

The uncertainty around feral deer numbers in Victoria.



In 2020, the Victorian Government stated that estimates of feral deer in Victoria reached up to, and potentially exceeding, 1 million. In 2023, it revised that figure to about 190,000 on public land only. The Game Management Authority (GMA) reports that deer hunting occurs roughly equally on public and private land, meaning the statewide population in 2023 may have been about 380,000. Yet the GMA also reports that hunters alone have removed around 464,000 feral deer since 2022, with many still remaining. How can that be? Read on....

Feral deer impacts in Victoria are receiving growing media attention, renewing debate about the size of the statewide population. Counting feral deer is difficult because they are mobile, widespread across about 40% of the state, and often hard to detect in forests or during the day. Recent government agency reports have further contributed to the uncertainty by reaching what appear to be markedly different conclusions, making a clear and reliable estimate difficult to establish.

Population estimates

Victoria's 2020 Deer Control Strategy noted that "*some estimate that there are up to one million wild deer or more in Victoria*", although no formal statewide count had been undertaken at that time.

DEECA commissioned the Arthur Rylah Institute (ARI) to develop a statewide deer monitoring project, including an estimate of Victoria's feral deer population (Calley and Ramsay 2023). Published in 2023, the report is based on monitoring taking place between September 2021 and May 2023. It estimates there were 191,153 feral deer on public land (90% CI) at the time but did not assess private land. This apparently low figure was unexpected.

The Game Management Authority (GMA) reports that, over the past three years, about half of deer hunting activity occurred on private land. It is therefore reasonable to estimate that Victoria's combined public and private land deer population in early 2023, when the ARI monitoring was completed, was about 382,306—twice the public land estimate, but far below the 2020 estimate of up to 1 million. The difference cannot be attributed to hunting alone, as the reported hunter harvest between 2020 and 2022 was 188,800 deer.

Impact of hunter harvest

The Game Management Authority (GMA) commissions ARI to prepare annual reports on deer harvested by hunters (Moloney & Flesch 2026). According to these reports, hunters have removed 464,000 deer (95% CI) in the three years from 2023-2025.

If Victoria's feral deer population was around 382,306 in early 2023, it seems highly unlikely that hunters could have harvested 464,000 deer over three years since, while large numbers remain and high harvests continue.

Sambar Deer: an example of the unlikely scenario

Public land estimates for Sambar Deer, Victoria's largest, most widespread and abundant deer species, illustrate the problem.

According to the ARI report, there were about 123,000 Sambar Deer on public land in early 2023. GMA reports indicate that hunters then harvested about 158,000 Sambar Deer from public land over the 2023-2025.

Allowing for control activities and other mortality, the estimated annual replacement rate for Sambar Deer in Victoria is 15% (Watter et al. 2020).

Applying that replacement rate and subtracting the reported hunter harvest suggests that only about 36,000 Sambar Deer should have remained on public land at the end of 2024. Yet in 2025, the GMA reported that another 56,240 were harvested from public land. This suggests there should be no Sambar Deer left on public land. It will be interesting to see the hunter harvest figures for Sambar Deer in 2026.

What does this mean?

These comparative figures are estimates as it is difficult to accurately align the GMA annual harvest reports with monitoring results over the period that ARI monitored the population and all figures have a confidence margin. This examination of the figures is intended to inform understanding of trends in the population/hunter harvest relationship, not actual numbers as this deserves expert analysis.

Nevertheless, the overall picture is clear. If the GMA harvest reports are accurate and hunters have removed 464,000 feral deer since 2022—about 155,000 a year—with no sign of decline, Victoria's feral deer population in early 2023 would have been far higher than 382,306. Furthermore, the annual hunter harvest figures do not include feral deer culled through government control programs, by private landowners that are not registered hunters, or the substantial commercial harvest. These additional removals would make the annual take of feral deer even higher, further calling the 2023 population estimate into question, particularly while the population appears stable or increasing.

Is the one million deer estimate more likely?

If Victoria's feral deer population was about 1 million in early 2023, a steady population combined with a consistent hunter harvest of around 155,000 deer a year would broadly align with an estimated annual replacement rate of 15%—at least for Sambar Deer. On this basis alone, and without accounting for additional removals by non-hunters, Victoria's feral deer population appears more likely to be closer to the 1 million or more figure cited in the 2020 Deer Control Strategy than to the lower statewide estimate inferred from the 2023 public-land count.

What can we conclude from these reports?

Comparing the ARI population estimate with the GMA hunter harvest reports suggests one of three possibilities:

- the 2023 ARI report substantially underestimated Victoria's feral deer population; or
- the GMA hunter harvest reports for 2023–2025 significantly overestimated the number of deer taken by hunters; or
- both reports contain some degree of error.

The VDCCN supports robust, science-based population estimates and encourages further work in this area. However, uncertainty about the exact number of deer does not change the impacts already evident across Victoria. Feral deer continue to affect the natural environment, farmers, road users and other parts of the community, regardless of debate about population size.

References

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