



mainroads  
WESTERN AUSTRALIA

*We're working for  
Western Australia.*

# Annual Report 2024

Pastoral Animal Hazard  
Advisory Group

D25#53437  
January 2025

# Contents

<b>1</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>4</b>
<b>2</b>	<b>KEY FINDINGS AND STATISTICS .....</b>	<b>5</b>
<b>3</b>	<b>ADVISORY GROUP .....</b>	<b>5</b>
3.1	History and Context .....	5
3.2	Terms of Reference .....	6
3.3	Membership .....	6
3.4	Areas of Focus.....	6
<b>4</b>	<b>PROGRESS AND ACHIEVEMENTS.....</b>	<b>7</b>
4.1	Data Analysis.....	7
4.1.1	Data Set Characteristics .....	7
4.1.2	State-wide Context .....	8
4.1.3	Crashes involving Cattle and Sheep per km of State Road Network .....	8
4.1.4	Number of Animal Related Crashes .....	9
4.1.5	Pastoral Animal Related Crash Severity .....	10
4.1.6	Monthly Crash Data for Each Region.....	11
4.2	Hotspot Identification .....	11
4.3	Budget Expenditure .....	11
4.4	Fencing Agreements.....	13
4.5	Communication with Pastoralists .....	14
4.5.1	Letter notifying of Hotspot .....	14
4.6	Advertising and Communication.....	14
4.6.1	Social Media .....	14
4.6.2	Retail Panels .....	14
4.6.3	Posters and Flyers.....	15
4.6.4	Banners.....	15
4.6.5	Air Fresheners .....	15
<b>5</b>	<b>CONCLUSIONS .....</b>	<b>16</b>
5.1	Reduction of Animal Related Crashes.....	16
<b>6</b>	<b>RECOMMENDATIONS .....</b>	<b>16</b>
6.1	Standing recommendations .....	16
6.2	Recommendations .....	16
<b>7</b>	<b>REFERENCES AND RELATED DOCUMENTS .....</b>	<b>17</b>
<b>8</b>	<b>APPENDICES .....</b>	<b>17</b>
	Appendix 1: Regional Responsibility Areas .....	18
	Appendix 2: Sample Hotspot Identification Figures .....	19
	Appendix 3: Regional Hotspot Maps, with July 2021 to June 2024 cattle strike data.....	20

# Figures

Figure 1 - Comparison of animal related crashes per km of state road network in each region for cattle and sheep..... 8

Figure 2 - Crashes on state and local roads by pastoral animal type. .... 9

Figure 3 - Crashes on State and Local roads by pastoral region and all animal types (2019 to 2023). .... 9

Figure 4 - Severity of crashes involving cattle and sheep on state road ..... 10

Figure 5 - Monthly cattle and sheep related crash data for each region from 2019 to 2023. .... 11

Figure 6 - Spend Profile (\$M) of Animal Hazard Mitigation Program..... 12

Figure 7 - Regional breakdown of Animal Hazard Mitigation Program expenditure (\$M) for financial year 2023/24 and cumulative expenditure..... 12

Figure 8 - Cumulative spend (\$M) to 2023/24 and comparison between baseline and current cattle and sheep crashes..... 13

Figure 9 - Billboard imagery planned as part of the Straying Cattle advertising campaign. .... 15

Figure 10 - Air freshener..... 15

# Document Control

<b>Owner</b>	General Manager Regional Operations
<b>Custodian</b>	Director Network Management
<b>Document Number</b>	D25#53437
<b>Draft Document No.</b>	D24#1171048
<b>Issue Date</b>	29 January 2025
<b>Review Frequency</b>	Not applicable – annual report

# Amendments

Revision Number	Revision Date	Description of Key Changes	Section / Page No.
A	29/01/25	Initial Release	New document

# 1 EXECUTIVE SUMMARY

The Pastoral Animal Hazard Advisory Group (PAHAG) was convened in October 2018 for the purpose of reviewing the current road reserve fencing responsibilities, legislative requirements, policies and management practices aimed at improving road safety in pastoral regions as well as evaluating the performance of the Animal Hazard Mitigation Program (AHMP).

In Main Roads WA (Main Roads), the state road network in Kimberley; Pilbara; Mid-West Gascoyne and Goldfields-Esperance regions predominantly passes through, or adjacent to, pastoral leases where a large number of domestic stock such as cattle and sheep are present as well as feral animals such as camels, horses, goats, donkeys and pigs. A large amount of fencing bordering these leases is either inadequate or non-existent, allowing stock to stray onto the road reserve.

All animals that stray onto roads present a danger to road users as they can be difficult to see, particularly at night, and their movements can be unpredictable.

The Animal Hazard Mitigation Program commenced in 2013 and aims to reduce pastoral animal strike incidents across the pastoral regions through the implementation of the following initiatives:

- Funding subsidy for fencing where it is deemed a "hot spot";
- Installation of grids on side roads at road reserve fence-lines;
- Moving watering points further back from the road-side;
- Installation of one-way cattle gates;
- Improving Livestock Warning Signage and fencing standards along road reserves; and
- Media campaigns throughout Regional WA.

Main Roads' current policy regarding the fencing of the road reserve in pastoral areas of Western Australia is contained in Operational Procedure No. 81 - Fencing Road Reserves on Highways and Main Roads in Pastoral Areas. This document was updated in 2020 at the request of the Fencing Road Reserves in Pastoral Regions Working Group.

Operation Procedure No. 101 was subsequently created with the purpose of assisting Regions in seeking funding from the Animal Hazard Mitigation Program, in order to address high-risk collision hotspots between vehicles and animals through the execution of fencing agreements or other mitigation strategies.

The Animal Hazard Mitigation Program was allocated \$12 million in funding primarily to subsidise new fencing in hotspot areas as well as other animal mitigation initiatives. Expenditure against the program sits at \$8.97 million at the end of the 2023/24 financial year, leaving \$3.03 million of funding available for future initiatives.

## **This report closes out the following recommendations**

- Continue to administer the AHMP with guidance from the Pastoral Animal Hazard Advisory Group (PAHAG) and provide an annual report to the Minister for Transport (annual).
- Pastoral Animal Hazard Advisory Group meeting commitment (annual).

## **This report includes the following recommendations**

- To investigate other potential solutions, particularly with new and emerging technology.  
Status: Successful Virtual Fencing trials have been conducted outside of this program and the treatment is being considered for inclusion as an option for further trial in the business case.
- To draft a business case seeking funding for the continuation of the Animal Hazard Mitigation Program.  
Status: the business case is currently in draft form, targeting submission Q1 2025.

## 2 KEY FINDINGS AND STATISTICS

- The Main Roads regions encompassing pastoral areas of Western Australia are the Kimberley region; Pilbara region; Mid West-Gascoyne region and Goldfields-Esperance region.
- The state's pastoral region exceeds 860,000 square kilometres.
- According to reported crash records, crashes involving cattle and sheep in pastoral regions between 2019 and 2023 made up 5.06% of all crashes across the state road network in pastoral regions in that same time period.
- Comparison of crash figures on the state road network in pastoral regions from 2019 to 2023 against crash figures from 2006 to 2010 shows an approximate 54% reduction in pastoral animal related crashes, per kilometre of road, in pastoral regions. The changes in pastoral animal related crashes for each region for this period were:
  - Pilbara region 49% reduction.
  - Kimberley region 63% reduction.
  - Goldfields-Esperance region 225% increase (from 6 to 22 pastoral animal related crashes).
  - Mid-West Gascoyne region 72% reduction.
- The Pilbara has a consistent seasonal increase in the number of pastoral animal related crashes on state roads between April and July, whereas the Kimberley has an increase in April.

## 3 ADVISORY GROUP

### 3.1 History and Context

A large proportion of the state road network in northern Western Australia passes through or adjoins pastoral stations. Some of these pastoral stations are not adequately fenced to prevent cattle and other livestock from straying on to the road network resulting in a risk of collisions between animals and vehicles.

In 2011, the Fencing Road Reserve in Pastoral Regions Working Group was formed to address animal hazard issues on the state road network. The working group investigated initiatives to reduce the incidence of animal related crashes including improved signage, improved fencing standards, and radio safety campaigns. The working group provided the Fencing Road Reserves in Pastoral Regions Working Group Report to the Minister for Transport on 7 February 2012. The report recommended, *"An Advisory Group is established by Main Roads to facilitate effective management of the issues caused by straying stock on roads in pastoral regions."*

The Advisory Group for the Management of Straying Stock in Pastoral Regions was formed in 2012. The group provided recommendations to the Minister for Transport to manage straying stock on state roads in pastoral regions, which included the creation of the Animal Hazard Mitigation Program (AHMP) that had \$12 million of state funding allocated in 2013.

The AHMP specifically targets areas of the road network with a high risk of pastoral animal strikes as part of the State Government's commitment to road safety in pastoral regions. The AHMP also assists pastoralists to construct new fencing and undertake other mitigation works on the road reserve and pastoral lease boundary.

The issue of animal related crashes on the state road network, particularly in the Pilbara and Kimberley regions, became the subject of Parliamentary questions. As a result, the Pastoral Animal Hazard Advisory Group (PAH Advisory Group) was formed in October 2018 to investigate future initiatives to reduce the incidence of animal related crashes as well as review progress of the AHMP. Two sets of statistics are used in this report to quantify pastoral animal hazards:

- Audited annual Crash Data, all reported road crashes through Western Australia reported over a five-year time frame (2019-23) including crash location and type, from which pastoral animal-related crashes can be extracted; and

- Animal Strikes, drawn from Main Roads' Maintenance Management Information System recording instances of animal carcasses on the state road network, from which pastoral animal strikes can be extracted. This draws on a three-year period of data from July 2021 to June 2024 inclusive.
- Financial data for money invested in the Animal Hazard Mitigation Program between 2013/14 and 2023/24.

### 3.2 Terms of Reference

The purpose of the PAH Advisory Group is to review current road reserve fencing responsibilities, legislative requirements, policies and management practices aimed at improving road safety in pastoral regions. The PAH Advisory Group also considered strategies and actions to improve effectiveness and outcomes and make appropriate recommendations to State Government.

The PAH Advisory Group objectives are to:

- understand the safety performance and outcomes achieved from fencing;
- discuss and agree on the requirements for pastoral animal hazard mitigation measures in pastoral areas;
- explore supplementary and alternative approaches to pastoral animal hazard mitigation;
- examine and explore options for the provision and maintenance of pastoral animal hazard mitigation measures in pastoral regions;
- report on achievements as required; and
- provide a forum for discussion between key stakeholders.

### 3.3 Membership

Members consist of representatives from:

- Main Roads (Chair)
- Department of Primary Industries and Regional Development (DPIRD)
- Department of Biodiversity, Conservation and Attractions (DBCA)
- Royal Automobile Club of WA (RAC)
- Road Safety Commission (RSC)
- Pastoral Lands Board (PLB)
- Department of Planning, Lands and Heritage (DPLH)
- Pastoralists and Graziers Association (PGA)
- Western Australian Local Government Association (WALGA)
- WA Police Force (WAPOL)

### 3.4 Areas of Focus

The PAH Advisory Group focused on reviewing current road reserve fencing responsibilities, legislative requirements, policies and management practices with the aim of improving road safety in pastoral regions through the development of strategies and actions for improved effectiveness and outcomes. The PAH Advisory Group's goal of improving road safety is primarily aimed at reducing the incidence of pastoral animal related crashes on the state's road network in the four pastoral regions.

The group aims to achieve this by establishing a collaborative approach between Main Roads, land managers/stock owners, road users and other stakeholders using an evidence and risk based approach to address known and potential pastoral animal strike hot spots as a shared responsibility.

Outcomes since the group formed include:

- Review of progress made with regard to number and severity of crashes involving pastoral animals;
- Information gathering with regard to reflective tag feasibility;
- Development of a communication strategy;
- Communication with pastoralists at hotspot locations;
- Review and update the pastoral fencing agreement;
- Research the viability of making animal related crash data publicly available;
- Investigate potential to muster stray cattle; and
- Investigate the potential of using an Indigenous Road Fencing Repair Crew.

## 4 PROGRESS AND ACHIEVEMENTS

### 4.1 Data Analysis

#### 4.1.1 Data Set Characteristics

The latest pastoral animal related crash data (2019 to 2023) is compared with the data from the previous *Fencing Road Reserves in Pastoral Regions Working Group Report*, from 2012 (which used 2006 to 2010 data) to provide insight into the effectiveness of some actions and initiatives put into place since 2010.

Since the primary aim of this comparison was to evaluate the effect additional fencing had on the number of animal related crashes, data analysis excludes kangaroos and other native animals. While kangaroos are involved in many animal related crashes on the road network, fencing is an inadequate method to prevent kangaroos from straying onto state roads.

The pastoral regions of WA align with the Main Roads Kimberley, Pilbara, Mid West-Gascoyne, and Goldfields-Esperance regions. Please refer to block shaded areas in Appendix 1.

The Pilbara region experiences a relatively high proportion of heavy vehicle traffic due to mining operations. These heavy vehicles generally do not suffer major damage from pastoral animal related crashes, therefore many go unreported. This results in strike data based on found carcasses to be substantially higher than police crash data in these regions. This trend is now appearing in the Goldfields-Esperance concurrent with an increase in both overall traffic volume and proportion of heavy vehicle traffic. The Goldfields-Esperance region has seen an increase in mining operations which can lead to the containment of cattle being affected by damaged fences and / or gates that are not closed.

The crash severity rating for road crashes is based upon the most serious injury sustained by a person, or in the case of no injury, the severity of property damage, and is defined as follows:

- Fatal – Fatality, where death occurs within 30 days of crash event
- Hospital – Admission to hospital staying at least one night
- Medical – Medical attention required not involving hospitalisation
- Major PDO – Major Property Damage Only, greater than \$3,000 damage, with no medical attention required
- Minor PDO – Minor Property Damage Only, less than \$3,000 damage, with no medical attention required

### 4.1.2 State-wide Context

From 2019 to 2023, inclusive, there were 134 crashes involving cattle and sheep on state roads in the four pastoral regions; this represents 5.06% of the 2,646 crashes across the state road network in pastoral regions during the same period.

Table 1 - Proportion of pastoral animal crashes compared to all crashes on state road network in pastoral regions

	Fatal	Hospital	Medical	PDO Major	PDO Minor	Total
All Crashes on State Roads in pastoral Regions	124	347	191	1544	440	<b>2646</b>
Crashes involving Cattle and Sheep on State Roads in pastoral Regions	3	3	1	121	6	<b>134</b>
Percentage	2.42%	0.86%	0.52%	7.84%	1.36%	<b>5.06%</b>

### 4.1.3 Crashes involving Cattle and Sheep per km of State Road Network

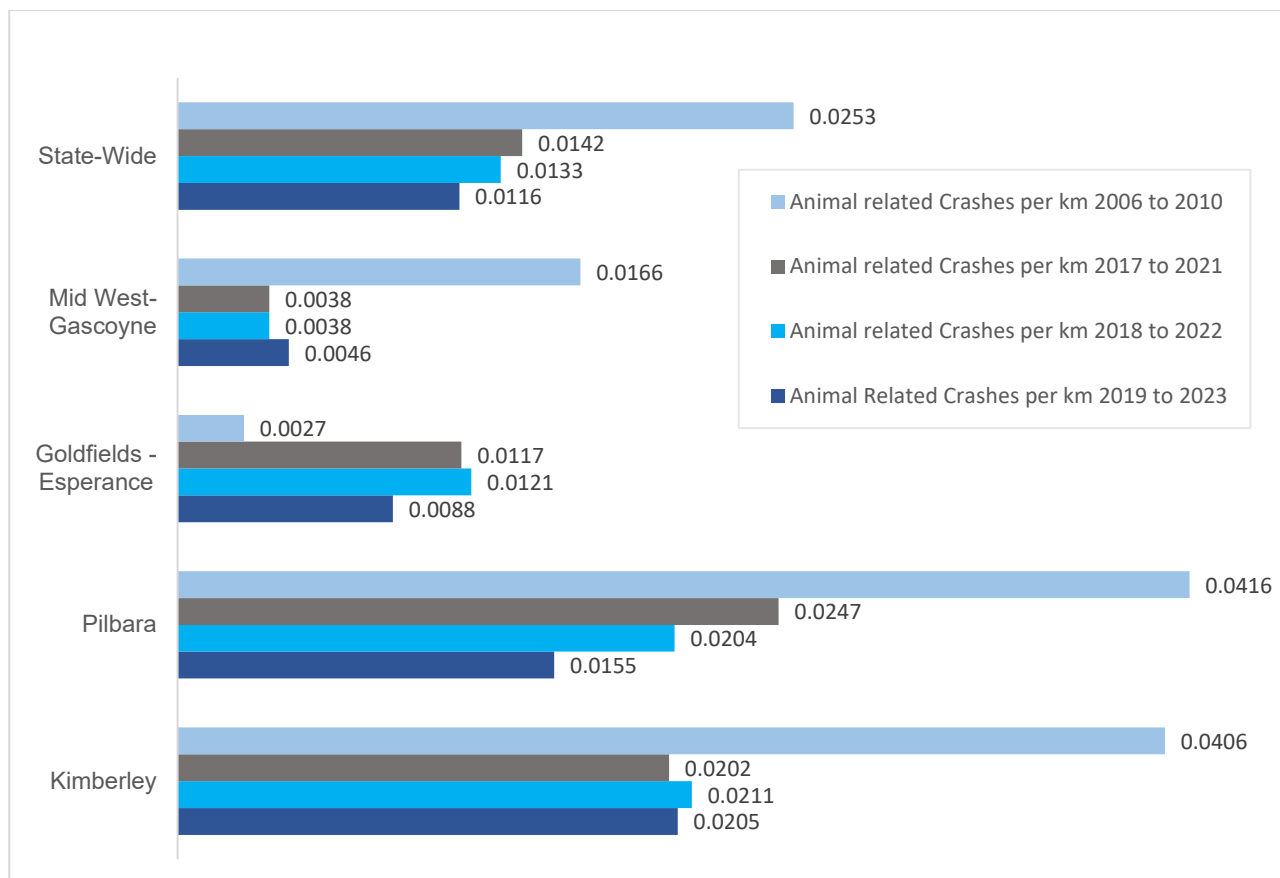


Figure 1 - Comparison of animal related crashes per km of state road network in each region for cattle and sheep

As shown in Figure 1, there is a continued decrease in animal related crashes in all but the Goldfields-Esperance region, which is holding consistently above the baseline 0.0027 at 0.0088 crashes per km of road. This equates to 16 additional crashes when comparing 2019 to 2023 against 2006 to 2010 periods.

The average cattle and sheep related crashes per km of state road for all the pastoral regions reduced from 0.0253 to 0.0116, or a reduction of approximately 54%.



### 4.1.4 Number of Animal Related Crashes

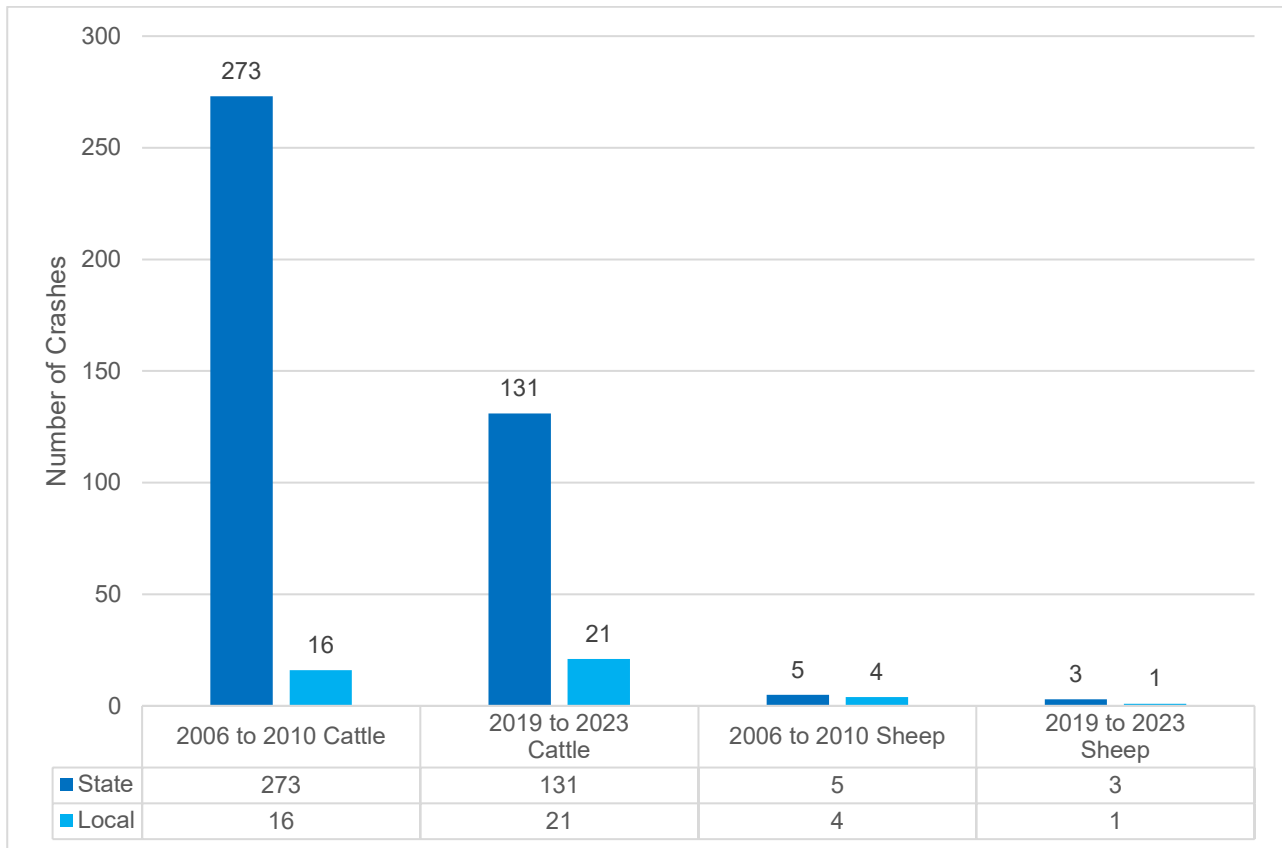


Figure 2 - Crashes on state and local roads by pastoral animal type.

Figure 2 shows that when comparing the 2006 to 2010 period against the 2019 to 2023 period, the number of cattle related crashes has reduced by 52.01% on state roads, however local roads remain fairly consistent. Crashes involving sheep remain relatively low and have consistently decreased on state and local roads.

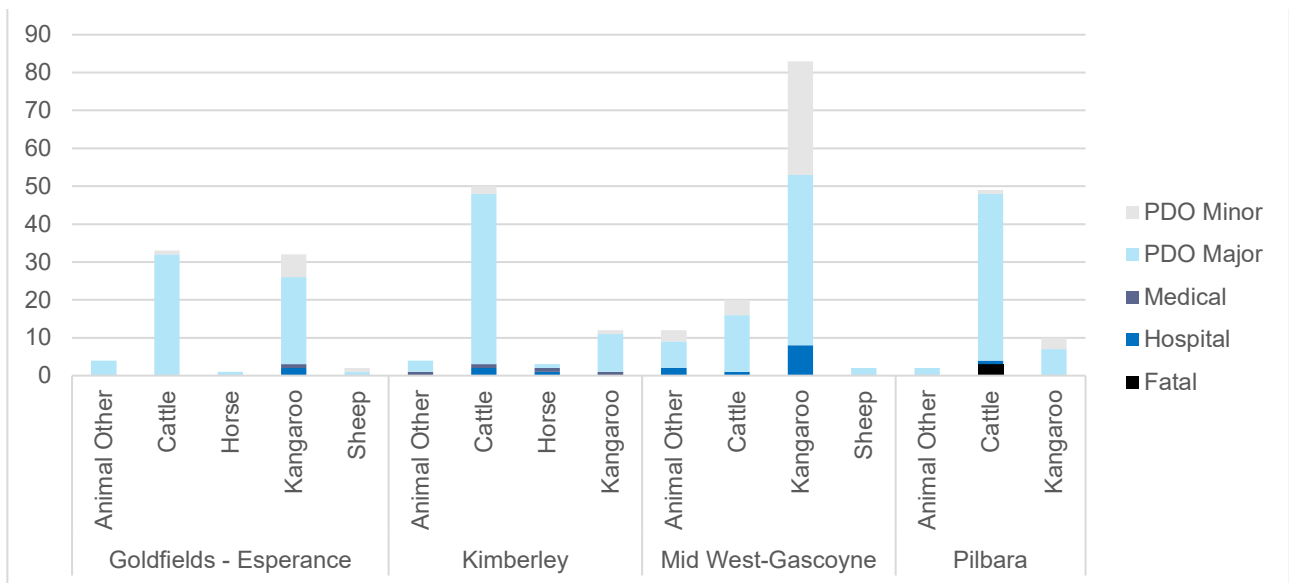


Figure 3 - Crashes on State and Local roads by pastoral region and all animal types (2019 to 2023).

Figure 3 shows that cattle represent 47.65% of all recorded Hit Animal crashes in pastoral regions of Western Australia and kangaroos represent 42.95%. Cattle related crashes are most prevalent in the Pilbara, Kimberly and Goldfields-Esperance regions, and kangaroo related crashes are most prevalent

in the Mid-West Gascoyne region, with a significant number of kangaroo related crashes also occurring in the Goldfields-Esperance region.

#### 4.1.5 Pastoral Animal Related Crash Severity

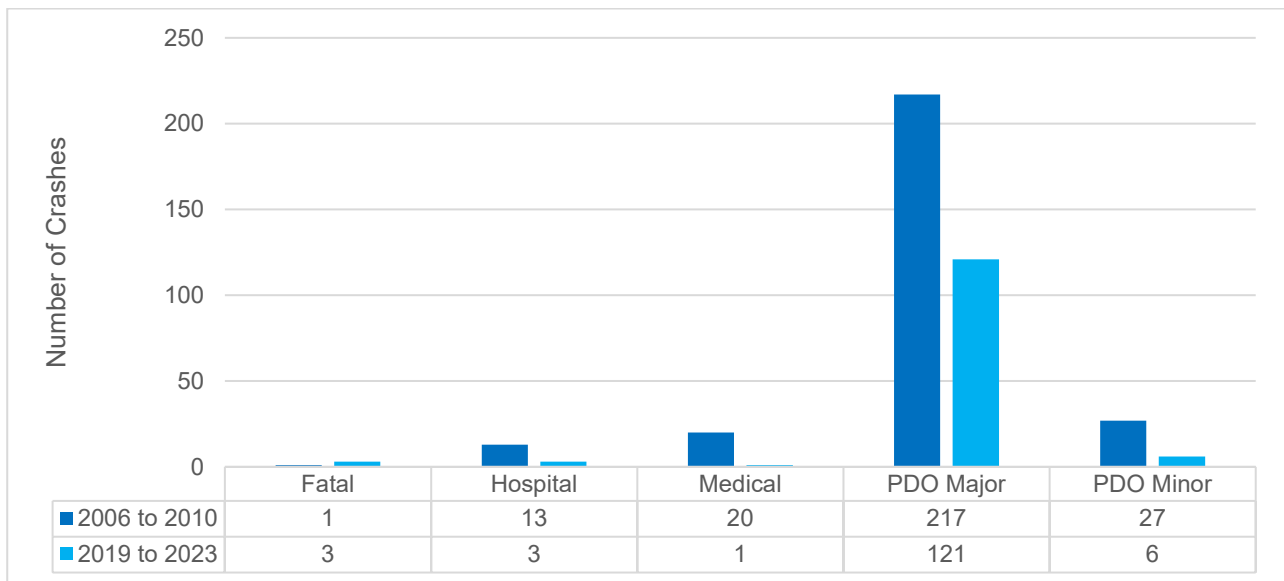


Figure 4 - Severity of crashes involving cattle and sheep on state road

The total number of cattle and sheep related crashes on state roads has increased for fatal crashes (from 1 to 3) and reduced significantly for all remaining crash severity types when compared to the figures from 2006 to 2010.

The data indicates a 79% reduction in casualty crashes (fatal, hospital, and medical) related to pastoral animals on the state road network, highlighting a significant enhancement in road user safety. This improvement can largely be attributed to the pastoral animal hazard mitigation program.

### 4.1.6 Monthly Crash Data for Each Region

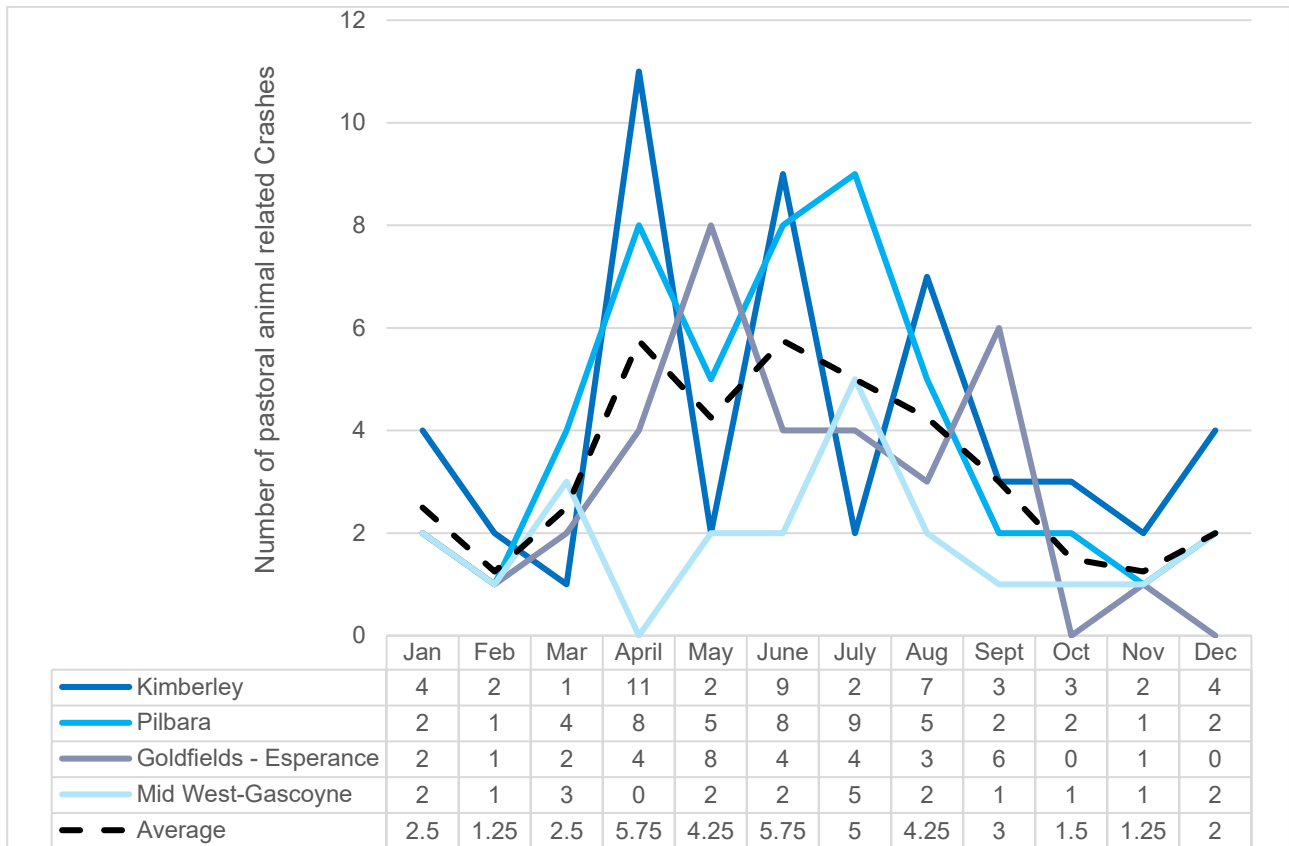


Figure 5 - Monthly cattle and sheep related crash data for each region from 2019 to 2023.

As shown in Figure 5, the Pilbara has a consistent seasonal increase in the number of cattle and sheep related crashes on state roads between April and July, whereas the Kimberley has an increase in April. These peaks can determine when to deploy effective advertising campaigns to target road users to educate and raise awareness of roaming cattle during periods of increased risk such as the lead into Easter and school holidays.

### 4.2 Hotspot Identification

The state’s pastoral region exceeds 860,000 square kilometres. Identified areas of high incidence pastoral animal strikes are recorded using Main Roads’ Maintenance Management Information System.

A hotspot is a given stretch of road where pastoral animal strikes exceed 0.25 animal strikes/km/3 years. These hotspots allow Main Roads to effectively target the AHMP funding and support the decision-making process.

Example hotspot analysis is included in Appendix 2 with current hotspot maps in Appendix 3.

### 4.3 Budget Expenditure

The original budget for the AHMP was \$12 million and, as of the end of the 2023/24 financial year, current expenditure is \$8.973 million, as shown in Figure 6 below, leaving \$3.03 million of funding available for future initiatives. Given the committed and forecasted budget for the 2024/25 period, expenditure by the end of the financial year is expected to reach \$10.31 million, leaving \$1.68 million available for initiatives from 2025/26 onwards.

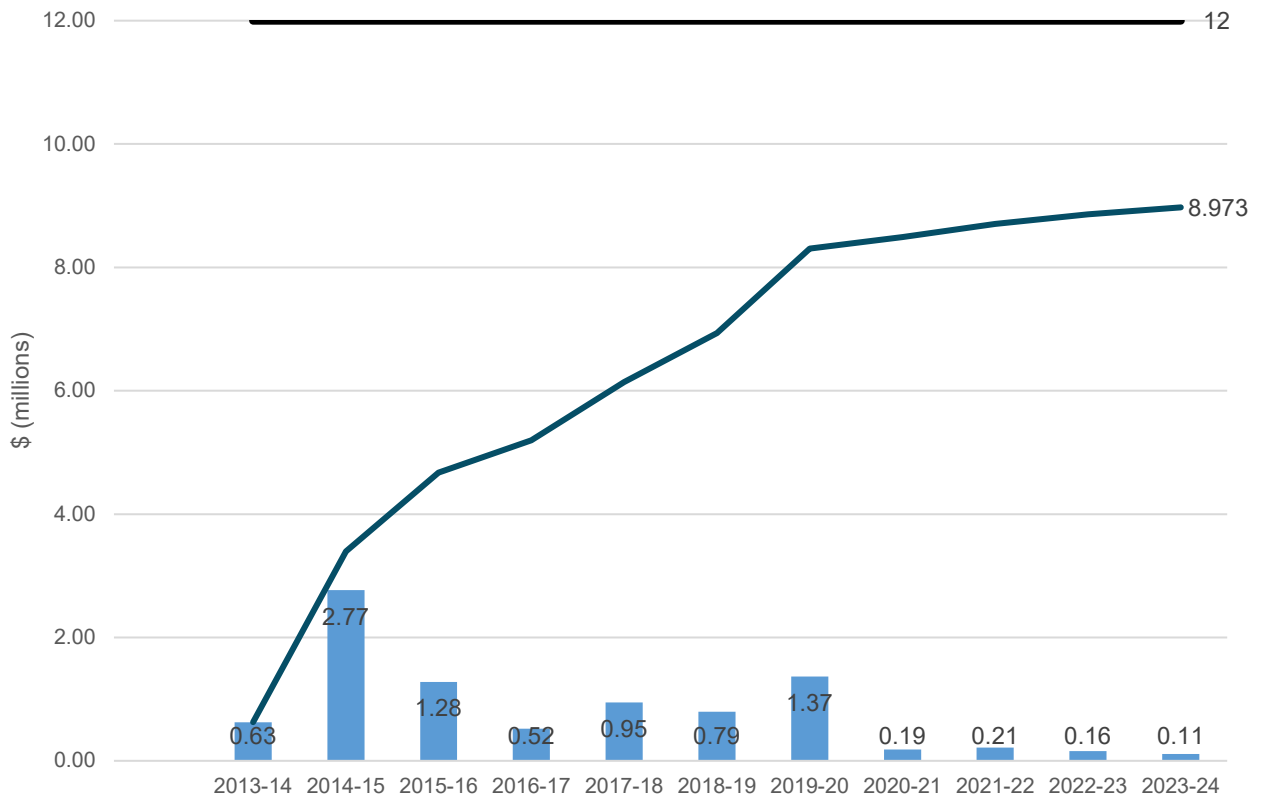


Figure 6 - Spend Profile (\$M) of Animal Hazard Mitigation Program.

Of the \$111,919 spent in 2023/24, \$53,810 was spent on state-wide initiatives, primarily a road safety campaign to raise awareness of straying livestock on roads. The majority of the remainder was spent in the Goldfields Esperance region to facilitate fencing.

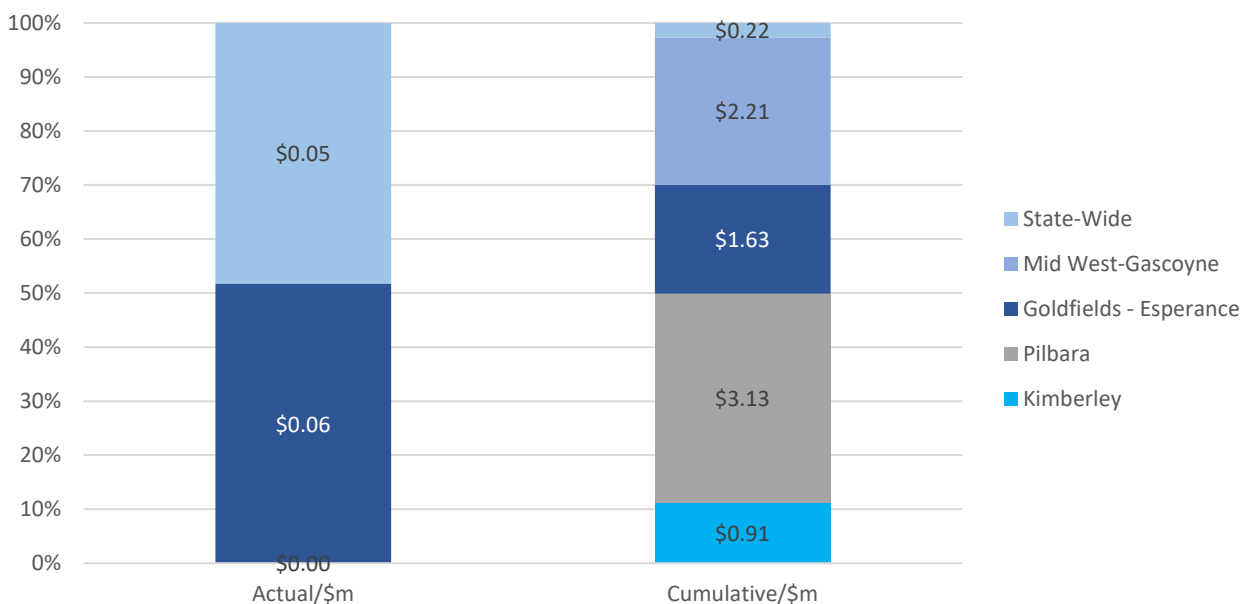


Figure 7 - Regional breakdown of Animal Hazard Mitigation Program expenditure (\$M) for financial year 2023/24 and cumulative expenditure

The breakdown of total expenditure for each region is shown in Figure 7 above, both for 2023/24 and cumulative 2013/14 to 2023/24.

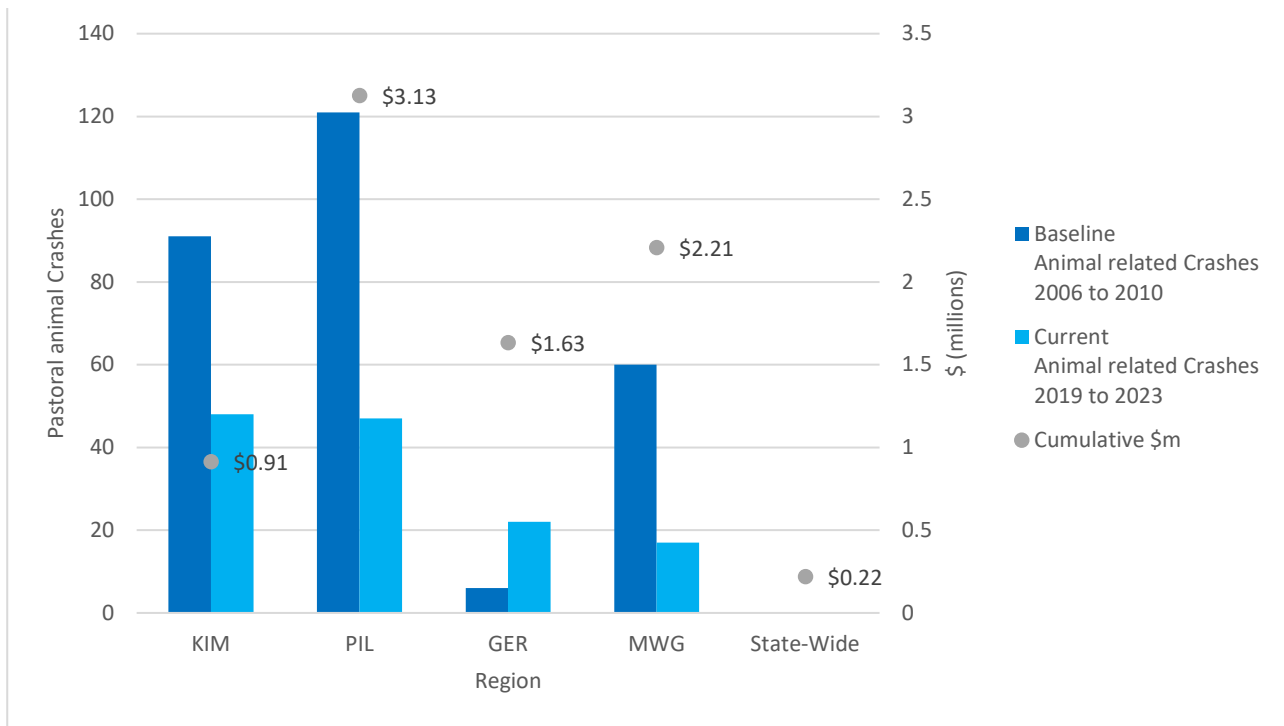


Figure 8 - Cumulative spend (\$M) to 2023/24 and comparison between baseline and current cattle and sheep crashes

Figure 8 indicates the best return on investment (based on the cumulative money spent over the number of reduced crashes) to date has occurred in the Kimberley region followed by Mid-West Gascoyne and Pilbara regions. Pastoral animal related crash rates are still below baseline in the Pilbara, Kimberley and Mid West-Gascoyne. The state-wide spending shown above refers primarily to road safety campaigns, which are not statistically measurable in terms of crash reductions.

#### 4.4 Fencing Agreements

The Road Reserve Fencing Agreement is an agreement between the pastoral lessee and Main Roads to construct and maintain a boundary fence between the road reserve and the pastoral lease. Difficulty in securing fencing agreements with pastoralists is an important issue and improved fencing in high-risk areas is a key strategy of the PAHAG to improve driver safety.

Whilst the responsibility for stock control lies wholly with the pastoralist, the AHMP assists pastoralists in recognising the importance of road safety and animal welfare by subsidising fencing and other mitigation works.

The AHMP subsidises the installation of new pastoral fencing on a cost-sharing basis, subject to a signed fencing agreement, in which the state contributes 50% of the cost of the fence including materials and labour. The agreement requires pastoralists to maintain fencing into the future at their own cost.

To qualify for funding, the proposed fencing extent must coincide with an area identified as a hotspot and is further evaluated on a case-by-case basis based on other factors such as watering locations, type of stock to be fenced and, the state of roadside vegetation. Main Roads will not enter into a new agreement for an extent of road where a previous fencing agreement exists.

Both strike and crash data are used to evaluate pastoral animal related incidents and fence effectiveness.

Some of the remaining pastoralists at hotspot locations are reluctant to enter into agreement due to the ongoing maintenance and also in areas prone to cyclones, flooding and fire which could destroy fencing which would have to be replaced.

## 4.5 Communication with Pastoralists

### 4.5.1 Letter notifying of Hotspot

Main Roads wrote to pastoralists in hotspot areas in January 2024 to remind them of their responsibilities under the *Road Traffic Code 2000*. The letter also informed pastoralists of the AHMP and the opportunity to fund construction of new boundary fencing between the road and pastoral lease should they be willing to enter into a fencing agreement.

Main Roads also wrote to pastoralists in hotspot areas who have existing fencing agreements reminding them of their responsibilities under the agreement. The letter asked pastoralists to assess their fencing and undertake any repairs or replacements required. There was an immediate response from some pastoralists enquiring about entering fencing agreements with Main Roads.

## 4.6 Advertising and Communication

Road user education has been a key focus for the PAHAG since its inception, with the goal of raising awareness about the risks associated with animals on the road network. This is a critical step in reducing the rate of animal-related crashes in pastoral regions.

Targeted advertising campaigns have been directed towards informing road users, including local residents, tourists, and mine site workers, about these risks, aiming to change road user behaviour. Between 2023 and 2024, various channels were utilized as part of the statewide Straying Livestock campaign, which ran in two bursts: December 2023 and April to June 2024, across the Mid-West, Goldfields-Esperance, Pilbara, and Kimberley regions.

### 4.6.1 Social Media

A social media campaign was launched on Facebook during peak travel periods, using slogans like "Hitting here (striking cattle) hits here hardest (impacts your life, family, etc.)." These campaigns were geo-targeted to maximize reach within the regions.

### 4.6.2 Retail Panels

The campaign traditionally used a blend of large and smaller formats, particularly large-format roadside billboards, to draw attention to the issue of livestock straying onto roads. However, due to limited billboard availability caused by long-term regional bookings in October 2023, smaller formats were used for both the December 2023 and April 2024 campaigns. These smaller formats included placements at taverns, service stations, hotels, motels, shopping centres, and local IGAs within the same geo-areas. Media placement was secured through partnerships with Motio, Evoke, and oOh!.

Digital retail panels featuring slogans such as "Give Animals a Brake" and "Slow Down at Dusk and Dawn" were also utilized. These panels were displayed across the Mid-West Gascoyne, Goldfields Esperance, Pilbara, and Kimberley regions throughout the 2023/24 period. During December 2023, MotioGo screens in service stations in Wonthella, Carnarvon, Coolgardie, Esperance, and Kalgoorlie displayed 7.5-second animations 80 times per hour, with 16 hours booked per screen, per week. From April to June 2024, the campaign continued with similar placements in Karratha, Newman, South Hedland, and Broome. Despite some technical issues with screens in regional areas, which were quickly resolved, performance tracking has been enhanced to prevent further disruptions.

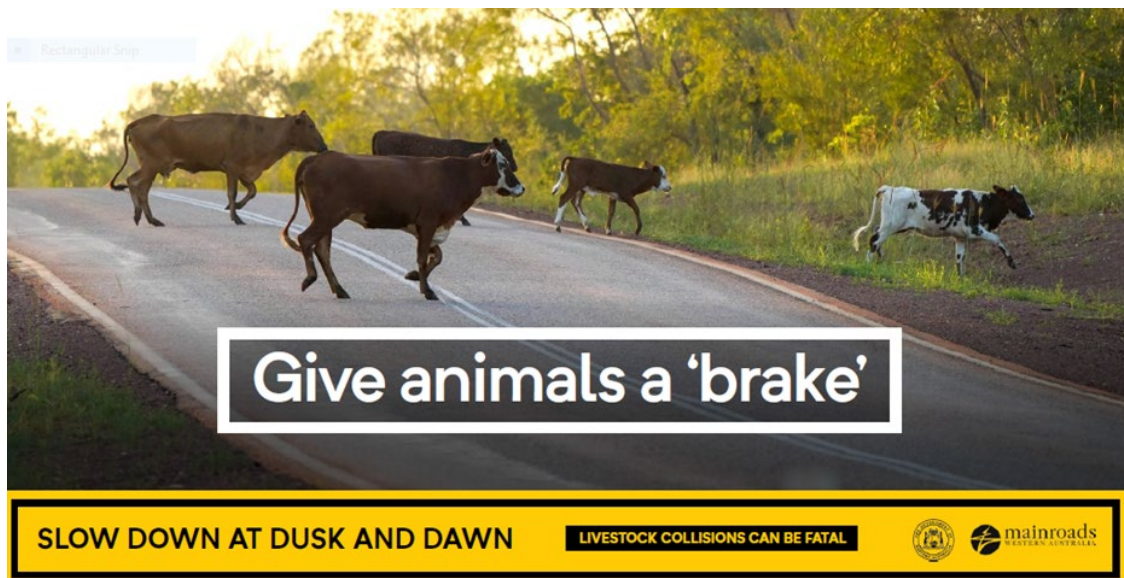


Figure 9 - Billboard imagery planned as part of the Straying Cattle advertising campaign.

### 4.6.3 Posters and Flyers

Posters and flyers, mirroring billboard imagery, were distributed across tourist centres, service stations, caravan parks, post offices, bakeries, and local government offices. A2, A3, and A4 posters were made available for wider distribution.

### 4.6.4 Banners

Life-size banners featuring a cut-out of a cow are available for display at regional offices and agricultural shows. Each banner stands at 1.8 meters tall and 1 meter wide, designed to draw attention and spark conversations about livestock on roads.

### 4.6.5 Air Fresheners

Cow-shaped car air fresheners with the slogan "Give Animals a Brake" were distributed to promote road safety and encourage reporting of hazards.

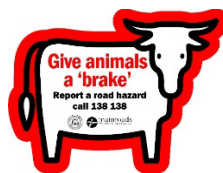


Figure 10 - Air freshener

## 5 CONCLUSIONS

### 5.1 Reduction of Animal Related Crashes

Comparison of animal related crash data from 2006 to 2010 and from 2019 to 2023 shows the total rate of animal related crashes on the state road network has reduced. This is due, in part, to the execution of mitigation strategies such as fencing agreements developed through engagement with Main Roads and AHMP stakeholders.

Factors such as changing environments, vehicle technologies and traffic rates can also influence the rate of animal related crashes on the network.

## 6 RECOMMENDATIONS

### 6.1 Standing recommendations

#### **Recommendation 1 (Annual) - Provide an annual report to the Minister for Transport on the Animal Hazard Mitigation Program**

Since the extension of the AHMP beyond its initial term period, an annual report should continue to be produced for the Minister for Transport detailing the program's progress including an evaluation of the program's effectiveness and expenditure.

#### **Recommendation 2 (Annual) – Pastoral Animal Hazard Advisory Group meeting commitment**

It is further recommended that the Pastoral Animal Hazard Advisory Group continue to function on the basis of cooperation between organisations, irrespective of AHMP funding, with meetings held at six-month intervals. Members are committed to improve data collation and analysis to improve road safety in pastoral regions as part of their normal business operations.

### 6.2 Recommendations

#### **Recommendation 1 (ongoing) - To investigate other potential solutions, particularly with new and emerging technology**

The PAHAG attendees have recognized the potential for new technology to improve the containment of livestock animals as it evolves. Technologies such as geofencing, automated gates, and various grid solutions were identified for further investigation.

Recent trials conducted by the University of Western Australia (UWA) and Rio Tinto on the use of geofencing technology have concluded, and the [final report](#) has now been released. The report, published by Meat & Livestock Australia (MLA), outlines the findings and feasibility of geofencing technology for livestock containment. The PAHAG group is awaiting the next scheduled meeting to discuss these findings and assess whether to pursue the implementation of this technology.

#### **Recommendation 2 (ongoing) - To draft a business case seeking funding for the continuation of the Animal Hazard Mitigation Program**

The Animal Hazard Mitigation Program is approaching the end of its current allocated budget. The process of drafting a business case has already begun, with the goal of submitting it around Q1 of 2025 to secure funding for future years.



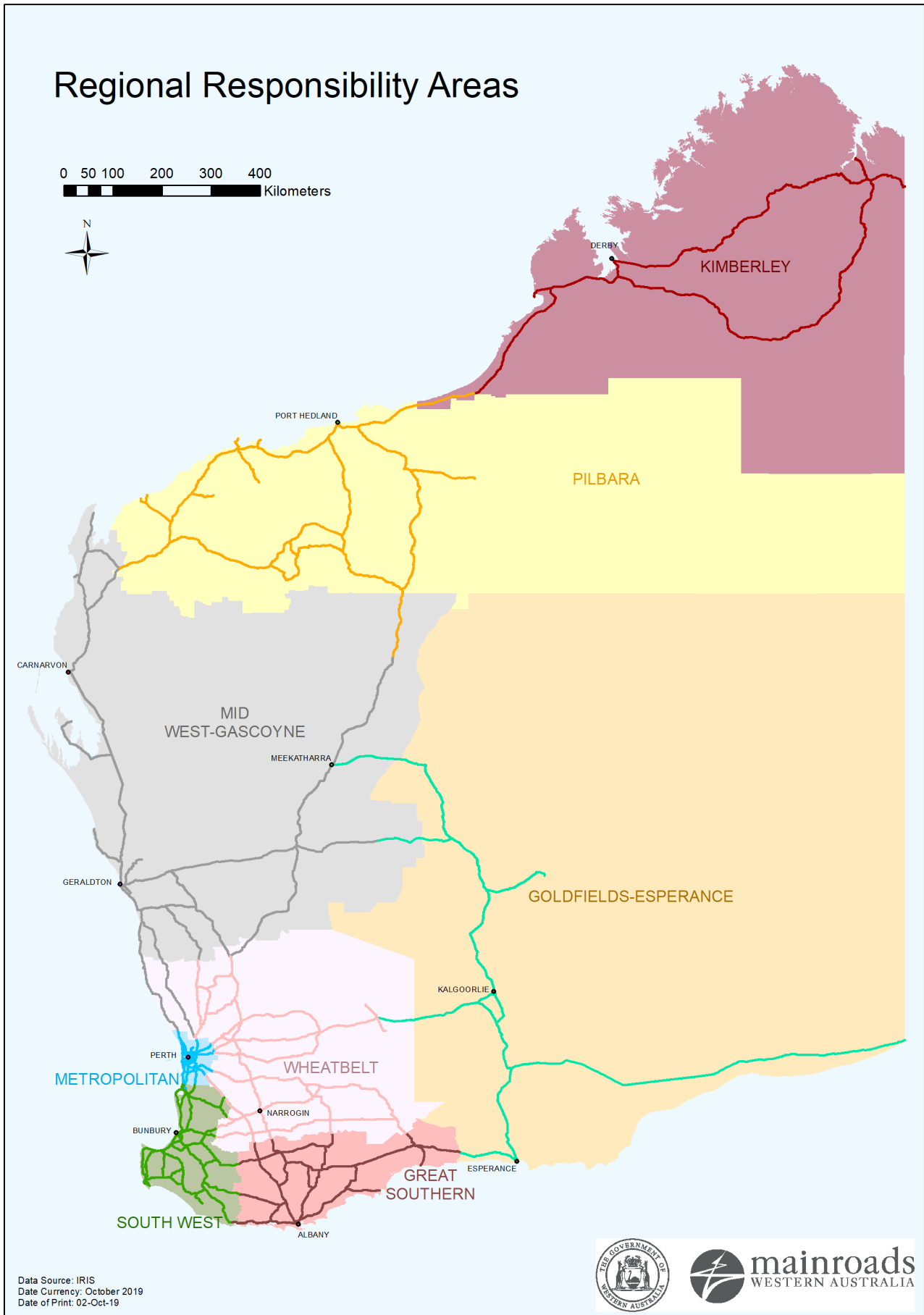
## 7 REFERENCES AND RELATED DOCUMENTS

Document Number	Description
D24#1170969	PAHAG - DRAFT REPORT STATISTICS - Pastoral Areas - 2024 report - 14 August 2024
D12#55226	PFWG - Pastoral Regions - Fencing Road Reserves Working Group Report - Report for PFWG with Appendices - Signed - v6.0
11/3396-02	COMMUNITY RELATIONS - COMMITTEES - Fencing Road Reserves Pastoral Regions - Working Group
19/6646	ROAD ASSET MANAGEMENT - COMMITTEES - Pastoral Animal Hazard Advisory Group (PAHAG)
13/5849	ROAD SAFETY - ADVICE - Animal Hazard Mitigation Proposal and Funding

## 8 APPENDICES

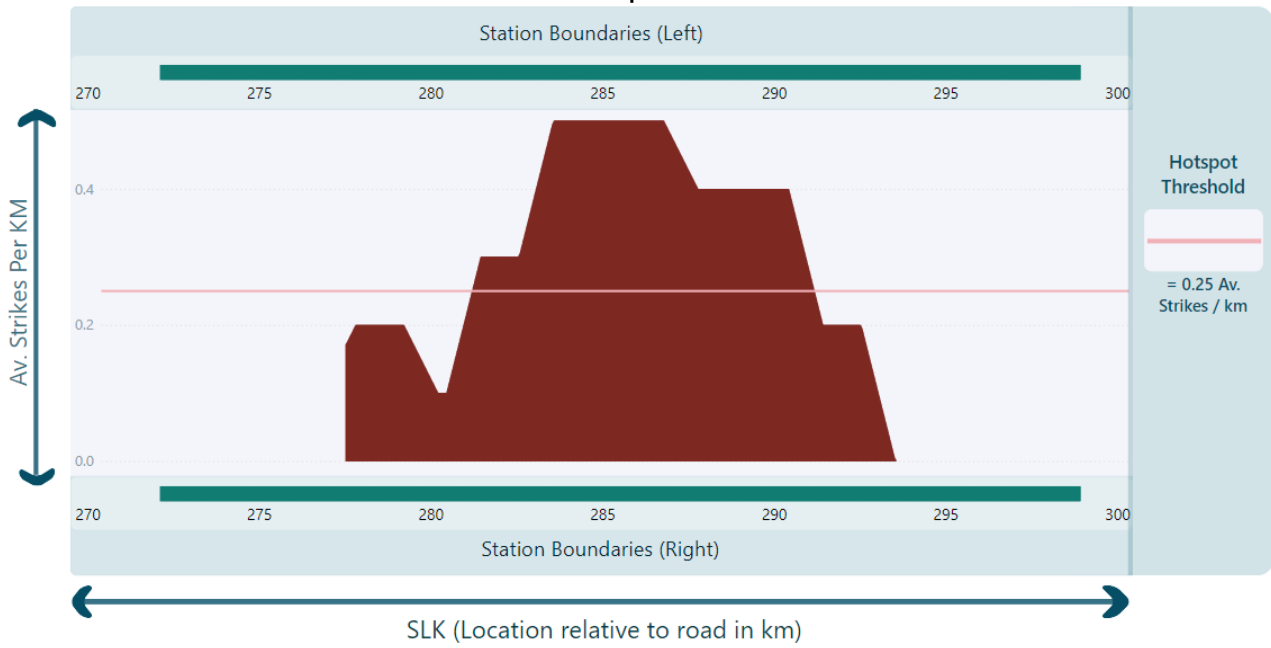
Appendix	Title
<b>Appendix 1</b>	Regional Responsibility Areas
<b>Appendix 2</b>	Sample Hotspot Identification Figures
<b>Appendix 3</b>	Regional Hotspot Maps, with July 2021 to June 2024 cattle strike data

## Appendix 1: Regional Responsibility Areas

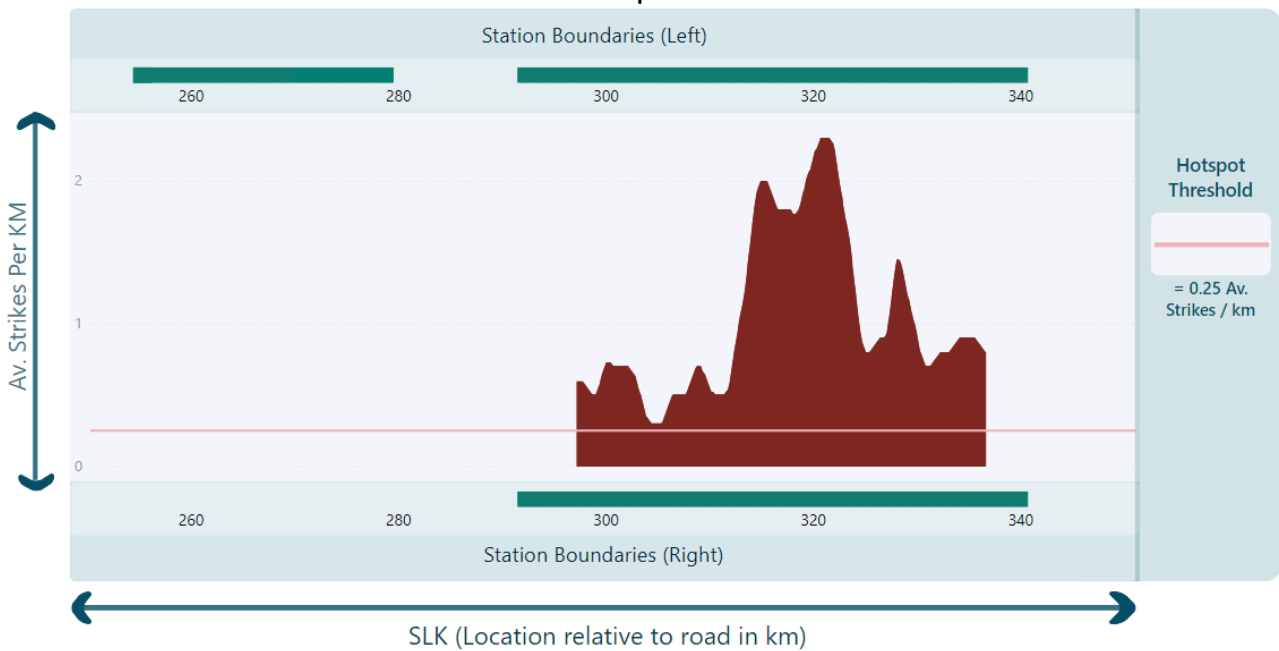


## Appendix 2: Sample Hotspot Identification Figures

### Sample Station Example Rd



### Sample Station Example Rd



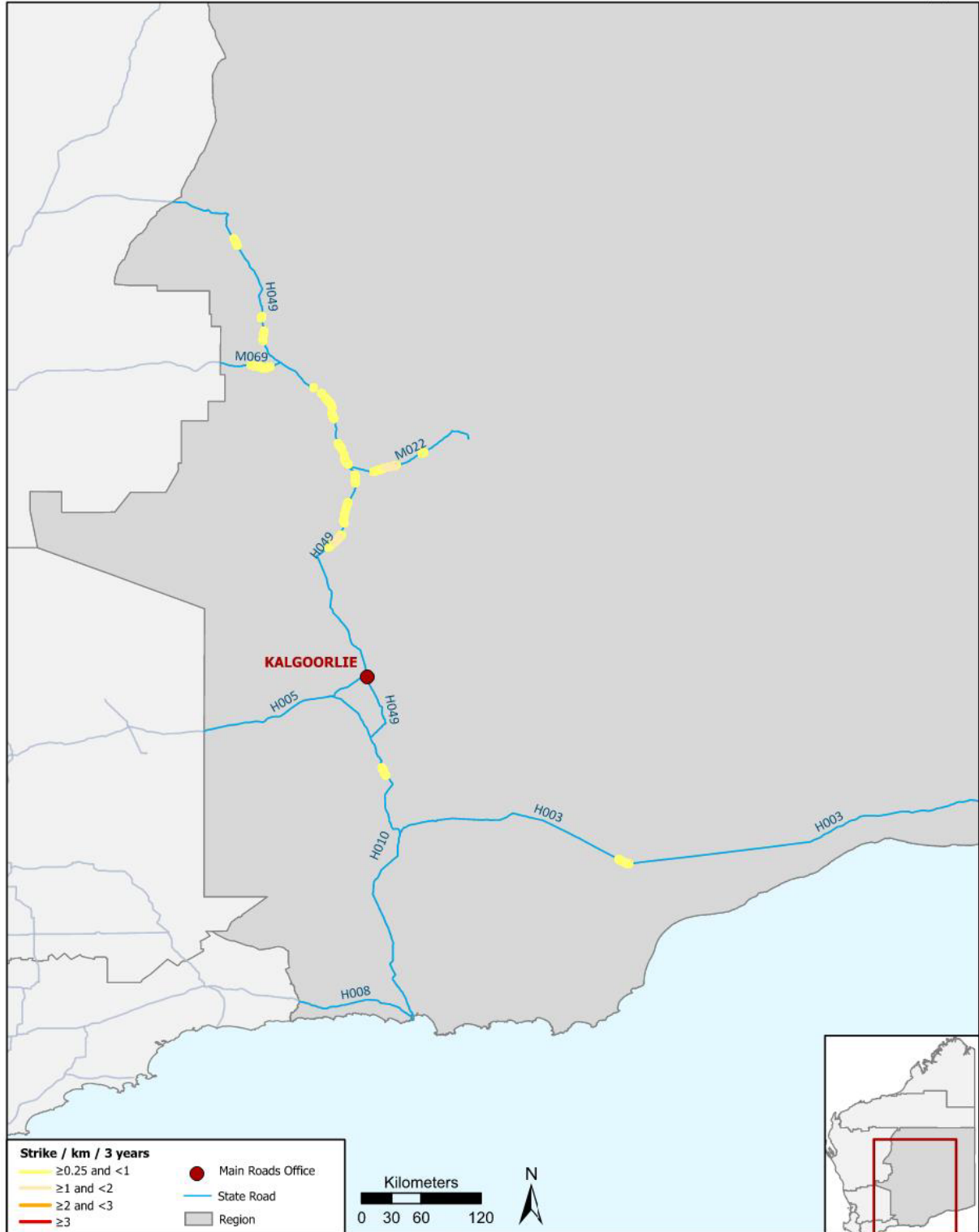
### Appendix 3: Regional Hotspot Maps, with July 2021 to June 2024 cattle strike data

## Hotspot Map: Goldfields-Esperance



Hotspot information consists of MMIS strike data involving cattle and sheep in pastoral regions from July 2021 to June 2024 inclusive.

Produced: 20/08/2024

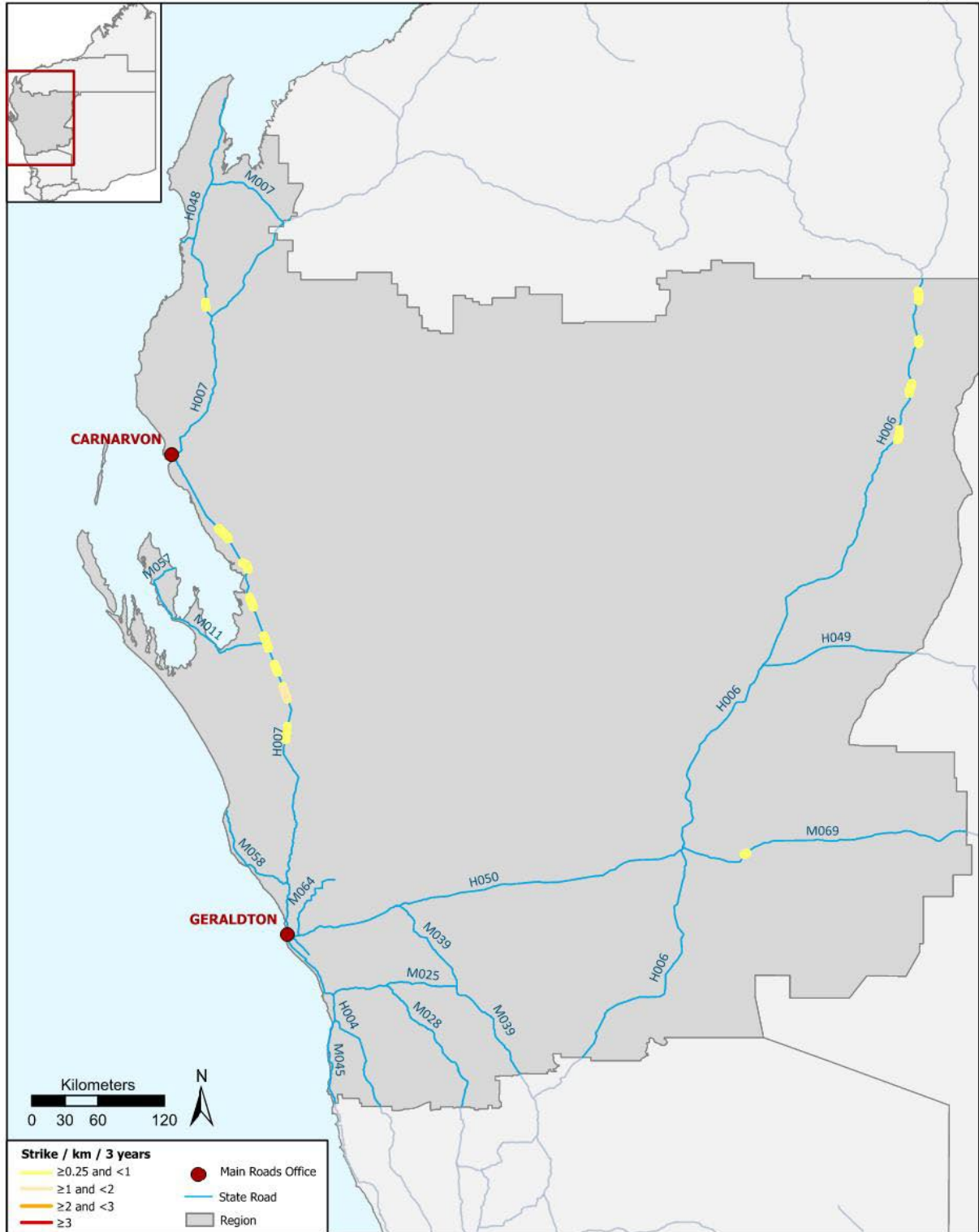


# Hotspot Map: Mid West-Gascoyne



Hotspot information consists of MMIS strike data involving cattle and sheep in pastoral regions from July 2021 to June 2024 inclusive.

Produced: 20/08/2024



# Hotspot Map: Pilbara



**Strike / km / 3 years**

- ≥0.25 and <1
- ≥1 and <2
- ≥2 and <3
- ≥3

- Main Roads Office
- State Road
- Region

Hotspot information consists of MMIS strike data involving cattle and sheep in pastoral regions from July 2021 to June 2024 inclusive.

Produced: 20/08/2024

