



# Peri-urban deer management challenges and opportunities

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# Peri-urban deer management: WHY?

Social and economic impacts

Public nuisance, road and rail hazard

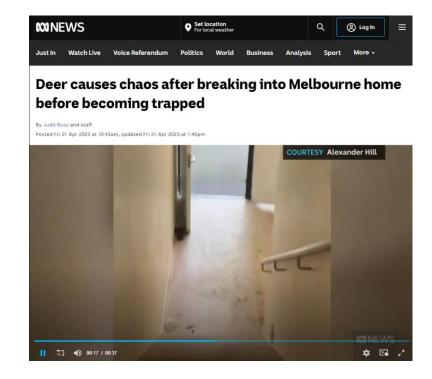
Damage to gardens and bush regeneration



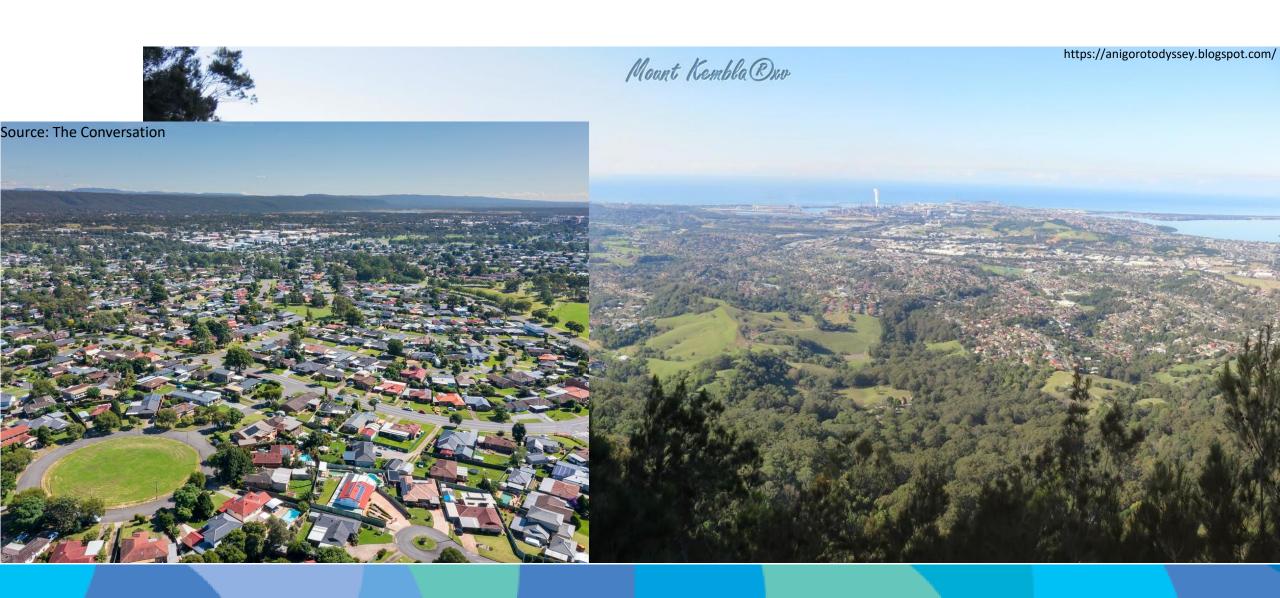
Deer smasnes through windscreen in norrific smash

A truck driver is lucky to be alive after a deer smashed through his windscreen in a frightening crash in the Yarra Ranges.

Source: Herald Sun 30 March 2023



# Peri-urban deer management: challenge



# Peri-urban deer management: How?

#### Fencing



Asset protection

Vehicle-deer collision

Trapping



Low flexibility

Community acceptance

Jackson et al. (2021) A review of the methods used to trap wild deer in New South Wales and Queensland. Forsyth (2022) Using exclusion fencing to manage wild deer impacts in Australia.

# Peri-urban deer management: How?

# Vehicle-based professional ground shooting for peri-urban deer

- -Good animal welfare outcomes
- -Safe for shooters and community
- -Training for shooters



# Peri-urban deer management: Case studies

**Western Sydney Deer Control trial** 

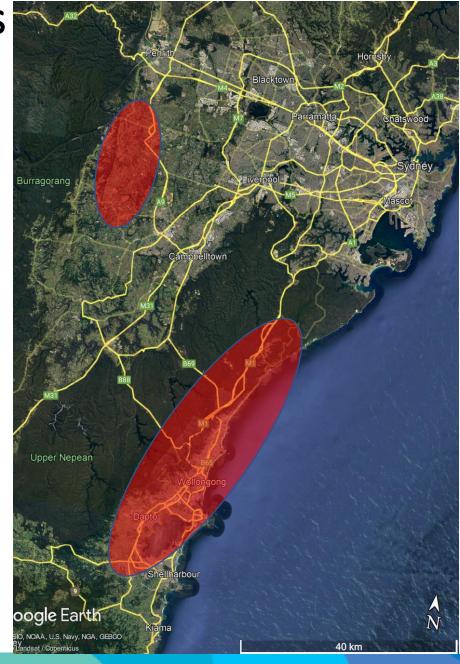
2021-2023 200 fallow deer 170 km<sup>2</sup>



Illawarra Wild Deer Management Program

2011-2022 4700 rusa deer 680 km<sup>2</sup>





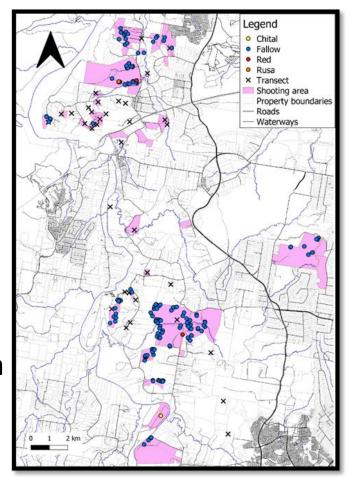
Peri-urban deer management: where?

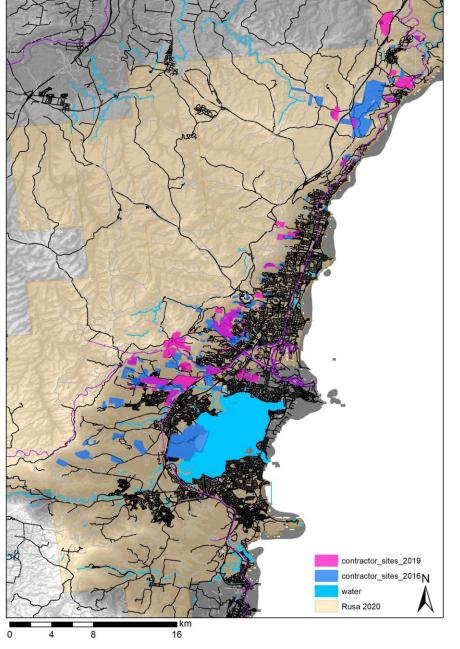
Vehicle-based professional ground shooting

for peri-urban deer

**Challenges**Limited site accessibility

Western Sydney <10% of the area Illawarra <3% of LGA





## Peri-urban deer management: When?

Vehicle-based professional ground shooting for peri-urban deer

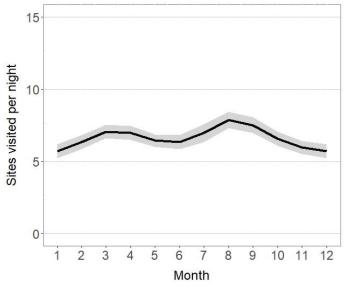
#### Challenges

Limited site accessibility

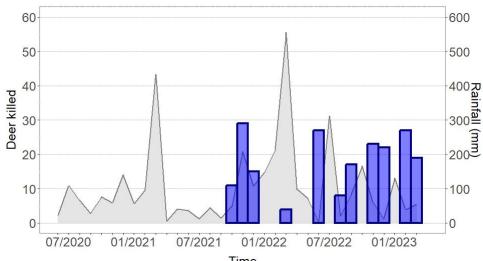
No shooting weekend and school holidays

Season / weather dependent

#### Rusa deer in Wollongong



#### Fallow deer in Western Sydney

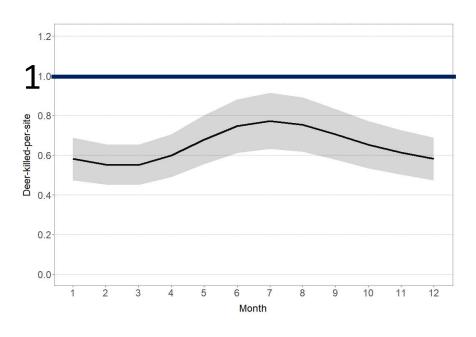


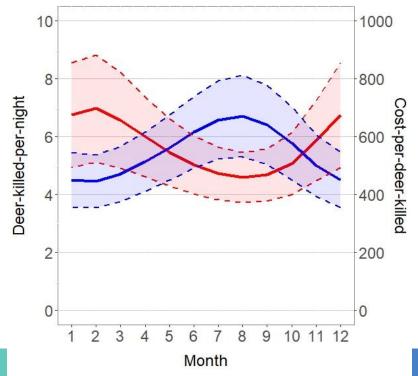
# Timing of operations is important Vehicle-based professional ground shooting for peri-urban deer

#### **Opportunity**

Winter = longer nights

=> more opportunities to visit sites





# Peri-urban deer management: Where?

Robust monitoring + reporting ~15% of budget

Deer abundance index Faecal pellet counts

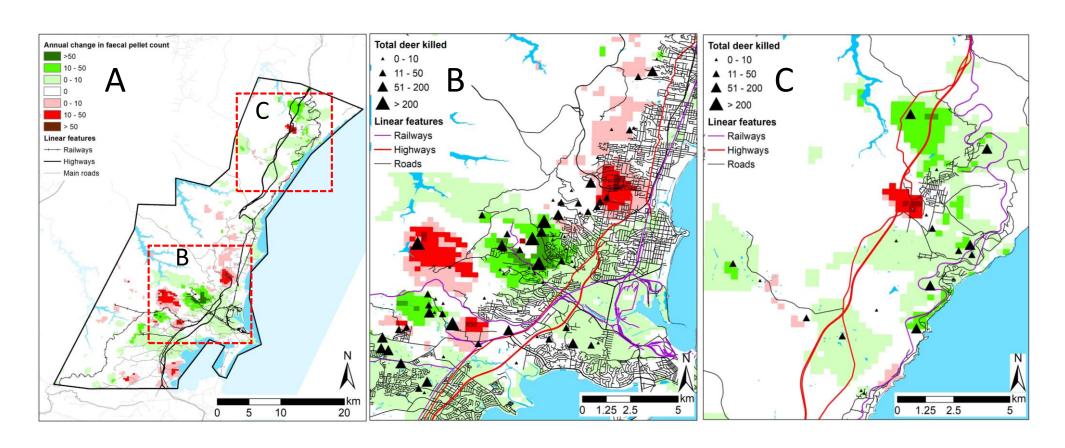




Forsyth et al. 2022 Methodology matter when estimating deer abundance: a global systematic review and recommendations for improvements

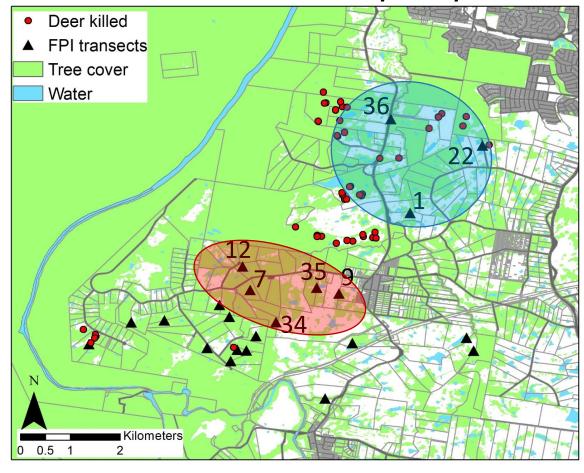
# Vehicle-based shooting: localised effect

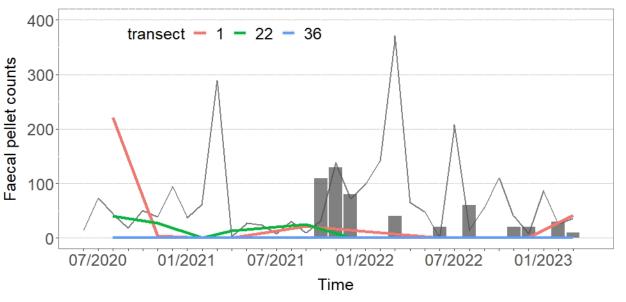
Changes in deer abundance in Wollongong 2011-2022

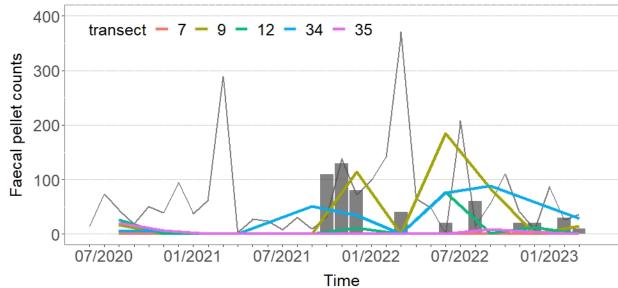


## Vehicle-based shooting: localised effect

Fallow deer in Western Sydney





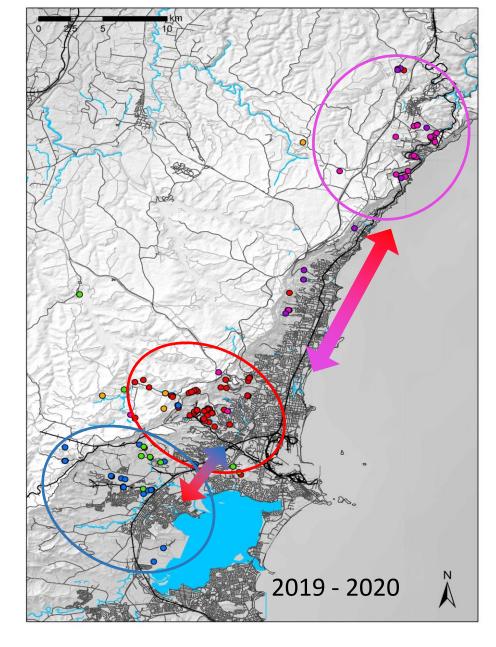


# Peri-urban deer management: Where?

Deer tissue samples => DNA

Population structure Management units

Landscape resistance Movement corridors/barriers



Li-Williams et al. (2023) Genetic analysis reveals spatial structure in an expanding introduced rusa deer population.

### Collaboration is key to success



















# Peri-urban deer management: Where?

Robust monitoring program

Deer impacts

Vehicle collisions

Community complaints

Citizen science

