

ECONOMIC CONTRIBUTION OF RECREATIONAL HUNTING AND SHOOTING TO THE TASMANIAN ECONOMY

A Report for the Department of
Natural Resources and Environment
Tasmania

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Prepared by

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ABBREVIATIONS

ABS	Australian Bureau of Statistics
ADA	Australian Deer Association
AMR	Action Market Research
CATI	Computer-Assisted Telephone Interviewing
FTE	Full-Time Equivalent
GHL	Game Hunting Licence
GSP	Gross State Product
IO	Input-Output
KIGBA	King Island Game Bird Association
NRAA	National Rifle Association of Australia
NRE Tas	Department of Natural Resources and Environment Tasmania
PPP	Property Protection Permit
RISE	Regional Industry Structure and Employment
SIFA	Shooting Industry Foundation of Australia
SSAA	Sporting Shooters Association of Australia
TCTA	Tasmanian Clay Target Association
TDAC	Tasmanian Deer Advisory Committee
TPA	Tasmanian Pistol Association
TRA	Tasmanian Rifle Association

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EXECUTIVE SUMMARY

Background

Recreational hunting and sport shooting in Tasmania includes hunting of game and pest animals mainly with firearms by Tasmanian Game Hunting Licence (GHL) holders and sport shooters who are members of shooting clubs where they shoot targets with firearms.

Recreational hunting and sport shooting activities support several types of businesses in Tasmania. These include gun and other specialist hunting/sport shooting equipment dealers (i.e. gun shops) and importers, hunting guides, taxidermists, recreational hunting and sport shooting clubs (which, beyond holding competitions provide training and some provide insurance), dog breeders and trainers, 4WD vehicle equipment retailers, vehicle repairers and dealers, camping equipment dealers, and more typical tourist services, such as food and accommodation services.

Study objectives and scope

This report presents the results of research into the economic contribution of recreational hunting and sport shooting in Tasmania. The scope of the study is limited to the expenditure on recreational hunting and sport shooting activities by recreational hunters and sport shooters that occurred in Tasmania during the 12 months prior to the survey (conducted 22 February - 15 March 2023) and the flow-on economic effects of this expenditure. Recreational hunters and sport shooters, for the purposes of this study, are persons who held a GHL and/or a firearm licence for sport shooting in 2022 (estimated at 9,760 persons). This is the economic ‘footprint’¹ of recreational hunting and shooting activity in Tasmania.

Expenditure by recreational hunters and sport shooters generates economic activity by the businesses supplying goods and services to the individual. These businesses, in turn, spend money on employees (wages) and on other businesses supplying them with goods and services, and their employees spend their wages too, and so on. Some of the money leaves the economy in the form of purchases of imported goods/services and doesn’t contribute to economic activity. The economic activity generated by the hunter/sport shooter supply chain within Tasmania is the economic contribution that is estimated in this study, measured in terms of contribution to Gross State Product (GSP) and employment.

The research does not describe the economic impact or net benefit of recreational hunting and sport shooting in Tasmania, which use other types of analysis. Neither does it include other types of costs/expenditures, e.g. by government on administration and compliance, or benefits, e.g. property protection, associated with these activities.

The study was commissioned by the Department of Natural Resources and Environment following an election commitment by the Liberal Government and was undertaken by BDO EconSearch in collaboration with Action Market Research (AMR).

¹ A contribution analysis may provide evidence, at a point in time, of the relative size of a sector in the existing economy and how much economic activity is being cycled through the economy by that sector (Watson et al. 2014). It assists in describing the importance or contribution of, in this case, recreational hunting and sport shooting in Tasmania to the Tasmanian economy.

Methods

The project team developed a survey to collect information about recreational hunters and sport shooters' expenditure 'on' and 'off-trip'. The information collected was used to model expenditure of the recreational hunting and sport shooting population within Tasmania. This expenditure profile was then used as the basis for estimating the economic contribution of this population to the Tasmanian economy.

Information about demographics and hunting and shooting motivations was also collected. The survey was made available online and supplemented with targeted telephone interviews to correct for underrepresented subpopulations in the self-selected sample. In total there were 953 fully completed responses (9.8 per cent participation rate) which, after cleaning the data, resulted in 947 usable responses. The economic contribution analysis was undertaken using a RISE input-output model of the Tasmanian economy.

Profile of hunters and sport shooters

While a broad range of people participate in recreational hunting or sport shooting in Tasmania, the most common Tasmanian hunter/shooter is over 50 years of age, male, in full-time paid employment, has a Certificate III or IV level education and earns between \$65,000 and \$156,000 per year.

The most important motivations for hunting and sport shooting were to spend time outdoors, to get food for themselves, friends and family, reduce pest species populations, to spend time with friends, and to relax and unwind.

Economic contribution

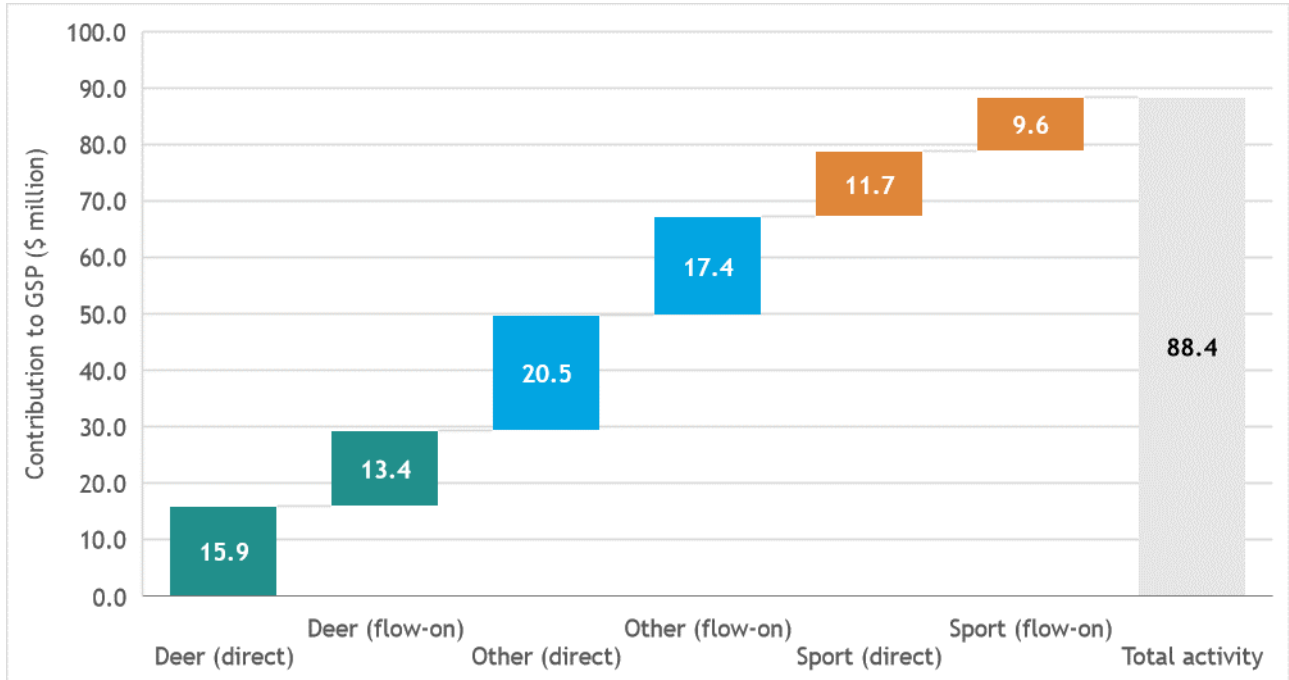
The economic contribution is reported in terms of GSP and employment (FTE jobs).

The total economic contribution of recreational hunting and sports shooting in Tasmania for 2022 was estimated to be \$88.4 million in GSP (comprising \$48.0 million direct and \$40.4 million flow-on contribution) and 676 FTE jobs (comprising 438 FTE direct and 238 FTE flow-on jobs). To give some context to these results, the total economic contribution from recreational fishing to the Tasmanian economy (notably from fishing both within and outside of the state) was an estimated \$270.0 million in GSP and 2,670 FTE jobs in 2018/19 (National Social and Economic Survey of Recreational Fishers, 2018-2021).

The contribution by deer-related hunting activity², other hunting activity and sport shooting activity is illustrated in Figure ES-1 (GSP) and Figure ES-2 (employment).

² Where hunting deer was the main reason for the activity/expenditure.

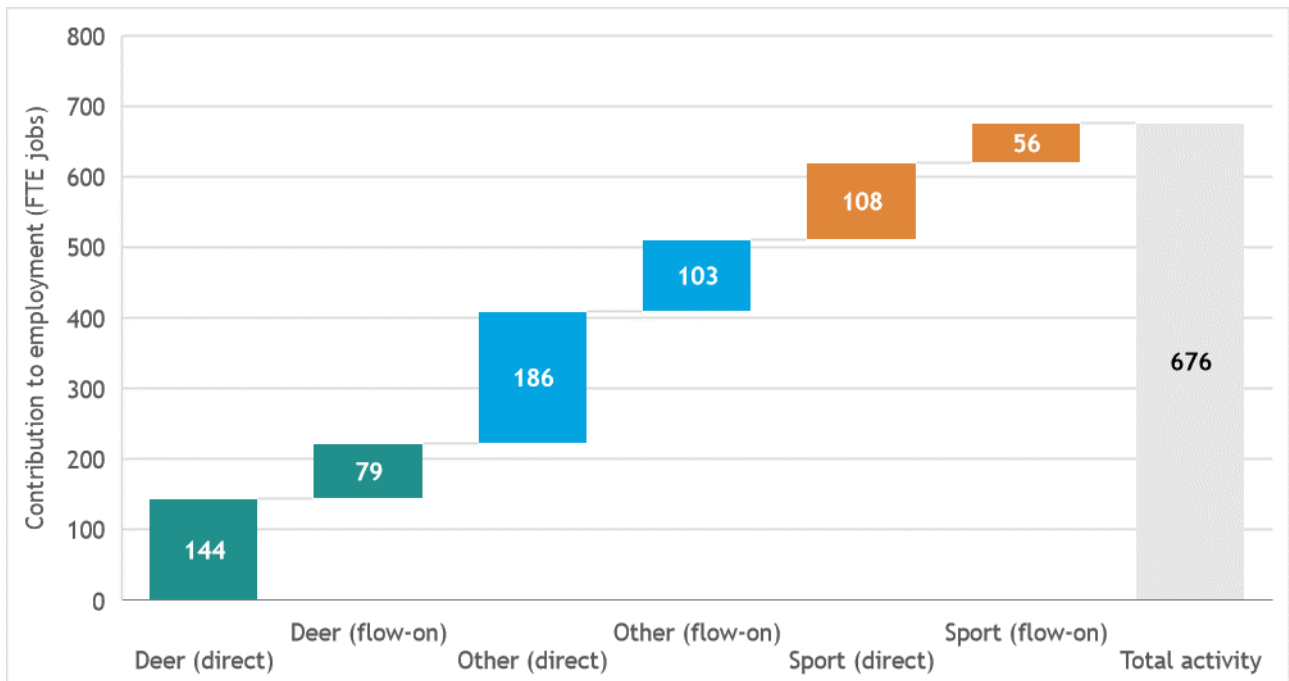
Figure ES-1 Economic contribution to Tasmania by category^a, GSP (\$m)



^a Deer = deer-related hunting activity, Other = other hunting activity, Sport = sport shooting activity

Source: BDO EconSearch analysis

Figure ES-2 Economic contribution to Tasmania by category^a, employment (FTE jobs)



^a Deer = deer-related hunting activity, Other = other hunting activity, Sport = sport shooting activity

Source: BDO EconSearch analysis

Total expenditure on recreational hunting and sports shooting in Tasmania was estimated to be \$133.5 million. Fuel was the main on-trip/competition expenditure item, closely followed by groceries, and ammunition. Firearms purchases were the main off-trip expenditure item, followed by the purchase of vehicles, and ammunition.

Expenditure, itself, is not economic contribution. Expenditure by recreational hunters and sport shooters generates economic activity by the businesses supplying goods and services to the individual. These businesses, in turn, spend money on employees (wages) and on other businesses supplying them with goods and services, and their employees spend their wages too, and so on. Some of the money leaves the economy in the form of purchases of imported goods/services and doesn't contribute to economic activity. The economic activity generated by the hunter/sport shooter supply chain within Tasmania is the economic contribution that is estimated in this study, measured in terms of contribution to GSP and employment.

1. INTRODUCTION

1.1. Background

This report presents the results of research into the economic contribution of recreational hunting and sport shooting in Tasmania. The study was commissioned by the Department of Natural Resources and Environment (NRE Tas) following an election commitment by the Liberal Government³ and was undertaken by BDO EconSearch in collaboration with Action Market Research (AMR).

Recreational hunting and sport shooting in Tasmania includes hunting of game and pest animals mainly with firearms by Tasmanian Game Hunting Licence (GHL) holders and sport shooters who are members of shooting clubs where they shoot targets with firearms. The study does not include the contribution of farmers who shoot pest animals on their properties or those that hunt for other commercial reasons. This study is focused on recreational hunting and sport shooting only within Tasmania. Recreational hunters and shooters contribute to the Tasmanian economy through their expenditure at a range of businesses across the State. The economic contribution includes hunters' and shooters' direct expenditure such as fuel, accommodation, food and drinks, and hunting/shooting equipment, as well as the flow-on effects of these purchases in the broader economy.

1.2. Scope

The scope of the study is limited to the expenditure associated with recreational hunting and sport shooting that occurred in Tasmania during the 12 months prior to the survey (conducted from 22 February to 15 March 2023) and the flow-on economic effects of this expenditure. Recreational hunters and sport shooters, for the purposes of this study, are adults who held a GHL and/or a firearm licence for sport shooting in 2022 (estimated at 9,760 persons). Further detail on the scope of the project is shown in Table 1-1.

The economic contribution is reported in terms of Gross State Product (GSP) and employment (FTE jobs). Indirect (flow-on) contribution is included. This is the economic 'footprint' of recreational hunting and sport shooting activities in Tasmania. Economic contribution results are reported in three categories: deer, other animal groups, and sport shooting.

A demographic profile of hunters and sport shooters in Tasmania according to age, gender, income, employment, and education is also included. Each characteristic is compared with the Tasmanian population. In addition to the demographic profile, a profile of hunters' and sport shooters' motivations is included.

³ Announcement by the Honourable Guy Barnett, Minister for State Development, Construction and Housing, Minister for Energy and Renewables, Minister for Veterans Affairs, Liberal Member for Lyons, 24 April 2021: <https://tas.liberal.org.au/news/2021/04/24/protecting-tasmanian-traditions>

Table 1-1 Project scope

Criteria	Scope	Out-of-scope
Type of activity	Recreational hunting by holders of a Tasmanian Game hunting licence (GHL) and sport shooters who are members of sport shooting clubs	Persons with firearm licences with other genuine reason endorsements, including professional animal control activities; commercial harvesting; animal control activities for primary production purposes with firearm licences for a primary production reason
Geography	Activity that occurs in Tasmania, by Tasmanians and interstate visitors	Activity interstate or overseas by Tasmanian residents
Timeframe	Activity between March 2022 - February 2023 inclusive (i.e. 12 months)	Activity outside of this period
Methods	Hunters: firearms and muttonbirding Shooters: target shooting with firearms	Target shooting with bows
Age	18 years and older	Under 18 years of age
Type of expenditures	All recreational hunting and sport shooting related expenditure, including expenditures to support hunting/sport shooting activity (e.g. vehicles, equipment)	When items are used for both recreational hunting/sport shooting and other purposes (e.g. vehicles), that portion of use for other purposes
Economic contribution	Economic contribution to the Tasmanian economy of the hunting and sport shooting value chain resulting from hunter/sport shooter expenditures in Tasmania	The economic contribution to other economies of the hunting and sport shooting value chain resulting from hunter/sport shooter expenditures outside Tasmania

1.3. Recreational Hunting and Shooting in Tasmania

This section explains the licensing requirements, hunting and sport shooting methods, and animal groups hunted in Tasmania.

1.3.1. Recreational hunting

In Tasmania, hunting is permitted on private or public land, provided an appropriate licence (where applicable) is held and permission to hunt has been issued by the landholder or manager. Hunters do not need a game hunting licence to hunt certain pest animals (e.g. rabbits, pigs, goats, hares, feral cats, or wild dogs).

Anybody who wants to hunt game (deer, native duck, muttonbird, wallaby, brown quail, and pheasant) for recreational purposes requires a game hunting licence. Recreational hunting by non-firearm methods is not permitted for all game and non-game animal groups, except for muttonbirding, and a current firearm licence is required⁴. Firearm licences from interstate can be used by interstate hunters. Hunters from overseas cannot use their international firearm licences and need a Tasmanian exemption permit to hunt in Tasmania. Dogs can be used while hunting to retrieve, locate, and flush quarry, but cannot be used or allowed to catch, kill or injure quarry. Their use is not permitted whilst hunting deer or muttonbirds.

⁴ Endorsed with a *recreational hunting/vermin control* genuine reason.

Game animals can be hunted using the game hunting licence during their respective open seasons. The 2022 open seasons were:

- Fallow deer - adult male deer (26 February to 3 April 2022); antlerless deer (15 March to 15 November 2022),
- Bennett's and Rufous wallabies - 21 February 2022 to 26 February 2023,
- Wild duck (Mountain duck, Wood duck, Black duck, Chestnut teal, Grey teal) - 5 March to 5 June 2022,
- Muttonbird - 2 April to 18 April 2022,
- Brown quail - 14 May to 26 June 2022, and
- Common pheasant (King Island only) - 11 to 12 June 2022 (NRE Tas 2022).

Certain wildlife species (including fallow deer) may be taken under a property protection permit⁵ (PPP) (NRE Tas 2022). PPPs are applied for and issued to landholders who can demonstrate they have suffered, or are likely to suffer, financial loss to their operations due to damage by wildlife (NRE Tas 2022). A PPP authorises a landholder to allow recreational hunters to take the species authorised on the PPP (in accordance with the permit conditions), including at night, from a vehicle or outside the hunting season for that species.

1.3.2. Sport shooting

Sport shooting involves using firearms to shoot targets. The two main types of targets are: stationary targets at a set distance and moving targets. These types of targets vary in shape, size, and material depending on the shooting discipline. Target shooting is permitted in Tasmania at approved shooting clubs. Shooting clubs are often run by various hunting and shooting associations. These associations are further described in Section 1.3.4.

To participate in sport shooting with a firearm, a person must be licensed under the *Firearms Act 1996*. To hold a firearms licence, a person must declare a genuine reason for owning a firearm, namely *sport or target shooting* and be a member of an approved shooting club. To maintain a valid firearm licence endorsement at a shooting club in Tasmania, participation requirements may need to be met.

1.3.3. Recreational hunting and sport shooting supply chain

Recreational hunting and sport shooting activities support several types of businesses in Tasmania. These include gun and other specialist hunting/sport shooting equipment dealers (i.e. gun shops) and importers, hunting guides, taxidermists, recreational hunting and sport shooting clubs (which, beyond holding competitions provide training and some provide insurance), dog breeders and trainers, 4WD vehicle equipment retailers, vehicle repairers and dealers, camping equipment dealers, and more typical tourist services, such as food and accommodation services.

Limited gun and ammunition manufacturing occurs in Australia, but not in Tasmania. Most of these items are imported into Australia (SIFA pers. comm. 2023).

⁵ Formerly known as a crop protection permit.

1.3.4. Hunting and sport shooting associations in Tasmania

There are several hunting and sport shooting associations active in Tasmania. These include:

Sporting Shooters Association of Australia (SSAA)

SSAA is a national organisation with branches in every state and territory. SSAA-TAS is the branch of the national SSAA in Tasmania. SSAA manages more than 18 disciplines, which are then usually subdivided into various competition classes. These competition classes span local, state, national, and international levels for handguns, rifles, and shotguns. SSAA supports target shooting members and promotes ethical hunting activities of members and sustainable use of wildlife. SSAA-TAS has 17 branches with range facilities, a Working Gundogs branch and a number of affiliated hunting clubs around Tasmania.

Tasmanian Rifle Association (TRA)

The TRA is the peak body of an association of Tasmanian rifle clubs. The TRA is the peak body for full-bore target rifle shooting in Tasmania and is a member body of the National Rifle Association of Australia (NRAA). The clubs foster safe, responsible, and legal target rifle shooting in Tasmania.

Tasmanian Clay Target Association (TCTA)

The TCTA is responsible for administering, promoting, and developing clay target shooting in Tasmania. Tasmania has nine active clay target clubs: two in the South, four in the North, and three in the Northwest.

Tasmanian Pistol Association (TPA)

TPA is affiliated with Pistol Australia and provides members a pathway through affiliated local pistol clubs for selection in target pistol shooting teams to represent Australia at the Olympic Games, Commonwealth Games, and other international target pistol shooting competitions.

Australian Deer Association (ADA)

ADA is a national organisation which advocates for wild deer herds and deer hunting. Its primary objective is to raise the status of deer in Australia and encourage appropriate management of free ranging deer populations in Australia. The ADA operates on a membership basis and supports safe, responsible, and ethical deer hunting. The ADA has three branches in Tasmania.

Field & Game Australia

Field and Game is a national voluntary member organisation for conservation, hunting, and clay target sports. The organisation is focused on: the preservation of wetland habitats, pest animal hunting, hunter-assisted waterfowl research, simulated field clay target shooting, and advocacy and engagement with government. There are 69 branches across Australia with most branches located in Victoria (51). Branches hold a range of shooting and hunting events each year.

Tasmanian Deer Advisory Committee (TDAC)

The TDAC is an umbrella organisation made up of representatives of organisations with an interest in deer management and hunting and includes the SSAA, Field and Game Australia and ADA as well as landholder groups such as the Tasmanian Farmers and Graziers Association. It aims to help develop and promote the adoption of an appropriate management program for wild fallow deer in Tasmania and actively promotes the role of ethical hunting.



Other

Also based in Tasmania with an active membership are the **North-west Hound Owners Association**, **King Island Game Bird Association (KIGBA)** and **Field Hunting & Conservation Tasmania** organisations.

2. METHOD AND DATA

This section describes the research method to collect the expenditure, demographic and motivation data; and the concepts, indicators and methods used to estimate economic contribution.

2.1. Survey Method and Response

To model the economic contribution of hunting and sport shooting, it was necessary to first determine hunting and sport shooting-related expenditure. A survey of hunters and sport shooters was conducted to gain a detailed profile of their activity and expenditure in Tasmania over a 12-month period.

2.1.1. Survey design

The survey was designed to collect information on recreational hunting and sport shooting expenditure, motivations for hunting/shooting, and hunter/shooter demographics. It built on previous surveys collecting similar data in Victoria and New South Wales.

The questionnaire was developed in collaboration with a steering committee⁶ convened for this study and covered the following themes:

- Activities: Who goes hunting and shooting? For how many trips and competitions? What are they trying to hunt?
- Expenditures: What do they spend money on while on trips or at competitions and while not on trips/competitions? How much do they spend? Where are the businesses they purchase from located? Are the expenditures fully attributable to recreational hunting/shooting or only partially?
- Social aspects: What motivates them to go hunting/shooting?

All 2022 Tasmanian GHF holders were invited to participate in the survey. To reach sport shooters who do not hunt, hunting and sport shooting associations in Tasmania were engaged.

The survey was principally conducted as an online survey, with a small number of surveys completed by phone interview (CATI). The survey was programmed and hosted internally by AMR. At regular intervals during the fieldwork phase, the data were reviewed to ensure the logic was accurate and the responses collected were valid.

2.1.2. Survey fieldwork

A total of eleven associations were invited to participate in a pilot survey to test the flow and appropriateness of the survey questions. Eight associations elected to participate and, of these, three pilot interviewees provided some feedback regarding the content and structure of the survey. This feedback was addressed, and the questionnaire amended as appropriate before the survey was distributed more broadly. All pilot feedback was reviewed and agreed on by the steering committee before fieldwork was approved for main launch. The associations that contributed to the pilot survey were:

- Australian Deer Association;
- Field & Game Australia;

⁶ Which included representatives from NRE Tas, SSAA (Tasmanian branch), ADA, and TDAC.

- Field Hunting & Conservation;
- NW Hound Owners;
- Sports Shooters Association of Australia - Tasmania;
- Tasmanian Clay Target Association;
- Tasmanian Deer Advisory Committee; and
- Game Services Tasmania.

The database of GHL holders was provided to AMR for the purposes of email dispatch and CATI top-up. All emails in the database were sent invitations and reminders, with the email containing a unique survey link for each respondent. This was done to ensure that anyone who either completed the survey or opted out could be removed from the reminder emails.

In addition to this, the email contained a generic link which the respondent was able to provide to other hunters to increase participation. This generic link and a QR code (developed into a poster as well as a social media post) was also provided to various hunting organisations by the steering committee for them to promote to their members. NRE Tas advertised the project via email correspondence to their licence holders, a website update, and a press release from the Minister for Primary Industries and Water that was published about the research to enhance the validity of the research. The study was also publicised by an advertisement in the NRE Tas publication *Game Tracks* which is provided to hunters when they purchase their hunting licence.

The survey was open between 22 February and 15 March 2023 and the average time taken to complete the survey was 13 minutes.

2.1.3. Survey response

The survey received a significantly higher than anticipated completion rate. In total, 953 surveys were completed representing a 9.8 per cent participation rate from the population of Tasmanian GHL holders and recreational sport shooters (comprising 9,762 people). After analysing results and cleaning survey data, 947 responses were able to be used when estimating population economic contribution figures.

Surveys were mainly completed via the online survey link. The online surveys were supplemented by 15 CATI top-ups to ensure appropriate representation of muttonbird harvesters. Another 12 partially completed surveys were completed via CATI. The majority of completed surveys came from the database of licensed hunters, however there were approximately 300 completed surveys via the opt-in generic link, and more than 1,200 clicks on the generic link.

Most respondents were hunters and shooters residing in Tasmania (95 per cent) while 5 per cent of respondents were residents of another state or territory in Australia (Table 2-1).

Table 2-1 Location of game hunting licence holders and other recreational hunters

Location	Survey sample (n = 947)	Proportion
Tasmania	900	95.0%
Another state or territory in Australia	47	5.0%

Source: BDO EconSearch analysis

Of the 947 respondents to the survey, 927 were GHL holders (97.9 per cent). Of these 927 GHL holders, 496 individuals (52.4 per cent) exclusively hunt while 431 individuals (45.5 per cent) also sport shoot (Table 2-2).

Within the GHL hunter group in the survey, 11 respondents were endorsed for muttonbirding only, and the remainder were endorsed for other game (including 33 respondents who had muttonbird endorsements in addition to one or more endorsements for other game). There were 20 respondents who only sport shoot (Table 2-2).

Table 2-2 Survey respondent groups

Location	Survey sample (n = 947)	Proportion
Game hunting licence holders	496	52.4%
<i>Endorsed for other game</i>	485	51.2%
<i>Endorsed for muttonbirds only</i>	11	1.2%
Sport shooting firearm licence holders	451	47.6%
<i>Hunt and sport shoot</i>	431	45.5%
<i>Sport shoot only</i>	20	2.1%
Total hunting and shooting sample	947	100.0%

Source: BDO EconSearch analysis

Across the GHL respondents, there was adequate representation across all the game animal groups. As can be seen in Table 2-3, there is considerable overlap between animal groups hunted, with an average of two endorsements per licence. The largest response was from wallaby hunters (90.5 per cent of respondents), followed by deer hunters (83.4 per cent of respondents) (Table 2-3).

Table 2-3 Game animals

Animal group	Survey sample (n = 894)	Proportion
Brown Quail	49	5.5%
Deer	746	83.4%
Muttonbird	50	5.6%
Pheasant	28	3.1%
Wallaby	809	90.5%
Wild Duck	178	19.9%
Total	1,860	208.1%

Source: BDO EconSearch analysis

2.2. Economic Indicators and Concepts

Economic contribution: measures the economic footprint of recreational hunting and sport shooting in the Tasmanian economy. An economic contributions analysis will answer the question ‘What is the contribution or importance of the industry to national, state and/or regional economies and communities?’. It is generally undertaken within a modelling framework such as a standard input-output model, with the purpose being

to determine how much direct and in-direct economic activity is associated with the industry. A contribution analysis may provide evidence of the relative size of a sector in the existing economy and how much economic activity is being cycled through the economy by that industry (Watson et al. 2014).

The estimates of economic contribution presented are generated by an extension of the conventional input-output (IO) method known as the RISE model (Regional Industry Structure and Employment) developed by BDO EconSearch.

The key economic activity indicators modelled in the study are gross state product and employment.

Gross state product (GSP): GSP is a measure of the contribution of an activity to the state economy. GSP is measured as the value of expenditure less the cost of goods and services (including imports) used in producing the output. It represents payments to the primary inputs of production (labour, capital, and land). Using GSP as a measure of economic contribution avoids the problem of double counting that may arise from using only value of expenditure for this purpose.

Employment: Employment numbers are reported in full time equivalent (FTE) units. FTE is a way to measure a worker's involvement in a project/economic activity. An FTE of 1.0 means that the person is equivalent to a full-time worker, while an FTE of 0.5 indicates that the worker works half-time hours.

Estimates of economic contribution are presented in this study in terms of:

- direct contribution;
- flow-on (or indirect) contribution; and
- total contribution.

Direct contributions are the initial round of effects (i.e. employment and GSP) generated by hunter/shooter expenditure.

Flow-on (or indirect) contributions are the sum of production-induced effects and consumption-induced effects. Production-induced effects are additional employment and GSP resulting from re-spending by firms (e.g. gun shops, recreational hunting and sport shooting clubs, etc.) that receive payments from the sale of goods and services to hunters/shooters. Consumption-induced effects are additional employment, household income and GSP resulting from re-spending by households that receive income from employment in direct and indirect activities.

Total contributions are the sum of direct and flow-on (indirect) contributions.

2.3. Economic Contribution Method

The first step in calculating economic contribution was to develop expenditure estimates for the recreational hunting and sport shooting population in Tasmania. The expenditure estimates include both how much hunters and shooters spend on recreational hunting trips or sport shooting competitions (e.g. fuel, ammunition, food) and items to support their hunting and shooting activities (e.g. equipment, training).

Estimation of expenditure required some data cleaning and adjustment, estimating the on-trip and off-trip⁷ expenditures by hunting and shooting activity and scaling that expenditure from the survey sample to the population. As someone could be a hunter and sport shooter, an on-trip expenditure profile was asked

⁷ That is, activities to support their hunting and shooting activities.

separately for a recent hunting trip and a recent sport shooting competition. Also, given the importance of deer hunting in Tasmania, a distinction was made to apportion the number of hunting trips attributable to deer being the main animal group of interest⁸. Accordingly, on-trip and off-trip expenditure was reported under the following three categories:

- Hunting expenditure attributable to deer-related hunting activity;
- Hunting expenditure attributable to any animal groups other than deer (includes muttonbird harvesting); and
- All sport shooting-related expenditure.

These aggregated expenditure data were then converted from purchasers' prices to basic prices by reallocating net taxes, retail and transport margins and removing imports.

The closing adjustment to the aggregate expenditure data was allocating them to the relevant IO sectors (78 intermediate sectors or other value added) in which the expenditure occurred, compiling a final demand profile ready for input into the economic contribution estimation models.

2.3.1. Estimation of expenditure

To estimate total annual expenditure from the survey, the following data processing steps were undertaken:

- Step 1. Data cleaning and adjustment
- Step 2. Estimation of on-trip and off-trip expenditure by hunting and shooting activity
- Step 3. Estimation of the recreational hunting and sport shooting population
- Step 4. Scaling the expenditure from the survey sample to the population.

Each step is explained in detail below.

Step 1. Data cleaning and adjustment

There were several instances where the responses were accepted as ranges, but where a single value was required for the analysis (see Appendix 1). Initially, mid-point values were used to represent the data range. In the case where a range was specified as a value or higher (e.g. '\$1,001 or higher'), a conservative assumption was made by using the lower bound (i.e. \$1,001 in the example).

Checks were undertaken to confirm the expenditure amounts provided in the survey were reasonable. Typical expenditures and upper limiting amounts were confirmed with members of the steering committee. The time of survey coincided with higher levels of hunting activity for certain animal groups as some hunting seasons had recently commenced (highlighted in Section 1.3.1). It is possible that while expenditure figures provided for an individual's 'most recent trip' were likely correct, some of these expenditure amounts would be carried over multiple trips rather than be spent again for every trip (e.g. fees to landowners could be spent at the start of a hunting season and carried over remaining trips). Details of specific expenditure caps are provided in Appendix Table 2-1.

Hunting trips and shooting competitions were also capped to a maximum of 50 each. Based on the assumption that realistically an individual could go on a maximum of one hunting trip and one shooting

⁸ That is, where hunting deer was the main reason for the hunting trip.

competition trip per week every week of the year excluding significant public holiday periods. This affected 74 individual responses.

A final check comparing individual's reported total income and total expenditure on all hunting/shooting (on-trip and off-trip) activities was carried out. Where an individual's total expenditure exceeded their total income, it was adjusted in line with the sample average expenditure for their income band. This affected 18 responses.

There were typically less than 20 responses, for any one item, that a cap was applied to.

Step 2. Estimation of on-trip and off-trip expenditure by hunting and shooting activity

The purpose of this step was to summarise sport shooting expenditure and allocate hunting expenditure by hunted animal group (non-deer and deer-related hunting activity).

For on-trip expenditure, survey data were collected about each respondent's last hunting trip and shooting competition, including expenditure items, location of expenditure⁹, and amounts. Data were also collected on the total number of shooting competitions and recreational hunting trips they took in Tasmania in the last 12 months and the breakdown of those recreational hunting trips by animal group hunted. Expenditure data, from respondents' last trip and competition, were extrapolated to all the trips and competitions respondents took in the last 12 months. This was done by assuming that each trip and competition in the last 12 months was similar to the most recent trip and competition. Expenditures were excluded where they occurred outside Tasmania or where individuals were unable to remember the origin of expenditure.

For off-trip/competition expenditure, survey data were collected about respondents' expenditures and where they occurred. Expenditure on items used for purposes other than recreational hunting or sport shooting only was adjusted by the proportion of use on hunting/shooting activities, as indicated by respondents, for each item. Active respondents' off-trip expenditure was apportioned according to the proportion of hunting trips and shooting competitions they recorded, while inactive respondents' off-trip expenditure was distributed evenly between their expected hunting and shooting activities over the next 12 months. Expenditures were excluded where they occurred outside Tasmania. Certain items were further weighted between hunting and sport shooting (details are provided in Appendix Table 2-2).

Step 3. Estimation of the recreational hunting and sport shooting population

The first step was to estimate the total in-scope recreational hunting and sport shooting population and then the second step was to subdivide that population into GHL hunters, sport shooting firearms licence holders, and individuals with a firearms licence that sport shoot and/or recreationally hunt. These population estimates are summarised in Figure 2-1.

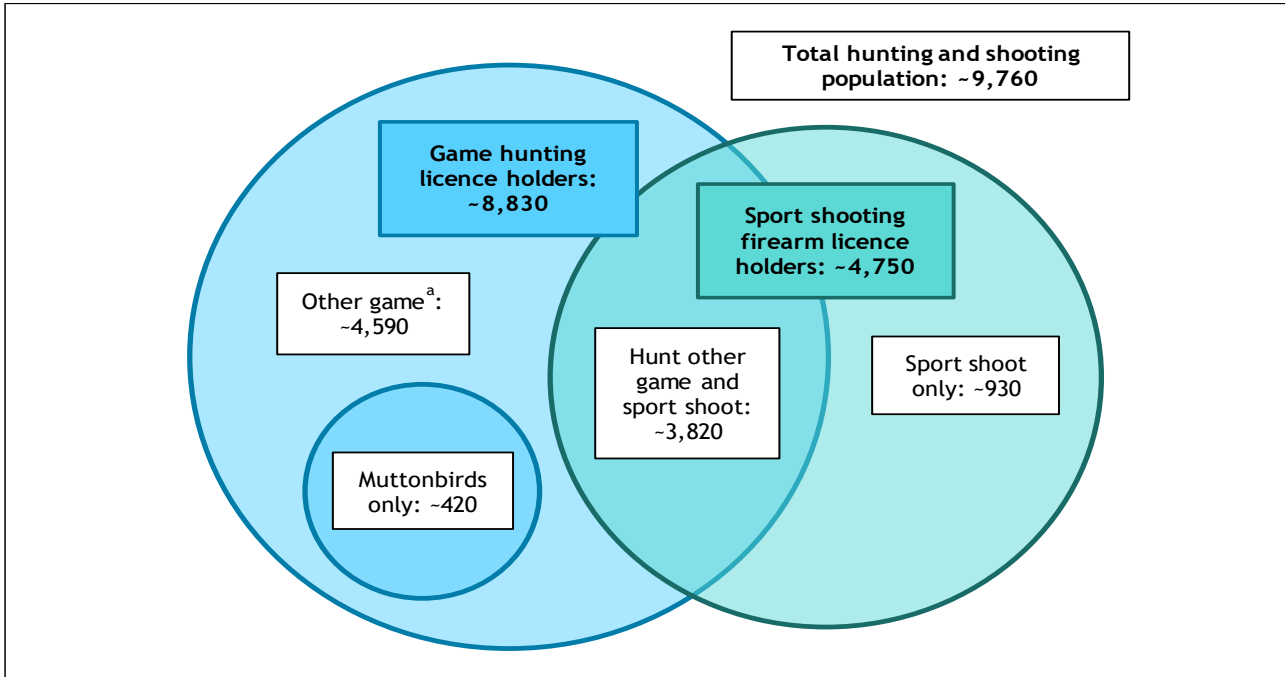
The total population of sport shooters with firearms endorsed for sport shooting purposes was reported as approximately 4,750 firearm licence holders (Department of Police, Fire and Emergency Management 2023). Of these, approximately 930 licence holders are endorsed for sport shooting activities only.

The total population of recreational hunters with a game hunting licence was approximately 8,830 individuals in 2022. Of these, the hunting population that is only endorsed to recreationally harvest muttonbirds was approximately 420 persons. These statistics were provided by Game Services Tasmania, NRE Tas.

⁹ That is, within Tasmania or interstate/overseas.

The total recreational hunting and sport shooting population in-scope of approximately 9,760 persons was estimated as the total GHL hunter sub-population (approximately 8,830 persons) plus the sport shooting firearm licence holder sub-population (around 4,750 persons) less the overlap between the two groups (approximately 3,820 persons).

Figure 2-1 Recreational hunting and sport shooting population in Tasmania



^a Includes game licence holders endorsed for muttonbirds and other game

Sources: NRE Tas, Department of Police, Fire and Emergency Management 2023 and BDO EconSearch analysis

Step 4. Scaling the expenditure from the survey sample to the population

Given four distinct groupings of recreational hunters and sport shooters (see Figure 2-1), survey data were analysed to determine the level of detail achievable in the process of scaling up to the population. The characteristics determined to affect the on-trip and off-trip expenditure profiles of an individual include gender, age, and hunting/shooting activity. As most of these characteristics were not known for the total population of sport shooters, the only distinction drawn between this group was whether the individual only partook in sport shooting competitions or also recreationally hunted. Accordingly, expenditure from the survey sample was scaled to the following three population groups, each of which is detailed further below:

- Individuals with a game hunting licence endorsed for muttonbirding only;
- Individuals who have firearms with sport-shooting genuine reason endorsement only; and
- Individuals with a game hunting licence endorsed for animal groups other than just muttonbirds who have firearms with recreational hunting genuine reason endorsement. These individuals may or may not also have sport-shooting genuine reason endorsement on their firearm licences too.

Individuals with a game hunting licence endorsed for muttonbirding only

Out of a sub-population of approximately 420 individuals, the survey sample captured 11 responses. Of the 11 responses, nine respondents were active (i.e. had at least one recreational hunting trip in the last 12 months) and two respondents were inactive. Their active/inactive status corresponded reasonably with that

of the sub-population (94 per cent active) and a relatively homogenous spending pattern within this sub-population is expected, so despite a small sample size it was assumed to be reasonably representative of this small sub-population. Respondent numbers were too small to use age and gender, so a simple weighting as a proportion of population size was used (providing an average weight for individuals with a GHL endorsed for muttonbirding only of 38.3).

Individuals without a game hunting licence who have firearms with sport-shooting genuine reason endorsement only

Out of an estimated population of approximately 930 individuals, the survey sample captured 20 responses (all active as expected¹⁰, Section 1.3.2).

Given this subpopulation had one characteristic determinant with only one possible option (active), the survey sample was scaled up through a simple weighting as a proportion of population size (providing a weight for individuals that solely sport shoot of 46.6).

Individuals with a game hunting licence endorsed for animal groups other than just muttonbirds

Information regarding the characteristics of GHL holders was drawn from an anonymised extract of the Tasmanian game licence database provided by NRE Tas for this project. The data were analysed to estimate the number of GHL holders endorsed to hunt each animal group (including wallaby, muttonbird, pheasant, brown quail, deer, and wild duck) for each gender and each age group as enumerated in the survey (see A1 and A2 of the survey questionnaire, Appendix 1). The population of individuals with a GHL was further split into active (i.e. have hunted in the last 12 months) and non-active hunters (i.e. have not hunted in the last 12 months). This is an important characteristic as the expenditure of an active hunter is typically higher than the expenditure of a non-active hunter. The proportion of inactive GHL hunters was estimated based on the number of GHL holders returning nil take across all animal groups for 2022 (data were provided by NRE Tas). Table 2-4 provides a comparison of the survey sample to the Tasmanian GHL holder population endorsed to hunt animal groups other than just muttonbirds.

Table 2-4 Game licence holders - survey sample vs population

Characteristic	Survey sample (n = 894)	Population (n = 8,409)
Proportion active	96%	82%
Proportion under 60 years old	77%	68%
Proportion male	93%	93%

Source: BDO EconSearch analysis

Of the 894 responses included in the analysis, 96 per cent had gone on at least one recreational hunting trip in the last twelve months (active). As described earlier (see Table 2-4, where 96 per cent of sample were active compared with a population active rate of 82 per cent), the survey sample was not random, therefore self-selection bias was expected to skew the results to over represent hunters who are active. The survey sample of active and inactive hunters was sufficient to weight individual responses to match the population level of activity, gender, and age distributions for that group. Assuming these characteristics are correlated

¹⁰ A requirement of maintaining a firearm licence for sport shooting reasons is to be a member of an approved sport shooting club, which require their members to attend at least one shooting competition a year.

with recreational hunting behaviour, this provides a better estimate of population level activity than simply weighting each response by the ratio of population size to sample size.

It is also important to note that this subpopulation consisted of individuals that also sport shoot alongside their hunting activities. Due to limited data characterising hunters that also sport shoot versus individuals that exclusively hunt, these subpopulations could not be split. However, given around 3,820 hunters with a GHL also sport shoot (representing 45.4 per cent of the subpopulation, Figure 2-1), and given a similar 431 individuals in the survey that both hunt with a GHL and sport shoot (representing 47.1 per cent of the survey sample subpopulation, Table 2-2), it was determined that the survey sample is representative of the population and that weights assigned according to demographic characteristics of hunters would also reflect expenditure patterns in sport shooting expenditure.

The generalised regression method, described by Bethlehem and Keller (1987), was used to weight responses. Weighting was carried out using the GREGWT package in R, initially developed by the Australian Bureau of Statistics (ABS) to weight household surveys (ABS 2000), that has since been applied by the ABS to other industry and household surveys (ABS 2016, 2017a, b). The resulting average weight applied to the sample of individuals with a GHL endorsed for animal groups other than just muttonbirds was 9.3.

2.3.2. Final demand profile

In economic modelling terms, expenditure by hunters/shooters is referred to as final demand. When the expenditure is disaggregated by industry sector (retail, restaurants, accommodation, etc.) and converted from ‘purchasers’ prices’, into ‘basic prices’ it is referred to as a final demand profile.

The conversion of expenditure estimates from purchasers’ (i.e. what hunters/shooters pay) to basic prices (i.e. what producers, service providers, and other businesses receive) was as follows.

Net taxes (taxes minus subsidies) and retail and transport margins were reallocated to make the data consistent with accounting conventions used in the RISE model (see Section 2.2). Purchasers to basic price ratios were derived from 2022 ABS data. This process ensured that margins, such as retail and transport margins, were allocated to the appropriate sectors, taxes were properly identified, and that imports were not included as part of the economic contribution estimation process.

The final adjustment to the base data was allocation of expenditure data in basic prices to the relevant IO sectors (78 intermediate sectors, other value added) in which the expenditure occurred, thus compiling a profile of sales to final demand. This process was undertaken for the three different expenditure categories (outlined in Section 2.3) and the results aggregated to form a single final demand profile for the state.

2.3.3. RISE economic model

The economic contribution results quantify the footprint of recreational hunting and sport shooting in the Tasmanian economy. A 2020/21 financial year RISE model of the Tasmanian economy was used for this analysis.

The magnitude of various expenditures and where they occur (gathered from the survey) is fed into the RISE model by the final demand profile. Also needed is information on how the sectors receiving this expenditure share their expenditures among the various sectors from whom they buy, and so on, for the further expenditure rounds. The RISE model provides industry multipliers in terms of employment (FTE jobs) and gross state product (GSP), which are applied directly to expenditure estimates to formulate economic contribution estimates.

3. PROFILE OF HUNTERS AND SPORT SHOOTERS

The demographic characteristics of Tasmanian hunters and shooters are detailed in this section. This report is informed by 947 survey responses that reported on expenditure and demographic data. Data on age and gender were sourced from the anonymised 2022 GHL data provided for this study. It was not possible to access the equivalent data from the firearms registry. This means that only licensed hunters are included in the age and gender components of the demographic profile, however these profiles use population level data. In all other cases the data are based on weighted survey responses, meaning that the results are broadly representative of the recreational hunting and sport shooting population.

While a broad range of people participate in recreational hunting and sport shooting in Tasmania, the most common Tasmanian hunter/shooter is over 50 years of age, male, in full-time paid employment, has a Certificate III or IV level education and earns between \$65,000 and \$155,999 per year.

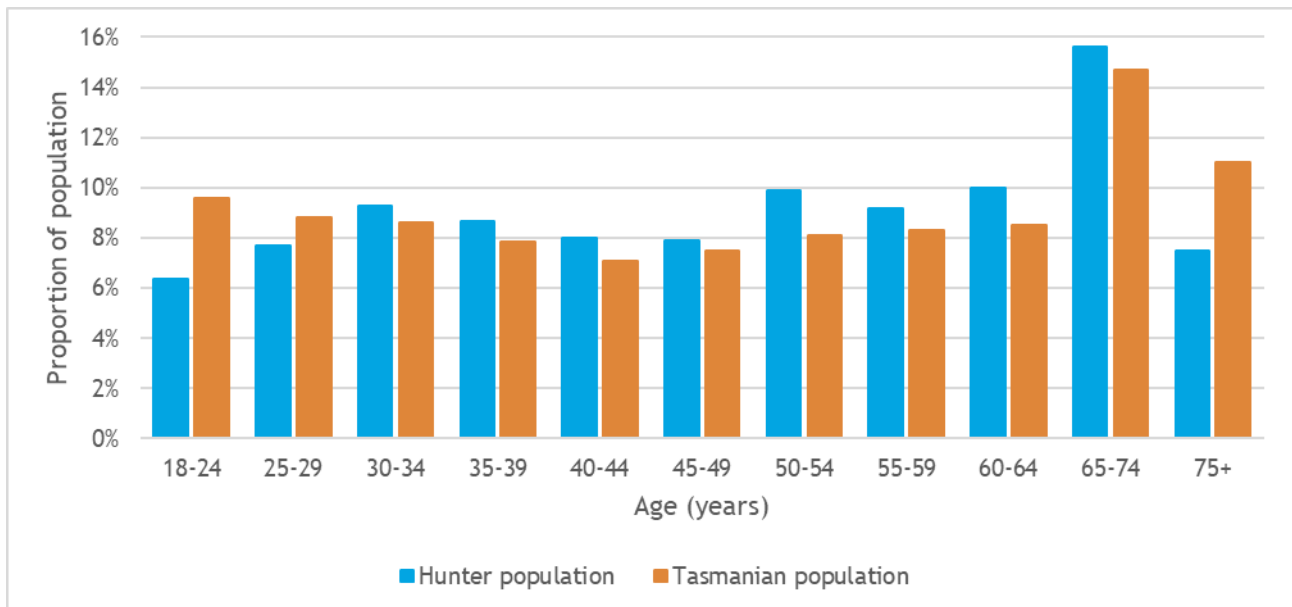
3.1. Demographic Profile

The demographic characteristics of Tasmanian hunters and shooters are described below. The results are generated from the weighted data set and are therefore representative of the population of hunters and shooters in Tasmania.

Age

The age distribution of Tasmanian GHL holders is shown in Figure 3-1. The figure compares the Tasmanian hunting population with the general Tasmanian population.

Figure 3-1 Age distribution, Tasmanian hunters compared with Tasmanian population



Sources: NRE Tas, ABS 2022 and BDO EconSearch analysis

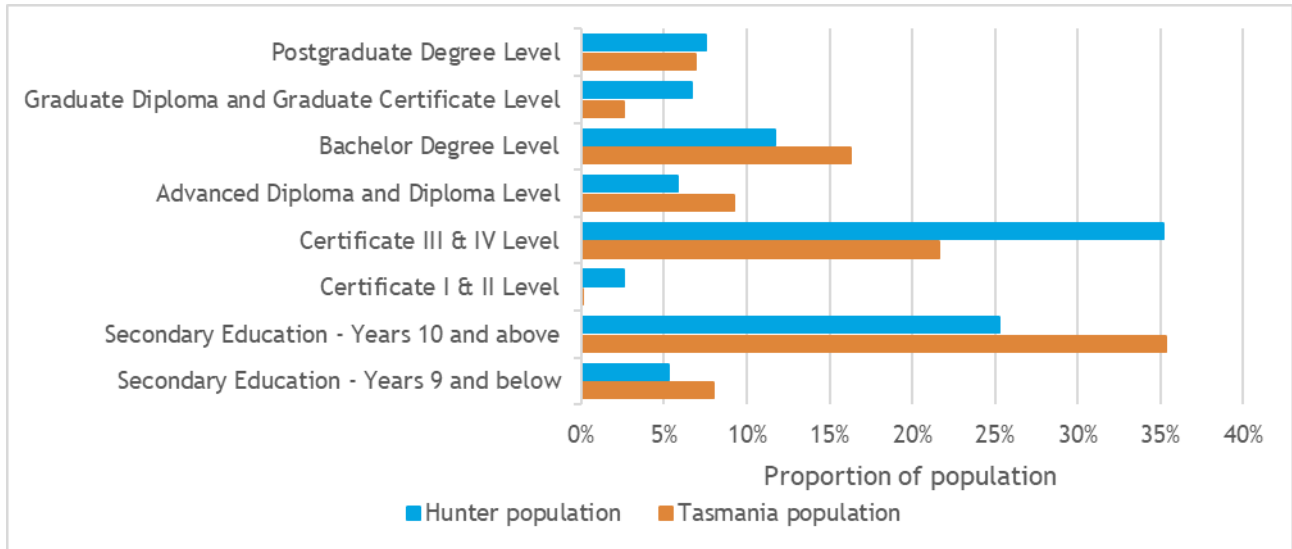
Gender

Men make up 92.4 per cent of the population of Tasmanian GHL holders, while 7.6 per cent are women.

Educational attainment

Educational attainment varied across respondents with 69.5 per cent indicating that they had completed a post-school qualification such as a certificate, diploma or university degree.

Figure 3-2 Level of educational attainment distribution, Tasmanian hunters and shooters compared with Tasmanian population

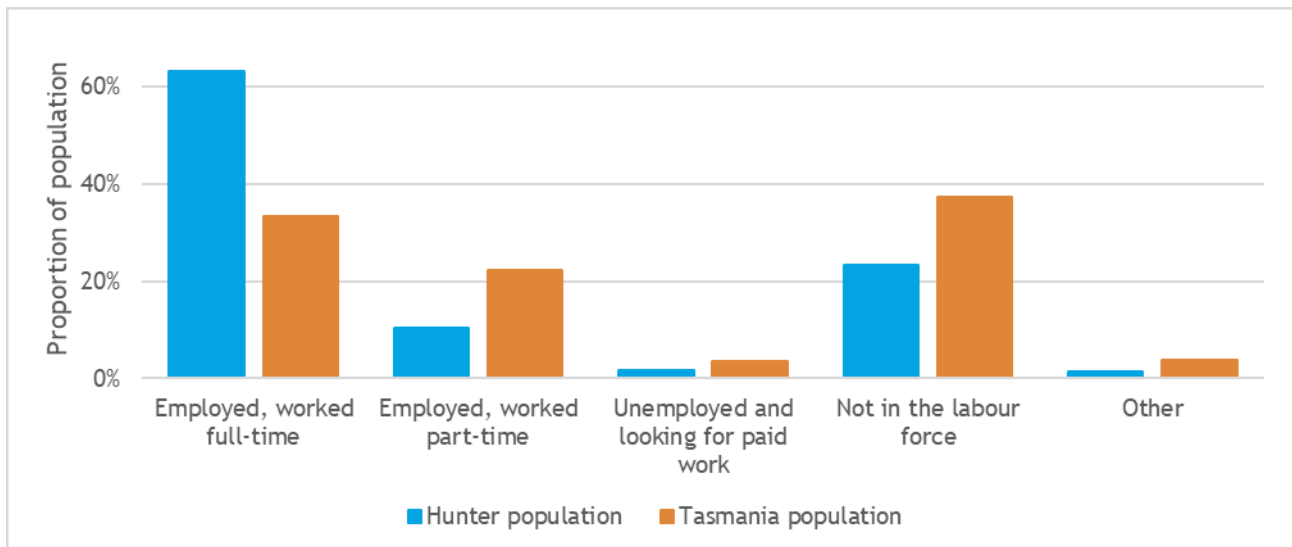


Source: Tasmanian Hunter and Shooter Survey 2023, ABS 2022 and BDO EconSearch analysis

Employment

A majority of Tasmanian hunters and shooters are in full-time paid employment (63.2 per cent), with the next largest group being out of the labour force, likely retired (23.5 per cent). Less than 13.3 per cent of respondents indicated that they fell into any other category such as part-time work (10.4 per cent), other (1.3 per cent), or unemployed (1.7 per cent).

Figure 3-3 Employment status distribution, Tasmanian hunters and shooters compared with Tasmanian population

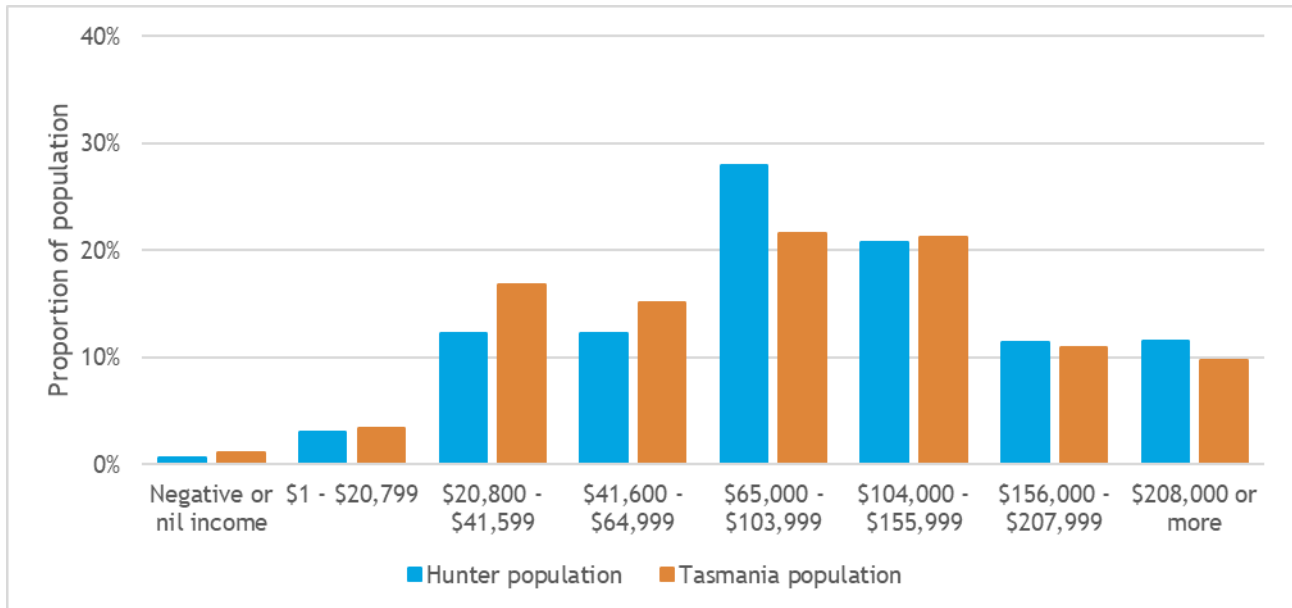


Source: Tasmanian Hunter and Shooter Survey 2023, ABS 2022 and BDO EconSearch analysis

Income

Respondents were asked to indicate what their household income was in the previous 12 months. Although 11.2 per cent of respondents preferred not to answer the question, 88.7 per cent of respondents did answer the question. The distribution of household income amongst Tasmanian hunters and shooters in comparison to the wider Tasmanian population is shown in Figure 3-4.

Figure 3-4 Household income distribution, Tasmanian hunters and shooters compared with Tasmanian population



Source: Tasmanian Hunter and Shooter Survey 2023, ABS 2022 and BDO EconSearch analysis

The weighted survey results indicate that Tasmanian hunters and shooters have slightly higher household incomes compared to the general Tasmanian population. A slightly larger proportion of hunters and shooters have household incomes between \$65,000 and \$103,999 than the general Tasmanian population and fewer hunters and shooters fall into a low-income bracket.

3.2. Motivations Profile

Respondents were asked to nominate the five most important reasons that they go hunting from a list of 16. Each of these options represented a different type of social or utilitarian benefit.

Figure 3-5 shows the most important social benefits that Tasmanian hunters and shooters derive from their activities, ordered from most to least common. These data are generated from the weighted data set and are therefore representative of the population of hunters and shooters in Tasmania.

The two most important social benefits identified were ‘to spend time in the outdoors’ (27 per cent), followed by ‘to get food for myself or my friends/family’ (26 per cent).

‘To reduce pest species populations’ (21 per cent), ‘to spend time with friends’ (17 per cent) and ‘to relax and unwind’ (16 per cent) were also identified as being particularly important social benefits.

Figure 3-5 Motivations to go hunting and shooting



Source: Tasmanian Hunter and Shooter Survey 2023 and BDO EconSearch analysis

4. ECONOMIC CONTRIBUTION

The economic contributions of Tasmanian hunters and shooters are detailed in this section.

Using the 2020/21 financial year RISE model of the Tasmanian economy, the economic contribution to the state economy was estimated. Economic indicators reported in the study are gross state product (GSP) and employment (FTE jobs). Estimates of GSP and employment include both direct and indirect (or flow-on) impacts.

The expenditure estimates, for both on-trip and off-trip, form the basis for estimating economic contribution by:

- Deer-related hunting activity;
- Other hunting activity; and
- Sport shooting activity.

It is important to note that the economic contribution results that are presented throughout this section are the economic footprint of recreational hunting and sport shooting in the Tasmanian economy. They do not describe the impact of recreational hunting and sport shooting on the Tasmanian economy. So if hunting or sport shooting were to (hypothetically) cease, the economic activity currently contributed by hunting and sport shooting would not cease; although it may change as hunters and sport shooters turn to alternative ways to recreate¹¹ or spend/save their money that they would have otherwise spent on hunting and sport shooting in Tasmania.

4.1. Economic Contribution Results

Represented in Figure 4-1 and Figure 4-2, the total economic contribution of recreational hunting and sports shooting in Tasmania for 2022 was estimated to be:

- \$88.4 million in GSP (\$48.0 million direct and \$40.4 million flow-on); and
- 676 FTE jobs (438 FTE direct and 238 FTE flow-on jobs).

To give some context to these results, the total economic contribution from recreational fishing to the Tasmanian economy (notably from fishing both within and outside of the state) was estimated to \$270.0 million in GSP and 2,670 FTE jobs in 2018/19 (Moore et. al. 2023).

Deer-related hunting activity

Accounted for 33 per cent of total economic contribution:

- \$29.3 million in GSP (\$15.9 million direct and \$13.4 million flow-on); and
- 223 FTE jobs (144 FTE direct and 79 FTE flow-on jobs).

Other hunting activity

Accounted for 43 per cent of total economic contribution:

- \$37.9 million in GSP (\$20.5 million direct and \$17.4 million flow-on); and
- 289 FTE jobs (186 FTE direct and 103 FTE flow-on jobs).

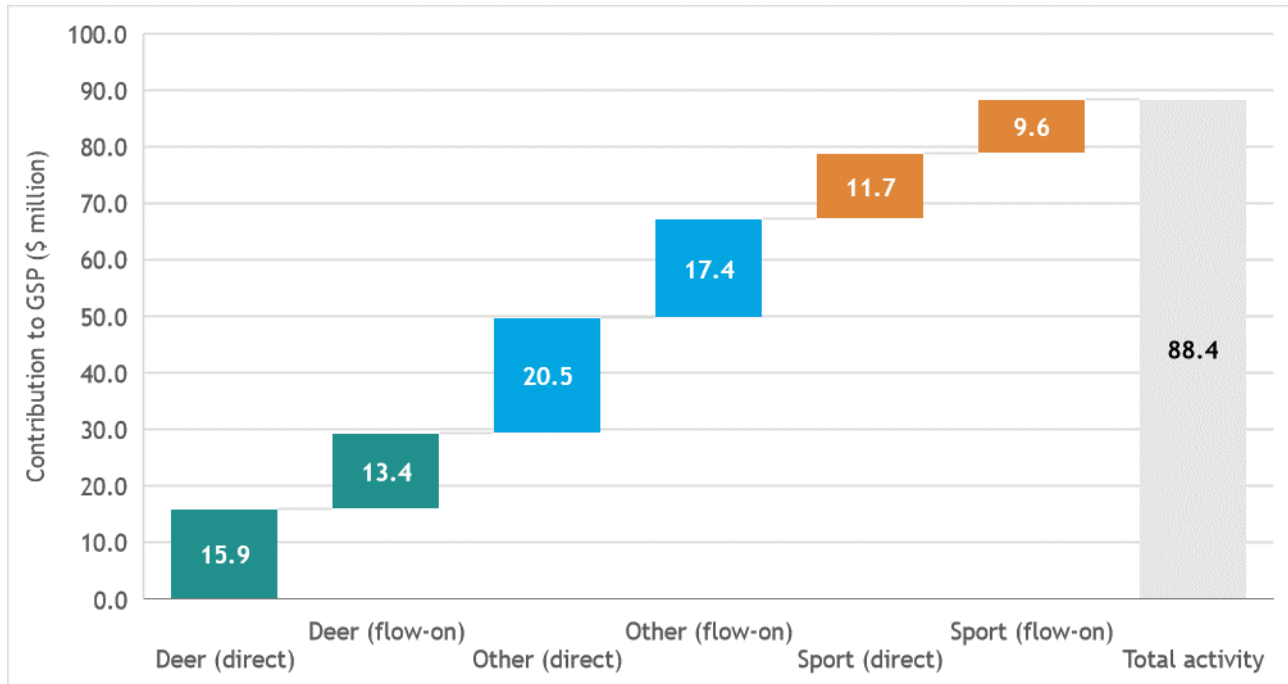
¹¹ Going interstate or overseas to hunt or sport shoot, taking up or increasing other recreational activity within Tasmania, etc.

Sport shooting activity

Accounted for 24 per cent of total economic contribution:

- \$21.2 million in GSP (\$11.7 million direct and \$9.6 million flow-on); and
- 165 FTE jobs (108 FTE direct and 56 FTE flow-on jobs).

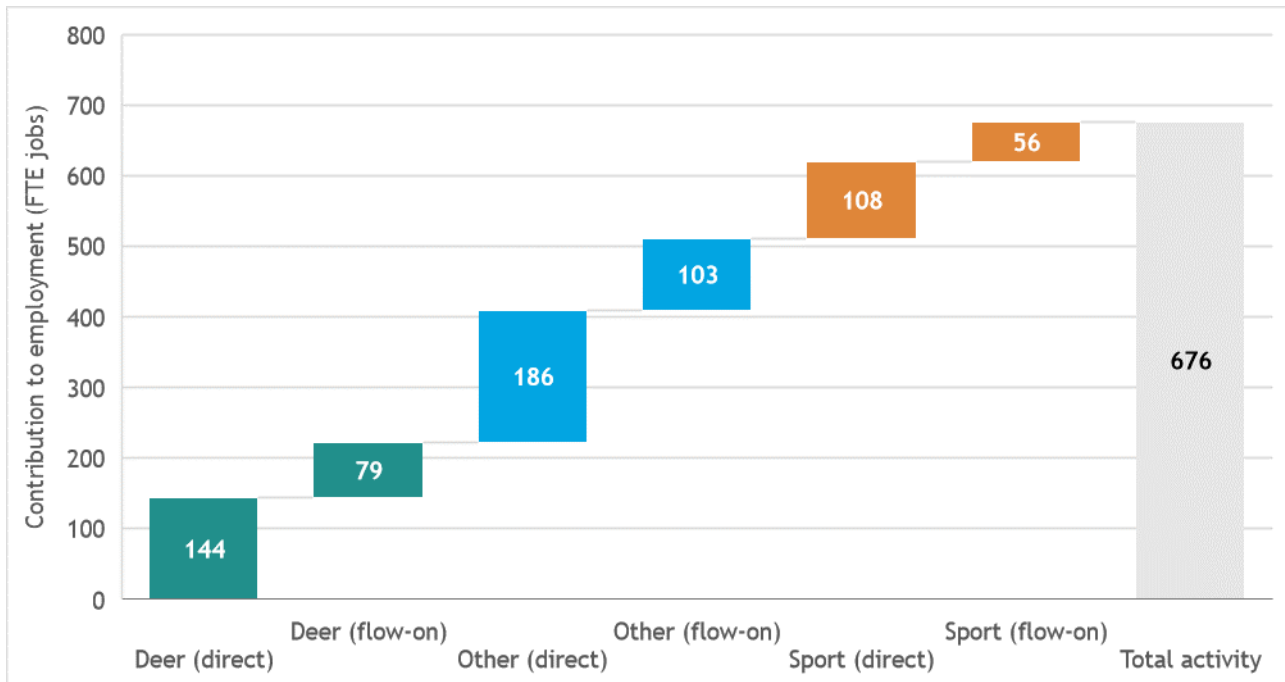
Figure 4-1 Economic contribution to Tasmania by category^a, GSP (\$m)



^a Deer = deer-related hunting activity, Other = other hunting activity, Sport = sport shooting activity

Source: BDO EconSearch analysis

Figure 4-2 Economic contribution to Tasmania by category^a, employment (FTE jobs)



^a Deer = deer-related hunting activity, Other = other hunting activity, Sport = sport shooting activity
Source: BDO EconSearch analysis

4.2. Expenditure Results

Expenditure, itself, is not economic contribution. Expenditure by recreational hunters and sport shooters generates economic activity by the businesses supplying goods and services to the individual. These businesses, in turn, spend money on employees (wages) and on other businesses supplying them with goods and services, and their employees spend their wages too, and so on. Some of the money leaves the economy in the form of purchases of imported goods/services and doesn't contribute to economic activity. The economic activity generated by the hunter/shooter supply chain within Tasmania is the economic contribution that is estimated in this study, measured in terms of contribution to GSP and employment.

Total expenditure on recreational hunting and sports shooting in Tasmania was estimated to be \$133.5 million (Figure 4-3).

Fuel was the main on-trip/competition expenditure item, closely followed by groceries, and ammunition (Figure 4-4). Firearms purchases were the main off-trip expenditure item, followed by the purchase of vehicles, and ammunition (Figure 4-5).

Detailed trip and off-trip expenditure tables and graphics (by item and hunting/shooting activity) are provided in Appendix 3.

Deer-related hunting activity

Accounted for 34 per cent of total expenditure:

- \$45.5 million in expenditure (\$33.0 million trip and \$12.5 million off-trip);
- Fuel was the main on-trip expenditure item (\$6.8m) and vehicle purchases the main off-trip expenditure item (\$3.4m).

Other hunting activity

Accounted for 43 per cent of total expenditure:

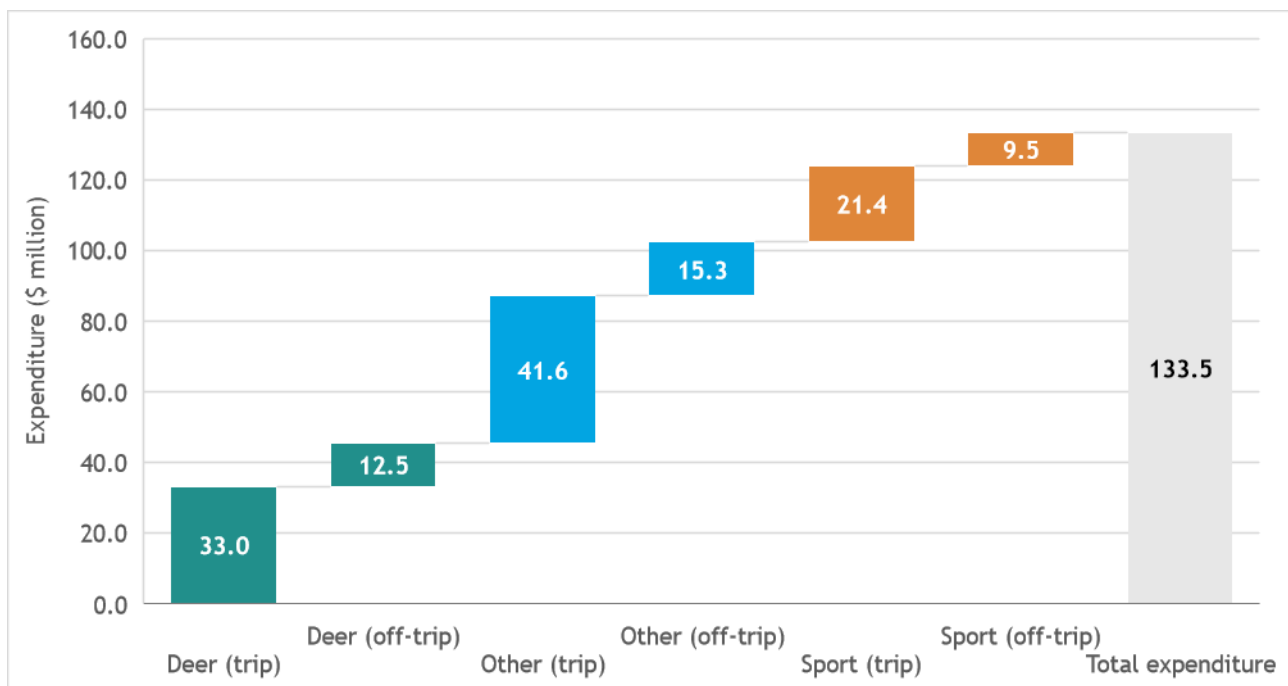
- \$56.9 million in expenditure (\$41.6 million trip and \$15.3 million off-trip);
- Fuel was the main on-trip expenditure item (\$8.7m) and vehicle purchases the main off-trip expenditure item (\$3.6m).

Sport shooting activity

Accounted for 23 per cent of total expenditure:

- \$31.0 million in expenditure (\$21.4 million trip and \$9.5 million off-trip);
- Ammunition was the main on-trip expenditure item (\$6.0m) and firearms purchases the main off-trip expenditure item (\$4.1m).

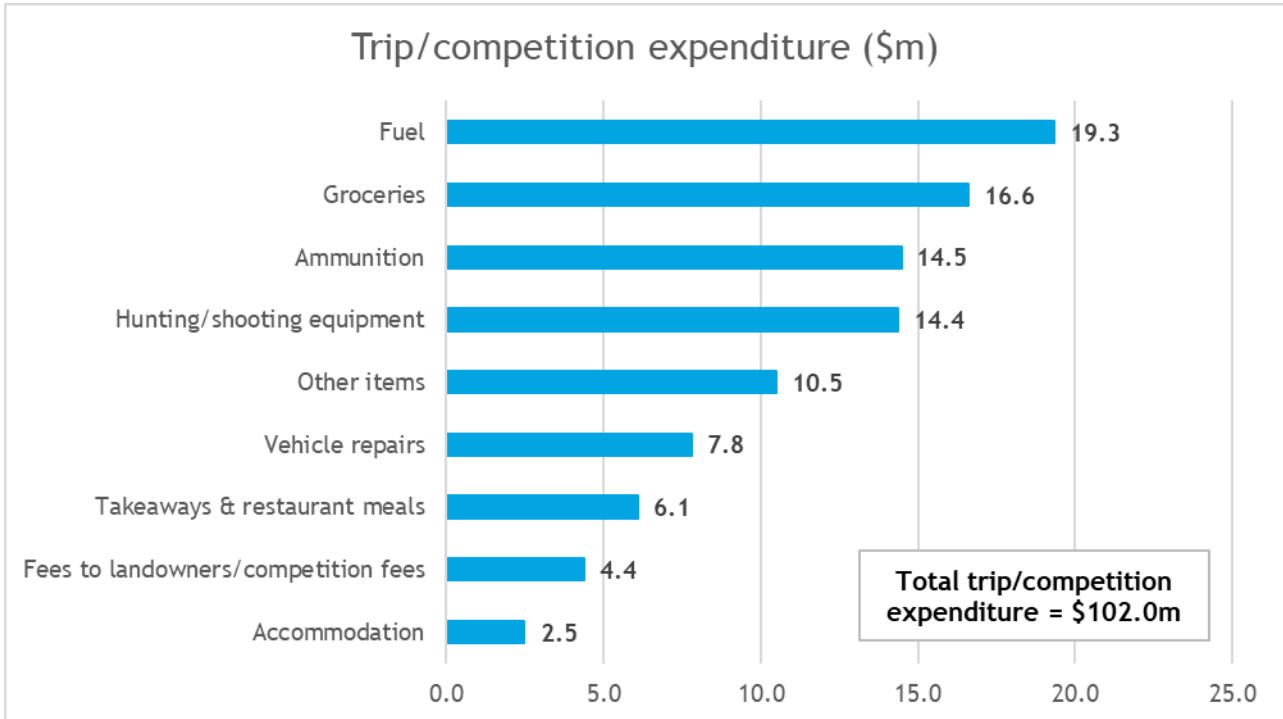
Figure 4-3 Hunter/shooter expenditure in Tasmania by category^a, trip and off-trip (\$m)



^a Deer = deer-related hunting activity, Other = other hunting activity, Sport = sport shooting activity

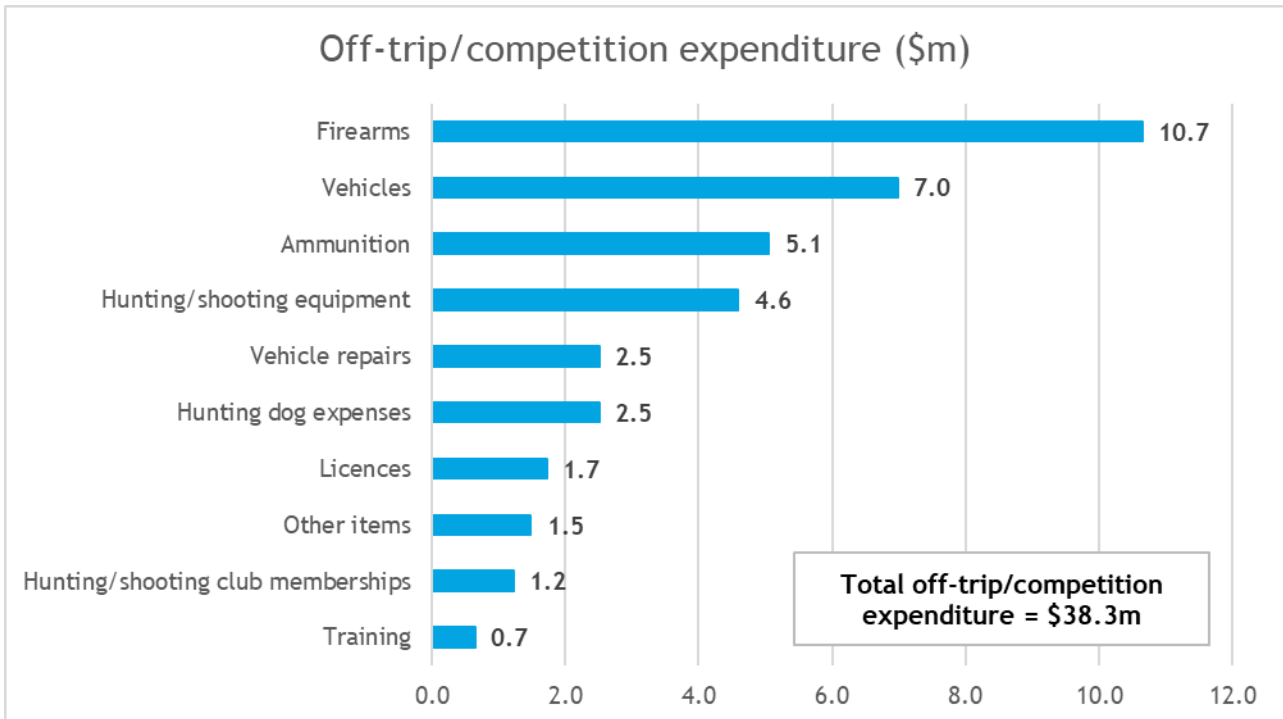
Source: BDO EconSearch analysis

Figure 4-4 Hunter/shooter trip expenditure in Tasmania by expenditure item



Source: BDO EconSearch analysis

Figure 4-5 Hunter/shooter off-trip expenditure in Tasmania by expenditure item



Note that licence fees include fees for game hunting licences, firearm licences, firearm registrations and firearm permits.

Source: BDO EconSearch analysis

4.3. Comparison with Other Recreational Hunting Studies

In 2019 the Victorian Department of Jobs, Precincts and Regions commissioned RMCG to estimate the economic contribution of recreational hunting in Victoria (RMCG et al. 2020). The current study is compared with the Victorian study. Due to a substantial difference in hunter population sizes in Victoria and Tasmania, economic contribution figures are presented on a ‘per hunter’ basis (Table 4-1).

The economic contribution of expenditure by hunters in Victoria was \$7,295 in total GSP and 0.06 FTE jobs per hunter. This is slightly lower than the comparable figures in Tasmania of \$7,606 in GSP and 0.06 FTE jobs per hunter, and likely explained by higher hunter activity rates in Tasmania compared with Victoria.

Expenditure per hunter in Victoria was an estimated \$7,192 per hunter which is substantially lower than the estimated expenditure per hunter in Tasmania (\$11,606 per hunter).

Because the Tasmanian economy is smaller and less diverse than the Victorian economy (i.e. proportionately more goods and services are imported than produced locally), we would expect there to be more ‘leakage’ of economic activity to imports, and as a result a relatively lower economic contribution for every dollar spent by recreational hunters and shooters in Tasmania.

A summary of the results of each study is shown in Table 4-1. It is important to note that the Victorian study did not include sport shooting activities. Tasmanian ‘per shooter’ estimates have been included here for comparative purposes.

Table 4-1 Comparison of headline ‘per hunter’ results between Victoria and Tasmania

	VIC hunters (2019) ^a	TAS hunters (2022)	TAS sport shooters (2022)
GSP (\$ per individual)	7,295	7,606	4,467
Expenditure (\$ per individual)	7,192	11,606	6,517
Employment (FTE jobs per individual)	0.06	0.06	0.03

^a Values in 2022 dollars

Sources: BDO EconSearch analysis, RMCG et al. 2020, ABS 2023

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Disclaimer

The assignment is a consulting engagement as outlined in the 'Framework for Assurance Engagements', issued by the Auditing and Assurances Standards Board, Section 17. Consulting engagements employ an assurance practitioner's technical skills, education, observations, experiences and knowledge of the consulting process. The consulting process is an analytical process that typically involves some combination of activities relating to: objective-setting, fact-finding, definition of problems or opportunities, evaluation of alternatives, development of recommendations including actions, communication of results, and sometimes implementation and follow-up.

The nature and scope of work has been determined by agreement between BDO and the Client. This consulting engagement does not meet the definition of an assurance engagement as defined in the 'Framework for Assurance Engagements', issued by the Auditing and Assurances Standards Board, Section 10.

Except as otherwise noted in this report, we have not performed any testing on the information provided to confirm its completeness and accuracy. Accordingly, we do not express such an audit opinion and readers of the report should draw their own conclusions from the results of the review, based on the scope, agreed-upon procedures carried out and findings.

APPENDIX 1 Survey Questionnaire

To be included in email dispatch:

Do you hunt recreationally or go sport/target shooting in Tasmania?

[Insert: Hunting image.jpg]

If you do, we would love to hear from you. Your opinions will help the Tasmanian Government to better understand the experiences of recreational hunters and sport shooters in Tasmania and the economic contribution that hunting and sport shooting brings to the community.

In order to tell us your views, please click 'Start Survey' below. It will take 15 minutes or so to complete the confidential survey, which is best done on a computer.

The survey will be open between February 2023 and March 2023 and will be conducted by Action Market Research who are a professional market research company. The information collected will be used for research purposes only. Your personal details will not be disclosed unless you give your permission, and will be held as strictly confidential, according to the Code of Professional Behaviour set out by the Research Society and the Privacy Act. At the completion of the survey, BDO EconSearch will finalise a report summarising the key findings (note this will include summarised data only; no personal information) and provide it to the Tasmanian Government for consideration. The Tasmanian Government has committed that this study will help inform future policy and management decisions with regards to recreational hunting and sport/target shooting.

[Footer:] [To view Action Market Research's privacy policy, please click here <insert link>.](#)

© XXX

Front page of survey:

Thank you for your input to better understand the experiences of recreational hunters and sport shooters in Tasmania.

In order to tell us your views, please click 'Next' below. It will take 15 minutes or so to complete the confidential survey, which is best done on a computer.

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- To view an advert about the research and who is involved please click here (LINK TO PDF)
- For further information about the survey or to validate the research project, please contact the Department of Natural Resources and Environment Tasmania:
Tashuntingandshootingsurvey@nre.tas.gov.au
- If you are having issues accessing the survey or would like to speak to someone about your responses, you can call through to Action Market Research (a free call): 1800 077 789 or email
hello@actionresearch.com.au

[Footer:] [To view Action Market Research's privacy policy, please click here <insert link>.](#)

© XXX

Ask All

A1	<p>Firstly, we have a few questions about you.</p> <p>Are you...</p> <ol style="list-style-type: none"> 1. Male 2. Female 3. Other 4. Do not wish to answer 	<p>Compulsory Single response</p>
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Ask All

A2	<p>And which of the following age ranges do you fall into?</p> <ol style="list-style-type: none"> 1. Under 18 [Go to TERMINATE] 2. 18-24 3. 25-29 4. 30-34 5. 35-39 6. 40-44 7. 45-49 8. 50-54 9. 55-59 10. 60-64 11. 65-74 12. 75 and over 13. Do not wish to answer 	<p>Compulsory Single response</p>
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Ask All

A3	<p>Which state or territory do you currently live in?</p> <ol style="list-style-type: none"> 1. Tasmania 2. Another state or territory in Australia 3. Outside Australia 	<p>Compulsory Single response</p>
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Ask if A3=1 (Tasmania)

A4	<p>Where do you live in Tasmania?</p> <p>Please enter your postcode below.</p> <p>POSTCODE: _ _ _ _</p> <p>ERROR MESSAGE IF INVALID POSTCODE: Please enter a valid TAS postcode.</p>	<p>Compulsory Limit to 4 digits textbox for postcode</p>
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[Screener questions S1 to S8 are used to determine whether respondents are within scope, and which subpopulations they belong to.]

INTROS	<p>Now we would like to ask you some questions about the ways in which you hunt or sport/target shoot and your hunting or sport/target shooting activity.</p>
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Ask All

S1	<p>Have you gone hunting recreationally or sport/target shooting in Tasmania in the past 12 months?</p> <ol style="list-style-type: none"> 1. Yes 2. No 	<p>Compulsory Single response</p>
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Ask All

S2	<p>Do you plan to go hunting recreationally or sport/target shooting in Tasmania in the next 12 months?</p> <ol style="list-style-type: none"> 1. Yes 2. No [If S1=2 (No) AND S2=2 (No) go to TERMINATE] 	<p>Compulsory Single response</p>
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Ask All

S3	<p>How do/will you participate in recreational hunting sport/target shooting? Do/will you ... (Please choose all that apply)</p> <ol style="list-style-type: none"> 1. Use a firearm for recreational hunting? 2. Use a firearm for sport/target shooting 3. Harvest muttonbirds recreationally 	<p>Compulsory Multiple responses</p>
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Ask if S3=1

S4	<p>And when you go hunting recreationally, which of the following licences/permits do you use? (Please choose all that apply)</p> <ol style="list-style-type: none"> 1. Game hunting licence 2. Agent copy of a crop protection permit issued to a landholder for crop protection 3. Special purpose licence to hunt Cape Barren geese on the Furneaux Group 4. Permission of the landholder to hunt unprotected animals such as rabbits, hares, feral cats and feral pigs on their land 	<p>Compulsory Multiple responses</p>
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Ask if S3=2

S5	<p>And which type(s) of firearm do you use for target/sport shooting? (Please choose all that apply)</p> <ol style="list-style-type: none"> 1. Rim fire 2. Centre fire 3. Handgun 4. Shotgun 5. None of the above 	<p>Compulsory Multiple responses</p>
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Ask if S3=3

S6	<p>And when you harvest muttonbirds, which of the following licences/permits do you use?</p> <ol style="list-style-type: none"> 1. Game hunting licence endorsed for muttonbirds 2. Other, please specify 	<p>Compulsory Multiple responses</p>
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Ask if S4=1

S7	<p>What animals are you endorsed to hunt on your Tasmanian game licence? (Please choose all that apply)</p> <ol style="list-style-type: none"> 1. Brown Quail 2. Deer 3. Muttonbird 4. Pheasant 5. Wallaby 6. Wild Duck 	<p>Compulsory Multiple responses</p>
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Ask if S4=2

S8	<p>And when you hunted recreationally using a property protection permit, what animals did you hunt? (Please choose all that apply)</p> <ol style="list-style-type: none"> 1. Deer 2. Wallaby 3. Other 	<p>Compulsory Multiple responses</p>
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If A2=1 go to TERMINATE

If S1=2 AND S2=2 go to TERMINATE

TERMINATION	<p>Thank you very much for your interest in participating in this survey, however we can only include those who are over the age of 18, have recreationally hunted or gone sport shooting in Tasmania in the past 12 months or intend to do so in the next 12 months.</p>
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INTROC	<p>Now we would like to find out about your hunting trips. Show if S3= 1 OR 3 (i.e. recreational hunters)</p>
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Ask if S1=1 AND S3= 1 OR 3

C1	<p>Firstly, approximately how many hunting trips have you been on in the last 12 months in Tasmania?</p> <p>Please count both overnight and day trips. An overnight trip is where you stayed overnight (or multiple nights) in another location. A day trip is any time you left your property to hunt but did not stay overnight.</p> <p>_____ trips</p>	<p>Compulsory Numeric field Allow zero</p>
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Ask if C1>0 AND S7 =2 OR S8=1

C2	<p>And what proportion of these hunting trips was <u>deer</u> the main animal you hunted for?</p> <p>None (0%) 1% to 25% 26% to 50% 51% to 75% 76% to 99% All (100%)</p>	<p>Compulsory Single response Allow zero</p>
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Ask if S2=1 AND S3= 1 OR 3

C3	<p>Do you intend to go on hunting trips outside of Tasmania in the <u>next 12 months</u>. If so, what proportion of overall hunting trips will be <u>outside</u> of Tasmania?</p> <ol style="list-style-type: none"> 1. No, all hunting trips will be <u>within</u> Tasmania 2. Yes, 1% to 25% of all hunting trips will be <u>outside</u> of Tasmania 3. Yes, between 26% and 50% of all hunting trips will be <u>outside</u> of Tasmania 4. Yes, between 51% and 75% of all hunting trips will be <u>outside</u> of Tasmania 5. Yes, between 75% and 99% of all hunting trips will be <u>outside</u> of Tasmania 6. Yes, all hunting trips will be <u>outside</u> of Tasmania 	Compulsory Single response
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INTROEA1	<p>In this section we are interested in understanding your expenditure on hunting trips.</p> <p>In the first instance we will ask about your most recent trip only. Later in the survey we will ask about your spend across the last 12 months. For the most recent trip, please only include what you spent on that trip specifically, even if it was not your biggest or most expensive trip.</p> <p>Ask if C1>0</p>
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Ask if C1>0 AND C2 ≠ None (i.e. hunted and hunts both deer and other animals)

EA1	<p>Which of the following best describes your <u>most recent</u> hunting trip in Tasmania in the last 12 months?</p> <ol style="list-style-type: none"> 1. A recreational deer hunting trip 2. A recreational hunting trip where animals other than deer were targeted 	Compulsory Single response
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Ask if C1>0

EA2	<p>During your <u>most recent</u> hunting trip in Tasmania, what did you spend money on?</p> <p>Please include anything <u>you</u> paid for, whether by cash, EFTPOS, cheque, credit card or any other means. If you paid for other people at any stage (for example, if you paid for someone else’s dinner) then do include that amount. If someone else paid for you, then exclude that amount.</p> <ol style="list-style-type: none"> 1. Fuel 2. Groceries (including dog food), drinks and alcohol for self-catering/consumption at your accommodation 3. Ammunition 4. Hunting equipment (e.g. decoys, clothing) 5. Takeaways & restaurant meals 6. Accommodation 7. Vehicle/motorbike/boat repairs 8. Fees to landowners 9. Other items needed for your hunting trip 10. Not applicable - I did not spend any money on this hunting trip 	Compulsory Multiple responses ‘Not applicable’ removes all other selections
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Ask if EA2≠10 (codes 1 to 9) (spent money on at least one item in this trip)

EA3	<p>And during your <u>most recent hunting trip</u> in Tasmania where you went on <trip type from EA1>, approximately how much did you spend on these items?</p> <p>Please include:</p> <ul style="list-style-type: none"> Anything <u>you</u> paid for, whether by cash, EFTPOS, cheque, credit card or any other means. Any money you paid for other people and you were not reimbursed (e.g. if paid for someone else's meal) <p>Please exclude:</p> <ul style="list-style-type: none"> Any money paid on your behalf by someone else who travelled with you on the trip. 	Compulsory Single response per row																								
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a.	[Responses from EA2]	1	2	3	4	5	6																			
b.																										

Ask if EA2≠10

EA4	<p>What was the location of the business/es from which you bought these items?</p> <p>If you bought these items at more than one location please select the location where the most money was spent.</p> <p>For online purchases please record your answer against the location where the vendor is located.</p>	Compulsory Single response per row																		
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INTROD	<p>Now we would like to find out about your sport/target shooting competitions.</p> <p>Ask if S3= 2 (i.e. sport/target shooters)</p>
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Ask if S1=1 AND S3= 2

D1	<p>Firstly, approximately how many sport/target competition <u>days</u> have you participated in over the last 12 months in Tasmania? (Irrespective of discipline type or number of competitions within a single day)</p> <p>_____ days</p>	Compulsory Numeric field Allow zero
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Ask if S2=1 AND S3= 2

D2	<p>Do you intend to participate in sport/target competitions outside of Tasmania in the <u>next 12 months</u>. If so, what proportion of overall competitions will be outside of Tasmania?</p> <ol style="list-style-type: none"> 1. No, all competitions will be <u>within</u> Tasmania 2. Yes, 1% to 25% of all shooting competitions will be <u>outside</u> of Tasmania 3. Yes, between 26% and 50% of all shooting competitions will be <u>outside</u> of Tasmania 4. Yes, between 51% and 75% of all shooting competitions will be <u>outside</u> of Tasmania 5. Yes, between 75% and 99% of all shooting competitions will be <u>outside</u> of Tasmania 6. Yes, all shooting competitions will be <u>outside</u> of Tasmania 	<p>Compulsory Single response</p>
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INTROEB1	<p>In this section we are interested in understanding your expenditure on sport/target shooting competition days.</p> <p>Again, in the first instance we will ask about your most recent sport/shooting competition day. Later in the survey we will ask about your spend for this activity across the last 12 months. For the most recent sport/shooting day, please only include what you spent on that day, regardless of whether it was for a single competition, multiple competitions or simply a day for target/competition practising.</p> <p>Ask if D1>0</p>
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Ask if D1>0

EB1	<p>During your <u>most recent</u> sport/target shooting competition day in Tasmania, what did you spend money on?</p> <p>Please include anything <u>you</u> paid for, whether by cash, EFTPOS, cheque, credit card or any other means. If you paid for other people at any stage (for example, if you paid for someone else’s dinner) then do include that amount. If someone else paid for you, then exclude that amount.</p> <ol style="list-style-type: none"> 1. Fuel 2. Groceries, drinks and alcohol for self-catering/consumption at your accommodation 3. Ammunition 4. Shooting equipment (e.g. decoys, clothing) 5. Takeaways & restaurant meals 6. Accommodation 7. Competition fees 8. Other items needed for your sport/target shooting competition 9. Not applicable - I did not spend any money on this sport/target shooting competition 	<p>Compulsory Multiple responses ‘Not applicable’ removes all other selections</p>
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Ask if EB1≠9 (codes 1 to 8) (spent money on at least one item in this trip)

EB2	<p>And during your <u>most recent sport/target shooting competition day</u> in Tasmania, approximately how much did you spend on these items?</p> <p>Please include:</p> <ul style="list-style-type: none"> Anything <u>you</u> paid for, whether by cash, EFTPOS, cheque, credit card or any other means. Any money you paid for other people and you were not reimbursed (e.g. if paid for someone else's meal) <p>Please exclude:</p> <ul style="list-style-type: none"> Any money paid on your behalf by someone else who travelled with you on the trip. 	Compulsory Single response per row																								
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Ask if EB1≠9

EB3	<p>What was the location of the business/es from which you bought these items?</p> <p>If you bought these items at more than one location please select the location where the most money was spent.</p> <p>For online purchases please record your answer against the location where the vendor is located.</p>	Compulsory Single response per row																		
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b.																				

Ask All

INTROE2	<p>Now we'd like you to consider what you've spent when you've NOT been on a hunting trip/sport shooting competition, to support your hunting or sport shooting activities.</p> <p>Please don't include expenses made during hunting trips/shooting competitions; these type of expenses have been addressed in the previous section/s.</p>
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Ask All [including those who have not been hunting/shooting in the last 12 months]

E5	<p>During the last 12 months, which of the items from the following list have you spent money on to <u>support your hunting/sport shooting activities</u>?</p> <ol style="list-style-type: none"> 1. Firearms and other firearm equipment 2. Ammunition 3. Training to support your hunting/sport shooting activities (e.g., target practice, hunter education courses) 4. Hunting/sport shooting club memberships 5. Licences (e.g. firearm licences, game hunting licences/permits, etc) 6. Hunting dog expenses 7. Vehicles/motorbikes/boats (purchased with hunting in mind) 8. Vehicle/motorbike/boat maintenance 9. Other equipment to support your hunting/sport shooting activities (e.g., vehicle equipment/accessories, safety equipment, camping equipment, clothing, knives, binoculars, etc.) 10. Other items/expenditures to support your hunting/sport shooting activities 11. Not applicable - I did not spend any money to support my hunting/sport shooting activities in the past 12 months 	<p>Compulsory Multiple responses 'Not applicable' removes all other selections</p>
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Ask if E5≠11 (codes 1 to 10) (spent money on at least one item that support hunting activities)

E6	<p>And during the past 12 months, approximately how much have you spent on these items?</p>	<p>Compulsory Single response per row</p>																	
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a.	[Responses from E5]	1	2	3	4	5	6	7											

Ask if E5=7 to 10 (Vehicles to Other).

E7	<p>And approximately what percentage of the use of these items has been on <u>hunting/sport shooting activities</u> versus non hunting/sport shooting activities?</p>	<p>Compulsory Single response per row</p>																								
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b.																										

Ask if E5≠11 (codes 1 to 10) (spent money on at least one item that support hunting activities)

E8	<p>What was the location of the business/es from which you bought these items?</p> <p>If you bought these items at more than one location please select the location where the most money was spent.</p> <p>For online purchases please record your answer against the location where the vendor is located.</p>	<p>Compulsory Single response per row</p>			
1.		Tasmania	Interstate	Overseas	Unsure/can't recall
a.	[responses from E5]	1	2	3	4
b.					

INTROF	<p>Now just a few questions about you, to help us better understand who is involved in hunting/sport shooting in Tasmania.</p>	
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Ask all

F1	<p>Which of the following is <u>the highest level</u> of formal education that you have completed?</p> <ol style="list-style-type: none"> 1. Primary school 2. Third year of high school (completed year 9 or equivalent) 3. Fourth year of high school (completed year 10 or equivalent) 4. High school certificate (completed year 12 or equivalent) 5. Certificate I or II 6. Certificate III or IV (e.g. trade certificate, apprenticeship) 7. TAFE diploma (post high-school) 8. Graduate diploma or graduate certificate (from a university) 9. University degree (e.g. Bachelors degree) 10. Postgraduate degree (e.g. Masters, PhD) 11. Do not wish to answer 	<p>Radio Button Compulsory Single response</p>
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Ask all

F2	<p>Which of the following best describes you...?</p> <ol style="list-style-type: none"> 1. In full-time paid work, either working for someone else or self employed 2. In part-time paid work (e.g. you work an agreed number of hours per week), either working for someone else or self employed 3. In casual paid work (e.g. your hours vary and are not set), either working for someone else or self employed 4. Unemployed and looking for paid work 5. Home duties 6. Retired 7. Student not in paid work 8. Other 9. Do not wish to answer 	<p>Radio button Compulsory Single response</p>
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Ask all

F3	<p>What is your gross or pre-tax <u>household</u> income?</p> <p><i>Please include the income earned by all working people in your household. Please also include income received from government pensions investments/dividends, and salaried employment.</i></p> <ol style="list-style-type: none"> 1. Negative or nil income 2. \$1 - \$20,799 3. \$20,800 - \$41,599 4. \$41,600 - \$64,999 5. \$65,000 - \$103,999 6. \$104,000 - \$155,999 7. \$156,000 - \$207,999 8. \$208,000 or more 9. Don't know 10. Prefer not to say 	<p>Radio button Compulsory Single response</p>
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Ask All

F4	<p>And finally, what are the top 5 reasons you like to go hunting/sport shooting? (If the most important reason/s you hunt/sport shoot isn't given, please type them in the space provided).</p> <p>5. [Please select 5 reasons from the following]</p> <ol style="list-style-type: none"> 1. ...to relax and unwind 2. ...to spend time in the outdoors 3. ...to spend time with family 4. ...to spend time with friends 5. ...to meet new people 6. ...to get away from my day-to-day life 7. ...to continue a family or cultural tradition of hunting/shooting 8. ...because it is challenging 9. ...to get food for myself or my friends/family 10. ...to get exercise 11. ...to spend time in places that are special to me 12. ...to reduce pest species populations 13. ...for the sense of achievement from a successful hunt/competition 14. ...for the satisfaction of improving my competition scores 15. ...to enjoy time on my own 16. ...other (please describe) 	<p>Check Boxes Compulsory 5 responses Multiple responses Randomise 1 to 15</p>
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OUTRO	<p>• That's the end of the survey. Thank you very much for your time and assistance today.</p> <p>Your response has been successfully submitted.</p>
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APPENDIX 2 Expenditure Adjustments

Appendix Table 2-1 Survey expenditure adjustments

Expenditure item	Survey maximum value	Applied cap	Reason/source
Hunting trip expenditure			
Accommodation	\$1,001 per trip	\$350 per trip	Likely maximum in \$200-\$500 range
Ammunition	\$1,001 per trip	\$350 per trip	Likely maximum in \$200-\$500 range
Hunting equipment	\$1,001 per trip	\$350 per trip	Likely maximum in \$200-\$500 range, on trip
Fees to landowners	\$1,001 per trip	\$1,000 across all trips	Maximum \$500 per year per property for deer-hunting rights, maximum 2 properties per hunter at maximum amount
Fuel	\$1,001 per trip	\$300 per trip	575 km maximum distance to hunting location, travel at location of 100 km, diesel 4WD fuel consumption at 8l per 100km, means a maximum of two 80 l tank fills. Diesel price of \$1.88/l for 160 l fuel is approx. \$300
Groceries	\$1,001 per trip	\$350 per trip	Likely maximum in \$200-\$500 range
Takeaways & restaurant meals	\$1,001 per trip	\$350 per trip	Likely maximum in \$200-\$500 range
Other items	\$1,001 per trip	\$350 per trip	Likely maximum in \$200-\$500 range, on trip
Vehicle repairs	\$1,001 per trip	\$350 per trip	Likely maximum in \$200-\$500 range, on trip
Shooting competition expenditure			
Accommodation	\$1,001 per competition	\$350 per competition	Likely maximum in \$200-\$500 range
Ammunition	\$1,001 per competition	\$350 per competition	Likely maximum in \$200-\$500 range
Shooting equipment	\$1,001 per competition	\$350 per competition	Likely maximum in \$200-\$500 range
Competition fees	\$1,001 per competition	\$200 per competition	Maximum is \$195 per 2-day competition
Fuel	\$1,001 per competition p	\$150 per trip	Same logic as fuel for hunting trips, but half the distance.
Groceries	\$1,001 per competition	\$350 per competition	Likely maximum in \$200-\$500 range
Takeaways & restaurant meals	\$1,001 per competition	\$350 per competition	Likely maximum in \$200-\$500 range
Other items	\$1,001 per competition	\$350 per competition	Likely maximum in \$200-\$500 range, on trip
Vehicle repairs	\$1,001 per competition	\$350 per competition	Likely maximum in \$200-\$500 range, on trip
Off-trip expenditure			
Ammunition	\$10,001	Combined cap	Total cap across trip, competition and off trip of \$9,500.
Hunting dog expenses	\$10,001	No change	Gun dog puppies sell for \$2,500 each, fully trained dog sell for significantly more and includes vets' fees, training, etc.

Expenditure item	Survey maximum value	Applied cap	Reason/source
Hunting/shooting equipment	\$10,001	No change	
Firearms	\$10,001	\$5,000	New firearm prices range from \$300 - \$4,500 online.
Licences	\$10,001	\$500	Maximum GHF fee is \$222.75 for all animal groups endorsements; firearms licence fee is \$153, firearm permit fee is \$22 and firearm registration fees for 10 firearms (likely maximum) are \$119
Hunting/shooting club memberships	\$10,001	\$300	SSAA membership = \$160, individual club membership = \$60, allowed SSAA plus 2 individual club memberships
Other items	\$10,001	\$5,000	
Vehicle repairs	\$10,001	No change	
Training	\$10,001	\$600	Mandatory gun licence training is \$600, not much/any additional training would occur beyond this
Vehicles	\$10,001	No change	

Source: Study steering committee, BDO EconSearch analysis

Appendix Table 2-2 outlines the weightings applied to each off-trip expenditure item, where the respondent undertook both hunting and sports shooting activities. These weights were determined in consultation with the study steering committee.

Appendix Table 2-2 Off-trip expenditure weighting^a

Expenditure item	Deer	Other	Shooting
Ammunition	20% if one category, 10% each if both		80%
Hunting dog expenses	0%	100%	0%
Hunting/shooting equipment	# of trips	# of trips	# of trips
Firearms	35% if one category, 17.5% each if both		65%
Licences	70% if one category, 35% each if both		30%
Hunting/shooting club memberships	30% if one category, 15% each if both		70%
Other items	# of trips	# of trips	# of trips
Vehicle repairs	80% if one category, 40% each if both		20%
Training	15% if one category, 7.5% each if both		85%
Vehicles	100% if one category, 50% each if both		0%

^a Deer = deer-related hunting activity, Other = other hunting activity, Sport = sport shooting activity

Source: Study steering committee, BDO EconSearch analysis

APPENDIX 3 Detailed Economic Contribution Results

Appendix Table 3-1 Economic contribution to Tasmania, GSP (\$m)

	Direct	Production Induced Flow-On	Consumption Induced Flow-On	Total
Deer-related hunting activity	15.9	5.1	8.3	29.3
Other hunting activity	20.5	6.7	10.7	37.9
Sport shooting activity	11.7	3.6	6.0	21.2
Total	48.0	15.4	25.0	88.4

Source: BDO EconSearch analysis

Appendix Table 3-2 Economic contribution to Tasmania, employment (FTE jobs)

	Direct	Production Induced Flow-On	Consumption Induced Flow-On	Total
Deer-related hunting activity	144	32	47	223
Other hunting activity	186	42	60	289
Sport shooting activity	108	22	34	165
Total	438	97	141	676

Source: BDO EconSearch analysis

Appendix Table 3-3 Hunter and shooter expenditure in Tasmania by item and activity (\$m)

#	Expenditure item	Deer-related hunting activity	Other hunting activity	Sport shooting activity	All groups combined
<i>On-trip expenditure items:</i>					
1	Accommodation	0.7	1.3	0.5	2.5
2	Ammunition	3.5	4.9	6.0	14.5
3	Hunting/shooting equipment	5.3	6.4	2.7	14.4
4	Fees to landowners/competition fees	0.8	0.6	3.0	4.4
5	Fuel	6.8	8.7	3.8	19.3
6	Groceries	6.6	8.0	2.0	16.6
7	Takeaways & restaurant meals	2.0	2.7	1.3	6.1
8	Other items	3.7	4.7	2.1	10.5
9	Vehicle repairs	3.6	4.2	0.0	7.8
	On-trip expenditure sub-total	33.0	41.6	21.4	96.1
<i>Off-trip expenditure items:</i>					
1	Ammunition	1.1	1.3	2.6	5.1
2	Hunting dog expenses	0.0	2.5	0.0	2.5
3	Hunting/shooting equipment	1.9	1.7	0.9	4.6
4	Firearms	3.3	3.3	4.1	10.7
5	Licences	0.6	0.8	0.3	1.7
6	Hunting/shooting club memberships	0.3	0.3	0.6	1.2
7	Other items	0.6	0.5	0.3	1.5
8	Vehicle repairs	1.1	1.2	0.3	2.5
9	Training	0.1	0.1	0.4	0.7
10	Vehicles	3.4	3.6	0.0	7.0
	Off-trip expenditure sub-total	12.5	15.3	9.5	37.4
	Total expenditure (on trip + off-trip)	45.5	56.9	31.0	133.5

Source: BDO EconSearch analysis



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