers or inexperienced drivers. Many people who live in regional Victoria and see the impact of roadstrike constantly can become inured and blasé about the risks. This can lead to excessive speed, aggressive tailgating (particularly in high-risk times) and inattention. It has been suggested during the Inquiry that there is some cultural resistance to slowing down, which can lead to tailgating of people who are driving slower to mitigate the risk and aggressive overtaking. One submitter to the Inquiry said in their submission that ‘many, many people report this frustration of trying to drive slowly only to be bullied on the road’.⁷³

Reducing speed as strategy to mitigate roadstrike is discussed further in Section 4.5.

FINDING 15: Travelling at slower speeds can reduce the severity of a collision.

3.8 Kangaroo populations

While the majority of the submissions and witnesses pointed to speed and driver behaviour being the main cause of the high rate of wildlife roadstrike, a contrary view was put by some submitters and witnesses who suggested that the key cause of the problem was the population of wildlife, and in particular kangaroos, and that reducing speed limits would be unlikely to solve the problem.

While relatively few submissions and witnesses contended that kangaroo populations are a cause of roadstrike, it raised some interesting questions and some differences of opinion among participants in the Inquiry.

Some participants claimed that there had been a significant increase in kangaroo numbers.⁷⁴ This leads to increased movement, destruction of fencing, and consequently increasing roadstrike.⁷⁵ A number of these submissions emphasised the impact that the kangaroo population can have on biodiversity and farming infrastructure and crops.⁷⁶ While the Committee understands that these issues are important and does not intend to minimise the concerns, the focus here is the impact on wildlife roadstrike.

⁷² Wildlife Victoria, *Submission 193*, p. 29.

⁷³ Jus Webse, *Submission 96*, p. 1.

⁷⁴ See, for example: Scott Young, *Transcript of evidence*, p. 26; Danny Ryan, *Submission 18*, p. 1; Greg and Amanda Price, *Submission 51*, p. 2; Peter List and Phillipa White, *Submission 52*, p. 1 and Scott and Abbie Patton, *Submission 53*, p. 1.

⁷⁵ Corangamite Shire Council, *Submission 171*, p. 2.

⁷⁶ Danny Ryan, *Submission 18*, p. 1; Lucas Cooke, *Transcript of evidence*, p. 3.

In that regard, it has been suggested that an overpopulation of some species leads to:

- Increased movement across large distances by wildlife in search of food and water, particularly during dry conditions; and
- Heightened frequency of roadstrike, due to concentrated wildlife movement along roadside corridors.⁷⁷

Actual data on kangaroo numbers is difficult to determine accurately. The Committee was told by James Todd, the Director of the Arthur Rylah Institute, that the Department of Energy Environment and Climate Action funds aerial surveys of kangaroos through the Institute every couple of years. He told the Committee that the next aerial survey and population estimate is due in 2026.⁷⁸

The Arthur Rylah Institute population count is not an individual count but rather utilises extrapolation methodology based on data collected through ariel surveys. There is concern that this methodology produces overinflated results - as counts are extrapolated across the entire state, including areas where it is not possible for kangaroos to live. Further, the aerial surveys are done via transects across parts of Victoria, but not all parts of Victoria can be surveyed. In heavily wooded forested areas, for example, Dr Todd said it is not possible to observe kangaroos from the air. So, it is mostly around more open areas of Victoria –such as lowland, and lightly wooded areas.⁷⁹ Mr Todd emphasised that it is necessary to apply a sampling approach because it is impossible to get absolute numbers. However, he contended that the Department applies peer-reviewed processes and methods which are well recognised as best practice. However, he acknowledged that it is necessary to take raw data and extrapolate it out across different parts of the landscape because it is not possible to sample everywhere.⁸⁰

Mr Todd acknowledged that the results are reported with a level of uncertainty, with upper and lower limits to the estimates.⁸¹

Despite the limitations of the counting methodology, Mr Todd told the Committee that the Kangaroo populations have increased somewhat from about 1.4 million in 2018 for statewide populations to approximately 2.4 million or 2.3 million over the last few years across 2022 and 2024.⁸² He said that kangaroo populations more broadly have increased correlated to La Niña events of increased rainfall and have stabilised over the last few years.⁸³

⁷⁷ Corangamite Shire Council, *Submission 171*, p. 2.

⁷⁸ James Todd, Chief Biodiversity Officer, Department of Energy, Environment and Climate Change, public hearing, Melbourne, 1 September 2025, *Transcript of evidence*, p. 55.

⁷⁹ James Todd, *Transcript of evidence*, p. 55.

⁸⁰ *Ibid.*, p. 56.

⁸¹ *Ibid.*, p. 57.

⁸² *Ibid.*, p. 55.

⁸³ *Ibid.*

It should be noted that the Department plays a significant role in the management of kangaroo populations in Victoria, primarily through the Authority to Control Wildlife system, and the Kangaroo Harvesting Program, which has operated since 2019. It is worth noting that the Kangaroo Harvesting Program is not designed to protect kangaroos from roadstrike. The Kangaroo Harvesting Program helps landholders 'reduce issues caused by kangaroos on-farm, makes use of the carcasses and provides an income for the trained harvesters. Problems faced by landholders include crop destruction, competition with livestock and damage to property such as fences.'⁸⁴

Although the Department of Energy, Environment and Climate does not administer the Kangaroo Harvest Program, it does develop a Kangaroo Harvest Management Plan. The Plan 'enables the authorisation of commercial kangaroo harvesting in Victoria and sets the aims, actions and indicators for harvesting under the Kangaroo Harvesting Program'.⁸⁵

Again, the Kangaroo Harvest Management Plan does not seek to protect kangaroos from roadstrike. Its 8 stated aims are:

1. Ensure that commercial kangaroo harvesting in Victoria is ecologically sustainable.
2. Ensure that commercial kangaroo harvesting in Victoria is conducted according to animal welfare standards.
3. Ensure that commercial kangaroo harvesting activities are effectively regulated.
4. Effectively monitor and enforce compliance.
5. Work with Traditional Owners to identify opportunities for involvement.
6. Facilitate research and development.
7. Maintain accountability and transparency.
8. Undertake program review and reporting.

Despite the estimates of population increases, there have been doubts cast about the assertion that the estimates of kangaroo population represents overpopulation or that it is the cause of increasing roadstrike. It has been suggested that the greater visibility may be because of habitat destruction forcing kangaroo populations into new areas where they can be seen in larger numbers. Krysti Severi, a wildlife rescuer, told the Committee that 'I think those words 'plague proportion' get thrown around a little bit too freely', a view that was echoed by a number of submitters and witnesses.⁸⁶

⁸⁴ The Department of Jobs, Skills, Industry and Regions, *Game Hunting in Victoria, Kangaroo Harvesting*, <<https://djsir.vic.gov.au/game-hunting/kangaroo-harvesting>> accessed 10 October 2025.

⁸⁵ Department of Energy, Environment and Climate Action, *Kangaroo Harvesting Program*, 28 May 2025, <https://www.wildlife.vic.gov.au/our-wildlife/kangaroo-harvesting-program#toc_id_0_kangaroo> accessed 23 September 2025.

⁸⁶ Krysti Severi, *Transcript of evidence*, p. 19; See also, for example, Ian Slattery, *Transcript of evidence* p. 27; Meaghan Willis, Macedon Ranges Wildlife Network, public hearings, Bendigo, 6 August 2025, *Transcript of evidence*, p. 46.

The Committee is unable to make any finding or draw any solid conclusions about kangaroo populations. Whether increased counted numbers are due to an increased number of animals or whether it is the result of relocation to more visible areas, it is not possible to conclude that overpopulation is a significant cause of wildlife roadstrike.

The Committee also heard from witnesses about an increasing number of wildlife road strike incidents involving deer.

Wildlife Victoria stated that although they receive calls to respond to incidents involving deer, they are unable to respond as they are a non-native species. As their data excludes deer, they confirmed that the number of incidents is much higher.

Nicole De Haan of Vets for Compassion presented to the Inquiry and stated,

Multiple times a week we are called to respond to incidents involving non-native wildlife such as sambar deer. There is no service in place to help and end their suffering. These animals can pose a serious safety risk, particularly in urban and suburban areas where traditionally emergency services are not equipped to manage them safely. For example, in recent months we have been called out to dart and euthanise injured sambar deer in areas such as Kew, Camberwell, Alphington and, as recently as two days ago, North Balwyn. These are 250-kilo animals. A collision with one of these could have catastrophic consequences for drivers and pedestrians alike.⁸⁷

FINDING 16: There is currently no official service in place for the emergency response and management of non-native wildlife such as deer.

FINDING 17: The Kangaroo population is less convincing as an explanation for wildlife roadstrike than to urban expansion and planning limitations, changes in climactic conditions and excessive speed and driver behaviour.

⁸⁷ Nicole De Haan, *Transcript of evidence*, p. 33.

Chapter 4

Mitigation strategies and technologies

Wildlife roadstrike leads to the death and suffering of an estimated 10 million native animals on Australian roads each year. It also has a significant physical, emotional and financial impact upon motorists and the largely volunteer wildlife rescuers who respond to these incidents. Many stakeholders considered that various strategies and technologies could be better utilised to mitigate wildlife roadstrike, including:

- virtual fencing
- wildlife crossing structures
- signage
- vehicle technologies
- reduced speed limits
- driver education
- maintaining clearance on roadsides
- improved street lighting
- improving the quality of rural and regional roads.

Some of the above mitigation strategies and technologies are discussed in further detail below.

4.1 Roadside maintenance

The Committee heard from witnesses that highlighted the need for regular roadside maintenance to reduce wildlife roadstrike. Animals are attracted to graze on roadsides where feed is available, and the growth of vegetation reduces visibility for drivers.

The Victorian National Parks Association submission states that ‘native grasslands roadsides need to be well-maintained to create good sightlines and reduce vehicle-fauna interactions, as well as to improve their conservation values.’¹

¹ The Victorian National Parks Association, *Submission 303*, p. 4.

4.2 Virtual fencing

Virtual fencing uses noise and light stimuli to influence an animal's movements without physical barriers. A virtual fence consists of a series of electronic devices mounted to roadside poles spaced 10 to 25 metres apart. Approaching vehicle headlights activate the devices, which then emit noise and light stimuli to deter any surrounding animals away from the road.

Virtual fences are an appealing wildlife roadstrike mitigation technology because:

- 'Compared to wildlife crossing structures and physical fencing, they are extremely cheap to purchase and install'.²
- 'They do not emit noise or light in the absence of vehicles or during the day, thus not affecting animal movement at these times'.³

4.2.1 Studies of virtual fencing in Australia skew towards them being ineffective

There is very little evidence that virtual fences actually work as a tool.

Dr Rodney van der Ree, National Technical Executive in Ecology at WSP Australia, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 14.

It is interesting – I find all the studies seem to say that they are not effective, but those rescuers on the ground actually see the effectiveness.

Sue Johnston, Sue's Roos Kangaroo Rescue, public hearing, Melbourne, 1 September 2025, *Transcript of evidence*, p. 18.

The first trial of virtual fencing in Australia 'was conducted in north-west Tasmania in 2014' (Fox et al. 2018). This study reported a 50% reduction in rates of roadkill of some species.⁴ Such success prompted further trials and research into what appeared to be 'an excellent solution'⁵ to wildlife roadstrike.

A further five Australian academic studies have attempted to replicate the findings of Fox et al. However, all five studies have been unable to do so, with all concluding 'that there was no reduction in roadkill at all as a result of virtual fencing'.⁶

² Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, December 2024, p. 41.

³ Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 41.

⁴ Fox et al, 'Roadkill mitigation: trialling virtual fence devices on the west coast of Tasmania' *Australian Mammalogy*, Vol 41(2), 28 November 2018, pp. 205–211.

⁵ Dr Christin Conelly, *Transcript of evidence*, p. 13.

⁶ Dr Kylie Soanes, Research Fellow, School of Agriculture, Food and Ecosystem Sciences, University of Melbourne, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 16.

Case Study 4.1 Study in Tasmania by Fox et al, 2018

Fox et al. conducted a trial of virtual fencing over three years at a single site in north-west Tasmania. It sought to determine whether the technology was effective in reducing the roadkill of Tasmanian mammal species.

The study reported a 50% reduction in total roadkill rate in the most commonly affected species. It concluded that virtual fencing demonstrated ‘enormous potential to substantially reduce roadkill rates’.

The methodology used in the Fox et al. study has been heavily criticised by other academics. For example, academics Associate Professor Graeme Coulson and Dr Helena Bender found ‘a total of eight methodological flaws, ranging from imprecise measurements, confounding effects of treatment, low statistical power, violation of test assumptions and failure to consider habituation’.

The Committee heard that ‘greater caution is needed in interpreting the findings of this study’.

Source: Fox et al., ‘Roadkill mitigation: trialling virtual fence devices on the west coast of Tasmania’ *Australian Mammalogy*, Vol 41(2), 28 November 2018, pp. 205–211; Coulson and Bender ‘Roadkill mitigation is paved with good intentions: a critique of Fox et al.’, *Australian Mammalogy*, Vol 42(1), 27 June 2019, pp. 122–130.

Despite the criticism of the Fox et al. study and the results of the five further Australian academic studies, virtual fencing has been installed in many locations within Victoria and Australia more broadly. These virtual fencing trials are often reported as highly successful. However, ‘none of these “success” stories are accompanied by evidence or robust study designs to enable independent verification of the results’.⁷

The Committee heard that the lack of rigorous evidence collection during these trials is a significant issue in Victoria. Without rigorous evidence collection, it is near impossible to evaluate whether the presence of virtual fencing is actually having an impact on wildlife roadstrike.

Rigorous evidence collection requires time and resources. The Committee heard that several virtual fencing trials are being ‘run by groups, [such as councils and volunteers], that do not have a lot of resources’ and therefore, are unable to conduct a trial ‘to the highest standards’.⁸ The Committee commends the effort and initiative of these groups and considers such groups should be better supported to collect the necessary evidence to evaluate whether a trial was successful.

⁷ Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 41.

⁸ Michelle Mead, *Transcript of evidence*, p. 26.

The anecdotal evidence following these virtual fencing trials sits in stark contrast with the findings and conclusions of Australian academic studies. Many of these trials report a significant reduction in wildlife roadstrike incidents following the installation of virtual fencing. Whilst the Committee does not doubt the firsthand evidence it heard, without rigorous evidence collection it is difficult to conclusively attribute any reduction in wildlife roadstrike to the operation of virtual fencing. Further, such successes are difficult to reconcile with the Australian academic body of evidence which casts significant doubt on the effectiveness of virtual fencing.

Case Study 4.2 Study in Phillip Island by Connely, Sutherland and Day

Connely, Sutherland and Day conducted a three-year study from 2019 to 2021 on Cowes-Rhyll Road in Phillip Island.

The ‘rigorous study demonstrated that virtual fencing was not an effective mitigation strategy for reducing wildlife roadstrike’.

This study has been praised for its study design, with fellow academic, Graham Coulson, describing it as ‘impeccable’. Fenced and unfenced sections were established along the road, with buffers between each section. The study also implemented a crossover design, ‘to eliminate any impacts of the location of the virtual fencing on the results of the study’. Data was collected for a full three years, including for a full year before the installation of the virtual fencing.

The Committee understands this study is ‘the most comprehensive study of the virtual fences technology’s effectiveness in Australia’. Its results are ‘absolutely clear-cut’ – ‘it did not matter whether the virtual fence was there or not ... there was no significant effect’.

Source: Dr Christine Connely, *Transcript of evidence*, p. 14; Associate Professor Graeme Coulson, Honorary Principal Fellow, School of Biosciences, public hearing, Melbourne, 1 September 2025, *Transcript of evidence*, p. 36.

Case Study 4.3 Trial in Anglesea

The Committee heard from Jason Cichocki, wildlife rescuer, about a three-year trial of virtual fencing in Anglesea. Mr Cichocki conducted four patrols of the road per day.

In 2022, 12.8 km of virtual fencing was installed on Forest Road in Anglesea. The virtual fencing cost \$165,000 and ‘was installed and fully operational in two weeks’.

At the end of the first year of the trial, Mr Cichocki recorded a 70% reduction in wildlife roadstrike (74 incidents, compared to approximately 200 to 250).

At the end of the second year of the trial, Mr Cichocki recorded only 28 incidents of wildlife roadstrike that year – being an 89% reduction.

At the end of the third year, Mr Cichocki recorded 40 incidents of wildlife roadstrike.

Mr Cichocki also reported a reduction in bird strike from approximately 1,825 bird strikes per year to a total of 16 birds over the three-year trial period.

Mr Cichocki told the Committee that virtual fencing far exceeded his expectations.

Source: Jason Cichocki, *Transcript of evidence*, pp. 55–56.

FINDING 18: The evidence was overwhelmingly of the view that virtual fencing trials had failed in most cases. The more rigorous the study, the more these failures were evident. The strongest evidence of these failures being provided by the proponents of the trials themselves, with the exception of Surf Coast Wildlife Rescue. Some of these trials have been small-scale, fragmented and inadequately funded, which limits the trials impact. One project manager was sharply critical of trials that lacked rigour.

FINDING 19: There was limited evidence that could justify further funding for virtual fencing on the basis of those technologies presented. The Committee could recommend funding if new technologies emerged; but we should not double down on those that have already been demonstrated to be ineffective.

FINDING 20: It is difficult to reconcile the many anecdotal reports of virtual fencing success with the academic body of evidence which casts significant doubts over the effectiveness of virtual fencing in Australia.

RECOMMENDATION 13: Further funding of virtual fencing should be tied to the emergence of new, more viable technologies only. All funding should be conditional on strict trials, statistically credible test design and data capture methodologies.

4.2.2 We need more research into how Australian animals respond to virtual fences

The virtual fence is a product that has just been developed internationally, not in Australia, and we have put it out on the side of the roads in Australia expecting it to work

Dr Rodney van der Ree, National Technical Executive in Ecology at WSP Australia, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 14.

Virtual fencing was initially developed in Austria to deter deer from roads. Throughout Europe and North America, similar technology has also been trialled to deter animals such as roe deer from railways.⁹

The Committee heard that implementation of overseas technology should be done with ‘significant caution and consideration of the biology of our [Australian] species’.¹⁰ This is because for virtual fencing to work, animals must be able to ‘hear or see the stimuli amongst all the other noise and disturbance of the road’ and ‘associate the stimuli with the danger of an oncoming vehicle and respond appropriately’.¹¹

Internationally, studies have explored what sound stimuli produces the most desirable responses in the local species virtual fencing is seeking to deter from the roadsides. For example, research in Sweden has evaluated the effectiveness of various acoustic signals, including human voices, in eliciting a flight response in wild deer. It found that human voices were most effective at eliciting the intended response within Swedish wild deer – hypothesising this is due to hunting pressures from humans in Sweden. Other deer without such hunting pressures are less likely to respond in the same way – highlighting the importance of ‘testing and determining signal appropriateness in each context’.¹²

In Australia, due to a lack of behavioural research, we do not know whether the virtual fence light and sound stimuli is effective in producing an appropriate behavioural response in Australian animals. For example, Associate Professor Graeme Coulson has highlighted concerns ‘that there is a mismatch between the wavelengths of light ... that is emitted by the virtual fence and the cones within the eye structures of marsupials’.¹³

Anecdotally, the Committee heard different accounts as to whether Australian animals had any behavioural reaction to the sound and light stimuli being triggered. Ron Day, citizen scientist, told the Committee he observed a wallaby sit ‘undisturbed beside an active fence bollard’ completely ‘unaffected by the flashing LED lights and,

⁹ J Babinska-Werka et al, ‘Effectiveness of an acoustic wildlife warning device using natural calls to reduce the risk of train collisions with animals’, *Transportation Research Part D: Transport and Environment*, Vol 38, July 2015, pp. 6–14; J Backs et al, ‘Warning systems triggered by trains increase flight-initiation times of wildlife’, *Transportation Research Part D: Transport and Environment*, Vol 87, October 2020.

¹⁰ Dr Christine Connelly, *Transcript of evidence*, p. 16.

¹¹ Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 41.

¹² Ibid., p. 6.

¹³ Dr Christine Connelly, *Transcript of evidence*, p. 16.

presumably, the warning alarm'.¹⁴ By contrast, Jason Cichocki, wildlife rescuer, told the Committee he could 'see the kangaroos and wallabies moving off into the bush' 'when his headlights would set off the sensors, triggering the light and sound stimuli'.¹⁵

International studies suggest that noise and sound stimuli 'can be effective if they consider the biological relevance of the warning signal'.¹⁶ Behavioural studies of Australian animals are presently lacking — calling into question how effective virtual fencing stimuli is upon our native wildlife.

FINDING 21: It is unclear whether the noise and sound stimuli emitted by virtual fencing produces an appropriate response in Australian wildlife.

FINDING 22: Further research and behavioural trials are required to validate that noise and sound stimuli used by virtual fencing is appropriate to the biology and behavioural responses of Australian animals.

4.2.3 Some virtual fences in Victoria have been neglected and abandoned

The virtual fence system proved not to be a simple set-and-forget installation.

Ron Day, citizen scientist, public hearing, Geelong, 20 August 2025, *Transcript of evidence*, p. 15.

Virtual fencing is often described as a low maintenance wildlife roadstrike mitigation measure. However, virtual fencing does require some maintenance to continue to be operational.

Ron Day, citizen scientist, told the Committee that virtual fencing technology can require maintenance or replacement due to various issues, including 'ant infestation, water ingress, condensation, cobwebs' as well as 'damage from vehicles, roadside mowing or verge maintenance'.¹⁷ Virtual fencing is not a 'simple set-and-forget'¹⁸ technology.

The Committee heard evidence that some virtual fencing has been left 'neglected and abandoned'¹⁹ after trial periods. Inspections of site in Lysterfield revealed 'multiple devices missing, broken, smashed, or with mounting boards bent almost to the ground. Testing some of the units revealed they were non-functional'.²⁰

¹⁴ Ron Day, *Transcript of evidence*, p. 15.

¹⁵ Jason Cichocki, *Transcript of evidence*, p. 54.

¹⁶ Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 42.

¹⁷ Ron Day, *Transcript of evidence*, p. 15.

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Ibid.

Some stakeholders considered the lack of virtual fencing maintenance suggested that the technology was not worth maintaining²¹, whilst others were highly critical of ‘life-saving technology being allowed to deteriorate and fall into neglect’.²²

FINDING 23: Virtual fencing is not a set-and-forget wildlife roadstrike mitigation technology — it requires ongoing maintenance to stay operational.

4.2.4 Some are concerned virtual fences may change driver behaviour

The Committee heard concerns that the presence of virtual fencing may be instilling a false sense of safety within drivers.

If drivers believe the technology is effective in stopping wildlife from entering the road, ‘people who would ordinarily be quite cautious or adjust their driving to the conditions at dusk or dawn’²³ may not do so anymore due to the belief that virtual fencing is keeping them safe.

In circumstances where the efficacy of virtual fencing is far from proven by academic studies, riskier driver behaviour is a perverse outcome that may aggravate the issue of wildlife roadstrike in Victoria.

4.3 Wildlife crossing structures

Wildlife crossing structures are designed to facilitate safer animal crossings over or under road infrastructure. Wildlife crossings also aim to ‘maintain fauna movement and ecological connectivity’.²⁴

Structures can include:

- **Underpasses** – providing tunnels for animals to cross under road infrastructure.
- **Overpasses** – providing a walkway or bridge suitable for animals to cross over road infrastructure. Overpasses also include structures such as:
 - **Rope-ladder canopy bridges** – that are used by a variety of possums, gliders and bush-tailed phascogale. Koalas have never been observed using these structures.²⁵

²¹ Ron Day, *Transcript of evidence*, p. 15.

²² Leanne Sultana, *Transcript of evidence*, p. 15.

²³ Kylie Soanes, *Transcript of evidence*, p. 16.

²⁴ Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 13.

²⁵ Queensland Department of Transport and Main Roads, *Fauna Sensitive Transport Infrastructure Delivery Manual Chapter 6: Mitigation*, June 2024, <www.tmr.qld.gov.au/_/media/busind/techstdpubs/environment-management/fauna-sensitive-transport-infrastructure-delivery-manual/fstid-chapter-6---mitigation.pdf>, p. 37.

- **Glider poles** – that are usually timber and create an elevated walkway for gliding animals, such as koalas or glider marsupials to move across or to launch to and from.²⁶

The first wildlife crossings were developed in France in the 1950s.²⁷ Since then, many wildlife crossings have been built all over the world. Australia has nine wildlife overpasses, including six in Queensland and three in New South Wales.²⁸ Australia also has several wildlife underpasses.

Case Study 4.4 Banff Wildlife Crossing, Banff National Park, Canada

In the 1950s, the Trans-Canada Highway intersected Banff National Park leading to a rapid increase in wildlife roadstrike. In 1978, the Canadian government announced plans to expand the highway from two lanes to four. To avoid a further increase in roadstrike, a network of fences and underpasses were constructed. The expansion of the road, however, further prevented grizzly bears from roaming as they generally avoided using underpasses due to being plains-dwelling animals that shun confined spaces.

Later, two structures were built on the Trans-Canada Highway in 1997 for the bears. Early studies into the use of the overpasses by bears suggested that they were not being widely used. After the year 2000, however, the bears began to acclimatise to using the structures. Within 10 years, bears traversed the highway almost 200 times per year. By 2008, the wildlife crossings in Banff National Park were regarded as some of the best in the world. More than 80,000 animals had used the infrastructure by that time and wildlife roadstrike numbers declined. An 80% reduction in wildlife vehicle accidents have been achieved on those stretches of road.

The Committee heard that the wildlife crossing project in the Banff National Park 'should be held up as the shining light' of how effective crossings structures and fencing can be. The construction of multiple crossing structures and the installation of 82 km of fencing was a significant and costly endeavour that has delivered positive results. Some stakeholders questioned whether equivalent investment is realistic in Victoria.

Source: Lucas Cooke, *Transcript of evidence*, p. 4; Ben Goldfarb, *Crossings: How Road Ecology is Shaping the Future of the Planet*, W.W. Norton & Company, New York, 2023, pp. 72–75.

26 Queensland Department of Transport and Main Roads, *Fauna Sensitive Transport Infrastructure Delivery Manual Chapter 6: Mitigation*, June 2024, <www.tmr.qld.gov.au/_/media/busind/techstdpubs/environment-management/fauna-sensitive-transport-infrastructure-delivery-manual/fstid-chapter-6---mitigation.pdf>, p. 37.

27 National Geographic, *Wildlife crossings*, <<https://education.nationalgeographic.org/resource/wildlife-crossings>> accessed 31 July 2025.

28 Sherryn Groch, 'The horrible thud: What can we do to reduce roadkill?', *The Age*, 30 December 2021, <www.theage.com.au/national/the-horrible-thud-what-can-we-do-to-reduce-roadkill-20211103-p595t5.html> accessed 9 May 2025.

Case Study 4.5 Natuurbrug Zanderij Crailoo, Netherlands

More than 600 wildlife crossing structures have been built in the Netherlands to protect wildlife such as badgers, elk and other mammals.

The Natuurbrug Zanderij Crailoo is the longest wildlife crossing structure in the world. It was completed in 2006 and cost €14.7 million to construct.

It is 800 metres long and 50 metres wide. It connects two wooded areas and crosses the N524 roadway, nearby railways, a business park, a river and a sports complex.



Source: Atlas Obscura, *Natuurbrug Zanderij Crailoo*, <<https://www.atlasobscura.com/places/natuurbrug-zanderij-crailoo>> accessed 1 September 2025; Pizza Travel, *The biggest animal bridge*, 25 June 2017, <https://www.pizzatravel.com.ua/eng/netherlands/45/the_biggest_animal_bridge> accessed 1 September 2025.

4.3.1 Crossing structures are an effective mitigation strategy for many wildlife species

Crossing structures are very effectively used by various species of wildlife all over the world to enable safer road crossing.²⁹ This includes Australian wildlife – which have been observed effectively using crossing structures in Victoria.³⁰

²⁹ Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 13.

³⁰ Dr Rodney van der Ree, National Technical Executive in Ecology at WSP Australia, public hearing, Bendigo, *Transcript of evidence*, p. 18.

However, it is important to note that crossing structures are only effective if appropriate consideration is given to where it is placed and how its designed.³¹ The Committee heard that ‘different species are going to need different things’.³² The design of the crossing structure should be appropriate for the needs of the target species, for example amphibians may require moist surroundings, whilst other species may prefer dry surroundings.³³ This means one crossing structure is unlikely to be equally utilised by all wildlife in the area.

Crossing structures also ‘typically require fences and other physical barriers to funnel wildlife to the crossing structure and prevent wildlife from accessing the road’.³⁴ Without fencing, crossing structures are less effective in reducing rates of wildlife roadstrike.³⁵

Crossing structures are generally accepted as an effective mitigation tool. Despite this, the Committee heard that there is room for improvement when it comes to collecting evidence that enables a better understanding of how effective these structures are.³⁶ A review of 300 studies found that only 14% collected evidence capable of ‘telling us whether or not the amount of movement across the road increased or decreased’.³⁷ Stakeholders recommended that this gap be addressed to enable better evaluations of what crossing structures work and where.³⁸

FINDING 24: Internationally, wildlife crossing structures and exclusion fencing have been shown to significantly reduce animal-vehicle collisions. The Committee notes examples from Canada and the Netherlands where large-scale investment has significantly reduced collision rates.

FINDING 25: Stakeholders highlighted that improved evidence collection would assist in evaluating how effective wildlife crossing structures are.

³¹ Dr Helena Bender, *Transcript of evidence*, p. 34.

³² Ibid.

³³ Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 14.

³⁴ Ibid.

³⁵ Ibid.

³⁶ Dr Kylie Soanes, *Transcript of evidence*, p. 15.

³⁷ Ibid.

³⁸ Ibid.

4.3.2 It is not feasible to implement wildlife crossings everywhere in Victoria

Things like wildlife crossing structures and fences – those physical structures that we can put in – are incredibly effective. ... unfortunately it is not practical to put them everywhere.

Dr Kylie Soanes, Research Fellow, School of Agriculture Food and Ecosystem Sciences, University of Melbourne, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 14.

Despite the efficacy of crossing structures, the Committee heard ‘we cannot build fences and crossing structures everywhere’ in Victoria. This is because:

- Building crossing structures and fencing requires significant investment. The Committee heard this high cost can be prohibitive, particularly for Councils.³⁹
- Victoria has the second largest road network in Australia, made up of approximately 222,000 kilometres of roads.⁴⁰ The Committee heard that it is not ‘achievable’ to implement crossing structures and fencing across this entire network.⁴¹
- Sites for possible crossing structures may be constrained by adjacent land usage and ownership. For example, continuous fencing would not be possible along stretches of road with driveways.⁴² Breaks in fencing is likely to reduce the efficacy of nearby crossing structures.⁴³ The Committee also heard that directing large numbers of wildlife into private properties via crossing structures may create issues with landowners.⁴⁴

The Committee heard that whilst wildlife crossing structures are significant up-front expense, effective crossings can reduce the frequency of roadstrike – and therefore, reduce future costs associated with vehicle repairs and road clean ups. Collisions with large animals, such as large deer or grizzly bears, can result in significant injury or death to motorists. Effective crossing structures also reduce costs associated with motorist injury or death.

FINDING 26: The upfront costs of wildlife crossing structures and exclusion fencing are considerable. A cost-benefit analysis with data would be beneficial before proceeding in Victoria.

³⁹ Cr Naim Kurt, *Transcript of evidence*, p. 4.

⁴⁰ Victorian Parliamentary Budget Office, *Advice, Victorian road network maintenance and repair: expenditure on state and local council managed road assets*, 5 August 2025 <<https://pbo.vic.gov.au/response/7338>> accessed 5 September 2025.

⁴¹ Assistant Commissioner Glenn Weir, *Transcript of evidence*, p. 48.

⁴² Dr Kylie Soanes, *Transcript of evidence*, p. 14.

⁴³ Ibid.

⁴⁴ Dr Rodney van der Ree, *Transcript of evidence*, p. 20.

RECOMMENDATION 14: That the Victorian Government consider a program of major wildlife crossings, beginning with pilot sites in high-risk corridors, with the long-term objective of network-wide rollout.

RECOMMENDATION 15: That the Victorian Government develop a Wildlife Roadstrike Strategy that focuses on proactive population management, a centralised state-wide database, and targeted investment in crossings and fencing at verified hotspots.

4.4 Signage

4.4.1 Many drivers ignore static signage

Figure 4.1 Image of static signage



Source: Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 28.

Static wildlife signage is ‘generally designed in the same style and size dimensions as other road warning signs’.⁴⁵ In Victoria, such signage is commonly a black silhouette of the animal against a yellow background.

The Committee heard that many drivers have habituated to traditional static wildlife signage over time. According to data collected by AAMI, 40% of drivers ‘ignore the standard wildlife road signs’.⁴⁶ Stakeholders generally agreed that static wildlife signage was not an effective wildlife roadstrike mitigate measure, describing such signs as ‘lacking’ and ‘ineffective’.⁴⁷

FINDING 27: According to data collected by AAMI, 40% of drivers ignore standard static wildlife road signs.

⁴⁵ Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 28.

⁴⁶ Brenton Kennedy, *Transcript of evidence*, p. 26.

⁴⁷ Nigel Atkins, *Submission 20*, p. 1.

4.4.2 Enhanced signage

Figure 4.2 Image of enhanced signage



Source: Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 30.

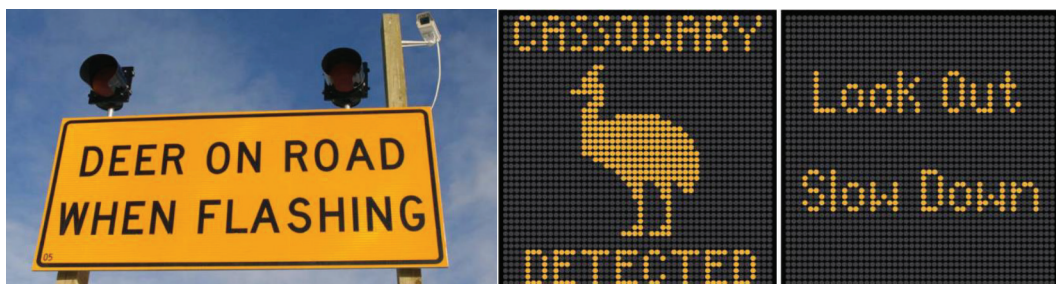
Enhanced signage is 'generally larger than standard signs' and can be permanently or temporarily installed.⁴⁸ Evidence indicates that enhanced signage is more effective in gaining the attention of drivers and getting them to slow down. However, it is also vulnerable to driver habituation over time.⁴⁹

4.4.3 Intelligent signage is a promising developing technology

The signal-based approach or the signal-based approach with a detection system is I think where the future of mitigation for wildlife vehicle collision is moving not just here but internationally.

Dr Rodney van der Ree, National Technical Executive in Ecology at WSP Australia, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 14.

Figure 4.3 Image of intelligent signage



Source: Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 48.

⁴⁸ Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 29.

⁴⁹ Ibid., p. 31

Intelligent wildlife signage provides drivers with warning signals only when wildlife are detected nearby. When no wildlife are detected nearby, the signage is inactive. The Committee heard that intelligent signage ‘has the potential to accurately inform drivers, in real time, whether wildlife are detected on the roadside’.⁵⁰

Intelligent signage works in conjunction with an animal detection system. For the warning sign to be activated, wildlife must first be detected near the road. This occurs through an animal detection system, which can use the following technology:

- **Radar** – utilises radio waves to detect objects. Whilst generally effective, even in challenging conditions, radar detection systems can produce false positives. A study in Italy found that radar correctly identified deer 63% of the time and produced false negatives around 13.5% of the time.⁵¹
- **LiDAR** – utilises laser pulses or infrared light to identify objects by measuring the time it takes for light to bounce back to the sensor. It is more expensive than radar but offers comparatively higher resolutions and accuracy.⁵²
- **Sensors** – there are a range of different sensors that can detect wildlife, including:
 - **Break-the-beam sensors** – detects wildlife when objects ‘break’ an infrared beam of light. These sensors are more effective in identifying larger animals.⁵³
 - **Passive infrared motion sensors** – detects wildlife by measuring surface temperatures. These sensors are cost efficient and commonly used. However, wildlife may not be detected if their surface temperature is similar to the background environment or because of environmental conditions like hot air or high winds.⁵⁴
 - **Acoustic sensors** – detects wildlife by recognising animal calls. Whilst these sensors can overcome sight barriers, it relies on wildlife making calls that can be picked up by the sensor to be detected.⁵⁵
 - **Seismic sensors** – detects wildlife by measuring vibrations caused by footsteps. While found to be highly accurate in detecting large animals, such as deer, it is less effective in detecting smaller animals and on certain ground conditions (such as hard stones, sand or mud).⁵⁶
- **Artificial intelligence and machine learning** – some animal detection systems have begun to use AI to improve wildlife detection. For example, AI image recognition tools can be used to instantly interpret a video feed and detect present wildlife.

⁵⁰ Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 47

⁵¹ Ibid., p. 37.

⁵² Ibid., p. 37.

⁵³ Ibid., p. 38.

⁵⁴ Ibid., p. 38.

⁵⁵ Ibid., p. 38.

⁵⁶ Ibid., p. 38.

Whilst this is an emerging technology, there are already international and Australian examples of such signage being implemented.

Case Study 4.6 Using Artificial Intelligence to detect cassowaries, Northern Queensland

This year, the Department of Transport and Main Roads in Queensland ran a successful three-month trial of intelligent signage warning drivers of nearby cassowaries – an endangered species.

A camera was set up at a busy cassowary crossing on the Kennedy Highway at Kuranda. Artificial intelligence image recognition software monitored the camera feed, and when a cassowary was identified, sent a signal to a flashing sign to warn drivers of the nearby wildlife. The technology was 97% accurate in identifying cassowaries.

When the intelligent signage was active, drivers dropped their speed by an average of 6.6 km per hour. There was a 31% decrease in fatal cassowary wildlife roadstrike incidents.

Source: Australian Broadcasting Corporation, *Artificial intelligence used to reduce cassowary road deaths in Queensland*, 30 July 2025, <<https://www.abc.net.au/news/2025-07-30/ai-saves-cassowary-lives-reducing-vehicle-strikes-far-north-qld/105589446>> accessed 1 September 2025.

Active intelligent signage has been effective in getting drivers to slow down. For example, a UK study found that driver speed reduced from an average of 106 km per hour to 89 km per hour when intelligent warning signs were active.⁵⁷ Lower speeds should give drivers more time to react and mitigate the instances or severity of wildlife roadstrike.

More research is needed to refine the accuracy of animal detection systems. This is particularly important if intelligent signage is to be effective in Australia – as existing animal detection systems are less effective at identifying our small to medium sized native species. Artificial intelligence and machine learning tools may have an important role to play in improving the efficiency of animal detection systems. False negatives, or signage being set off without any animals nearby, must be minimised if driver confidence in the technology is to be maintained.

Although some stakeholders called for more intelligent signage to be installed, the Committee also heard concerns that ‘too many signs can distract people’ or conversely, cause people to tune them out and ignore them. Care should be taken to place signage in strategic locations where it is likely to have an impact.

⁵⁷ Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 47.

Whilst many stakeholders expressed keen interest in intelligent signage, without external funding or grants, the Committee heard that ‘they are out of reach for many councils’ in a rate-capping environment.

FINDING 28: Intelligent signage is a promising wildlife roadstrike mitigation measure that has been successfully implemented in other Australian states and internationally.

FINDING 29: Intelligent signage and animal detection systems are being deployed internationally but remain underutilised in Victoria.

RECOMMENDATION 16: That the Victorian Government undertake research to trial innovative animal detection systems and explore how artificial intelligence and machine learning tools can improve the accuracy of these systems.

4.5 Vehicle technologies

Modern vehicles are increasingly equipped with various sensors and cameras. Such technology, if used to detect and alert drivers to nearby wildlife, could play a role in mitigating roadstrike.

As discussed in Section 4.3.1, animal detection systems use varying types of technology to detect animals. This includes radar, LiDAR, sensors or artificial intelligence and machine learning. Such technology is already fitted to many modern vehicles to improve safety by detecting hazards and triggering features like autonomous braking. This technology is constantly improving and evolving with time. However, this technology is expensive and may not be accessible by all drivers.⁵⁸

In-vehicle detection systems have generally been developed to detect pedestrians or large animals, like deer. The Committee heard that current in-vehicle technologies have some way to go before they can accurately detect all wildlife. This includes kangaroos, which at present confuse most sensors due to their unpredictable bouncing movement.⁵⁹ If in-vehicle technology is to mitigate wildlife roadstrike in Australia, such technology must continue to improve so that it can accurately detect our native wildlife.

⁵⁸ Lucas Cooke, *Transcript of evidence*, p. 4.

⁵⁹ Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 50.

More vehicles with these detections systems means that more data will be collected about where wildlife is detected and when. It's possible that this data could be broadcast to other drivers – providing real-time, location-based alerts to the presence of wildlife. Existing technology, such as Google Maps, already broadcasts live data to users. The Committee heard that in-vehicle warnings, informed by a drivers own or nearby drivers' detection systems, was a promising evolving technology that could mitigate roadstrike.⁶⁰

By contrast, the Committee heard that existing retrofit technologies, such as the ShuRoo, do not effectively mitigate wildlife roadstrike. Dr Helena Bender, Senior Lecturer in the School of Agriculture, Food and Ecosystem Sciences, University of Melbourne, told the Committee that the noise produced by these devices are 'not detectable above the noise of a vehicle' and don't elicit a behavioural response in Kangaroos.⁶¹

FINDING 30: Emerging in-vehicle animal detection system technologies show significant potential to mitigate wildlife roadstrike.

4.6 Reduced speed limits

It does not add much to your day to travel through a wildlife hotspot at 20 kilometres less than you normally would.

Jason Cichocki, Founding Member, Surfcoast Wildlife Rescue, public hearing, Geelong, 20 August 2025, *Transcript of evidence*, p. 60.

Speed limit reductions are unlikely to be the 'silver bullet'⁶² that will stop all wildlife being struck. However, reduced driving speeds can make a 'significant difference in terms of the severity'⁶³ of a collision with wildlife by:

- Affording drivers more time to react to wildlife on the road.
- Increasing the likelihood that braking earlier and at a slower speed will avoid a collision with wildlife.
- Minimising the damage to wildlife or a vehicle, as collisions occur at a lower speed.

⁶⁰ Transport for New South Wales, *Using technology to reduce wildlife-vehicle collisions – Literature review and directions paper*, p. 50; Associate Professor Graeme Coulson, *Transcript of evidence*, p. 41.

⁶¹ Dr Helena Bender, *Transcript of evidence*, p. 38.

⁶² Bernie O'Sullivan, *Transcript of evidence*, p. 6.

⁶³ Daniel Grigson, Manager, Engineering and Asset Services, Macedon Ranges Shire Council, public hearing, Bendigo, 6 August 2025, *Transcript of evidence*, p. 6.

Many stakeholders called for reductions in speed limits, particularly during dawn and dusk periods.⁶⁴ A time-dependent speed reduction during certain periods is not a novel concept. School zones exist all over Victoria that mandate reduced speeds during defined time periods where school children are more likely to be moving around near roads. Many stakeholders considered the same logic should be applied to dawn and dusk – as increased wildlife activity during these times makes driving through hot-spots riskier.

Stakeholders told the Committee that mandated reductions in speed during dawn and dusk are required as ‘quite frankly, people don’t drive to the conditions’.⁶⁵ Many people who do decrease their speeds during high-risk dawn and dusk periods reported feeling ‘bullied’⁶⁶ by other drivers who tailgate or overtake in unsafe conditions.⁶⁷ Mandated speed limit reductions would require all drivers to drive to the conditions and could also assist with educating drivers about increased wildlife roadstrike risk during dawn and dusk periods.

Lowering speed limits is a ‘sensitive subject in terms of community feedback; some people are for it; some people are against it’.⁶⁸ Stakeholders criticised decisions to reduce speed limits in lieu of directly addressing issues on the roads. Some were concerned that speed limit reductions if not part of a ‘thought out process’⁶⁹ may not successfully mitigate wildlife roadstrike. This is particularly so if speed limit reductions are not generally complied with by drivers or paired with any enforcement action.⁷⁰ Further, the Committee heard that blanket speed limit reductions could adversely ‘affect food prices’⁷¹ and the ‘productivity of those businesses that rely heavily on travel’⁷² by delaying ‘transport infrastructure’.⁷³

Councils cannot lower speed limits without the approval of the State Department of Transport and Planning. This is the case ‘even when the local risk is clear and evidence-based’.⁷⁴ The Committee heard that obtaining such approval from the Department of Transport and Planning ‘is not a fast process’ that can take anywhere from ‘six to 18 months’.⁷⁵ This limits how promptly councils are able to respond to risks on their local roads or calls from community members to reduce speeds in wildlife hotspots.

⁶⁴ Erin Ashmore, *Transcript of evidence*, p. 40; Ron Day, *Transcript of evidence*, p. 19; Trevor Byron, *Submission 33*, p. 2; Macedon Ranges Wildlife Network, *Submission 54*, p. 2; Annette Stewart, *Submission 66*, p. 1; Victoria Jubb, *Submission 82*, p. 1; Anne Heirot, *Submission 120*, p. 1; Mornington Peninsula Wildlife Action Group, *Submission 223.1*, p. 1.

⁶⁵ Julia Hummerston, *Submission 39*, p. 1.

⁶⁶ Jus Webse, *Submission 96*, p. 1.

⁶⁷ Trevor Byron, *Submission 33*, p. 1; Annemarree Docking-Cehun, *Submission 40*, p. 1; Suzanne Jordan, *Submission 162*, p. 2; Heather Whitaker, *Submission 191*, p. 1.

⁶⁸ Daniel Grigson, *Transcript of evidence*, p. 6.

⁶⁹ Scott Young, *Transcript of evidence*, p. 31.

⁷⁰ Daniel Grigson, *Transcript of evidence*, p. 7.

⁷¹ Scott Young, *Transcript of evidence*, p. 31.

⁷² Adam Mitchell, *Submission 5*, p. 1.

⁷³ Scott Young, *Transcript of evidence*, p. 31.

⁷⁴ Bernie O’Sullivan, *Transcript of evidence*, p. 2.

⁷⁵ Daniel Grigson, *Transcript of evidence*, p. 3.

FINDING 31: Not driving to the conditions, particularly during dawn and dusk, increases the likelihood that wildlife will be struck by vehicles at faster speeds during these high-risk periods.

RECOMMENDATION 17: That the Victorian Government examine the feasibility of variable speed limits, supported by cameras and enforcement, in known high-risk zones. These measures should be applied particularly at dawn and dusk when animal movement peaks.

4.7 Driver education

One of the big things that I think should be taught to all new drivers is that you need to drive to the conditions. There is nothing there that teaches that just because that sign says 80, you need to drive at 80 kilometres an hour. You do not. Especially at certain times of the day.

Jason Cichocki, Founding Member, Surfcoast Wildlife Rescue, public hearing, Geelong, 20 August 2025, *Transcript of evidence*, p. 60.

Drivers should be taught how to minimise the risk of hitting an animal with their vehicle. The Committee heard evidence that many drivers, particularly those who are based in metro-areas, do not have a good understanding of the specific risks that exist when driving along rural and regional roads.⁷⁶ This is especially evident along tourist heavy roads.⁷⁷

Many stakeholders called for wildlife specific driver education to be incorporated into existing driver education programs, such as when obtaining an L permit or new licence.⁷⁸ All drivers should understand **when** driving is high-risk, **why** those times are high-risk and **how** to mitigate risk when driving during those periods. Whilst driver education cannot force drivers to change their behaviours, it can ensure that all drivers are equipped with the knowledge needed to mitigate wildlife roadstrike – thus preventing instances of wildlife roadstrike that occur because drivers were unaware of specific risks.

FINDING 32: Public awareness of the risks and responsibilities associated with wildlife collisions is low.

⁷⁶ Erin Ashmore, *Transcript of evidence*, p. 44.

⁷⁷ Daniel Grigson, *Transcript of evidence*, p. 9.

⁷⁸ Dr Kylie Soanes, *Transcript of evidence*, p. 15; Erin Ashmore, *Transcript of evidence*, p. 40; Rebecca Cook, *Transcript of evidence*, p. 54.

RECOMMENDATION 18: That the Victorian Government develop and deliver a public education campaign on wildlife roadstrike, including information on seasonal risks, safe driving practices and appropriate responses when encountering injured wildlife.

**Adopted by the Legislative Council Economy and Infrastructure Committee
Parliament of Victoria, East Melbourne
6 November 2025**

Appendix A

About the Inquiry

A.1 Submissions

1	Name withheld	31	Lachlan Fraser
2	Confidential	32	Name withheld
3	Name withheld	33	Trevor Byron
4	Miranda Brown	34	Name withheld
5	Adam Mitchell	35	Surfcoast Wildlife Rescue
6	Linda Henderson	36	Josh Vernon
7	Julie Grahame	37	Noreen Boord
8	Peter Harris	38	Cass Mesta
9	Name withheld	39	Juliana Hummerston
10	Jacki Jacka	40	Annemaree Docking-Cehun
11	Confidential	41	Brenda OSullivan
12	Diane Roberts	42	Name withheld
13	C Wise	43	Jo Tully
14	Friends of Bats & Bushcare Inc.	44	Gabrielle Fidler
15	Jan Brereton	45	Name withheld
16	Owen Weeks	46	Marguerite Cordell
17	Woodend wildlife rescue Victoria	47	Name withheld
18	Danny Ryan	48	Meyvin Daniele
19	Name withheld	49	Andrew Widdowson
20	Nigel Atkins	50	Name withheld
21	Stephen Koci	51	Greg and Amanda Price
22	Nicole Jonnes	52	Peter List and Phillipa White
23	Jennifer Rutherford	53	Scott and Abbie Patton
24	John Renyard	54	Macedon Ranges Wildlife Network
25	Sarah Owen	55	Hilary Hobart
26	Name withheld	56	Judy Orford
27	Ross Spirou	57	Michelle Lewis
28	Michael Conway	58	Fiona Curl
29	Name withheld	59	Macedon Ranges Shire Council
30	Alexander Innes	60	Graeme Coulson

61	Helena Bender	98	Robin Ramsay
62	Rhonda Gibbard	99	Regina Bos
63	Kyall Sadler	100	Christopher Kyriacou
64	Brian Mayberry	101	Kim McDonald
65	Natalie Holland	102	Sarah Monty
66	Annette Stewart	103	Karan Grieve
67	Linda Hell	104	Maureen Jackson
68	Linda Giddy	105	Tony Wilson
69	Mreza Hosseini	106	Name withheld
70	Sepi Helali	106a	Name withheld
71	Rosemary Moore	107	Trevor Blatchford
72	Nillumbik Shire Council	108	Name withheld
73	Name withheld	109	Name withheld
74	Ron Anstis	110	Karen Perkins
75	Jan Lowe	111	Rachael Hollander
76	Andrew Hine	112	Christine van Gent
77	Vivienne Ortega	113	Jill Brown
78	Yew-Kwang Ng	114	Martine Holberton
79	Robyn Davoren	115	Simon McInnes
80	Cherene Dunkley	116	Sue Carolane
81	Mira Thurner	117	Name withheld
82	Victoria Jubb	118	Susan Henshall
83	Janine Alexander	119	Sarah Walker
84	Name withheld	120	Anne Heriot
85	Name withheld	121	Jennifer Cheesman
86	Sherridan Green	122	Karen O'Reilly-Briggs
87	Name withheld	123	Kaisha Thomson
88	Frazer Watkins	124	Name withheld
89	Brad Knox	125	Terry Frewin
90	Heather Martin	126	Jen Schroeder
91	Felicity Crombach	127	Linda Steeth
92	Claire Paterdon	128	Animal Justice Party
93	John Strieker	129	Tracey Hicks
94	Jennifer Gearing	130	Name withheld
95	Name withheld	131	Kathryn Skidmore
96	Jus Webse	132	Gemma Freeman
97	Name withheld	133	Shohre Mansouri Jajae

134	Leanne Sultana
135	Juby George
136	Rosa Morstyn
137	Samuel Tucker-Davis
138	Aditi Acharya
139	Sarah Briggs
140	Name withheld
141	Bianca Romero
142	Angelika Koplin
143	Jodie Hill
144	Name withheld
145	Bendigo Animal Welfare & Community Services
146	George Alexander
147	Christine Bisset
148	Min-Pei Chuang
149	Name withheld
150	Sandra Jordan
151	Christine Challis
152	Sheridan Crowley
153	Kevin L'Huillier
154	Debra Osborne
155	Barbara Woodward
156	Name withheld
157	Daniel Kuersten
158	Myra McRae
159	Janet Heald
160	Helen Fox
161	Daniel Lacey
162	Suzanne Jordan
164	Kerry Baker
165	Rosemary Lamb
166	Dr Christine Connelly
167	Jackie Velo
168	Wilga Kottek
169	Glenyce Bacon
169a	Glenyce Bacon

170	Susie Kilby
171	Corangamite Shire Council
172	Karen Dodd
173	Annette Rodaughan
174	Laksh Sank
175	Mia Davies
176	Kelly Smith
177	Meagan Eriksen
178	Animal Active Australia
179	Royal Botanic Gardens Victoria
180	Simon Validzic
181	Name withheld
182	John Mckay
183	Megan O'Connor
184	Name withheld
185	Name withheld
186	Raylee Pandur
187	Merryl Daines
188	Christine Lehmann
189	Sue Litchfield
190	Ted Howard
191	Heather Whitaker
192	Marty Ford
193	Wildlife Victoria
194	Naomi Moodie
195	Meredith Budge
196	Caroline Lewis
197	Name withheld
198	Ankita Shah
199	Amrutha Karagada
200	Jane McGeorge
201	Felicity Topp
202	Martin Breier
203	Iris Moreno
204	Name withheld
205	Sachin Guddekoppa Sudhir
206	Name withheld

207	Mei Power	243	Mara Favoretto
208	Adele Rivers	244	Madison Higgins
209	Nicole Kaka	245	Nathan Berry
210	Hume City Council	246	Irene Proebsting
211	Gabriella Barrett	247	Janet Laing
212	Susan Koci	248	Sharyn Halloran
213	Melinda Everett	249	Leigh Ashforth
214	Name withheld	250	Cherie Wilson
215	Lyn Bond	251	Jan Kendall
216	Rebecca Gallaway	252	Jennifer Bowie
217	Max Horvath	253	Linda White
218	Sharon Bondy	254	Sarah Abbott
219	Ruth Weston	255	Name withheld
220	Carolyn Handley	256	Hollie Kirby
221	Parris Alexander	257	Nikki Hansen-Medwell
222	Patrick Francis	258	Name withheld
223	Mornington Peninsula Wildlife Action Group	259	Mark Radley
224	Elroy Radley	260	Name withheld
225	Frances Argus	261	Name withheld
226	Marita McGuirk	262	Rebecca Lee
227	Jane Burgess	263	Helen McPherson
228	Tracey Burchall	264	Sarah Dilges
229	Lyndi Chapman	265	Michelle Mead
230	Margaret Van Veen	265a	Michelle Mead
231	Name withheld	266	Holly McLaren
232	Paola Torti	267	Confidential
233	BEAM Mitchell Environment Group Inc	268	Gayle Williams
234	Michelle Connolly	269	Confidential
235	Kelly Chandler	270	Josie Buis
236	Courtney Myers	271	Southern Koala and Echidna Rescue
237	Rebecca Cornish	272	Michael Fuery
238	Katie Flannigan	273	Angela Steffensen
239	Kerrie Brooks	274	Name withheld
240	Helen Martin	275	Aurora Kurth
241	Narelle Trippett	276	Deborah Atkins
242	Environment East Gippsland Inc	277	Suzanne Vigenser
		278	Friends of the Koalas Inc.

279	Name withheld	313	Linda Djugajeva
280	Ronald Day	314	Troy Ruediger
281	Megan Bristow	315	Melanie Ellis
282	Stacey Jane Lancaster	316	Michelle Cameron
282a	Stacey Jane Lancaster	317	Aileen Taylor
283	Stephen Bacon	318	Aissa Reed
284	Name withheld	319	Katrina Larsen
285	Central Victorian Bat Alliance	320	Jennifer Bromley
286	Patricia Stewart	321	Tim Hawthorne
287	Nic Rush	322	The Wildlings Woodend Wildlife Shelter
288	Phillip Island Conservation Society Inc	323	Natalie Langowski
289	Vets for Compassion	324	Olive McIntosh
290	Wilma Bedford	325	Nathan Milnes
291	Audrey Falconer	326	Katja Gutwein
292	Carolyn Juricskay	327	David Clarke
293	Wombat Protection Society Australia	328	Name withheld
294	Confidential	329	Melita Rossa
295	Caroline Ashworth	330	Jeremy Honner
296	Joanne Fischer	331	Gariwerd Animal Biodiversity Alliance
297	Ballarat Wildlife Rehabilitation & Conservation	332	Lauren Gould
298	Maxine Sando	333	Robyn Sterling
299	Name withheld	334	Southern Ash Wildlife Shelter Inc
300	Kevin L'Hullier	335	Name withheld
301	Sandra Morris	336	Fiona Williamson
301a	Sandra Morris	337	David MacDonald
302	Law Institute of Victoria	338	Gretchen Balas
303	Victorian National Parks Association	339	Mel & the Menagerie animal rescue
304	Defend the Wild	340	Pamela Kurth
305	Mark Coupe	341	Kamilla Borzeta
306	Rosemary Stewart	342	Tanya Schonberg
307	Name withheld	343	Confidential
308	Paulette Smythe	344	Save Kangaroos on Mornington Peninsula
309	Marie Ashworth	345	Christine Robb
310	Anastasiia Disiak	346	Anne Frances
311	Fiona Mariposa	347	Lisa Magnusson
312	Mick Green	348	Susan Buckland
		349	Robynne Burchell

350	Natalie James	386	Richard Hudson
351	Mornington Peninsula Koala Conservation	387	Tanya Loos
352	Name withheld	388	South Gippsland Landcare Network
353	Confidential	389	Name withheld
354	Sin Tung Leung	390	Tass Holmes
355	Kimberly Roxburgh	391	Sarah Thomson
356	Bernadette Cheesman	392	Gwyneth Beaumont
357	Tripta Kaur	393	Catherine Kate Pisani
358	Lewis McEwan	394	Helen Round
359	Holly Sitters	395	Frankston City Council
360	Marissa Shields	396	Dr Kylie Soanes
361	Luisa Tuazon	397	Leonie Schween
362	RSPCA Victoria	398	Lou Mack
363	Name withheld	399	Name withheld
364	Hope Nguyen	400	Reptiles Victoria Inc
365	Kate Gracey	401	Confidential
366	Warren Reed	402	Name withheld
367	Kangaroos Alive	403	Merryn Redenbach
368	Name withheld	404	Name withheld
369	Priscilla Hough-Davies	405	Louise Howland
370	Lynda Newton	406	Tracy Harris
371	Australian Native Parrot Protection Association	407	International Fund for Animal Welfare (IFAW)
372	Belinda Eden	408	Cambray Consulting Pty Ltd & Wildlife Highways Pty Ltd
373	Mark Phelan	409	Roads and Roadside Ecology Northern Nillumbik Inc.
374	Anna Bunbury	410	Mary Wilkinson
375	BirdLife Australia	411	Keith Lamb
376	Helen Evans	412	Mornington Peninsula Shire
377	Greg Flanagan	413	Susan Davies
378	Damien Daniele	414	Name withheld
379	Megan West-O'Keeffe	415	Sue Mckinnon
380	Name withheld	416	Leila Bryant
381	Stephanie Jones	417	Simonne Fleming
382	Tarwin Landcare Group	418	Vikram Gupta
383	Val Barbary	419	Gloria D Mello
384	Navec Lorkin	420	Gursharan Singh
385	City of Whittlesea		

421	Leanne Jackson	446	Name withheld
422	Joe Erftemeyer	447	Yolette De Zilwa
423	Jennifer Baxter-Johnson	448	Julie Slifirski
424	Ritesh Mittal	449	Cassey Briggs
425	Name withheld	450	Helen Jeges
426	Name withheld	451	Confidential
427	Cheryl Lundin	452	Suresh Ruberan
428	Name withheld	453	Maalini Ellis
429	Kanta Upreti	454	Leon McDonald
430	Kaitlyn Hart	455	Ildi Ehsman
431	Wim Bezemer	456	Jo Stevens
432	Michelle MacEwan	457	Wild Days Wildlife Shelter
433	Boobook Wildlife Shelter	458	Gina Lloyd-Thomas
434	Sue Boggan	459	Name withheld
435	Chandre Sekhar	460	Manfred Zabinskas
436	Theresa Vanderwyk	461	Kerrie Allen
437	Name withheld	462	Sporting Shooters Association of Australia (Victoria)
438	Jo Connellan	463	Ian Slattery
439	Frank Jesse	464	Victorian Kangaroo Alliance
440	Confidential	465	Suzanne Vigers
441	Barbara Jane Moulin	466	Vicki Steggall
442	Andrew Black	467	Emily Clarke
443	Kim Wormald	468	Confidential
444	Name withheld	469	National Transport Research Organisation (NTRO)
445	Geelong Duck Rescue		

A.2 Public hearings

1 September 2025

Federation Room, Parliament House, Spring Street East Melbourne, Victoria

Witness	Position and organisation
Cr Naim Kurt	Deputy Mayor, Hume City Council
Krysti Severi	Wildlife rescuer
Vicki Clark	Wildlife rescuer
Leanne Sultana	Wildlife rescuer
Sue Johnston	Wildlife rescuer
Brenton Kennedy	Executive Manager of Customer Management and Experience (Motor Claims), Suncorp
Graeme Coulson	Associate Professor and Honorary Principal Fellow, School of Biosciences, University of Melbourne
Dr Helena Bender	Senior Lecturer and Teaching Specialist, School of Agriculture, Food and Ecosystem Sciences, University of Melbourne
Glenn Weir	Assistant Commissioner, Victoria Police
James Todd	Chief Biodiversity Officer and Director Arthur Rylah Institute, Department of Energy, Environment and Climate Action
Rheya Linden	Campaign Director, Animal Active Australia
Jo Connellan	Animal Active Australia

20 August 2025

Rydges Geelong, Broadside Room, Geelong, Victoria

Witness	Position and organisation
Lucas Cooke	Chief Executive Officer, Field and Game Australia
Dr Christine Connelly	Lecturer in Environmental Science and Research, Fellow at Victoria University
Ronald Day	Phillip Island Community Member
Scott Young	Livestock President and Director, Victorian Farmers Federation
Dr Elaine Ong AM	Founder, Vet and Darter, Vets for Compassion
Nicole de Haan	Operations Manager, Vets for Compassion
Lisa Palma	Chief Executive Officer, Wildlife Victoria
Sarsha Collett	Head of Veterinary Operations, Wildlife Victoria
Mr Jason Cichocki	Surfcoast Wildlife Rescue

6 August 2025

All Seasons Hotel Bendigo, Lansell 1, Bendigo, Victoria

Witness	Position and organisation
Bernie O'Sullivan	Chief Executive Officer, Macedon Ranges Shire Council
Daniel Grigson	Manager Engineering and Asset Services, Macedon Ranges Shire Council
Dr Kylie Soanes	Research Fellow, School of Agriculture, Food and Ecosystem Science, University of Melbourne
Dr Rodney van der Ree	National Technical Executive in Ecology at WSP Australia
Ian Slattery	Senior Wildlife Rescuer
Brenda Argus	Wildlife Rescue and Information Network
Michelle Mead	Wildlife Rescue and Information Network
Jo Fischer-Morrissey	Wildlife Rescue and Information Network
Megan Willis	Macedon Ranges Wildlife Network
Erin Ashmore	Macedon Ranges Wildlife Network
Deborah Gwynther-Jones	Macedon Ranges Wildlife Network
Manfred Zabinskas	Macedon Ranges Wildlife Network
Karl Dawson	The Wildlings Woodend Wildlife Shelter
Trevor Crawford	Woodlands Wildlife Rescue
Rebecca Cook	Head of Prevention, RSPCA Victoria
Mhairi Roberts	Policy & Advocacy Manager, RSPCA Victoria
Glenn Cole	

Extract of proceedings

Legislative Council Standing Order 23.20(5) requires the Committee to include in its report all divisions on a question relating to the adoption of the draft report. All Members have a deliberative vote. In the event of an equality of votes, the Chair also has a casting vote.

The Committee divided on the following questions during consideration of this report. Questions agreed to without division are not recorded in these extracts.

Committee Meeting – 6 November 2025

Chapter 2 – Wildlife roadstrike management

Ms Terpstra moved that in Section 2.1.4, the word ‘amend’ be replaced with ‘consider amending’ in Recommendation 1.

Question – put.

The Committee divided.

Ayes (5)	Noes (2)
John Berger	Katherine Copsey
Gaelle Broad	Georgie Purcell
Tom McIntosh	
Sonja Terpstra	
Richard Welch	

Question Agreed.

Ms Broad moved that in Section 2.2.5, the word ‘adopts’ be replaced with ‘consider’ in Recommendation 3.

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negated.

Ms Terpstra moved that in Section 2.2.5, the word ‘provide’ be replaced with ‘consider providing’ in Recommendation 5.

Question – put.

The Committee divided.

Ayes (5)	Noes (2)
John Berger	Katherine Copsey
Gaelle Broad	Georgie Purcell
Tom McIntosh	
Sonja Terpstra	
Richard Welch	

Question Agreed.

Ms Terpstra moved that in Section 2.2.5, the word ‘establish’ be replaced with ‘consider the establishment’ in Recommendation 6.

Question – put.

The Committee divided.

Ayes (5)	Noes (2)
John Berger	Katherine Copsey
Gaelle Broad	Georgie Purcell
Tom McIntosh	
Sonja Terpstra	
Richard Welch	

Question Agreed.

Ms Terpstra moved that in Section 2.2.5, the word ‘implement’ be replaced with ‘consider implementing’ in Recommendation 8.

Question – put.

The Committee divided.

Ayes (5)	Noes (2)
John Berger	Katherine Copsey
Gaelle Broad	Georgie Purcell
Tom McIntosh	
Sonja Terpstra	
Richard Welch	

Question Agreed.

Chapter 3 – The causes of wildlife roadstrike

Ms Terpstra moved that in Section 3.1, the word ‘establish’ be replaced with ‘consider the establishment’ in Recommendation 9.

Question – put.

The Committee divided.

Ayes (5)	Noes (2)
John Berger	Katherine Copsey
Gaelle Broad	Georgie Purcell
Tom McIntosh	
Sonja Terpstra	
Richard Welch	

Question Agreed.

Ms Broad moved that in Section 3.3, the following text be inserted:

According to data provided by DEECA, Victoria’s kangaroo population has increased from 1.4 million to approximately 2.4 or 2.3 million over the last few years across 2022 and 2024 (1049–1051). This represents an approximate 71% increase from 2018 to 2022. Other witnesses also acknowledged that increased population growth of kangaroos, and other wildlife including deer and wombats was a significant factor in increased collision rates.

FINDING XX: Increased wildlife populations, including kangaroos, deer and wombats, and increased urban development resulting in the displacement of kangaroos, has contributed to a significant increase in wildlife roadstrike.

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negated.

Mr Welch moved that in Section 3.4, Recommendation 10 be replaced with the following text:

That the Victorian Government undertake consultation and study to determine how wildlife- sensitive planning measures might be efficiently incorporated into new housing, infrastructure projects and planning schemes. This should examine:

- how departmental guidelines can incorporate biodiversity sensitive urban design,
- the viability and likely cost of mapping wildlife corridors along existing riparian zones,
- consideration of expanded buffer zones, and
- consideration compulsory environmental impact assessments addressing the specific risks of roadstrike

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negatived.

Ms Broad moved that in Section 3.4, Recommendation 11 be replaced with the following text:

That the Victorian Government support the inclusion of strategies for wildlife protection in new developments, to reduce the incidence of wildlife populations being landlocked and to enable them to move without crossing major roads.

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negatived.

Ms Broad moved that in Section 3.5, the following text be deleted:

On many regional roads the signed speed limits are too high and greatly increase the risk of roadstrike, with both wildlife and motorist at greater risk. Even where lower speeds are mandated, a lack of enforcement allows the limits to be ignored. Therefore, these suggested, rather than mandated, lower speed limits in the hours between dusk and dawn appear to have little effect.

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negatived.

Ms Broad moved that in Section 3.5, the following text be deleted:

This evidence is consistent with the anecdotal evidence of the majority of submissions and witnesses.

Question – put.

The Committee divided.

Ayes (5)	Noes (2)
John Berger	Katherine Copsey
Gaelle Broad	Georgie Purcell
Tom McIntosh	
Sonja Terpstra	
Richard Welch	

Question Agreed.

Ms Broad moved that in Section 3.7, the following text be deleted:

It is clear to the Committee that speeding is extremely commonplace in high-risk areas.

Question – put.

The Committee divided.

Ayes (5)	Noes (2)
John Berger	Katherine Copsey
Gaelle Broad	Georgie Purcell
Tom McIntosh	
Sonja Terpstra	
Richard Welch	

Question Agreed.

Ms Broad moved that in Section 3.7, the following text be deleted:

Lower speed limits on rural and wildlife-prone roads were widely recommended. A majority of submitters and most of the witnesses before the Committee recommended that speed limits in wildlife hotspots be reduced and enforced. In particular, many participants in the Inquiry recommended that dusk-to-dawn speed reductions would be a targeted solution.

Question – put.

The Committee divided.

Ayes (4)	Noes (3)
Gaelle Broad	John Berger
Tom McIntosh	Katherine Copsey
Sonja Terpstra	Georgie Purcell
Richard Welch	

Question Agreed.

Ms Broad moved that in Section 3.7, the following text be deleted:

It was also suggested by a number of participants in the Inquiry that reduced speed limits will have little effect without enforcement so speed enforcement and spot to spot cameras and other technologies to ensure compliance were recommended.

Question – put.

The Committee divided.

Ayes (5)	Noes (2)
John Berger	Katherine Copsey
Gaelle Broad	Georgie Purcell
Tom McIntosh	
Sonja Terpstra	
Richard Welch	

Question Agreed.

Ms Broad moved that in Section 3.7, the following text in Finding 15 be deleted:

Speed is a critical determinant of wildlife collisions. Evidence showed that high-risk zones are rarely supported by speed management, despite data showing that reduced speed significantly lowers collision likelihood and severity.

And replaced with the following text:

Travelling at slower speeds can reduce the severity of a collision.

Question – put.

The Committee divided.

Ayes (5)	Noes (2)
John Berger	Katherine Copsey
Gaelle Broad	Georgie Purcell
Tom McIntosh	
Sonja Terpstra	
Richard Welch	

Question Agreed.

Ms Broad moved that in Section 3.8, the following text be deleted:

While the majority of the submissions and witnesses pointed to speed and driver behaviour being the main cause of the high rate of wildlife roadstrike, a contrary view was put by some submitters and witnesses who suggested that the key cause of the problem was the population of wildlife, and in particular kangaroos, and that reducing speed limits would be unlikely to solve the problem.

And replaced with the following text:

Some-submitters and witnesses suggested that the key cause of the problem was the population of wildlife, and in particular kangaroos, and that reducing speed limits would be unlikely to solve the problem.

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negatived.

Ms Broad moved in Section 3.8, the following text be deleted:

There is concern that this methodology produces overinflated results – as counts are extrapolated across the entire state, including areas where it is not possible for kangaroos to live. Further,

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negatived.

Ms Broad moved in Section 3.8, the following text be deleted:

Despite the limitations of the counting methodology.

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negatived.

Ms Broad moved in Section 3.8, the following text be inserted:

The Committee received submissions that highlighted increased wildlife populations, particularly kangaroos and wallabies, have increased the risk of wildlife roadstrike.

The Corangamite Shire Council noted that overpopulation of some species leads animals to travel further for food and water, leading to frequent fence damage and more road collisions. The Council notes that effective population control measures are necessary to complement infrastructure and land management efforts.

“Without appropriate population management strategies, including culling or fertility control where suitable, other mitigation efforts such as fencing may prove unsustainable or ineffective in the long term.”

Submission 18, Danny Ryan states that ‘Kangaroo collisions on roads pose significant risks to motorists. Population control will reduce the frequency of incidents.’

Further submissions noted that speed limit reductions have proved ineffective in reducing wildlife strikes, and that the core issue lies in the sheer number of animals rather than vehicle speed. (51, 52, 53)

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negatived.

Ms Broad moved in Section 3.8, the following text be deleted:

The Committee is unable to make any finding or draw any solid conclusions about kangaroo populations. Whether increased counted numbers are due to an increased number of animals or whether it is the result of relocation to more visible areas, it is not possible to conclude that overpopulation is a significant cause of wildlife roadstrike.

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negatived.

Ms Broad moved in Section 3.8, that Finding 17 be deleted.

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negatived.

Mr Welch moved in Section 3.8, that Finding 17 be amended to read:

Repeatedly the evidence showed that Kangaroo population numbers are contested due to a wide divergence on views on census methods. The formal processes have a reliance on irregular studies that apply mathematical extrapolation with contestable assumptions. While anecdotal ‘community- recorded’ figures have no objective quality or robustness, are often ad hoc, and subject to significant inconsistencies in data gathering methodologies. Until the Kangaroo population is objectively and accurately measured under broadly accepted measures, there will continue to be considerable uncertainty in terms of the appropriate population management policy and method – and conclusions drawn on Kangaroo population management will remain contested until this is remedied

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negatived.

Chapter 4 – Mitigation strategies and technologies

Ms Broad moved in Section 4.3.1, that Finding 25 be deleted.

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negatived.

Mr Welch moved in Section 4.3.2, the following text be deleted:

The Committee heard that whilst wildlife crossing structures are significant up-front expense, effective crossings can reduce the frequency of roadstrike – and therefore, reduce future costs associated with vehicle repairs and road clean ups. Collisions with large animals, such as large deer or grizzly bears, can result in significant injury or death to motorists. Effective crossing structures also reduce costs associated with motorist injury or death.

And replaced with the following text:

The Committee heard that wildlife crossing structures effective in some European settings with European wildlife and European Geography. There were propositions that this might work in Australia, however native animal behaviour patterns, Australian geography, and scale of landscape meant this was unlikely to have the same effect, and acceptance that the cost would be highly prohibitive.

There was also acceptance that there was no reliable data mapping of hotspot locations that could provide an evidence based approach to where such significant investment/s could be undertaken considering the scale of Victoria's road network.

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negatived.

Mr McIntosh moved in Section 4.3.2, the words 'commit to' be replaced with 'consider' in Recommendation 14.

Question – put.

The Committee divided.

Ayes (5)	Noes (2)
John Berger	Katherine Copsey
Gaelle Broad	Georgie Purcell
Tom McIntosh	
Sonja Terpstra	
Richard Welch	

Question Agreed.

Mr Welch moved in Section 4.3.2, Recommendation 14 be amended to read:

That the Victorian Government commit to gathering statistically viable roadstrike data to enable evidence based solutions and allocation of funding to road crossing concepts, including locations.

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negated.

Mr Welch moved in Section 4.4.3, Finding 28 be amended to read:

Intelligent signage is a promising wildlife roadstrike mitigation measure but with only a single instance of Australian implementation, with ambiguous results it does not provide strong evidence of efficacy. implemented in other Australian states and internationally.

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negated.

Ms Broad moved in Section 4.6, the following Finding be deleted:

Many stakeholders called for mandated speed limit reductions during the high-risk periods of dusk and dawn.

Question – put.

The Committee divided.

Ayes (5)	Noes (2)
John Berger	Katherine Copsey
Gaelle Broad	Georgie Purcell
Tom McIntosh	
Sonja Terpstra	
Richard Welch	

Question Agreed.

Mr Welch moved in Section 4.6, Recommendation 17 be amended to read:

That the Victorian Government commit to gathering statistically viable road strike data gathering to enable evidence-based solutions that define and identify 'high-risk zones' empirically.

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negatived.

Mr McIntosh moved in Section 4.6, the word 'introduce' be replaced with 'examine the feasibility of' in Recommendation 17.

Question – put.

The Committee divided.

Ayes (5)	Noes (2)
John Berger	Katherine Copsey
Gaelle Broad	Georgie Purcell
Tom McIntosh	
Sonja Terpstra	
Richard Welch	

Question Agreed.

Ms Broad moved in Section 4.6, that Recommendation 17, as amended, be deleted.

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negatived.

Ms Broad moved in Section 4.6, the following text be added:

Field and Game Australia highlighted that new and emerging technologies and infrastructure, including sensors, thermal cameras and virtual fencing are often reactive, costly and context dependent. Alone they do not reduce strike risk, and are useful only in confined hotspots, not for dispersed peri-urban kangaroo populations.

Question – put.

The Committee divided.

Ayes (2)	Noes (5)
Gaelle Broad	John Berger
Richard Welch	Katherine Copsey
	Tom McIntosh
	Georgie Purcell
	Sonja Terpstra

Question Negatived.

Minority report



LEGISLATIVE COUNCIL

Inquiry into Wildlife Roadstrike in Victoria:

MINORITY REPORT

LIBERALS AND NATIONALS

November 2025

1. Overview of Inquiry

1.1. Valuable and Timely

The Liberals and Nationals welcome this Inquiry, its terms of reference and intent.

Roadstrike in Victoria is an insufficiently acknowledged problem that requires further attention – not only in the interests of Victoria's wildlife, but also in the interests of the wide range of stakeholders who grapple with this problem, and it's associated workload, stresses, human and financial costs and productivity loss.

It is also a matter that abounds in operational inconsistency. The professional and voluntary networks that operate in the sector work in good faith collectively, but largely only work together informally. This means that matters of data, support, resources, process, research and regulation operate across a web of inconsistent connections, hierarchies and arrangements that deliver strong anecdotal information, but not clear actionable data at scale, and limit the ability to address issues in a comprehensive way.

The enquiry is an opportunity to address these issues and went some way in identifying areas for change and solutions.

It should also be noted that there is significant agreement with the Majority report, and I the main this Minority Report is produced to provide some additional emphasis and context to the findings and recommendations rather than directly contest them.

1.2. Work of Volunteer Rescuers

It is also appropriate, at the outset of this Minority Report to acknowledge the work of the volunteer wildlife rescue community. The Inquiry received significant evidence of their workload, long and irregular hours, financial burden, and compassion. Their efforts are substantial and important.

2. Development of a Wildlife Roadstrike Strategy

The Liberals and Nationals support the development of a Wildlife Roadstrike Strategy, that focuses on proactive population management, a centralised state-wide database, and targeted investment in crossings and fencing at verified hotspots.

The Committee received submissions that highlighted increased wildlife populations, especially kangaroos, deer, wombats and wallabies, have increased the risk of wildlife roadstrike and pose a significant risk to motorists.

The Committee examined a range of proactive measures to help reduce wildlife roadstrike including:

Mitigation through better road, and roadside maintenance

Increased roadside vegetation and reduced maintenance have made it harder for drivers to spot wildlife in time to avoid collisions. Dusk-to-dawn periods are especially dangerous, and drought conditions are pushing animals out of the bush toward roadside areas with more feed, further increasing the risk of wildlife roadstrikes.

There was also some evidence that contended that the poor state of regional and rural roads is an increasing factor in road strike. Drivers are required to provide additional focus on unpredictable road condition ahead and less able to scan the verges for potential emerging hazards. Poor road conditions also diminish driver response options. While swerving to avoid wildlife is not typically recommended there can be no doubt that unpredictable road conditions, potholes, et al can complicate driver alertness, decision making or even safe and sensible evasion measures.

Mitigation through Driver Education and Training

It was noted that there was a lack of explicit training on wildlife hazards for drivers. Education on 'driving to the conditions' should also include wildlife behaviour and safe driver responses to incidents. There should also be further guidance and education on what to do in the event of a road strike, and what actions are safe and unsafe in attending to a injured animal.

Mitigation though virtual fences and related technologies.

The Committee heard that new and emerging technologies and infrastructure, including sensors, thermal cameras and virtual fencing are often reactive and costly, and not always suitable in the Victorian context. The type of continuous fencing that has proved successful in countries like the Unites States, is financially and logistically unviable on Victoria's extended peri-urban corridors.

Mitigation through improved street lighting

Dawn to Dusk hours have been identified as a period of high road-strike incidence, and anecdotally they are considered the time of highest incidence. Whereas technologies required for virtual fencing struggle to scale and span large areas, simply providing better visibility on road verges and approaches during high-risk hours could provide substantial assistance in alerting drivers to roadside wildlife and do so cost effectively over a longer span of road. Combined with better road-side vegetation maintenance this could prove a cost effective strategy for a road network the scale of Victoria's.

Mitigation through a better Data Collection system

We believe the Victorian Government must commit to gathering statistically viable roadstrike data to enable evidence based solutions and targeted funding to verified hotspots.

A more comprehensive mechanism for capturing wildlife roadstrikes and near miss incidents is required to better understand their role in road trauma across the state, and to identify key hotspots. As highlighted by the National Transport Research Organisation, this information, together with a range of measures to prevent such incidents, could be included in the State Road Safety Strategy and Action Plan, which would have the dual effect of reducing road trauma to road users and the State's vulnerable wildlife.

Currently, the most reliable statistics on accidents involving kangaroos are from insurance companies and wildlife rescue teams. The RACV and Wildlife Victoria reported last year that there were nearly 10,000 collisions, but the real number is likely to be higher as many go unreported.

In establishing a centralised data base, the Government should avoid wasting time, effort and cost in attempting to unify existing databases or transfer data to the new centralised system. The cost and time required will be prohibitive, full of inconsistencies and serve no collective benefit.

All existing databases are statistically unsound and do not meet the threshold for evidence based allocation of resources and therefore have no forward value. Continuing to use existing apps via technical integration simply compounds this failing, or would require massive harmonisation software work across many platforms, which is impractical.

It will be far cheaper, quicker and statistically preferable to start from scratch with a single agreed, harmonised, data collection methodology and toolkit.

However, essential to any new, unified database/toolkit is the parallel collective agreement of Voluntary Organisations as to the data collection methodology, data and feature inclusions and exclusions.

If common agreement is not achieved, Volunteers will be prone to apply their own work-arounds, or opt out and the database will again fragment according to local or other

preferences or needs.

No attempt at a unified database should be attempted until there is agreement on a unified governance and support system for Volunteer Organisations, designed and accepted by those Organisations.

Mitigation through Population Management

The Corangamite Shire Council noted that overpopulation of some species leads animals to travel further for food and water, leading to frequent fence damage and more road collisions. The Council notes that effective population control measures are necessary to complement infrastructure and land management efforts.

“Without appropriate population management strategies, including culling or fertility control where suitable, other mitigation efforts such as fencing may prove unsustainable or ineffective in the long term.”

Mitigation through greater consensus on Kangaroo population measurement

While there is universal agreement that the vast majority of road strike incidents involve Kangaroos, the degree to which Kangaroo over-population is a key determining factor in its the prevalence is contested due to a wide divergence of views on Kangaroo population census methods.

The formal processes have a reliance on periodic aerial surveys that apply mathematical extrapolation with contestable assumptions. While it is arguably the ‘least worst’ method of kangaroo population estimation It is frequently asserted that this method overstates population numbers

At the same time anecdotal ‘community- recorded’ figures have no objective quality or robustness, are often ad hoc, and subject to significant inconsistencies in data gathering methodologies. It is frequently asserted that this method understates population numbers.

Given the scale of land, the mobility of the animal itself, seasonal feed and disturbed habitat variables it is unlikely that any methodology can perfectly estimate the Kangaroo population at any point in time; however measures could be taken to make calculation methods it more accepted or at least less contestable.

This could be achieved through improvements to the aerial calculation methodologies, and through improved road-strike data gathering system.

This would be helpful, because until the Kangaroo population is measured under broadly accepted measures, there will continue to be a tendency and temptation to undermine any population management policy and method according to whether any given stakeholder considers the estimate to be too high or too low.

Until there is a majority agreed methodology to estimate Kangaroos numbers in Victoria, policy and advocacy on road-strike, and population management itself will continue to be a dividing point in detriment to the quality of dialogue on the matter and the solutions that may be implemented.

Mitigation through lower Speed Limits

Further submissions noted that speed limit reductions have proved ineffective in reducing wildlife strikes, and that the core issue lies in the sheer number of animals rather than vehicle speed. The proposition is further undermined by a lack of objective data as to where such speed reductions should be implemented, on what stretches of road, at what times, and what speeds. Until the state operates a unified data gathering methodology, it is impossible to apply an evidence based approach to speed limits as a mitigation.

Mitigation through Major Wildlife Crossings

The Committee heard that wildlife crossing structures had been effective in some European settings with European wildlife and European Geography.

There were propositions that this might work in Australia, however native animal behaviour patterns, Australian geography, and scale of landscape meant this was unlikely to have the same effect, and acceptance that the cost would be highly prohibitive.

There was also acceptance that there was no reliable data mapping of hotspot locations that could provide an evidence based approach to where such significant investment/s could be undertaken considering the scale of Victoria's road network

The majority report recommends that the Victorian Government commit to a program of major wildlife crossings, beginning with pilot sites in high-risk corridors, with the long-term objective of network-wide rollout.

However, there was only superficial discussion of cost; insufficient to draw any conclusion on cost/benefit. There was, as presented by the Insurance industry, no robust road-user cost figures either. What we know, anecdotally, is that for crossings of the scale in Europe, the comparative Australian costs would be in the range of \$100's of millions each. In all likelihood the cost would far outweighs the savings.

We cannot recommend this as value for money; nor do not have any robust data to take an evidence based approach to determine where an investment or investments of this magnitude should be located, or that in the scale of the Victorian road network, whether one or two of such structures would make any material impact to a State-wide problem, and be a sensible concentration of resources allocated to addressing the road strike problem.

Mitigation through a sector wide Code of Practice.

Many submissions also highlighted that wildlife road strike incidents contribute to emergency callouts, and the need to reduce the burden on CFA, SES and other volunteer responders.

The Liberals and Nationals acknowledge that the current system for responding to wildlife roadstrikes is inefficient and the Victorian Government must take action to work with key stakeholders to create a Code of Practice clearly defining the roles and responsibilities of accredited responders, including local councils, police, SES, CFA, carers, and rescuers, to improve outcomes for both road users and wildlife.

3. Two Key Issues that pre-empt most other considerations:

(a) The urgent need for a unified data gathering system

There needs to be a new unified Road Strike database. Until this happens, nothing else can happen effectively, on an evidence basis. Every mitigation recommendation is inevitably subject to the question: "*Where, which animals, how many animals, when, what times, which areas*" - none of which can be adequately answered at a State-wide level using current data collection methods. The state is operating 'blind'.

(b) A unified governance structure for Volunteer Rescuer Groups

The Liberals and Nationals agree wholeheartedly with providing further support to the volunteer wildlife rescue community.

Volunteer Groups are the eyes, ears, heart, backbone, muscle, hands and legs of the road strike 'sector'.

However, the community is made up of highly idiosyncratic groups, with complex networks and friendships, agreements and disagreements on everything except their love and commitment to care.

This makes it challenging for them to work collectively, and co-ordinate, and equally challenging for authorities, departments and the State to support them coherently and in a unified fashion under common rules. Who receives the funding, and who determines how it is distributed? On what terms and conditions is it provided?

Until there is consensus amongst the volunteer groups themselves, on how they would like to operate under governance, the support they so desperately need will be difficult to provide and – given their central role in data collection - nor can the data collection

problem be addressed either.

Many volunteers use their own preferred data capture software, independent methodology and data definitions. These preferences can be based on firm belief and experience making compromise or adaption to an alternative system challenging

It is vital that these groups retain their sense of agency and control over their futures – but that does require the community reaching a collective agreement on what that future looks like. If there is not strong consensus and agreement to abide by a set of common processes, and significant numbers of rescuers quietly or selectively ‘opt out’ any new data gathering system will quickly atomise back to individualised approaches and be statistically devalued

The key recommendation of this inquiry should be for the Government to facilitate a workgroup to help the ‘Rescuer community’ achieve this, and make their recommendations on standardisation, and what governance structure they would be willing to come under, and commit to abide by.

Almost every other finding or recommendation in the Majority report is dependent on these two things- and many fall down due to a lack of data and governance rigour around them.

In that sense, in pursuing the legitimate aim of using this report to trigger change, the recommendations may be attempting to run ahead with solutions that the data can’t yet support, or the systems can’t yet fulfil. This minority report calls for Data and Governance to be the first and most important responses as it will empower all others, remove controversy and contention and provide greater justification and systems for funding and resource allocation.

If we use this inquiry to focus on these two, very reasonable, and achievable fundamentals and get these implemented, then we will successfully provide the right, foundations for the successful implementation of the further reforms sought.

END