



Estimates of the 2025 deer harvest in Victoria

Results from surveys of Victorian
Game Licence holders in 2025

P.D. Moloney and J.S. Flesch
May 2026

Acknowledgment

We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, their unique ability to care for Country and deep spiritual connection to it.

We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices.

DEECA is committed to genuinely partnering with Victorian Traditional Owners and Victoria's Aboriginal community to progress their aspirations.



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in 2025**

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Summary

Context:

To effectively manage game species, it is important to quantify the numbers harvested. Since 2009, to ascertain the levels of deer harvested, the Victorian State Government game management agencies have commissioned a series of regular telephone surveys of randomly selected holders of Game Licences endorsed for hunting deer. Additional telephone surveys were commissioned, starting in 2018, to quantify the scale at which Sambar Deer (*Cervus unicolor*) are being hunted using hounds. This report focuses on estimating the total recreational deer harvest for 2025. Deer killed in commercial culling activities, or as part of damage mitigation programs, are not included within this estimate.

Aims:

The aim of this report was to provide estimates of the total number of deer harvested recreationally by licensed hunters in Victoria during the 2025 hunting season.

Methods:

Holders of a Victorian Game Licence endorsed for hunting deer, and the subset holding a Game Licence endorsed for hunting Sambar Deer using hounds, were randomly sampled and interviewed by telephone at intervals during their respective game seasons. In all surveys, respondents were asked whether they had hunted during the indicated period, and (if applicable) the number, species and sex of deer they had harvested. Additional information was obtained on hunting methods and locations. Surveys at the end of the season were used to quantify the proportion of Game Licence holders who had hunted at some stage of the season.

Results:

The total estimated deer harvest in 2025 was 158,500 (95% confidence interval (CI) = 132,700-189,300). This was 5% lower than in 2024 (167,600) and 66% higher than the average since 2009 (95,400). The slight decrease in overall annual deer harvest compared to 2024 can be explained by a decrease in the hunting days per active hunter (18%), counteracting a 9% increase in effectiveness. Active hunters are Game Licence holders endorsed to hunt deer who hunted at least once in 2025.

In 2025, 55% of Game Licence holders endorsed to hunt deer were active deer hunters. This was above the long-term average (50%). On average, active deer hunters harvested 5.6 deer over 11.1 days, which is consistent with the long-term average (5.6 deer over 11.3 days).

The most harvested species was Sambar Deer, with an estimated total harvest of 118,400 (75% of the harvest), followed by Fallow Deer (*Dama dama*) at 38,000 (24%). These proportions were similar to previous years, in which Sambar Deer and Fallow Deer typically represented 77% and 19% of the total deer harvest, respectively. Species and sex were identified for all the recorded harvested deer, while in previous years around 2% were typically not clearly identified. An update to the survey questionnaire helped with this outcome.

In 2025 it was estimated that the total number of Sambar Deer harvested using hounds was 19,900 (95% CI = 17,600-22,400). The average annual deer harvest rate using hounds per active licence holder endorsed to hunt Sambar Deer with hounds was 9.3 (95% CI = 7.7-11.2), which was higher than the general rate per active hunter (5.6). The efficiency of deer harvest using hounds (0.41 deer per hunting day per team member) was lower than the general efficiency (0.51 deer per hunting day) in 2025. This apparent contradiction is explained by a larger number of hound hunting days per active hound hunter (22.4) compared to the general number of hunting days (11.1).

Conclusions and implications:

1. The 2025 deer hunting season had the third largest estimated total harvest and the fourth largest number of hunting days and hunter efficiency.
 - The average deer harvest and hunting days per active hunter was at the long-term average (since the end of season surveys were included in 2017). The proportion of active hunters was 10% above the long-term average.
 - In contrast, in the four years since 2021, the number of Game Licences endorsed to hunt deer in Victoria has plateaued at just over 50,000. This could indicate that the size of the deer hunting community has stabilised.
2. Performing telephone surveys throughout the year is likely to minimise memory bias and non-response bias. However, sources of bias will remain (due to over- and under-reporting), and the estimates of total harvest must be interpreted with care. In addition, improvements around conducting the telephone surveys resulted in far fewer ambiguous deer species and sex harvest records. Inclusion of the experience and club membership demographics questions in the end-of-season surveys and proportion of time spent hunting on each land tenure, will provide useful estimates for any future analysis. Now that it is a permitted method, the inclusion of hand-held thermal imaging devices during the day as an additional option in the hunting method questions, should provide insight into the hunting efficiency of this method.
3. The effect of respondents reporting very high harvest rates requires further investigation, as these reports may reflect non-recreational hunting or team-based hunting rather than individual participation. Such responses may positively bias harvest estimates. Adding demographic questions and collecting more detailed information from respondents who have used hounds in the general survey could improve estimate accuracy. Some of these issues may also be addressed through a model-based approach rather than relying solely on a design-based approach.

1 Introduction

To effectively manage game species, it is important to quantify the numbers harvested. Since 2009, the State Government's game management agency has commissioned a series of regular telephone surveys of randomly selected Game Licence holders. Three sets of telephone surveys are conducted during the various game harvest seasons for deer, duck, and quail, respectively. This report focuses only on the deer harvests during 2025.

Recreational deer hunting is permitted to occur in Victoria for six declared game species (Game Management Authority, 2025). Sambar Deer (*Cervus unicolor*), Fallow Deer (*Dama dama*), Red Deer (*Cervus elaphus*), Chital Deer (*Axis axis*) and Rusa Deer (*Rusa timorensis*) can be hunted all year by stalking, with no bag limit. Hunting Sambar Deer with the aid of scent-trailing hounds (referred to as hound hunting) is legal in Victoria between 1 April to 30 November within permitted areas and with the appropriate licences, and hounds can be used to trail and flush deer. This differs from the use of gundogs and deer hunting dogs, which can be used year-round to hunt deer (except Hog Deer (*Axis porcinus*)) wherever hunting with dogs is permitted. Hog Deer can only be hunted during April (excluding out-of-season ballot hunting), and are subject to additional restrictions, including an annual limit of one male and one female per hunter.

The telephone survey methods employed in this study were similar to those used during the 2009 to 2023 deer-hunting seasons (Gormley and Turnbull, 2009, 2010, 2011; Moloney and Flesch, 2021, 2022, 2023, 2024, 2025; Moloney and Hampton, 2020; Moloney and Powell, 2019; Moloney and Turnbull, 2012, 2013, 2014, 2016, 2017, 2018). Since 2018, a secondary survey has been conducted among Game Licence holders endorsed for hunting Sambar Deer with scent-trailing hounds. From 2024, the primary survey (Game Licence holders endorsed to hunt deer) increased from bimonthly to monthly and the secondary survey (Game Licence holders endorsed to hunt deer using hounds) increased to fortnightly.

The aim of this report was to provide estimates of the number of the total number of deer harvested by licensed recreational hunters in Victoria in 2025. The report also summarises hunter effort, success rates and harvest locations.

2 Methods

All surveys were conducted by the telephone survey company Marketing Skill Pty Ltd (Mount Eliza, Victoria) on behalf of the Victorian Game Management Authority. The estimates of total harvests by Game Licence holders were based on the hunting activities reported by the survey respondents.

2.1 Surveys of Game Licence holders endorsed for hunting deer

Every month a telephone survey of a random sample of 200 respondents¹ from holders of a Game Licence endorsed for hunting deer (hereafter referred to as 'Game Licence holders') was conducted (Appendix 1). If a selected participant does not answer or declines to participate, a replacement respondent is randomly selected. Respondents were asked to report on their hunting activities for the preceding 1-month period, including the number and sex of each species of deer harvested during that period. For example, although a respondent may have hunted during the periods covered by the March and June surveys, if they were contacted as part of the June surveys, information was only collected that was covered by the June survey. In each survey, the 200 randomly selected respondents were interviewed, regardless of whether they had hunted or not.

For each survey period, the proportion of respondents who hunted was used as an estimate of the proportion of Game Licence holders who hunted. This proportion was multiplied by the total number of Game Licence holders for that period, yielding the estimated total number of hunters. For each survey period, the average harvest per active hunter² was estimated from the total reported harvest divided by the number of respondents who hunted. The total harvest for each survey period was then estimated by multiplying the average harvest per hunter by the previously estimated total number of hunters for that survey period. Figure 1 is a diagrammatic version of the equations used to estimate the total harvest for each survey period. Finally, the total season harvest was estimated from the sum of the survey-specific total harvests.

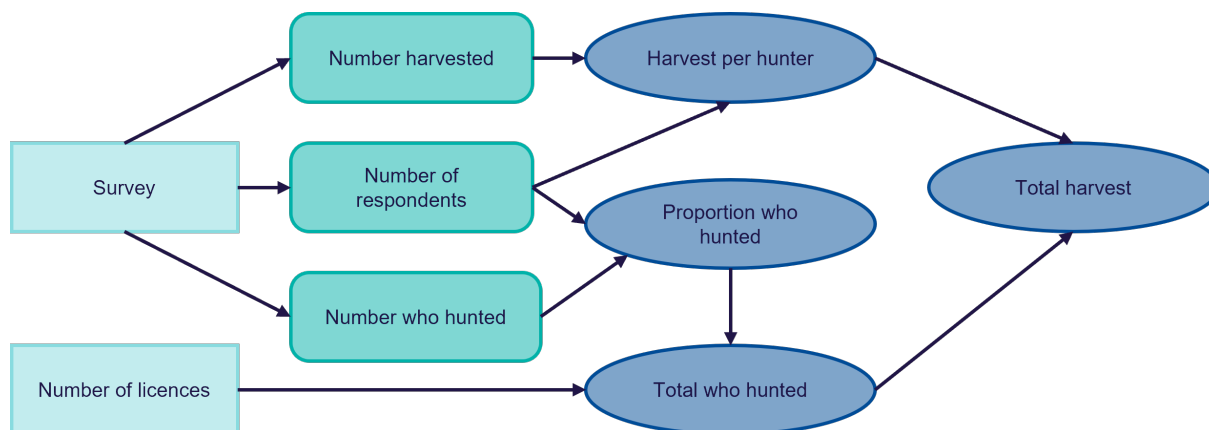


Figure 1: Diagrammatic version of the equations involved in estimating the total harvest from a survey

For each survey period, we estimated the proportion of the total harvest attributable to each species. We then multiplied each species' estimated proportion by the estimated total deer harvest for that survey period to obtain species-specific harvest estimates. Total season harvest for each species was estimated as the sum of the survey-specific species harvest estimates.

An additional random sample of 400 Game Licence holders were surveyed immediately after the conclusion of the 2025 deer-hunting season. They were asked whether they had hunted at any stage during the 2025 season. This end-of-year survey enabled us to estimate the proportion of active

¹ Respondent refers to a Game Licence holder who was contacted and agreed to take part in the survey.

² Active hunter refers to a Game Licence holder who actually went out and hunted (successfully or unsuccessfully) at some point during the period with which the survey was concerned.

hunters active across the season without needing to estimate the correlation structure of active hunters between the surveys.

The number of active hunters during 2025 was estimated by multiplying the proportion of active hunters from the post-season survey by the number of Game Licence holders at the end of the season. The annual harvest per active hunter was then estimated by dividing the total harvest by the estimated number of active hunters over the season. The estimated number of hunting days per active hunter was estimated in an analogous fashion.

The annual harvest per Game Licence holder (i.e., all people who held a valid Game Licence endorsed for deer hunting in 2025) was also estimated. For each survey period, the average harvest per survey respondent was estimated by multiplying the average harvest per hunter by the proportion of the respondents that hunted. Summing these estimates across the year provided an annual harvest figure per Game Licence holder endorsed to hunt deer.

Respondents who hunted were also asked to provide information on whether hunting was conducted on private land or public land, the name of the town nearest to where they hunted, what hunting methods they had used (i.e., stalking, hounds, or gun dogs/deer hunting dogs), and the number of days they hunted during the survey period. Regional harvest estimates were calculated by summing the reported harvest for each town, then aggregating these harvests for the corresponding Victorian Catchment Management Authority (CMA) region. Since 2024, questions on participants' self-reported hunting experience and whether they belonged to any hunting clubs have been included in the survey.

Additional details of the methods (and examples of the calculations) are provided in Appendices 1–3 and 5–6. A description and interpretation of boxplots is provided in Appendix 4.

2.2 Surveys of Game Licence holders endorsed for hunting deer using hounds

A telephone survey was conducted every fortnight (2 weeks) during the hound hunting season and involved 100 respondents from a random sample of holders of a Game Licence endorsed for hunting deer with the use of scent-trailing hounds (hereafter referred to as 'Game Licence holders endorsed for using hounds') (Appendix 2). Respondents were asked to report on their hunting activities for the preceding 2-week period, including the number and sex of each deer harvested, whether hounds were used, and if so, the number of hunters in the team. For example, although a respondent may have hunted during the periods covered by Surveys 2 and 3, if they were contacted as part of Survey 3, then information was only collected that was covered by Survey 3. In each survey, the 100 respondents were interviewed, regardless of whether they had hunted or not. An additional random sample of 200 Game Licence holders endorsed for using hounds were surveyed immediately after the conclusion of the 2025 hound hunting season. They were asked whether they had hunted with hounds at any stage during the 2025 season; the number of active hound hunters was estimated from their responses.

The information provided by the hound hunting respondents was used in a similar way to that of the general Game Licence holders. However, hound hunting usually involves teams of two or more hunters. The personal deer harvest in a hound hunting team may not be evenly spread across all members of the team. For example, a team of four hound hunters might have harvested five deer in total, with one of the hunters harvesting three deer, two hunters harvesting one deer each, and the fourth hunter no deer. Depending on which of the four hunters was surveyed, if we had used personal harvest, the result could have been zero, one or three deer harvested. Instead, the total harvest of the team divided by the number of team members was used. Hence, for the previous example, no matter which person of that team was surveyed, the result would be 1.25 deer (a total of five deer divided among four team members). In 2025, questions on participants' self-reported hunting experience, and whether they belonged to any hunting clubs have been included in the survey.

3 Results

3.1 Overall deer harvest in 2025

The number of Game Licence holders endorsed to hunt deer increased by more than 10,000 in 2025, reaching over 51,000 by the end of the year (Table 1). To achieve the required sample size of respondents, slightly more than 200 Game Licence holders were contacted each survey, with an average of 97% of those contacted being willing to take part.

Table 1. Summary of key responses for deer surveys in 2025

Deer surge	Period	Licence holders	Respondents	Respondents who hunted	Days hunted ³	Deer harvested ⁴
1	Jan	37,082	200	22	76	31
2	Feb	39,076	200	27	102	52
3	Mar	41,412	200	25	118	30
4	Apr	43,441	200	39	178	68
5	May	44,837	201	34	116	77
6	Jun	46,040	200	48	141	124
7	Jul	47,212	201	42	123	66
8	Aug	48,335	201	45	158	73
9	Sep	49,173	200	30	97	40
10	Oct	49,954	200	25	96	30
11	Nov	50,664	200	30	107	57
12	Dec	51,374	200	23	63	43

The proportion of Game Licence holders who hunted in each month varied across the year: approximately 11,000 Game Licence holders (24%) hunted in June; whereas approximately 4,000 of licence holders (11%) hunted in January (Table 2). The proportion who hunted during other months was between 12% to 22% (Table 2).

³ Days hunted indicates the combined number of days on which deer hunting took place by respondents.

⁴ Deer harvested indicates total number of deer harvested by respondents.

Table 2. Proportion and corresponding total number of deer licence holders who hunted in each survey period in 2025

Period	Proportion	SE	95% CI		Total hunters	SE	95% CI	
			Lower	Upper			Lower	Upper
Jan	0.11	0.022	0.07	0.16	4,100	800	2,800	6,000
Feb	0.14	0.024	0.10	0.19	5,300	900	3,700	7,500
Mar	0.12	0.023	0.09	0.18	5,200	1,000	3,600	7,400
Apr	0.20	0.028	0.15	0.26	8,500	1,200	6,400	11,200
May	0.17	0.026	0.12	0.23	7,600	1,200	5,600	10,300
Jun	0.24	0.030	0.19	0.31	11,000	1,400	8,600	14,100
Jul	0.21	0.029	0.16	0.27	9,900	1,400	7,500	12,900
Aug	0.22	0.029	0.17	0.29	10,800	1,400	8,400	14,000
Sep	0.15	0.025	0.11	0.21	7,400	1,200	5,300	10,200
Oct	0.12	0.023	0.09	0.18	6,200	1,200	4,300	9,000
Nov	0.15	0.025	0.11	0.21	7,600	1,300	5,500	10,500
Dec	0.12	0.023	0.08	0.17	5,900	1,200	4,000	8,600

Within each survey period, there was great variation in the reported harvest of deer per hunter (i.e., per Game Licence holder who hunted). Some hunters reported harvesting more than 10 deer in a survey period (one even reported 20 deer in a month), while at least 25% of hunters did not harvest any deer in each month (Figure 2). The median number of deer harvested per hunter in a one-month survey ranged from 0 to 1.5. This is smaller than the average (mean) harvest in the same periods, which ranged from a high of 2.6 deer in June to a low of 1.2 in both March and October (Table 3).

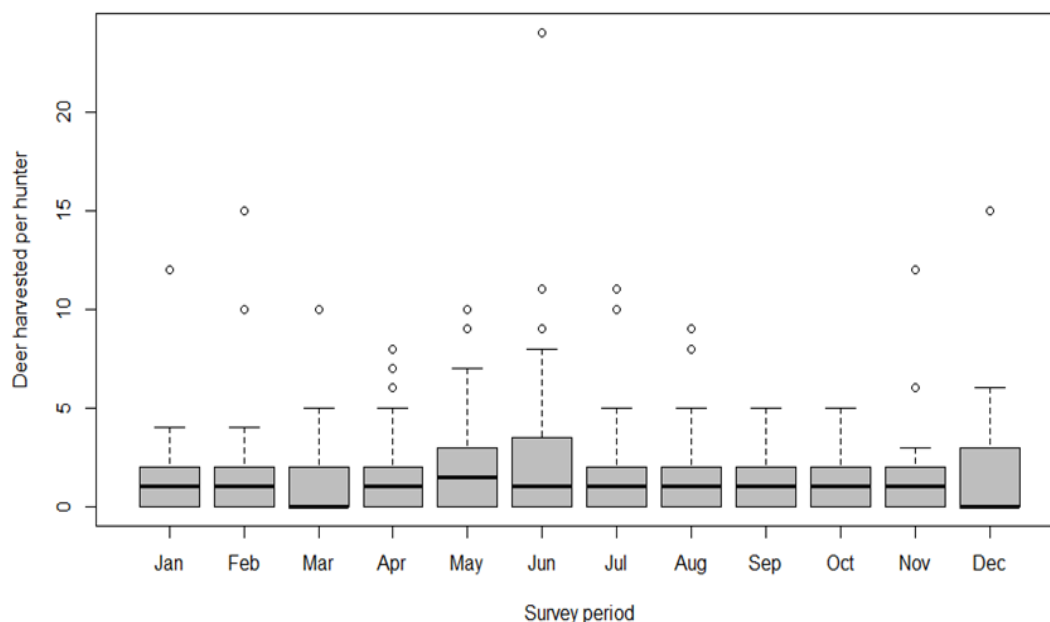


Figure 2. Boxplot of the number of deer reported harvested by individual hunters for each month in 2025

The bottom and top of each 'box' indicate the 25th and 75th percentiles, respectively, with the thicker black horizontal line indicating the median (50th percentile) reported value. See Appendix 4 for more details on boxplots.

Table 3. Average harvest of deer per hunter (Game Licence holders who hunted) for each survey period in 2025

Period	Average harvest per hunter ⁵	SE	95% CI	
			Lower	Upper
Jan	1.41	0.55	0.67	2.96
Feb	1.93	0.63	1.03	3.61
Mar	1.20	0.44	0.60	2.42
Apr	1.74	0.35	1.18	2.57
May	2.26	0.45	1.54	3.33
Jun	2.58	0.58	1.67	4.00
Jul	1.57	0.38	0.99	2.50
Aug	1.62	0.29	1.14	2.30
Sep	1.33	0.30	0.87	2.05
Oct	1.20	0.30	0.74	1.94
Nov	1.90	0.56	1.08	3.35
Dec	1.87	0.72	0.90	3.87

There was an estimated total of 158,500 deer harvested from January 2025 to December 2025 (inclusive) (95% CI = 132,700–189,300; Table 4). Harvest was greatest in the late-autumn to winter months and lowest in the mid to late-summer and early-spring months.

Table 4. Estimates of the total deer harvest in Victoria in 2025 by holders of a deer Game Licence

Period	Total harvest ⁶	SE	95% CI	
			Lower	Upper
Jan	5,700	2,500	2,500	13,100
Feb	10,200	3,800	5,000	20,700
Mar	6,200	2,600	2,800	13,600
Apr	14,800	3,600	9,200	23,800
May	17,200	4,400	10,500	28,000
Jun	28,500	7,400	17,400	46,900
Jul	15,500	4,300	9,100	26,400
Aug	17,600	3,900	11,400	27,000
Sep	9,800	2,700	5,700	16,800
Oct	7,500	2,300	4,100	13,600
Nov	14,400	4,900	7,500	27,600
Dec	11,000	4,800	4,900	24,800
Total	158,500	14,400	132,700	189,300

⁵ Average harvest per hunter = Deer harvested divided by respondents who hunted (Table 3).

⁶ Total harvest = Harvest per hunter (Table 3) × Total hunters (Table 2). Numbers may differ slightly due to rounding of average harvest per hunter.

Results from the survey conducted immediately after the 2025 deer-hunting season indicate that an estimated 55% (95% CI = 50–60%) of Game Licence holders hunted deer in 2025 (Table 5). This equates to an estimated 28,300 (95% CI = 25,900–30,900) active deer hunters⁷ in 2025. The average annual deer harvest per active deer hunter was estimated to be 5.6 (95% CI = 4.6–6.8). The average number of hunting days per active deer hunter during 2025 was estimated to be 11.1 (95% CI = 9.3–13.2). The annual average is lower than the sum of each period (Table 3) because not all active hunters hunted in each period.

Table 5. Estimates of annual deer hunting in Victoria in 2025 by holders of a deer Game Licence who hunted at least once

Statistic	Annual estimate	SE	95% CI	
			Lower	Upper
Proportion active	0.55	0.02	0.50	0.60
Estimated active hunters	28,300	1,300	25,900	30,900
Average harvest per active hunter	5.61	0.57	4.60	6.84
Average hunting days per active hunter	11.09	0.99	9.32	13.21

Harvest estimates for each deer species are presented in Figure 3 and Table 6. The most frequently harvested species were Sambar Deer (75% of the total reported harvest), Fallow Deer (24%) and Red Deer (1%). Hog Deer and Rusa Deer accounted for less than 1% of the reported deer harvest. No Chital Deer were reported as harvested in the 2025 survey. At the time of reporting, there were no known wild populations of Rusa or Chital Deer in Victoria.

Even though only two survey respondents reported harvesting Hog Deer in 2025 (giving an estimated 400 Hog Deer harvested [95% CI = 200–1,100]), a total of 249 Hog Deer (203 stags and 46 hinds) were recorded in harvest returns. Of these, 45 were from the Snake Island, Boole Poole and Blond Bay State Game Reserve balloted hunts (35 stags and 10 hinds). The remainder of the deer were harvested on private property or other public lands open to deer hunting, including State Game Reserves.

⁷ Active deer hunters are Game Licence holders endorsed to hunt deer that have hunted at least once the season.

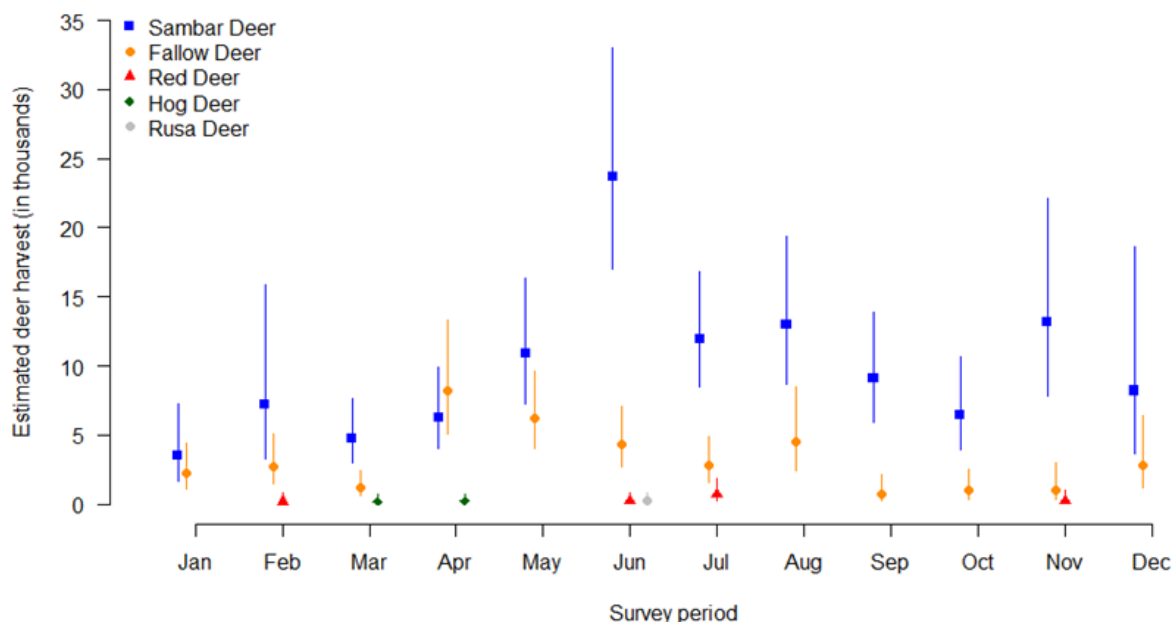


Figure 3. Estimated total deer harvest for each monthly survey period in 2025 by species

Vertical bars indicate 95% confidence intervals. Species were only included in survey periods when they were reported.

Table 6. Estimates of total harvest per deer species for each survey period in 2025

a. Sambar Deer

Period	Reported harvest	Estimated harvest	SE	95% CI	
				Lower	Upper
January	19	3,500	1,400	1,700	7,300
February	37	7,200	3,000	3,300	15,900
March	23	4,800	1,200	3,000	7,600
April	29	6,300	1,500	4,000	9,900
May	49	10,900	2,300	7,300	16,400
June	103	23,700	4,000	17,000	33,000
July	51	12,000	2,100	8,500	16,800
August	54	13,000	2,700	8,700	19,400
September	37	9,100	2,000	5,900	13,900
October	26	6,500	1,700	3,900	10,700
November	52	13,200	3,500	7,900	22,100
December	32	8,200	3,600	3,600	18,600
Total	512	118,400	8,900	102,200	137,200

b. Fallow Deer

Period	Reported harvest	Estimated harvest	SE	95% CI	
				Lower	Upper
January	12	2,200	800	1,100	4,400
February	14	2,700	900	1,500	5,100
March	6	1,200	500	600	2,500
April	38	8,300	2,000	5,100	13,300
May	28	6,200	1,400	4,100	9,600
June	19	4,400	1,100	2,700	7,100
July	12	2,800	800	1,600	4,900
August	19	4,600	1,500	2,500	8,500
September	3	700	400	300	2,100
October	4	1,000	500	400	2,500
November	4	1,000	600	300	3,000
December	11	2,800	1,200	1,300	6,400
Total	170	38,000	3,700	31,400	46,100

c. Red Deer

Period	Reported harvest	Estimated harvest	SE	95% CI	
				Lower	Upper
January	0	0	-	-	-
February	1	200	200	0	800
March	0	0	-	-	-
April	0	0	-	-	-
May	0	0	-	-	-
June	1	200	200	100	800
July	3	700	400	300	1,900
August	0	0	-	-	-
September	0	0	-	-	-
October	0	0	-	-	-
November	1	300	200	100	1,100
December	0	0	-	-	-
Total	6	1,400	500	700	2,700

d. Hog Deer

Period	Reported harvest	Estimated harvest	SE	95% CI	
				Lower	Upper
March	1	200	100	100	700
April	1	200	200	100	800
Total	2	400	200	200	1,100

e. Rusa Deer

Period	Reported harvest	Estimated harvest	SE	95% CI	
				Lower	Upper
January	0	0	-	-	-
February	0	0	-	-	-
March	0	0	-	-	-
April	0	0	-	-	-
May	0	0	-	-	-
June	1	200	200	100	800
July	0	0	-	-	-
August	0	0	-	-	-
September	0	0	-	-	-
October	0	0	-	-	-
November	0	0	-	-	-
December	0	0	-	-	-
Total	1	200	200	100	800

There was no statistically significant sex bias for the harvest of Sambar Deer, Fallow Deer, Red Deer, Hog Deer or Rusa Deer (Table 7).

Table 7. Reported numbers and percentages of each sex by deer species harvested in 2025

Species	Male			Female		
	Reported	%	SE	Reported	%	SE
Sambar Deer	233	46	2	279	54	2
Fallow Deer	76	45	4	94	55	4
Red Deer	4	67	19	2	33	19
Hog Deer	2	100	0	0	0	0
Rusa Deer	0	0	0	1	100	0

The number of days hunted in each survey period varied throughout the season, with most hunting occurring from autumn to spring. Each active Game Licence holder endorsed to hunt deer, hunted for an average of 11.1 days during 2025, corresponding to an estimated total of 313,500 hunter days (95% CI = 269,700–364,400; Table 8) across all licence holders.

Table 8. Number of days deer were hunted by Game Licence holders for 2025

Period	Days hunted by Game Licence holders	SE	95% CI	
			Lower	Upper
January	14,100	5,000	7,200	27,600
February	19,900	5,800	11,400	35,000
March	24,400	8,400	12,700	47,100
April	38,700	9,000	24,600	60,700
May	25,900	6,500	15,900	42,100
June	32,500	6,400	22,100	47,600
July	28,900	6,400	18,900	44,200
August	38,000	7,900	25,400	56,900
September	23,800	6,200	14,400	39,400
October	24,000	7,400	13,300	43,300
November	27,100	8,000	15,400	47,800
December	16,200	5,100	8,900	29,500
Total hunting days	313,500	24,100	269,700	364,400
Total hunting days per active hunter	11.09	0.99	9.32	13.21

More deer hunting occurred exclusively on public land (54%) compared with exclusively on private land (41%). Despite this, more deer were harvested during hunting exclusively on private land compared to public land (50% and 45% respectively) (Table 9). More Sambar Deer were harvested on public land (50%) than other land tenures. Most Fallow Deer were harvested on private land only (60%). All the reported Hog Deer, Red Deer and Rusa Deer were reportedly harvested on private land.

Table 9. Percentage of days of hunting and associated deer harvest by land tenure in 2025

Land tenure	Days	Total Deer harvest	Sambar Deer harvest	Fallow Deer harvest	Red Deer harvest
Private land only	41.4	49.5	45.1	60.0	Private land only
Public land only	53.8	44.6	49.8	31.2	Public land only
Both	4.6	5.6	4.7	8.8	Both
Not specified	0.2	0.3	0.4	0.0	Not specified

Stalking without a dog on public land was the most common hunting practice (49% of hunting days), although it accounted for only 38% of the harvest. In contrast, stalking without a dog on private land accounted for 42% of deer harvested while representing 37% of hunting days. For all other methods, the proportion of hunting days was broadly consistent with the proportion of deer harvested (Table 10).

Table 10. Percentage of total hunting days and deer harvested by hunting method and land tenure in 2025

Land tenure		Scent-trailing hounds	Stalking without dog	Stalking with dog	Total
Private land only	Days	0	37	5	41
	Deer	0	42	7	49
Public land only	Days	1	49	4	54
	Deer	2	38	4	45
Both	Days	0	5	0	5
	Deer	0	6	0	6
Total	Days	1	91	8	100
	Deer	2	86	11	100

The demographics questions showed that the plurality (44%) of Game Licence holders endorsed to hunt deer surveyed considered themselves to be intermediate hunters, with the remaining hunters relatively evenly spread between novice, beginner and advanced levels of experience (Table 11). Most licence holders (62%) reported not belonging to a hunting club, with 3 respondents (<1%) declining to answer this question. In general, as experience level increased, so did the proportion of active hunters and the mean time spent hunting; harvest; and efficiency. The most apparent increase was in hunter efficiency, with self-identified experienced hunters' efficiency (61%) substantially larger than the other experience levels. The effect of being a club member was not consistent across experience levels (Table 11).

Table 11. Overall demographic data from deer hunter surveys in 2025

Experience	Club member	Percentage of respondents	Proportion of respondents that were active hunters	Percentage of overall active hunters	Total hunting days (%)	Total harvest (%)	Mean days per active hunter	Mean harvest per active hunter	Hunter efficiency
Novice	No	12.7	5.0	3.9	3.4	0.9	3.1	0.4	0.13
	Yes	3.1	6.8	1.3	0.9	0.4	2.6	0.6	0.23
Beginner	No	12.6	9.3	7.2	5.6	2.5	2.8	0.6	0.22
	Yes	6.5	7.7	3.1	1.9	0.9	2.2	0.5	0.23
Intermediate	No	27.1	13.1	21.9	18.4	17.4	3.0	1.4	0.48
	Yes	16.8	18.9	19.6	15.8	12.7	2.9	1.2	0.41
Advanced	No	9.3	29.4	16.8	20.1	26.6	4.3	2.8	0.67
	Yes	11.9	36.0	26.3	33.8	38.6	4.6	2.6	0.58

Total harvest was estimated to be greatest in the Goulburn Broken CMA, followed by the North East CMA and the East Gippsland CMA (Figure 4). The top five towns for the total reported number of deer harvested were (in descending order) Mansfield, Bairnsdale, Healesville, Heyfield and Wodonga. The top five towns for the total number of reported deer hunting days were (in descending order) Mansfield, Bairnsdale, Corryong, Wodonga and Alexandra.

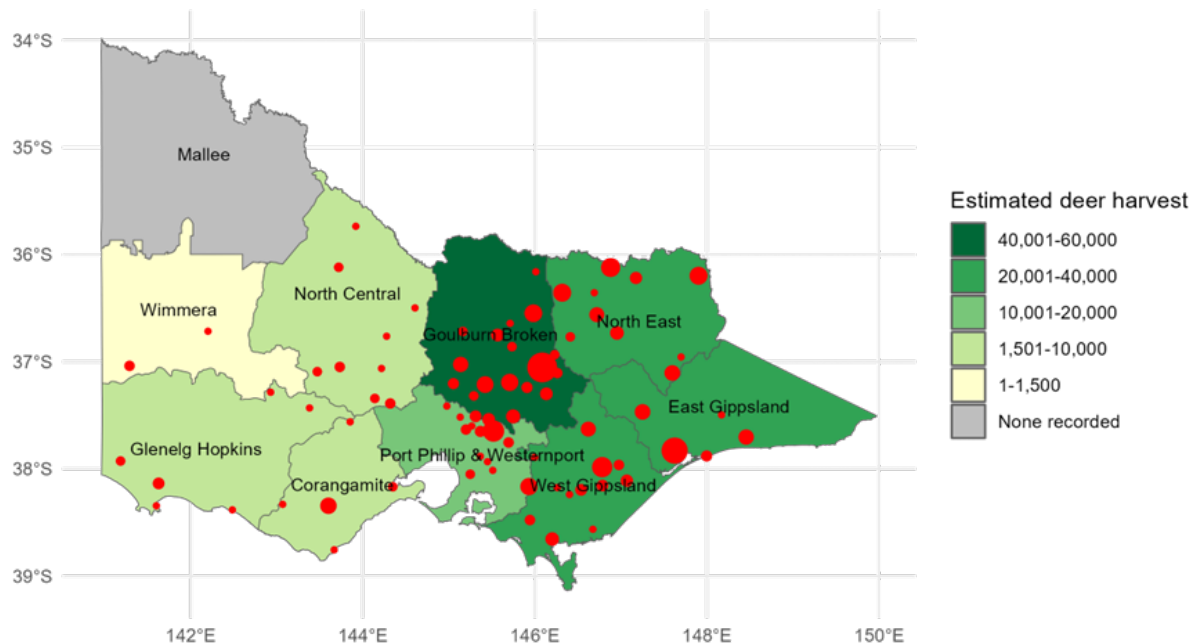


Figure 4. Estimates of total deer harvest in 2025 by CMA region

Red circles indicate the nearest town to harvest locations, with symbol size proportional to reported harvest.

3.2 Comparison of overall deer harvest in 2025 to previous years

The 2025 estimate was 5% lower than the 2024 estimate and 66% higher than the average since 2009 (Table 12). The 2025 deer harvest was the third largest on record since the surveys began in 2009 (Table 12, Figure 5) and was 9% below the previous peak deer harvest estimate in 2019.

The proportion of hunters who actively hunted in 2025 (55%) was above the average recorded activity rate of 50% (Table 12). Hunter efficiency in 2025 was 21% above the average since the surveys started in 2009 (Table 12).

The 2025 season had the fourth highest number of hunting days since the telephone survey began—44% above the average since the surveys started in 2009 (Table 12). The mean number of hunting days per active hunter in 2025 was moderate, at 2% below the average since 2017 (when this statistic was first calculated).

The estimated deer harvest per Game Licence holder in 2025 was 28% more than the average since the surveys began and the fourth largest recorded (Table 12). The estimated deer harvest per active hunter in 2025 was moderate and very close to the average since 2017 (Table 12).

As in previous years, Sambar Deer were the most commonly harvest deer species in 2025, followed by Fallow Deer and Red Deer, with the very small numbers of Hog Deer and Rusa being reported and Chital Deer not being reported in the 2025 survey (Table 13). This is also consistent with previous years.

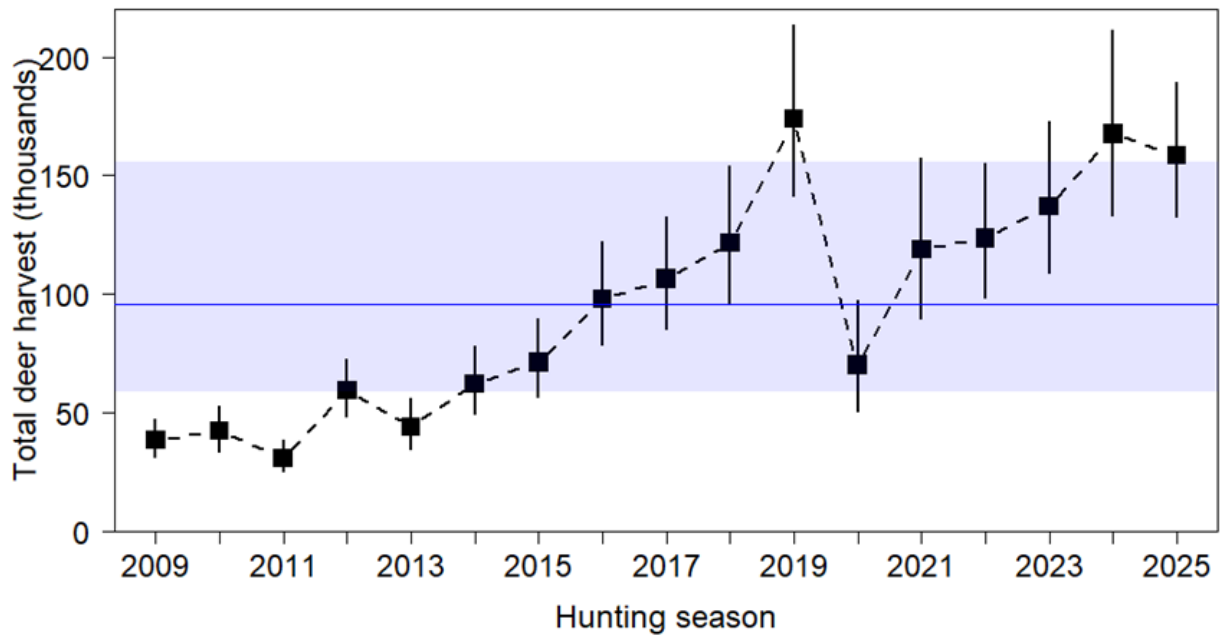


Figure 5. Estimates of total deer harvests (in thousands) from 2009 to 2025

Each black square represents the estimated total harvest for each season; the solid vertical line through each black square indicates the 95% confidence interval for estimated harvest in that season; the blue line is the average deer harvest from 2009 to 2025; the shaded area is the 95% confidence interval for the average deer harvest from 2009 to 2025.

Table 12. Comparison of deer harvests of 2009 to 2025⁸

Year	Licences ⁹	Total harvest	Total hunting days	Deer harvested per Game Licence holder	Hunting days per Game Licence holder	Deer harvested per hunting day	Proportion of active hunters	Deer harvest per active hunter	Hunting days per active hunter
2009	19,849	38,300	150,300	2.14	8.38	0.25	NA	NA	NA
2010	21,570	42,100	149,000	2.12	7.56	0.28	NA	NA	NA
2011	23,170	30,800	135,300	1.43	6.30	0.23	NA	NA	NA
2012	24,777	59,200	169,700	2.62	7.54	0.35	NA	NA	NA
2013	27,349	44,000	135,900	1.76	5.47	0.32	NA	NA	NA
2014	30,244	62,200	186,200	2.22	6.68	0.33	NA	NA	NA
2015	32,870	71,100	201,500	2.36	6.77	0.35	NA	NA	NA
2016	34,822	97,800	207,600	3.12	6.63	0.47	NA	NA	NA
2017	36,968	106,300	184,300	3.11	5.45	0.58	0.55	5.20	9.06
2018	39,066	121,600	237,600	3.49	6.71	0.51	0.52	6.00	11.80
2019	41,985	173,800	344,600	4.48	8.86	0.50	0.60	6.80	13.60
2020	41,056	69,900	143,500	1.80	3.68	0.49	0.35	4.90	10.06
2021	49,857	118,900	246,200	2.53	5.33	0.48	0.36	6.58	13.62
2022	50,478	123,400	216,300	2.73	4.64	0.57	0.50	4.89	8.57
2023	52,321	137,100	332,100	2.82	6.83	0.41	0.60	4.33	10.49
2024	52,098	167,600	354,500	3.49	7.48	0.47	0.50	6.40	13.54
2025	51,374	158,500	313,500	3.45	6.87	0.51	0.55	5.61	11.09
Average	37,050	95,400	218,100	2.69	6.54	0.42	0.50	5.63	11.31

⁸ Deer harvested and hunting days per Game Licence holder in 2025 are reported here for comparison with the results of surveys prior to 2017, when the deer harvested and hunting days per active hunter could be calculated.

⁹ The number of Game Licence holders endorsed to hunt deer at the end of that year.

Table 13. Comparison of the 2009–2025 harvests of the six game deer species

Year	Chital Deer	Fallow Deer	Hog Deer	Red Deer	Rusa Deer	Sambar Deer
2009	0	4,900	100	700	0	32,500
2010	0	6,100	500	1,400	0	34,100
2011	0	4,000	100	700	0	25,900
2012	0	9,800	100	600	0	48,000
2013	0	6,400	0	900	0	36,400
2014	0	7,900	0	700	0	51,400
2015	0	14,500	100	900	0	55,100
2016	100	15,100	0	1,700	0	80,900
2017	200	15,500	200	1,600	0	88,800
2018	0	30,600	0	2,100	0	88,200
2019	0	30,300	200	3,300	0	131,300
2020	0	11,400	0	1,400	200	50,600
2021	400	35,400	200	2,900	0	68,900
2022	0	41,200	0	1,400	0	76,200
2023	0	27,500	0	2,600	0	106,500
2024	0	35,400	400	3,300	500	128,000
2025	0	38,000	400	1,400	200	118,400
Average	< 50	19,600	100	1,600	100	71,800

3.3 Overall deer harvest using hounds in 2025

The number of Game Licence holders endorsed for using hounds increased marginally throughout 2025, from 4,661 in April to 5,182 at the end of the season (Table 14). To achieve the required sample size of respondents, slightly more than 100 licence holders were contacted each survey, with an average of 96% of those contacted being willing to take part.

Table 14. Summary of responses from 2025 Game Licence holders endorsed to use hounds

Deer survey	Period	Licence holders	Respondents	Respondents who hunted	Days hunted	Deer harvested ¹⁰
1	1-13 April	4,661	100	13	30	37
2	14-27 April	4,661	100	18	51	71
3	28 April-11 May	4,788	100	20	58	117
4	12-25 May	4,788	100	27	76	119
5	26 May-9 June	4,905	100	15	44	83
6	10-22 June	4,905	100	23	78	182
7	23 June-6 July	4,997	100	19	70	126
8	7-20 July	4,997	100	18	56	125
9	21 July-3 August	4,997	100	27	63	165
10	4-17 August	5,065	100	22	57	177
11	18-31 August	5,065	100	24	76	260
12	1-14 September	5,112	104	30	82	193
13	15-28 September	5,112	100	23	73	183
14	29 Sept-12 Oct	5,148	100	18	54	125
15	13-26 October	5,148	100	14	37	54
16	27 Oct-9 Nov	5,182	100	11	33	62
17	10-30 November	5,182	100	7	30	39

The proportion of Game Licence holders endorsed for using hounds who reported hunting with hounds varied across surveys, from almost 30% at the beginning of September to less than 10% in the final November survey (Table 15).

¹⁰ Deer harvested indicates the total number of deer harvested by hound teams of which the respondents were members.

Table 15. Proportions and total numbers of Game Licence holders endorsed for using hounds and who actually used hounds for each survey period in 2025

Period	Proportion	SE	95% CI		Total hunters	SE	95% CI	
			Lower	Upper			Lower	Upper
1-13 April	0.13	0.034	0.08	0.21	600	200	400	1,000
14-27 April	0.18	0.038	0.12	0.27	800	200	600	1,300
28 April-11 May	0.20	0.040	0.14	0.29	1,000	200	600	1,400
12-25 May	0.27	0.044	0.20	0.37	1,300	200	900	1,800
26 May-9 June	0.15	0.036	0.09	0.24	700	200	500	1,200
10-22 June	0.23	0.042	0.16	0.33	1,100	200	800	1,600
23 June-6 July	0.19	0.039	0.13	0.28	900	200	600	1,400
7-20 July	0.18	0.038	0.12	0.27	900	200	600	1,400
21 July-3 August	0.27	0.044	0.20	0.37	1,300	200	1,000	1,900
4-17 August	0.22	0.041	0.15	0.32	1,100	200	800	1,600
18-31 August	0.24	0.043	0.17	0.34	1,200	200	900	1,700
1-14 September	0.29	0.044	0.21	0.39	1,500	200	1,100	2,000
15-28 September	0.23	0.042	0.16	0.33	1,200	200	800	1,700
29 Sept-12 Oct	0.18	0.038	0.12	0.27	900	200	600	1,400
13-26 October	0.14	0.035	0.09	0.23	700	200	400	1,200
27 Oct-9 Nov	0.11	0.031	0.06	0.19	600	200	300	1,000
10-30 November	0.07	0.026	0.04	0.14	400	100	200	700

Within each survey period, there was some variation in the reported number of deer harvested per hunter in the various hound hunting teams (i.e. hound team total per Game Licence holder who hunted). Some teams (9%) harvested more than 15 deer in a survey period, whereas 16% of teams harvested 1 deer or less in each period (Figure 6). The median number of deer harvested per team in a 2-week period was 5 deer. The average number of deer per team member (as reported by hunters) varied throughout the season (Table 16). The average harvest per hunter in a team in 2025 ranged from a high of 1.97 deer in mid-late November to a low of 0.57 in early April.

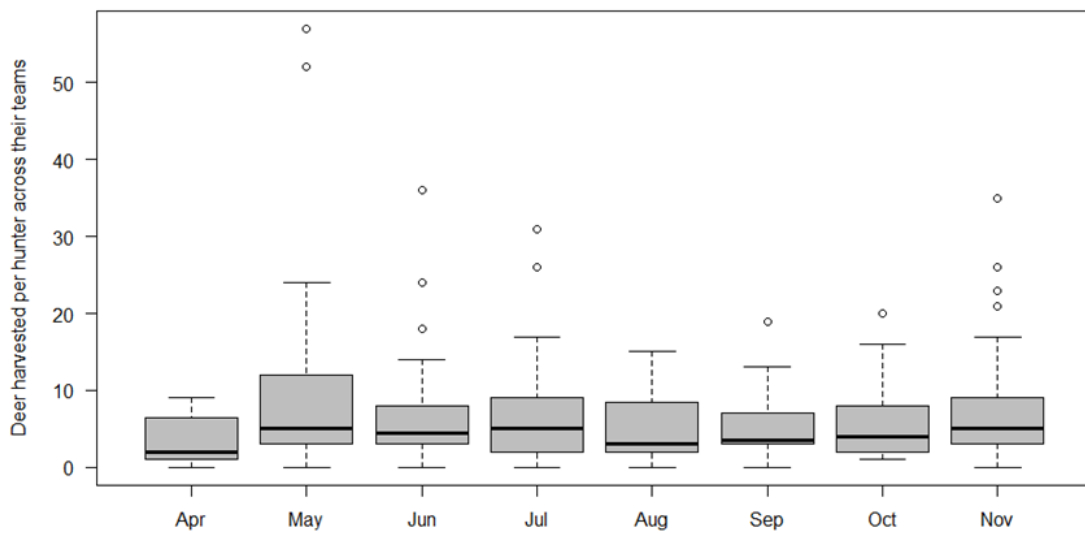


Figure 6. Boxplot of the number of deer reported harvested by scent-trailing hound teams for each survey period in 2025

The bottom and top of each 'box' indicate the 25th and 75th percentiles, respectively, with the black horizontal line indicating the median (50th percentile) reported value.

Table 16. Average harvest of deer per team member (summed by hunter, Game Licence holders who hunted using scent-trailing hounds) for each survey period in 2025

Period	Average harvest per hound hunter ¹¹	SE	95% CI	
			Lower	Upper
1-13 April	0.57	0.11	0.39	0.83
14-27 April	0.89	0.13	0.66	1.18
28 April-11 May	1.12	0.10	0.94	1.33
12-25 May	0.85	0.08	0.72	1.02
26 May-9 June	1.00	0.10	0.83	1.22
10-22 June	1.27	0.15	1.00	1.61
23 June-6 July	1.15	0.09	0.99	1.34
7-20 July	1.78	0.49	1.05	3.03
21 July-3 August	1.28	0.14	1.04	1.57
4-17 August	1.37	0.12	1.16	1.62
18-31 August	1.87	0.17	1.57	2.22
1-14 September	1.11	0.08	0.97	1.28
15-28 September	1.38	0.16	1.11	1.73
29 Sept-12 Oct	1.11	0.10	0.94	1.32
13-26 October	0.80	0.07	0.67	0.95
27 Oct-9 Nov	1.11	0.18	0.81	1.52
10-30 November	1.97	0.33	1.42	2.73

There was an estimated total of 19,900 deer harvested from April 2025 to November 2025 (inclusive), by Game Licence holders endorsed for using hounds and who hunted using hounds (95% CI = 17,600—22,400; Table 17).

¹¹ Average harvest per hound hunter where the harvest per hunter is the sum of the deer harvested by the team divided by the number of team members for each team in which the respondent was involved.

Table 17. Estimates of the total deer harvest using hounds in Victoria in 2025 by holders of a deer Game Licence endorsed for using hounds

Period	Total harvest ¹²	SE	95% CI	
			Lower	Upper
1-13 April	300	100	200	600
14-27 April	700	200	500	1,200
28 April-11 May	1,100	200	700	1,600
12-25 May	1,100	200	800	1,600
26 May-9 June	700	200	400	1,200
10-22 June	1,400	300	900	2,200
23 June-6 July	1,100	200	700	1,700
7-20 July	1,600	600	800	3,100
21 July-3 August	1,700	300	1,200	2,500
4-17 August	1,500	300	1,000	2,300
18-31 August	2,300	500	1,500	3,300
1-14 September	1,600	300	1,200	2,300
15-28 September	1,600	400	1,100	2,500
29 Sept-12 Oct	1,000	200	700	1,600
13-26 October	600	200	300	1,000
27 Oct-9 Nov	600	200	300	1,200
10-30 November	700	300	300	1,500
Total	19,900	1,200	17,600	22,400

Based on responses to the telephone survey conducted immediately after the 2025 season for deer hunting using hounds, an estimated that 46% (95% CI = 40%–53%) of Game Licence holders endorsed to use hounds hunted with hounds during 2025 (Table 18). That equates to an estimated 2,100 (95% CI = 1,800–2,500) active deer hunters using hounds¹³ in 2025. The average number of deer harvested per active deer hunter using hounds was estimated to be 9.3 (95% CI = 7.7–11.2) over 2025.

Table 18. Annual estimates of deer harvested using hounds in Victoria in 2025 by active Game Licence holders endorsed for using hounds

Statistic	Annual estimate	SE	95% CI	
			Lower	Upper
Proportion active	0.46	0.04	0.40	0.53
Estimated active hunters	2,100	200	1,800	2,500
Average harvest per active hunter	9.27	0.91	7.65	11.23
Average hunting days per active hunter	22.42	1.99	18.84	26.68

¹² Total harvest = Harvest per hunter (Table 16) × Total hunters (Table 15). Numbers may differ slightly due to rounding of average harvest per hunter.

¹³ Active deer hunters using hounds are Game Licence holders endorsed to hunt deer using hounds and who have hunted at least once this season.

There was some evidence of a sex bias for Sambar Deer that were harvested using hounds. The proportion of the harvest that was female was 57% (95% CI = 54%–59%).

The average number of hunting days using hounds in each survey period varied throughout the season, with more hunting with hounds occurring around May. The total number of days of deer hunting with hounds in 2025 was 48,100 days (Table 19).

Table 19. Total number of days on which teams hunted using hounds in 2025 by survey period

Period	Days hunted	SE	95% CI	
			Lower	Upper
1-13 April	1,400	500	700	2,900
14-27 April	2,400	800	1,300	4,400
28 April-11 May	2,800	900	1,500	5,000
12-25 May	3,600	900	2,200	5,900
26 May-9 June	2,200	800	1,100	4,300
10-22 June	3,800	1,100	2,200	6,700
23 June-6 July	3,500	1,100	1,900	6,500
7-20 July	2,800	900	1,500	5,200
21 July-3 August	3,100	800	1,900	5,200
4-17 August	2,900	800	1,700	5,000
18-31 August	3,800	1,100	2,300	6,600
1-14 September	4,000	900	2,600	6,300
15-28 September	3,700	1,100	2,100	6,500
29 Sept-12 Oct	2,800	900	1,500	5,100
13-26 October	1,900	700	900	3,800
27 Oct-9 Nov	1,700	800	700	3,900
10-30 November	1,600	900	600	4,300
Total number of hunting days using hounds	48,100	3,700	41,400	55,800

The demographics questions showed that the majority (51%) of Game Licence holders endorsed to hunt deer using hounds considered themselves to be advanced hunters; 41% reported being intermediate with the remaining respondents relatively evenly spread between novice and beginner levels of experience (Table 20) Licence holders were evenly split between belonging (52%) and not belonging (48%) to a hunting club, with 2 respondents (<1%) decline to answer this question. In general, as experience level increased, so did the proportion of active hunters, while other statistics remained similar across experience levels. The similarity may be due to the nature of hunting deer with hounds involving a team, with harvest calculated per team member. If teams have a mix of experiences, then the harvest will be spread evenly across that mix. Being a club member was correlated with increased activity rates, hunting days and harvest, except for novice hunters (Table 20) when comparing within experience levels. None of the limited number of respondents that were novice hunters with a club membership actively hunted using hounds during the survey periods.

Table 20. Overall demographic data from the surveys of deer hunters that used hounds in 2025

Experience	Club member	Percentage of respondents	Proportion of respondents that were active hunters	Percentage of overall active hunters	Total hunting days (%)	Total harvest (%)	Mean days per active hunter	Mean harvest per active hunter	Hunter efficiency
Novice	No	2.2	5.4	0.6	0.4	0.3	2.0	0.6	0.30
	Yes	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.00
Beginner	No	3.3	7.1	1.2	0.9	1.5	2.0	1.5	0.73
	Yes	2.1	16.7	1.8	1.9	2.9	3.0	1.9	0.62
Intermediate	No	22.2	9.8	11.2	9.8	7.4	2.6	0.8	0.32
	Yes	18.4	16.3	15.5	13.5	11.2	2.7	0.9	0.35
Advanced	No	20.3	21.7	22.8	21.0	18.3	2.7	1.0	0.36
	Yes	30.9	29.3	46.8	52.5	58.4	3.3	1.5	0.46

The estimated total deer harvested using hounds was greatest in the North East CMA region, followed by the Goulburn Broken CMA region and the East Gippsland CMA region (Figure 7). The top five towns for the total reported number of deer harvested using hounds were (in descending order) Bairnsdale, Mansfield, Myrtleford, Bright and Omeo. The top five towns for the total number of reported deer hunting days using hounds were (in descending order) Bairnsdale, Mansfield, Myrtleford, Marysville and Omeo.

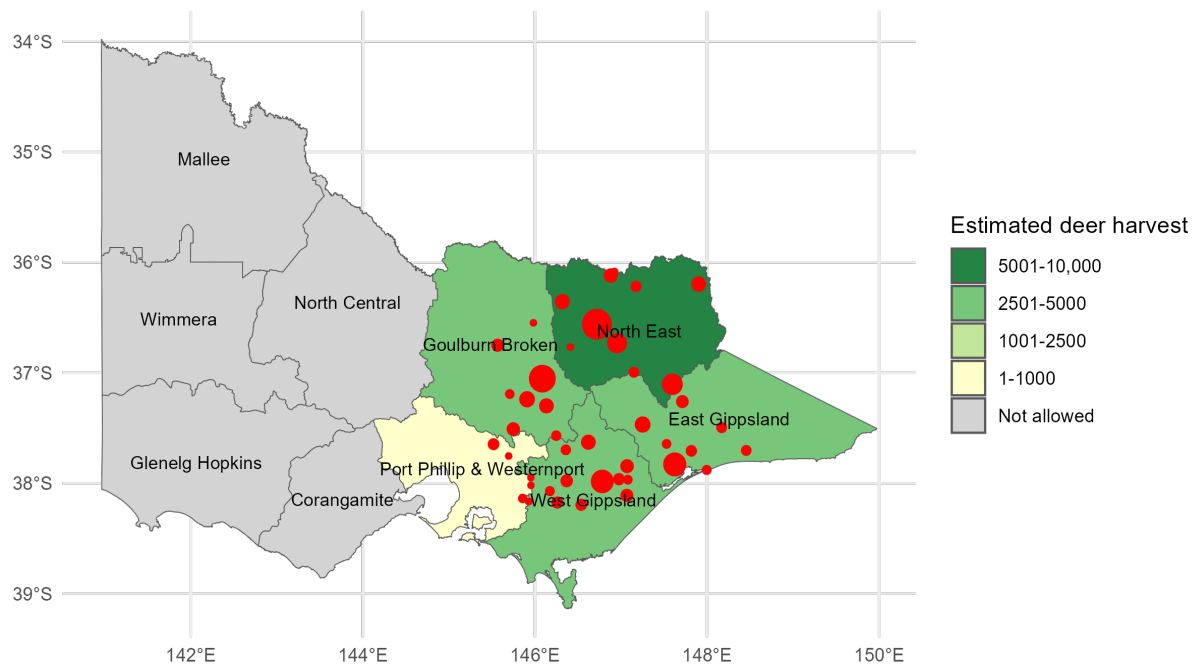


Figure 7. Estimates of total deer harvest using scent-trailing hounds in 2025 by CMA region

Red circles indicate the nearest town to harvest locations, with symbol size proportional to reported harvest.

3.4 Comparison of deer harvest using hounds in 2025 to previous years

A total of 19,900 deer were estimated to have been harvested using hounds in Victoria during 2025, which was similar to 2024, and 24% higher than the average of previous seasons (Table 21, Figure 8). The deer harvest per active hunter using hounds was 26% higher than the average.

The 2025 total number of days spent hunting with hounds was 26% above average compared to previous seasons (Table 21). The hunting days per active hunter using hounds was the third highest recorded and 27% higher than the average of previous seasons.

In 2025, hunter efficiency using hounds was moderate, 5% below the average of previous seasons (Table 21). However, between 2022 and 2024, the efficiency has remained steady at around 0.38 deer per hunting day, so 41% in 2025 is an increase relative to those seasons.

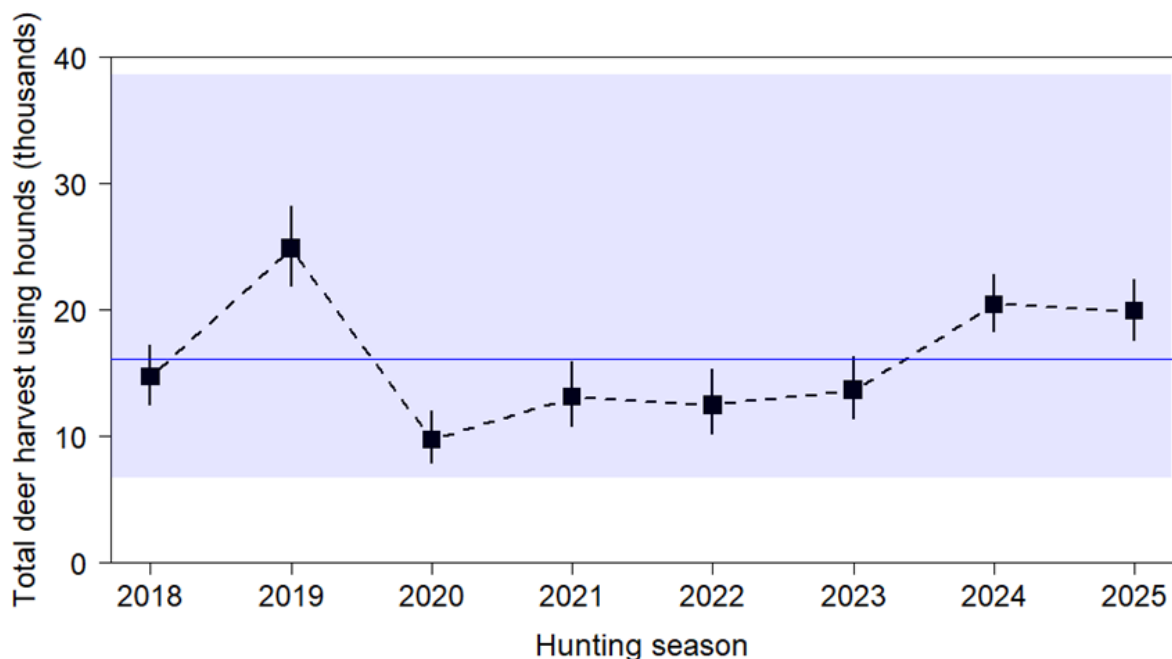


Figure 8. Estimates of total deer harvests using hounds (in thousands) from 2018 to 2025

The square is the estimated total harvest for each season; the solid vertical line indicates the 95% confidence interval; the blue line is the average deer harvest using hounds from 2018 to 2025; the shaded area is the 95% confidence interval for the average deer harvest from 2018 to 2025.

Table 21. Comparison of deer harvests using hounds from 2018 to 2025

Year	Proportion of active hunters	Total harvest	Total hunting days	Deer per active hunter	Hunting days per active hunter	Deer per hunting day
2018	0.52	14,700	36,400	5.69	14.14	0.40
2019	0.46	24,900	54,800	10.53	23.22	0.45
2020	0.48	9,700	19,200	4.04	8.01	0.50
2021	0.44	13,100	24,400	5.66	10.57	0.54
2022	0.40	12,400	32,200	6.40	16.58	0.39
2023	0.34	13,600	36,800	8.27	22.37	0.37
2024	0.47	20,400	54,200	9.03	23.99	0.38
2025	0.46	19,900	48,100	9.27	22.42	0.41
Average	0.45	16,100	38,300	7.36	17.66	0.43

3.5 Comparing deer harvest methods in 2025

The survey of Game Licence holders endorsed for using hounds were also asked whether they had hunted by stalking during the same period. This allowed us to directly compare the harvest, hunting and efficiency rates. Of the active hunters from the hound hunting surveys, more hound hunted (58%) than stalked (50%), while 8% did both within the 2-week period (Table 22). The average harvest per hunter was largest for hunters who used both methods (2.2 deer) compared to hunters that used only one method (1.3 deer per team member using hounds and 1.2 deer with stalking).

Table 22. Comparison of hound hunting and stalking from hound hunting data in 2025

Hunting method	Number of respondents	Proportion of respondents	Deer harvest using hound hunting per active hound hunter	Hound hunting efficiency	Deer harvest using stalking per active stalker	Stalking efficiency	Deer harvest per active hunter	Hunting efficiency
Both hound hunting and stalking	44	0.03	0.9	0.33	1.2	0.46	2.2	0.39
Hound hunting only	285	0.17	1.3	0.42	NA	NA	1.3	0.42
Stalking only	239	0.14	NA	NA	1.2	0.45	1.2	0.45
Overall	568	0.33	1.2	0.41	1.2	0.45	1.3	0.43

3.6 Comparison to the Victorian deer estimate

The statewide deer monitoring program recently estimated the abundance of deer across Victorian public-tenured land from surveys conducted from 2021 to 2023 (Cally and Ramsey, 2023). Total deer abundance was estimated at 191,153 (90% CI = 146,732-255,490). The 2025 deer harvest of 158,500 estimated from telephone surveys reported here would mean that a very high proportion of the Victorian deer population was harvested, even allowing for extra deer on non-public tenured lands. If we look at the estimated harvest on public land alone (Table 23), the proportion of harvest to abundance for each main species could be sustainable. The estimated maximum removal rate¹⁴ is 0.34 for Fallow Deer, and the harvest proportion on public land was estimated at 0.27. While there isn't an estimate for Red Deer in Australia, other deer species are between 0.30-0.46 (Hone et al., 2010); however, in 2025 no Red Deer were reported harvested on public land. The overall harvest is dominated by Sambar Deer, which may be unsustainable at a harvest proportion of 0.50, given the estimated maximum removal rate is 0.40 (Hone et al., 2010). The estimated annual population growth rate of Sambar Deer in Victoria is 15% (Watter et al., 2020).

¹⁴ The estimated maximum removal rate is the maximum annual proportion of animals to remove to stop population growth.

Table 23. Comparison of statewide public land deer abundance and harvest estimates on public land

Cohort	Abundance estimate	Harvest estimate	Harvest proportion ¹⁵
Sambar	123,000	62,100	0.50
Fallow	49,000	13,000	0.27
Red	12,700	0	0.00
Total	191,200	75,100	0.29

To gain some idea of the impact false inclusions may be having on the overall deer harvest estimate, we looked at several ways of excluding data in a systematic fashion using outliers and data trimming (Figure 9). If we used a 5% trimmed mean (where we exclude the top and bottom 5% of harvest estimates) the estimated total annual harvest would be reduced by 23% to 122,500. If we removed extreme outliers (as defined by Tukey (1977)) from each survey, then the estimated total annual harvest would be reduced by 22% to 123,700. If we modelled the harvest responses to incorporate the number of hunting days, then excluding any data that was outside the 95% confidence interval the estimated total annual harvest would be reduced by 11% to 141,000. If we remove the instances of hound hunting from the general survey, we can estimate the non-hound hunting annual deer harvest and then add the hound hounding only survey estimate to get an overall deer harvest. Doing this increased the estimated total annual harvest by 10% to 174,500¹⁶.

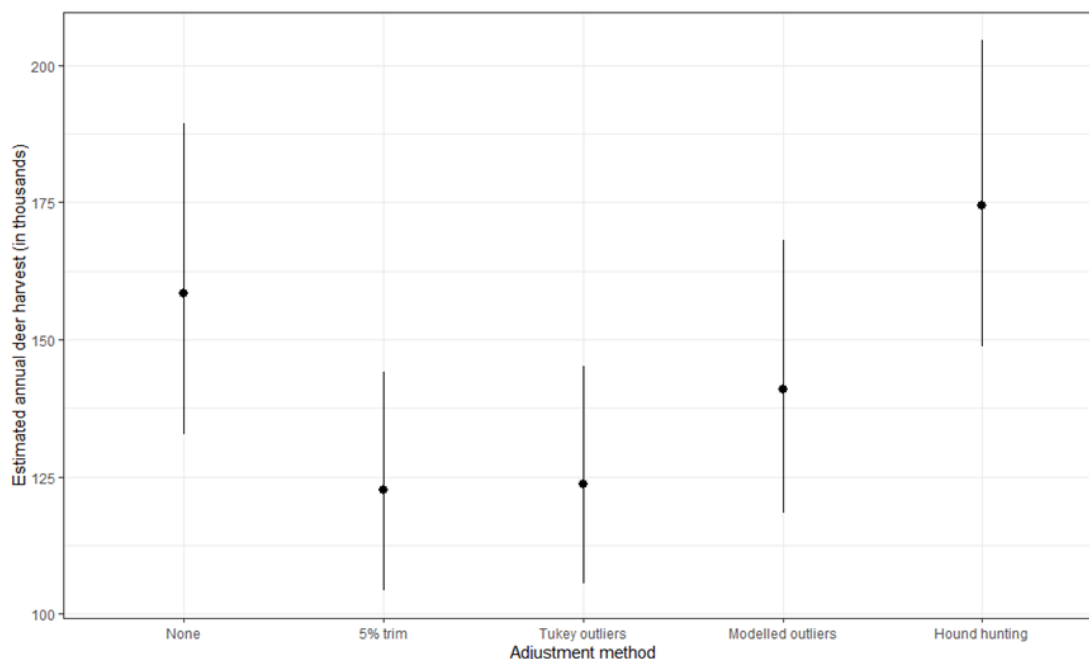


Figure 9. Estimates of total deer harvests (in thousands) in 2025 under different adjustment regimes

The point is the estimated total harvest for regime; the solid vertical line indicates the 95% confidence interval.

¹⁵ The harvest proportion is the estimated harvest divided by the estimated abundance.

¹⁶ The large increase when separating the hound hunting data is because in the 2024 general surveys only 13 respondents (<1%) said they had hound hunted in that month, for a total harvest of 8 deer (1%).

4 Discussion

4.1 Deer harvest in 2025

A total of 158,500 deer were estimated to have been harvested in Victoria during the 2025 calendar year (95% CI = 132,700–189,300). The 2025 estimate was 5% less than the 2024 estimate (167,600) and 66% greater than the average since 2009 (95,400). This is the first time the harvest estimate has declined since 2020 (the year impacted by the Black Summer bushfires and COVID-19 restrictions), and only the third time since telephone surveys commenced in 2009. Previously, the estimated Victorian deer harvest had been increasing annually at a rate of 17% (Moloney et al., 2022). The final number of Game Licence holders endorsed to hunt deer in 2025 (51,374) was the third largest recorded to date (2023 and 2024 both had just over 52,000). Taken together, it is possible that after the substantial disruption of bushfires and COVID-19, the system is stabilising.

Harvest composition by deer species was consistent with previous years, with Sambar Deer dominating the harvest, followed by Fallow Deer and Red Deer. The proportion of Hog Deer hunters remained low, and Chital and Rusa Deer are present in low numbers in Victoria. Combined, Chital or Rusa Deer harvests have only been reported in less than a third of years.

Improvements to the way the surveys are conducted have meant that the issue of ambiguous deer species and sex in harvest totals was all but eliminated since the 2023 surveys. With the regulations now exempting hand-held thermal imaging devices during the day from the spotlighting prohibition (Game Management Authority, 2024), it should be reflected in the questions, as it may account for a difference in hunter efficiency, and the higher than usual number reporting that they used spotlighting as their method of hunting.

4.2 Deer harvest using hounds in 2025

An estimated 19,900 deer were harvested using hounds in Victoria during the 2025 calendar year (95% CI = 17,600-22,400). While the 2025 harvest was higher than the average since data collection began, the dataset has only been collected for 8 years and includes years impacted by the Black Summer bushfires and COVID-19 restrictions, so it is too early for meaningful trends to be determined.

4.3 Comparing deer harvest methods in 2025

The surveys in 2025 suggest that stalking is more efficient than hound hunting in a per person sense. The overall efficiency from the general survey was 0.51 deer harvested per hunting day (Table 13) compared with the hound hunting efficiency from the hound hunter survey of 0.41 deer harvested per team member per hunting day (The square is the estimated total harvest for each season; the solid vertical line indicates the 95% confidence interval; the blue line is the average deer harvest using hounds from 2018 to 2025; the shaded area is the 95% confidence interval for the average deer harvest from 2018 to 2025).

The overall efficiency of hunters endorsed to use hounds, but that only used stalking during the survey period, was 0.45 deer per day (Table 22). These results are surprising, given that typically hound hunting (88% of hunts successful (Hampton et al., 2023)) is more efficient than stalking (6% of hunts successful (Comte et al., 2023)). As a unit, hound hunter teams are more efficient (2.3 deer per team per day), but the average team consists of 5.6 hunters.

From the demographics questions included in the survey, the proportion of hunters at each self-reported experience level and club memberships matched between the general deer hunter surveys and the deer hunter using hounds surveys.

4.4 Comparison to the Victorian deer estimate

The high harvest proportion suggest that there may be some over-estimation of the recreational deer harvest; some of the very high daily deer harvests reported may be more reasonable for a person spotlighting as part of control activities, a hound team total, or deer hunting in a different jurisdiction (e.g. New South Wales). While spotlighting of deer on private property is legal (with the permission of the landholder), it is not considered as part of the recreational deer harvest and therefore would not be included. In 2025, two respondents gave spotlighting as the method used to harvest 14 deer over 6 days. These figures were not included in the overall estimate. If the harvest given was for a team of hound hunters, then it should be scaled to reflect the harvest per hunter, but currently we don't know if respondents have given their total or the team total, so no correction can be made. If the hunting occurred in a different jurisdiction, then it should not be included in the Victorian deer harvest (no respondents gave hunting locations outside Victoria in 2025), but it is possible that some others may have been missed if the location they gave was unclear.

Currently, it is unclear which, if any, of the methods described in Section 3.6 (i.e. 5% trimmed mean, removal of extreme outliers from each survey and excluding data outside the 95% CI of the harvest responses incorporating the number of hunting days) should be used in the future to correct for outliers and misinterpretation of the questions around recreational deer hunting. However, it is clear that these discrepancies can alter the estimates (Figure 9). With extra time and the inclusion of the hunter experience levels and club membership demographic questions and the proportion of time spent on each land tenure in the end-of-season questionnaire, it may be possible to use the demographic information in the surveys to stratify the data into experience and/or club member cohorts to see how they effect the estimates. It may even be possible to change from the current design-based estimates to model-based estimates. Model-based estimates create estimates of the statistic of interest based on one or more explanatory variables (like hunter experience, hunting method, or time of year). This can result in improved precision and efficiency.

4.5 Assumptions and uncertainties

The estimates of the harvest for each deer species were derived based on the assumption that the samples of respondents were representative of the entire population of Victorian Game Licence holders endorsed to hunt deer. This assumption may have been violated due to several factors, such as the reasons for non-response [exceeded bag limit, or (conversely) did not harvest anything], memory recall (respondents not remembering their harvest), and deliberate over or under-reporting (reported numbers knowingly being reported incorrectly). Any bias due to non-response is likely to have been negligible, because the response rate for all surveys was generally above 95% (i.e. very high). Memory bias can inflate estimates of total harvest, in some cases by as much as 40% (Barker, 1991; Wright, 1978). It is likely, however, that the sampling strategy of telephone interviews after each month (or fortnight for hunting with hounds) would have ensured that both memory bias and non-response bias were kept low (compared with postal surveys and complete end-of-season surveys) (Barker, 1991; Barker et al., 1992). Nevertheless, some bias likely remains, and the estimates of total harvest should be interpreted with care.

It should be noted that the number of hunting days is only an approximate estimate of total effort. For example, a person who hunted for two hours and another person who hunted for 12 hours were both recorded as having hunted for one day.

It is important to note that the methodology explicitly accounts for the possibility that not every Game Licence holder hunts in every survey period (see Gormley and Turnbull, 2010). Therefore, the estimate of total season bag per Game Licence holder is the sum of the 'harvest per Game Licence holder', not the sum of the 'harvest per hunter'.

The uncertainty in the estimates of total harvest (as indicated by the confidence intervals) was due to two factors. First, there was variation in the reported numbers of animals harvested between respondents who had hunted (see Figure 2 and Figure 6). For example, within a given survey period, some respondents indicated that they hunted unsuccessfully, whereas others took multiple trips and indicated a total harvest of more than 5 deer during the same period. The second source of uncertainty was due to sampling hunters, rather than taking a complete census; however, the degree of sampling uncertainty was reduced by having sample sizes of 200 respondents per survey for deer.

Statistically, these sample sizes are considered adequate to provide reasonable estimates (Gormley and Turnbull, 2009).

The spatial distribution of the deer harvest should also be interpreted with care. Grouping the harvest by CMA provides a broad-scale view of the distribution of the harvest. Grouping by smaller regions would provide a finer-scale representation, but this would be at the cost of increased bias in many regions. Because the data are from a sample of Game Licence holders rather than a complete census, it is likely that some areas where hunting occurred are shown as having a zero harvest if no respondents that hunted in those areas were contacted. This would be increasingly likely at finer spatial scales. Furthermore, respondents were only asked to report the nearest town to where they hunted, not the actual location. It is therefore possible, that the nearest town was in a different CMA than the hunting location.

The analysis of Sambar Deer harvested using hounds required an assumption that the respondents were independent within a survey period, that is, the respondents within a survey were not part of the same team during that survey period. If they were, then there is a potential that we double-counted their harvest, increasing the estimated average harvest.

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Appendices

Appendix 1: Questionnaire for Game Licence holder endorsed to hunt deer

Survey details:

- 1. What is the main species of deer you hunt?**
 - a. Sambar
 - b. Fallow
 - c. Red
 - d. Rusa
 - e. Chital
 - f. Hog

- 2. What is your main hunting method?**
 - a. Stalking
 - b. Stalking with a gundog
 - c. Hound hunting
 - d. Bowhunting
 - e. Muzzle loader
 - f. Spotlighting

- 3. How would you describe your level of hunting experience?**
 - a. Novice
 - b. Beginner
 - c. Intermediate
 - d. Advanced

- 4. Are you a member of a hunting organisation? If so which one?**
 - a. Sporting Shooters Association of Australia (SSAA)
 - b. Australian Deer Association (ADA)
 - c. Victorian Hound Hunters (VHH)
 - d. Field & Game Australia (FGA)
 - e. Prefer not to say
 - f. Other _____

5. Have you hunted deer in last 4 Weeks?

- a. Yes with hounds - proceed to question 4 in the hound hunting survey
- b. Yes stalking – continue to question 6.
- c. No – end the survey and thank them for their time.

6. How many deer hunting trips were taken in the last 4 weeks?

Enter number _____

7. Starting with trip 1, how many days was this hunting trip?

Enter number _____

8. What was the number of each species of deer you harvested? Enter the number for each species)

- a. Sambar _____
- b. Fallow _____
- c. Red _____
- d. Rusa _____
- e. Chital _____
- f. Hog _____

9. Number of males of each species you harvested? (enter number of males)

- a. Sambar _____
- b. Fallow _____
- c. Red _____
- d. Rusa _____
- e. Chital _____
- f. Hog _____

10. Number of females for each species you harvested? (enter number of females)

- a. Sambar _____
- b. Fallow _____
- c. Red _____
- d. Rusa _____
- e. Chital _____
- f. Hog _____

11. Did you shoot and lose any deer? (if so, enter number and species)

- a. Sambar _____
- b. Fallow _____
- c. Red _____
- d. Rusa _____
- e. Chital _____
- f. Hog _____

12. How were the deer taken?

- a. Stalking
- b. Stalking with a gundog
- c. Bowhunting
- d. Muzzle loader
- e. Spotlighting

13. Did you hunt with a gundog on this trip?

- a. Yes
- b. No

14. What type of bullets did you use on this trip?

- a. Copper (monolithic)
- b. Lead (copper jacketed)

15. What was the nearest major town to where you hunted on this trip? Enter the name of the town. Please ensure it is a town (eg, Bairnsdale) and not a region (eg, Gippsland)

Enter town name _____

16. Did you hunt predominantly on private land or public land on this hunting trip?

- a. Public Land
- b. Private land

Repeat questions 7-16 for each trip taken.

Appendix 2: Questionnaire for Game Licence holder endorsed to hunt deer using hounds

Survey details:

- 1. How would you describe your level of hunting experience?**
 - a. Novice
 - b. Beginner
 - c. Intermediate
 - d. Advanced

- 2. Are you a member of a hunting organisation? If so which ones?**
 - a. Sporting Shooters Association of Australia (SSAA)
 - b. Australian Deer Association (ADA)
 - c. Victorian Hound Hunters (VHH)
 - d. Field & Game Australia (FGA)
 - e. Prefer not to say
 - f. Other _____

- 3. Have you been hound hunting in the last two weeks? If 'yes', proceed to question 4. If 'No', end the survey and thank them for their time.**

- 4. How many hound hunting trips have you been on in the last 4 weeks?**
Enter number _____

- 5. Starting with trip 1, how many days was of this hunting trip?**
Enter number _____

- 6. How many hunters were in your team on this trip?**
Enter number _____

- 7. How many deer did your team harvest on this hunting trip?**
Enter number _____

- 8. How many deer did you personally (not your team) harvest on this hunting trip?**
Enter number _____

- 9. Number of male deer (stags/bucks) that you harvested**
Enter number _____

- 10. Number of female deer (hinds/does) that you harvested**
Enter number _____

- 11. Did you shoot and lose any deer? (if so, how many?)**
Enter number _____

12. Did you use copper or lead bullets on this trip?

- a. Copper (monolithic)
- b. Lead (copper jacketed)

13. What was the nearest major town to where you hunted? Enter the name of the town. Please ensure it is a town (eg, Bairnsdale) and not a region (eg, Gippsland)

Enter town name _____

14. Did you hunt predominantly on private land or public land on this hunting trip?

- a. Public
- b. Private

Repeat questions 5-14 for each hound hunting trip taken

15. Have you been deer hunting without hounds in the past four weeks? If 'Yes', proceed to question 6 of the Deer Hunting (stalking) survey. If 'No', end the survey and thank them for their time.

Appendix 3: Definitions and calculations

Common definitions used

SD = standard deviation of the data; it represents the variation in the numbers reported.

SE = standard error of the mean; it represents the variation in the estimated mean.

CV = coefficient of variation; it is calculated as: $CV = SE \div \text{mean}$. This provides an indication as to how much uncertainty is in the estimate relative to the mean.

Calculations

For each survey j , we surveyed n_j respondents, of which h_j had hunted. The proportion of respondents who hunted in each period j is given by:

$$p_j = \frac{h_j}{n_j} \text{ e.g. for Deer Survey 4 in 2015, we obtained: } \frac{70}{200} = 0.350.$$

The total number of hunters for each survey period (H_j) was estimated by multiplying the total number of licence holders (L) by the proportion of respondents who reported having hunted during that survey period (p_j), as found previously:

$$H_j = p_j L \quad \text{e.g. for Deer Survey 4 in 2015, we obtained: } 0.35 \times 30,908 = 10,818.$$

The estimated average harvest per hunter (w_j) is the total reported harvest for survey j (y_j) divided by the total number of respondents who hunted (h_j):

$$w_j = \frac{y_j}{h_j} \quad \text{e.g. for Deer Survey 4 in 2015, we obtained: } \frac{215}{70} = 3.07.$$

The total harvest for each survey period (W_j) was estimated by multiplying the average harvest per hunter (w_j) by the total number of hunters (H_j):

$$W_j = w_j H_j \quad \text{e.g. for Deer Survey 4 in 2015, we obtained: } 3.07 \times 10,808 = 33,226.$$

The estimate of the total harvest was calculated as the sum of the estimated harvest for each survey period:

$$W_{TOT} = W_1 + W_2 + W_3 + W_4 + W_5 + W_6.$$

Standard errors (SEs) for the proportion of respondents who hunted are given by:

$$SE(p_j) = \sqrt{\frac{p_j(1-p_j)}{n_j}}$$

e.g. for Deer Survey 4 in 2015, we obtained: .

$$\sqrt{\frac{0.35 \times 0.65}{200}} = 0.034$$

Standard errors for the average harvest per hunter are given by:

$$SE(w_j) = \frac{SD(w_j)}{\sqrt{h_j}}$$

e.g. for Deer Survey 4 in 2015, we obtained: $\frac{4.55}{\sqrt{70}} = 0.54$.

The standard error for the total estimated harvest per survey period (W_j) was found by determining the coefficient of variation (CV) for each p_j and w_j and then calculating the square root of the sum of their squares to find the combined CV (assuming independence).

$$CV(w_j) = \frac{SE(w_j)}{w_j}, \text{ and } CV(p_j) = \frac{SE(p_j)}{p_j}$$

$$CV(W_j) = \sqrt{(CV(w_j))^2 + (CV(p_j))^2}$$

$$SE(W_j) = CV(W_j) \times W_j.$$

The standard error of the total harvest was calculated as follows:

$$SE(W_{TOT}) = \sqrt{(SE(W_1))^2 + (SE(W_2))^2 + \dots + (SE(W_6))^2}.$$

Confidence intervals were computed on the natural logarithm scale and back-transformed to ensure that lower limits were ≥ 0 . A consequence is that the confidence intervals were asymmetric and could not be reported as the estimate plus or minus a fixed value. For some estimates, denoted as, 95% confidence interval limits were calculated using:

upper limit (UL)

lower limit (LL), where:

$$r = \exp\left(1.96\sqrt{\ln(1 + CV^2)}\right),$$

e.g. for the total deer harvest in 2015 we have

$$CV = \frac{8,349}{71,142} = 0.117$$

Therefore, upper and lower confidence limits are given by:

$$UL = 71,142 \times 1.26 = 89,471$$

$$LL = 71,142 \div 1.26 = 56,567.$$

Appendix 4: Explanation of what goes into a boxplot

A boxplot is a way of displaying key points of the data and is especially good for comparing groups of data. It is sometimes referred to as a box-and-whisker plot. A boxplot shows the following key points:

- outliers, signified by hollow circles
- minimum, signified by the horizontal line below the box (smallest value, excluding outliers)
- lower quartile (Q1), signified by the horizontal line at the bottom of the box (25% of the data is at this point or below)
- median, signified by the thick horizontal line in the box (50% of the data is at this point or below)
- upper quartile (Q3), signified by the horizontal line at the top of the box (75% of the data is at this point or below)
- maximum, signified by the horizontal line above the box (largest value, excluding outliers)
- interquartile range (IQR; difference between the upper and lower quartiles)
- whiskers—the lines that go from the minimum or maximum to the box.

Outliers are values that are very large (or small) compared with the rest of the data. An outlier is defined as any point that is either below $Q1 - 1.5 \times IQR$ or above $Q3 + 1.5 \times IQR$, which means that any point that lies more than one-and-a-half times the length of the box outside the box is an outlier.

The boxplot indicates the spread of the data. The data is broken into quarters: approximately 25% of the data are in the range between a whisker and the nearest edge of the box, and approximately 25% of the data are in the range between an edge of the box and the median line. Thus, approximately half the data are contained within the box. Any unusual data are highlighted as outliers. As an example, using duck-hunting data, Figure A4.1. Example boxplot, with labels

shows a boxplot indicating that most hunters harvested between 5 and 13 ducks, and a quarter harvested between 13 and 27 ducks. A number of outliers harvested more than 27 ducks, including one who harvested over 50 ducks. Sometimes there are no whiskers, because the minimum (or maximum) is the same as the lower (or upper) quartile (see Figure 1: Diagrammatic version of the equations involved in estimating the total harvest from a survey, which indicates that at least 25% of Game Licence Holders who hunted were unsuccessful in some survey periods).

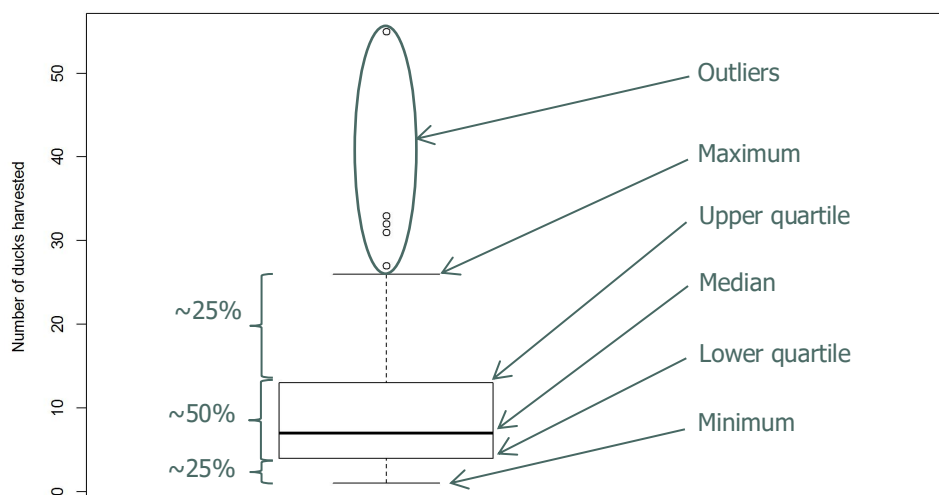


Figure A4.1. Example boxplot, with labels

Appendix 5: Harvest rates per Game Licence endorsed for hunting deer

The total average season harvest was 3.4 deer per Game Licence holder (95% CI = 2.9–4.1; Table A1). Note that, for each survey period, the average deer harvest per Game Licence holder (Table A1) was much lower than the average deer harvest per Game Licence holder who hunted (Table 3), because the former included those respondents who did not hunt during the survey period.

Table A1 Estimates of average harvest of deer per Game Licence holder in each survey period in 2025

Period	Average harvest ¹⁷	SE	95% CI	
			Lower	Upper
January	0.16	0.07	0.07	0.35
February	0.26	0.10	0.13	0.53
March	0.15	0.06	0.07	0.33
April	0.34	0.08	0.21	0.55
May	0.38	0.10	0.23	0.62
June	0.62	0.16	0.38	1.02
July	0.33	0.09	0.19	0.56
August	0.36	0.08	0.24	0.56
September	0.20	0.06	0.12	0.34
October	0.15	0.05	0.08	0.27
November	0.28	0.10	0.15	0.55
December	0.22	0.09	0.10	0.48
Total	3.45	0.31	2.89	4.12

Each Game Licence holder endorsed to hunt deer hunted an average of 6.9 days (95% CI = 6.1–7.8; Table A2) during 2025, corresponding to a total of 313,500 hunter days (95% CI = 269,700–364,400; Table 8).

¹⁷ Average harvest per Game Licence holder = Deer harvested divided by Respondents (Table 1).

Table A2. Number of days deer were hunted per Game Licence holder for 2025

Period	Days hunted	SE	95% CI	
			Lower	Upper
January	0.38	0.11	0.22	0.66
February	0.51	0.12	0.33	0.80
March	0.59	0.17	0.34	1.03
April	0.89	0.16	0.62	1.27
May	0.58	0.11	0.39	0.85
June	0.70	0.11	0.52	0.95
July	0.61	0.11	0.44	0.86
August	0.79	0.13	0.57	1.08
September	0.48	0.10	0.33	0.71
October	0.48	0.12	0.30	0.77
November	0.54	0.13	0.33	0.85
December	0.32	0.08	0.20	0.51
Total hunting days per licence holder	6.87	0.42	6.08	7.75

Appendix 6: Harvest rates per Game Licence holder using scent-trailing hounds.

The total average season harvest was 4.0 deer per Game Licence holder using scent-trailing hounds (95% CI = 3.5–4.5; Table A3). Note that, for each survey period, the average deer harvest per scent-trailing hound team member (Table A3) was much lower than the average deer harvest per Game Licence holder who hunted using scent-trailing hounds (Table 16), because the former included those respondents who did not hunt with hounds during the survey period.

Table A3. Estimates of average harvest of deer per Game Licence holder using scent-trailing hounds in each survey period in 2025

Period	Average harvest ¹⁸	SE	95% CI	
			Lower	Upper
1-14 April	0.07	0.02	0.04	0.14
15-28 April	0.16	0.04	0.10	0.26
29 April-12 May	0.22	0.05	0.15	0.34
13-26 May	0.23	0.04	0.16	0.33
27 May-9 June	0.15	0.04	0.09	0.25
10-23 June	0.29	0.06	0.19	0.45
24 June-7 July	0.22	0.05	0.14	0.34
8-21 July	0.32	0.11	0.17	0.62
22 July-4 August	0.34	0.07	0.24	0.50
5-18 August	0.30	0.06	0.20	0.45
19 August-1 September	0.45	0.09	0.30	0.66
2-15 September	0.32	0.05	0.23	0.45
16-29 September	0.32	0.07	0.21	0.48
30 September-13 October	0.20	0.05	0.13	0.31
14-27 October	0.11	0.03	0.07	0.19
28 October-10 November	0.12	0.04	0.07	0.23
11-30 November	0.14	0.06	0.06	0.29
Total	3.98	0.24	3.53	4.48

The average number of scent-trailing hound hunting days in each survey period varied throughout the season, with most hunting occurring from late autumn to mid-spring. Each Game Licence holder endorsed to hunt deer hunted an average of 9.6 days during 2025 ((95% CI = 8.6–10.8; Table A4).

¹⁸ Average harvest per Game Licence holder endorsed for using hounds.

Table A4. Number of days deer were hunted using scent-trailing hounds per Game Licence holder for 2025

Period	Days hunted	SE	95% CI	
			Lower	Upper
1-14 April	0.30	0.08	0.17	0.52
15-28 April	0.51	0.12	0.32	0.81
29 April-12 May	0.58	0.14	0.37	0.91
13-26 May	0.76	0.14	0.53	1.10
27 May-9 June	0.44	0.12	0.26	0.74
10-23 June	0.78	0.18	0.50	1.21
24 June-7 July	0.70	0.18	0.43	1.14
8-21 July	0.56	0.14	0.35	0.91
22 July-4 August	0.63	0.12	0.43	0.92
5-18 August	0.57	0.12	0.38	0.86
19 August-1 September	0.76	0.16	0.50	1.15
2-15 September	0.79	0.14	0.56	1.11
16-29 September	0.73	0.16	0.47	1.13
30 September-13 October	0.54	0.13	0.34	0.85
14-27 October	0.37	0.10	0.22	0.63
28 October-10 November	0.33	0.11	0.17	0.63
11-30 November	0.30	0.13	0.14	0.66
Total hunting days per licence holder	9.65	0.56	8.61	10.81

