



ECONOMIC CONTRIBUTION OF RECREATIONAL PROSPECTING

MINELAB ELECTRONICS

5 JULY, 2021

PRIVATE AND CONFIDENTIAL





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5 JULY 2021

Dear Peter,

BDO Services Pty Ltd ('BDO') has been engaged by Minelab Electronics ('Minelab') to prepare a report ('this Report') regarding the economic and social contribution of the recreational prospecting industry in Australia.

Our work has been undertaken in accordance with our engagement letter dated 28 January 2021. The responsibility for determining the adequacy of the scope of works performed by us to meet your requirements is that of Minelab. We have summarised the agreed scope of work in Section 2.

This Report is addressed to and intended for the information of the addressee only in relation to establishing the economic value of the recreational prospecting industry in Australia. Minelab has consent from BDO to disclose the content of our analysis and deliverables to other parties for uses that align with the objectives of the study.

Unless otherwise stated, this report is based on the latest information that was made available to us as at the completion of our work in June 2021 and we accept no responsibility to update it for events that take place after the date of its issue.

We thank you for the opportunity to provide our services to Minelab. Please do not hesitate to contact us if you have any questions about this Report or if we may be of any further assistance.

Yours faithfully

BDO Services Pty Ltd
Reece Edwards
Partner

ACKNOWLEDGEMENTS

BDO would like to acknowledge the support and assistance from the following organisations and individuals for sharing their information, providing feedback and facilitating the distribution of the survey, including:

- ▶ Minelab
- ▶ Presidents and committee members of recreational prospecting associations and clubs:
 - NSW and ACT Prospectors and Fossickers Association
 - Prospectors and Miners Association Victoria
 - Amalgamated Prospectors and Leaseholders Association
 - Prospectors and Miners Association of Tasmania
 - Townsville Metal Detecting Club
- ▶ The Outback Prospector.

We are also grateful to the 2,933 anonymous individuals who responded to the first survey and 4,522 anonymous individuals who responded to the second survey, who provided usable survey responses via telephone and online.

DEFINITIONS, ABBREVIATIONS AND GLOSSARY OF TERMS

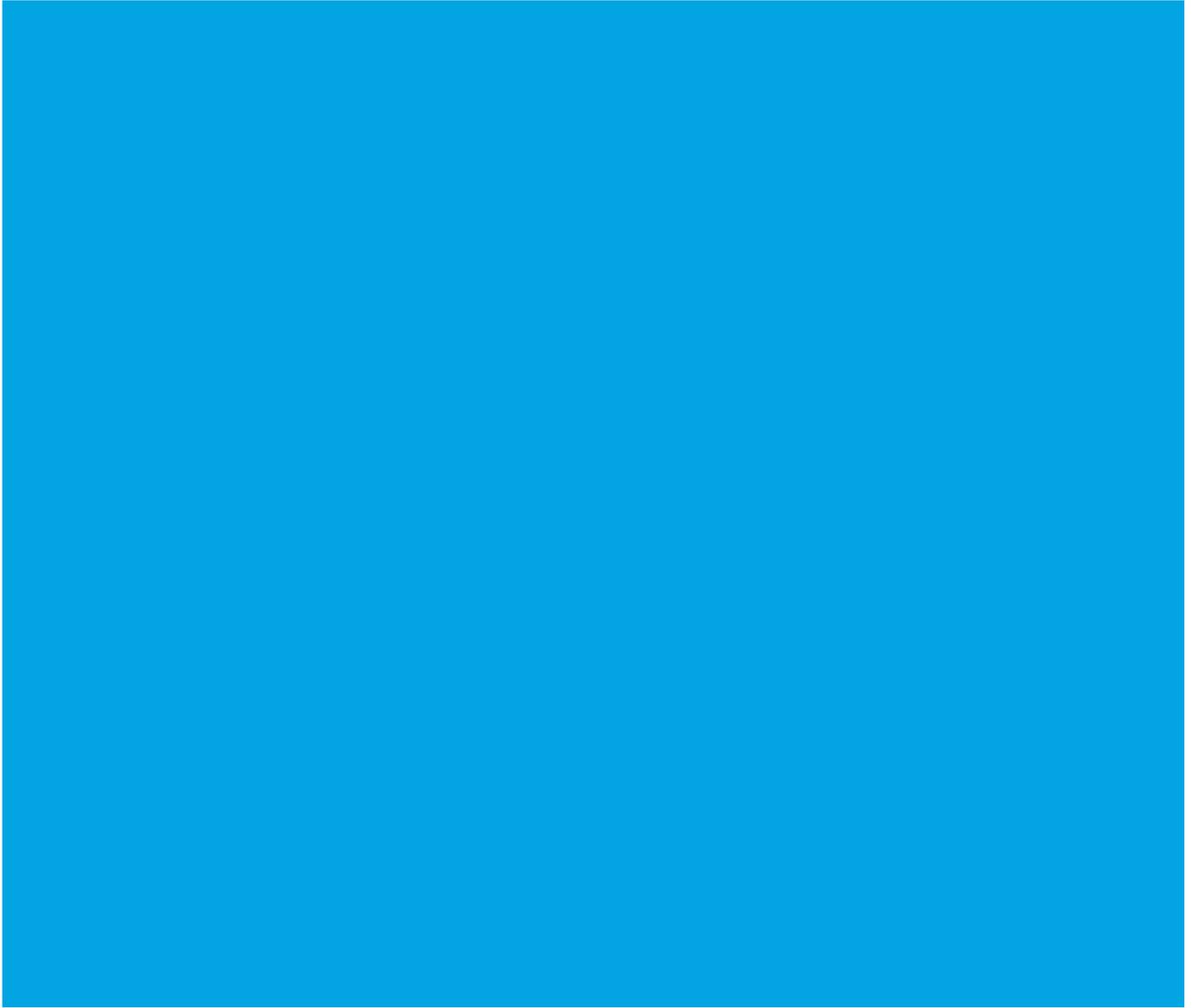
Term	Definition
ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AMR	Action Market Research
APLA	Amalgamated Prospectors and Leaseholders Association
CATI	Computer-assisted telephone interview
DFA	Designating fossicking area
FTE	Full-time equivalent
GDP	Gross domestic product
GPA	General permission area
GSP	Gross state product
NAPFA	NSW and ACT Prospectors and Fossickers Association
NSW	New South Wales
NT	Northern Territory
PMAT	Prospectors and Miners Association of Tasmania
PMAV	Prospectors and Miners Association of Victoria
QLD	Queensland
RISE model	Regional Industry Structure and Employment
SA	South Australia
TAS	Tasmania
VIC	Victoria
WA	Western Australia

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Section 1

EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

Recreational Prospecting in this study is defined as the act of searching for gold and other metals (e.g. coin and relics) for non-commercial reasons, such as recreational, tourism or educational purposes, as well as activities undertaken by small-scale professionals to make a living.

For the purposes of this study, prospecting only considered activity that at minimum involved the use of a metal detector.

The discovery of gold in Australia in 1850s greatly changed the course of Australian history. The gold rush and the economic activities it brought expanded Australia's population, boosted its economy, and led to the emergence of a new national identity.

While the remaining larger deposits continue to be mined and explored by corporate mining companies, recreational prospecting among hobbyists and small-scale professionals has grown in popularity over the past few years.

The resurgence in interest has not only stemmed from a decade long rise in gold price, but also the advancement in detecting technology which has made it easier for users to pinpoint the locations of the find. Apart from gold, treasure hunting (e.g. coin, relics) has also been on the rise off the back of the improvement in detecting technology.

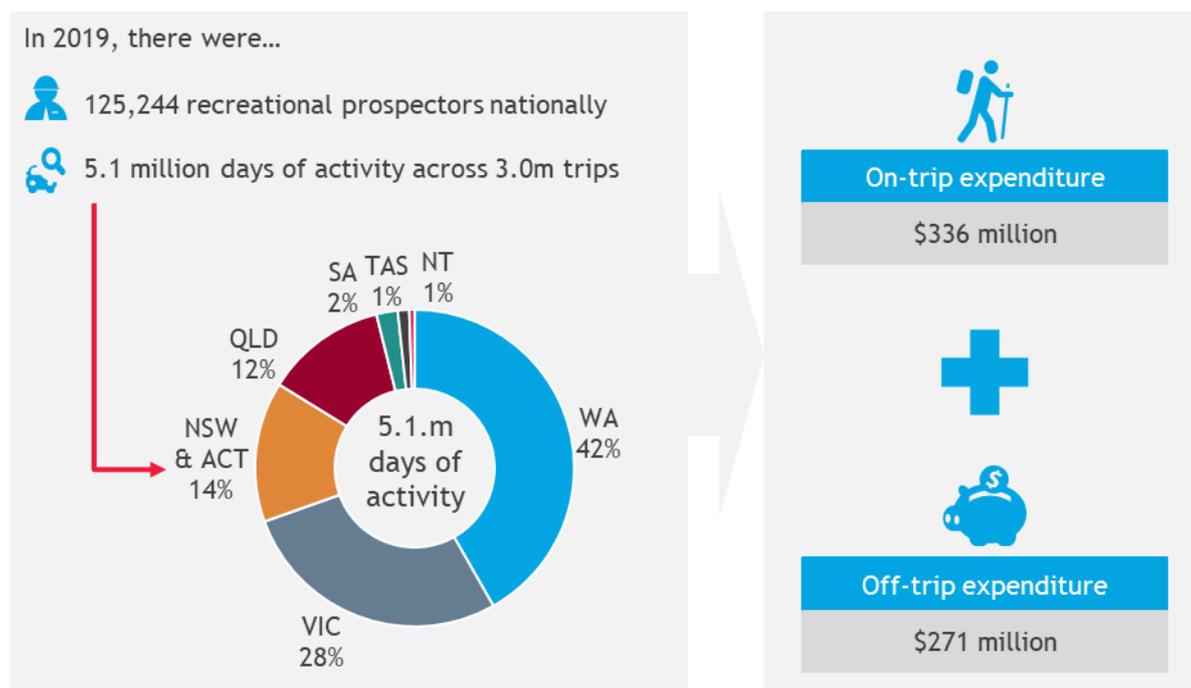
The "modern gold rush", as dubbed by media, has not gone unnoticed. There is frequent media reporting on ordinary prospectors striking gold in all corners of Australia. Reality television shows like the Discovery Channel's Aussie Gold Hunters, which is broadcast in 122 countries around the world, have also put prospecting in the spotlight, creating excitement among recreational prospectors and professionals alike.

Establishing the national footprint of recreational prospecting in Australia

Despite the regular coverage of recreational prospecting activities in the media, there is no official or consistent national statistics on recreational prospecting.

For the first time, through a national survey of recreational prospectors' activity, expenditure, income and social information, this study has established first-hand information on the activity footprint of recreational prospectors in Australia.

Figure 1. Activity and expenditure profile of recreational prospectors, 2019



EXECUTIVE SUMMARY (CONT'D)

The survey and analysis of survey results established that there were an estimated 125,244 recreational prospectors in Australia in 2019, with around 85% of them undertaking at least one day of prospecting. Together, this adds up to approximately 5.1m days of recreational prospecting activity carried out over 3m trips. Prospectors are estimated to have spent \$336m while on the trip and \$271m off-trip.

These recreational prospecting activities make important contributions to the economy of Australia.

Economic contribution of recreational prospecting to Australia

Recreational prospectors' expenditures (both on trip and off trip) contribute directly to both GDP and employment of the locations where these expenditures occur. These locations tend to be once-prosperous towns in regional Australia and where renewed economic activity is greatly needed in present times.

Prospectors' income earned through recreational prospecting (not including professionals), where they are spent, also directly contributes to both GDP and employment in the regions where the spending occurs.

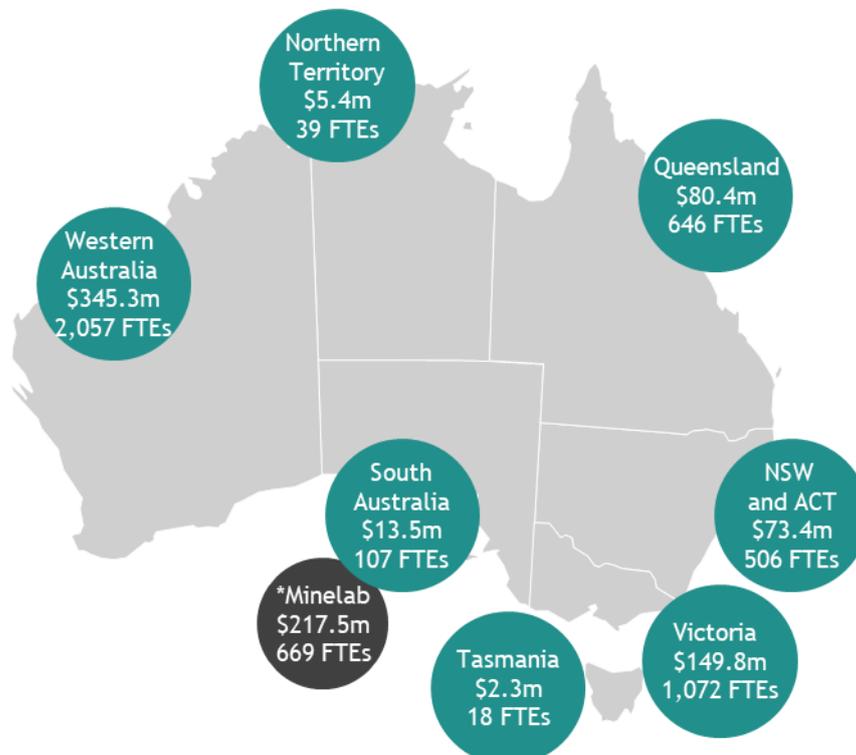
In 2019, the expenditure and income together directly contributed a total of \$338m to the national GDP and employed 1,956 FTEs.

An additional \$549m in GDP and 3,597 FTEs were generated indirectly from flow-on activities in supporting sectors, such as in retail, manufacturing and logistical services.

The economic contribution of recreational prospecting nationally and by each state and territory is illustrated in Figure 2.

Figure 2. Economic contribution of recreational prospecting to Australian states and territories

In 2019, recreational prospecting contributed \$887m in GDP and 5,553 FTE jobs to the Australian economy. In addition, Minelab Electronics (Minelab) contributed \$218m in GSP and 669 FTE jobs to the South Australian economy.



Note: The values reported for Australia are larger than the sum of the states as interstate spending is excluded from the individual state analyses but is included in the Australia analysis.

*In addition to recreational prospectors' contribution to South Australia's GDP, Minelab's business expenditures also contributed to the economic activity in South Australia (2019/20).

Source: BDO analysis

EXECUTIVE SUMMARY (CONT'D)

Economic contribution of Minelab to South Australia

Minelab's global operations are primarily based in South Australia. The business employs highly skilled staff in research and manufacturing, with the lower valued manufacturing tasks occurring offshore. Highly skilled employment is associated with high wages and these support a significant amount of economic activity in South Australia through consumption expenditure. Business expenditures by Minelab also support economic activity in South Australia.

In 2019/20, Minelab contributed an estimated \$217.5 million (in terms of GSP) and 669 FTE jobs to South Australia's economy (as shown in Figure 2):

- ▶ \$148.2 million and 100 FTE jobs were directly contributed through business expenditure.
- ▶ \$69.3 million and 569 FTE jobs were indirectly contributed through flow-on effects.

Conclusion

The recreational prospecting sector builds on the legacy of a rich history of Australian pioneers and prospectors that dates back to the gold rush.

This study examined the role of recreational prospecting in facilitating business and economic activities.

The recreational prospecting sector is diverse, with different types of prospectors (hobbyists and professionals) and a wide range of prospecting targets (gold and varieties of treasure targets).

The activity pattern of the sector is mainly driven by prospectors' intrastate and interstate trips to prospecting destinations. Their expenditures on-trip and off-trip make important economic contributions to the national and regional economy.

The continuation of this economic contribution, however, is underpinned by a number of forces of influences, including the sustainability of the target reserves, and ongoing accessibility to the areas for prospecting which is subject to different regulations in different state and territories and various licencing approvals.

INTRODUCTION



INTRODUCTION AND SCOPE OF ENGAGEMENT

2.1 Introduction

Prospecting has played a significant role in Australia's history. The advancement in detecting technology, rise in the price of gold and recurrent media exposure in recent years has led to a rise in the popularity of recreational prospecting among hobbyists and small-scale professionals.

There is no universal definition for recreational prospecting. The activity is referred to as either prospecting or fossicking, or even interchangeably, across different Australian states and territories.

In this report, recreational prospecting is defined as the act of searching for gold and other metals (e.g. coin and relics) for non-commercial reasons, such as recreational, tourism or educational purposes, as well as small-scale professional reasons such as to make a living. In addition, this study only considered prospecting activity that at minimum involved the use of a metal detector.

2.2 Scope of engagement

Minelab Electronics ('Minelab') has engaged BDO to undertake an economic contribution study of the recreational prospecting industry (this study).

The objective of the study is to provide a source of truth for key economic statistics concerning the recreational prospecting industry in Australia as a whole and to establish the economic contribution that the recreational prospecting industry makes to the Australian economy and community.

The scope of this study included:

- ▶ Establishing the activity 'footprint' of recreational prospecting in Australia, including:
 - Number of participants
 - Locations of prospecting activities
 - Estimates of expenditure.
- ▶ Estimating the economic contribution (i.e. the economic 'footprint') of recreational prospecting in Australia, in terms of value added and employment at the state and national level.
- ▶ Estimating the economic contribution of Minelab's operation in Adelaide to the South Australian economy.

The recreational prospecting sector is diverse and complex. In consultation with Minelab, the following study parameters were determined for inclusion in the study scope to best align with the sector components of the most interest to Minelab:

- ▶ Sector participants would consider both hobbyists and professionals who prospect on a small scale; corporate prospectors and miners would not be included.
- ▶ Prospecting targets would include both gold and treasure (e.g. coin and relics); gemstones/fossils/minerals would not be included.
- ▶ Prospecting methods must include the use of a metal detector.

SURVEY METHODOLOGY



SURVEY METHODOLOGY

3.1 Survey methodology

In Australia, there are no official or consistent sources of information for the recreational prospecting industry. To address this gap and for the purposes of this study, two national surveys of recreational prospectors were undertaken to collect primary data for the recreational prospecting industry - an expenditure survey and a population survey:

- ▶ The purposes of the expenditure survey, conducted between 14 July and 26 August 2020, were to:
 - Estimate the **expenditure pattern** of recreational prospectors in Australia and its states and territories.
 - Gather relevant data to use as the basis for estimating the **economic and social contribution** of recreational prospecting activity in Australia and its states and territories.
- ▶ The purpose of the second survey, conducted between 25 March and 23 April 2021, was to supplement the information gathered in the first survey and specifically, to estimate the population size of recreational prospectors in Australia, and its states and territories.

This section details the methods used to conduct the surveys and analysis undertaken to estimate the population size and activity pattern of recreational prospectors using the survey responses.

3.1.1 Survey design

The two survey questionnaires were developed in collaboration with Minelab and the state-based prospecting associations, in particular, Prospectors and Miners Association of Victoria (PMAV), NSW and ACT Prospectors and Fossickers Association (NAPFA), and Amalgamated Prospectors and Leaseholders Association (APLA).

The questions in the expenditure survey covered the following themes:

- ▶ **Activities:** Who goes prospecting? Where do they go? How many days and trips do they go a year? What are their prospecting targets? Are they purely recreational or seeking to earn an income?
- ▶ **Expenditures:** What do they spend money on while on trips and while not on trips? How much do they spend? Where are the businesses they purchase from located? Are the expenditures fully attributable to the recreational prospecting activities or only partially?
- ▶ **Income:** What did they find and how much was it worth? How much did they convert to income by selling?
- ▶ **Social aspects:** What motivates them to go prospecting? Who do they go with? How do they perceive their general and psychological health and wellbeing?

The questions in the population survey focused on prospectors' licencing status and included questions such as:

- ▶ Which states did they go prospecting? Which licences are held and for which state? When did they obtain which licence? When did they most recently go prospecting? Did they prospect with or without a licence?

3.1.2 Survey fieldwork

The survey fieldwork for both the expenditure and population surveys was administered by market research company Action Market Research (AMR). Online surveys were administered by AMR and were supplemented by computer-assisted telephone interviews (CATI) for both surveys. The data collection period for the expenditure survey commenced on 14 July 2020 and closed on 26 August 2020, while the data collection period for the population survey commenced on 25 March 2021 and closed on 23 April 2021. Key steps involved in the fieldwork were:

- ▶ Obtain survey samples. The initial samples for both surveys were provided from the Minelab customer database.

The sample for the expenditure survey comprised of:

- Full sample = 81,725 records
- Useable sample = 29,299 records (email listed and duplicates removed).

The sample for the population survey comprised of:

- Full sample = 85,634 records
- Useable sample = 33,138 records (email listed and duplicates removed).

SURVEY METHODOLOGY (CONT'D)

The difference in sample size across the expenditure and population surveys is due to the size of the Minelab customer database increasing between the dates the two surveys began.

These samples were supplemented by opt-in survey participants who were not captured by the Minelab customer database but may have been members of the relevant associations and clubs, or other unaffiliated prospectors, who were all openly invited to participate in the survey via invitations from associations and/or their posts to social media. To boost participation prize draw incentives were used. The prize offered was the choice of a Minelab Equinox-800 or Gold Monster 1000 metal detector. Two separate prize draws were completed - one following the close of each survey.

- ▶ Pilot interviews. Initial interviews were conducted as part of the pilot interviews to trial the survey questions for both surveys. For the expenditure survey, 16 pilot interviews were conducted, with 8 pilot interviews conducted for the population survey. Participants were sourced from multiple states including Victoria, New South Wales, Western Australia, Queensland and South Australia. Among those included in the pilot tests were representatives from the following organisations:
 - PMAV
 - NAPFA
 - APLA
 - Townsville Metal Detecting Club
 - The Outback Prospector.
- ▶ Online survey. The online survey for the expenditure survey was administered between 30 July and 21 August 2020, with the online survey for the population survey being administered between 31 March and 21 April 2021.
- ▶ Lastly, CATIs were conducted to supplement the online responses received in order to improve sample representativeness in certain geographic areas. 111 CATIs were conducted to supplement the expenditure survey, with 30 CATIs conducted to supplement the population survey. The distribution of CATIs across states and territories for both surveys are indicated in Table 1 and Table 2, respectively.

Table 1. CATI participant summary - Expenditure Survey

Location	Metro	Regional	Total
WA	15	4	19
VIC	-	-	0
NSW and ACT	3	28	31
QLD	14	31	45
SA	9	2	11
NT	2	3	5
TAS	-	-	0
Not in Australia	-	-	0
Total	43	68	111

Source: BDO expenditure survey of recreational prospectors 2020

Note: Regional/metropolitan categorisations classified as: NSW Metro (ACT, Sydney, Wollongong or Newcastle area), NSW Regional (NSW - elsewhere), NT Metro (Darwin area), NT Regional (NT - elsewhere), QLD Metro (Brisbane area), QLD Regional (QLD - elsewhere), SA Metro (Adelaide area), SA Regional (SA - elsewhere), TAS Metro (Hobart area), TAS Regional (TAS - elsewhere), VIC Metro (Melbourne area), VIC Regional (VIC - elsewhere), WA Metro (Perth area), WA Regional (WA - elsewhere).

SURVEY METHODOLOGY (CONT'D)

Table 2. CATI participant summary - Population Survey

Location	Metro	Regional	Total
WA	4	1	5
VIC	5	19	24
NSW and ACT	-	-	0
QLD	-	1	1
SA	-	-	0
NT	-	-	0
TAS	-	-	0
Not in Australia	-	-	0
Total	9	21	30

Source: BDO population survey of recreational prospectors 2021

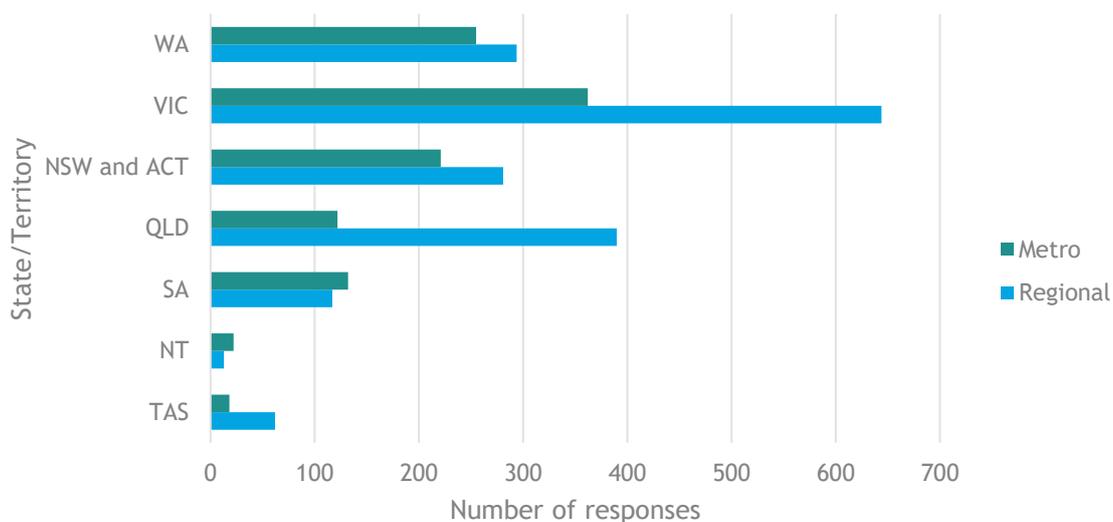
Note: Regional/metropolitan categorisations classified as: NSW Metro (ACT, Sydney, Wollongong or Newcastle area), NSW Regional (NSW - elsewhere), NT Metro (Darwin area), NT Regional (NT - elsewhere), QLD Metro (Brisbane area), QLD Regional (QLD - elsewhere), SA Metro (Adelaide area), SA Regional (SA - elsewhere), TAS Metro (Hobart area), TAS Regional (TAS - elsewhere), VIC Metro (Melbourne area), VIC Regional (VIC - elsewhere), WA Metro (Perth area), WA Regional (WA - elsewhere).

3.1.3 Completed survey responses

Across both expenditure and population surveys, a total of 7,527 responses were received. The responses received for each survey is as follows:

- ▶ Expenditure Survey: A total of 2,991 responses were received, with 52 responses removed due to either poor responses or speed of completion and 6 removed as they were from overseas residents. In total, 2,933 responses were included for further analysis. The geographical distribution of the completed expenditure survey responses is provided in Figure 3.

Figure 3. Geographical distribution of expenditure survey responses

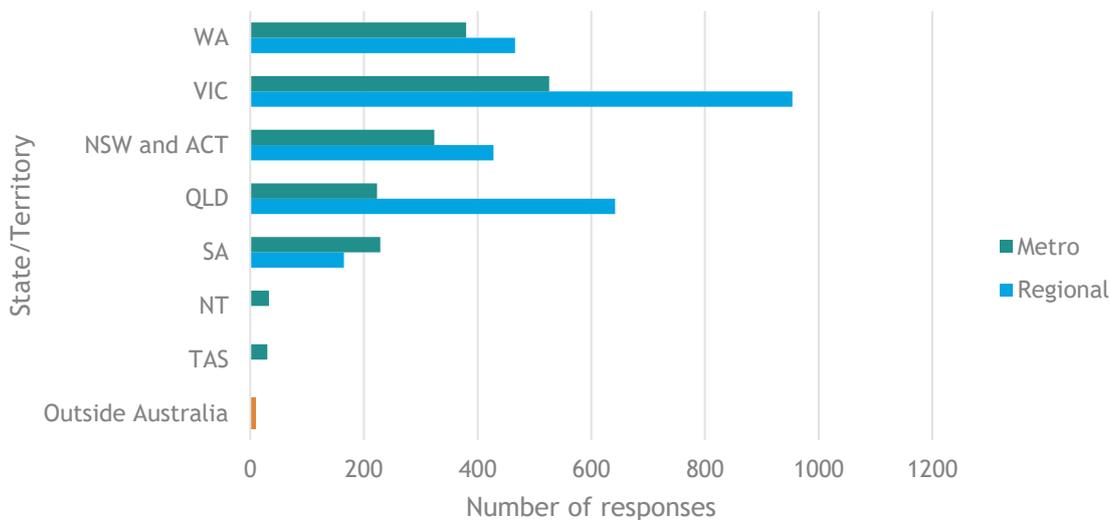


Source: BDO expenditure survey of recreational prospectors 2020

SURVEY METHODOLOGY (CONT'D)

- ▶ Population survey: A total of 4,536 responses were received, with 13 duplicate responses removed (i.e. responses coming from same email address). For the purposes of the population survey, responses from overseas residents were not required to be removed. Thus, 4,523 responses were included for further analysis. The geographical distribution of the completed population survey responses is provided in Figure 4.

Figure 4. Geographical Distribution of population survey responses



Source: BDO population survey of recreational prospectors 2021

3.1.4 Analysis of survey results

The survey results collected were used to estimate the population size of recreational prospectors as well as to establish their expenditure pattern. The following three key steps were involved to analyse the survey responses:

- 1 Estimate recreational prospecting population size
- 2 Weighting of the survey sample from each state and territory to be representative of the estimated population of each state and territory.
- 3 Partition weighted prospecting activity into the states and territories they occurred in.

While step 1 used only the results of the population survey, steps 2 and 3 used the results of the expenditure survey in conjunction with the population estimates obtained in step 1.

Step 1: Estimate recreational prospecting population size

The method used to estimate the recreational prospecting population size differs for each state and territory, as the available information to derive such estimates differs across states and territories:

- ▶ The states of Victoria, Western Australia and Queensland adopt Miner's Rights/licencing/permit systems, where licences are required for undertaking recreational prospecting activities. There are, however, noticeable differences in the licencing specifications across each of the states, including types of licences (i.e. Miner's Rights versus fossicking licences), the validity periods of the respective licence (i.e. ranging from one month to a lifetime), number of prospectors each licence can cover and the length of the available data series for licence issuance numbers.¹
- ▶ Miner's Rights/licencing/permits in other states and territories are not universally required.

¹ These licences typically cover opal and gemstone prospecting in addition to those activities which require a metal detector, however, the gemstone population that may be covered by the licences have not been separately identified for the following reasons:

1. Anecdotal evidence suggests that these activities comprise a very small proportion of overall recreational prospecting activity
2. The survey sample comprised metal detector users, this meant that the opal and gemstone prospector population is not sufficiently represented by the survey responses (therefore, survey responses cannot be used to determine the opal and gemstone prospector population).

SURVEY METHODOLOGY (CONT'D)

It was therefore necessary to adopt different methods for determining the number of prospectors in each state and territory based on the different types of information available for each state and territory. In total, three methods were utilised to estimate the number of active recreational prospectors in Australian states and territories who undertook at least one day of prospecting in 2019:

- ▶ Method 1 was used to estimate the number of active recreational prospectors in Western Australia and Victoria
- ▶ Method 2 was used to estimate the number of active recreational prospectors in Queensland
- ▶ Method 3 was used to estimate the number of active recreational prospectors in New South Wales and the Australian Capital Territory, the Northern Territory, and South Australia.

Method 1 - Western Australia and Victoria:

In Victoria and Western Australia, the activities of recreational prospectors are mostly governed by Miner's Rights:

- ▶ In Victoria, they are generally valid for 10 years²
- ▶ In Western Australia, they are valid for life.

Information on the number of Miners' Rights issued per year was provided by the Victorian and Western Australian state governments for the purpose of supporting the study:

- ▶ In Victoria, Miner's Rights issued annually between 2011 and 2019 was provided
- ▶ In Western Australia, Miner's Rights issued annually between 2010 and 2020 was provided.

As a Miner's Right is valid for multiple years, the method used to determine the active prospector population in Western Australia and Victoria was based on the derivation of a 'retention rate' which represented the proportion of Miner's Right holders who are still active for a given number of years after they last obtained their Miner's Rights. The 'retention rate' for each state is then applied to the number of Miner's Rights issued in each relevant year for each state.

Retention rate estimate

The population survey responses provided information on the year a respondent most recently obtained a Miner's Right along with the year they most recently went prospecting in Victoria and Western Australia. This information was used to develop a 'retention rate' for prospectors in Victoria and Western Australia respectively, which represents the proportion of Miner's Rights holders who are likely to remain active for a given number of years after their Miner's Rights were issued.

To estimate these retention rates, for each Miner's Rights issue year, the number of survey respondents who remained active for a certain number of years after obtaining their Miner's Rights in that year were calculated as a proportion of Miner's Rights holders who obtained their Miner's Rights in that year (e.g. the 13 respondents who received their Western Australian Miner's Rights in 2017 and remained active until 2019 represented 14% of the 91 respondents who obtained their Miner's Rights in 2017). Additionally, it was assumed that if a prospector was active in a given year, they also would have been active in the years between acquiring their Miner's Rights and their last active year.

A retention rate profile (see Box 1) was then established by calculating the average proportion of respondents who remained active for a given number of years after obtaining their Miner's Rights.

² 2-year licences were previously granted in VIC, but were last issued in 2014 and were thus last valid in 2016.

SURVEY METHODOLOGY (CONT'D)

Box 1. Retention rate profiles - Western Australia and Victoria

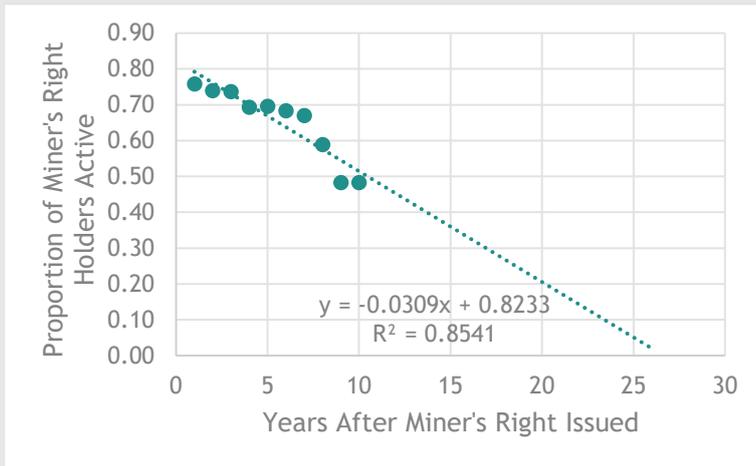
Western Australia Retention Rate Profile:		Victoria Retention Rate Profile:	
Years since issue	Average Proportion still active	Years since issue	Average Proportion still active
10	0.48	10	0.17
9	0.48	9	0.29
8	0.59	8	0.42
7	0.67	7	0.43
6	0.68	6	0.47
5	0.70	5	0.51
4	0.69	4	0.54
3	0.74	3	0.60
2	0.74	2	0.60
1	0.76	1	0.62
0	0.99	0	1.00

A linear equation was then fitted to the retention rate profile, in order to model the relationship between years since issue and the proportion of Miner's Right holders that were still active (see Box 2). The modelled retention rates were then used in conjunction with annual Miner's Right issuance data to determine the number of active prospectors in a given year.

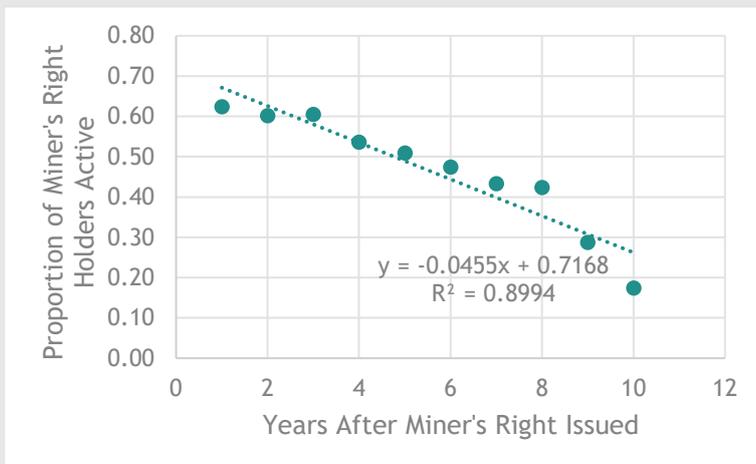
SURVEY METHODOLOGY (CONT'D)

Box 2. Modelled relationship between years since issues and the proportion of Miner's Right holders still active - Western Australia and Victoria

Modelled relationship for Western Australia:



Modelled relationship for Victoria:



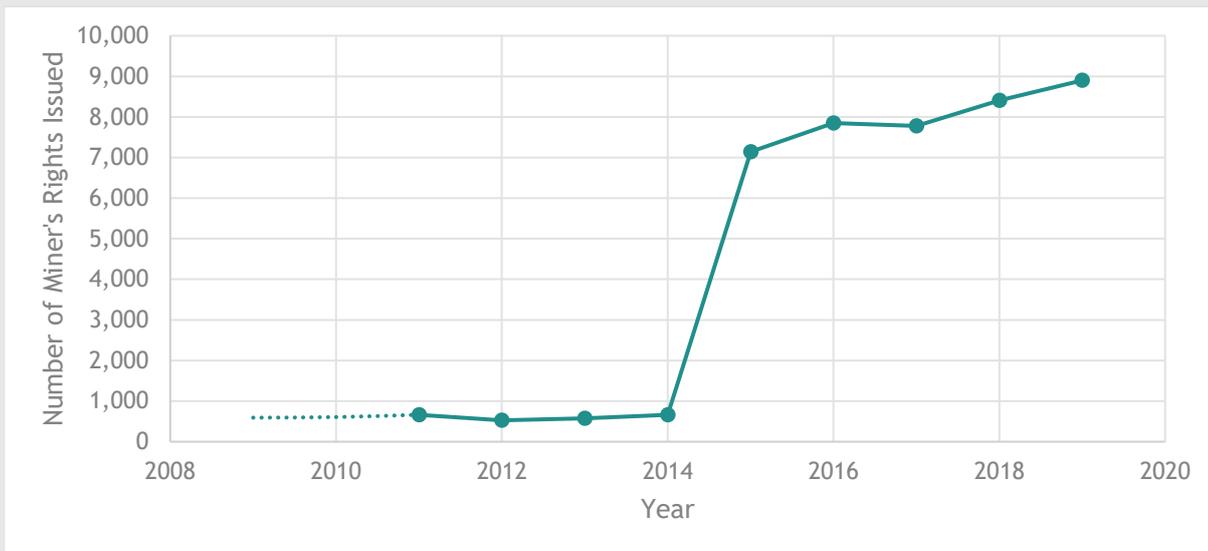
Number of Miner's Rights estimate

The number of Miner's Rights issued were extrapolated back in time to fill in the gaps of the available time series on annual issuance volume for Victoria and Western Australia respectively (i.e. data is available between 2011 and 2019 for Victoria and between 2010 and 2020 for Western Australia). The extrapolation period is determined by the validity period of the Miner's Rights respectively and is between 2009 and 2010 for Victoria and between 1995 and 2009 for Western Australia (see Box 3).

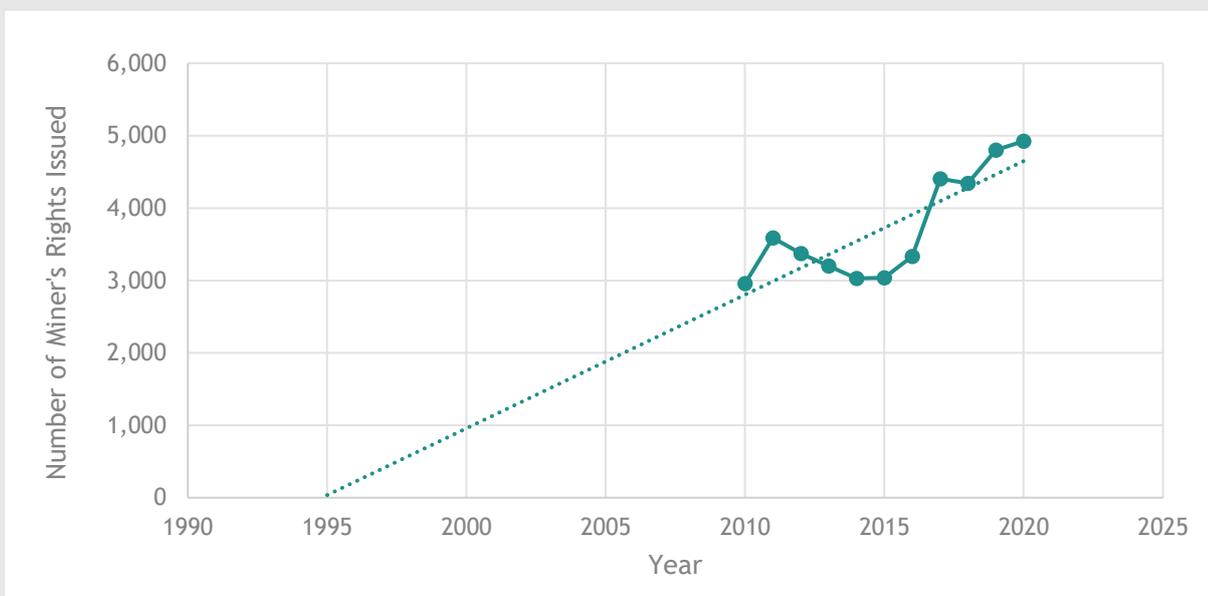
SURVEY METHODOLOGY (CONT'D)

Box 3. Extrapolation of Miner's Rights issued - Western Australia and Victoria

In Victoria, the historic number of Miner's Rights issued has been affected by policy changes - as of 2014, 2-year Miner's Rights were abolished, and 10-year Miner's Rights became the only Victorian Miner's Right available (resulting in the uptake in 10-year Miner's Rights from 2014 onwards). Determined by the 10-year validity period of the Miner's Rights, extrapolation was undertaken for 2009 and 2010 and calculated as the average of the number of 10-year Miner's Rights issued between 2011 and 2014 (see below figure).



Extrapolation for Western Australian Miner's Rights was undertaken for a longer period of time, as Miner's Rights in Western Australia are valid for life. As the number of Western Australian Miner's Rights issued followed an upward trend from 2010 (see below figure), extrapolation for Miner's Rights issued prior to 2010 were established based on them following this observed trend. However, as the backward extrapolation for the number of Miner's Rights indicated that the number issued was less than zero prior to the year 1995, the earliest extrapolated year was set at 1995.



SURVEY METHODOLOGY (CONT'D)

Lastly, to account for prospectors who prospect on licences/permits other than Miner's Rights, the proportion of respondents who indicated that they prospected without a Miner's Right was then added to the number of Miner's Right holders. This proportion is 8.12% and 8.30% for Victoria and Western Australia, respectively. Of those who indicated they did not hold a Miner's Right:

- ▶ 40.0% of those who went prospecting in Western Australia in the past 10 years did so with alternative licences/permissions/permits, while 60.0% did so without any relevant licences/permits/permissions.
- ▶ 37.0% of those who went prospecting in Victoria in the past 10 years did so with alternative licences/permissions/permits, while 63.0% did so without any relevant licences/permits/permissions.

Method 2 - Queensland:

In Queensland, the activities of recreational prospectors are governed by fossicking licences, which have the following characteristics:

- ▶ Issued licences vary in length. Queensland fossicking licences may be issued for a term of 1 month, 6 months, or 1 year, and may be obtained at any point throughout the year.
- ▶ Licences may cover more than one adult, depending on whether an 'individual' or 'family' licence is purchased.³

Information on the total number of fossicking licences issued per year, between FY16 and FY20 was provided by the Queensland government for the purpose of supporting the study.

The following adjustments were made to convert the number of licences issued into the number of unique, individual prospectors:

- ▶ As a single prospector is likely to correspond with multiple licences issued (i.e. a licence is only valid for a maximum of one year), it was assumed that 50% of all issued licences uniquely correspond with an individual licence holder.
- ▶ As both 'individual' and 'family' fossicking licences are available, a single licence may cover up to 2 adults. As there is no publicly available information regarding the ratio of 'individual' to 'family' fossicking licences issued, survey data was used to obtain this ratio. It was found that approximately 55.3% of licence-holders held a licence which covered two adults, rather than one.
- ▶ In addition to those prospectors who are covered by a fossicking licence, there is a proportion of prospectors who undertake prospecting activities in Queensland with licences/permits/permissions alternative to a fossicking licence, or who prospect without any relevant permissions. Through analysis of the survey responses, the proportion of these individuals was determined to be 18.5%. This sample statistic was then applied to the population estimate of prospectors with a fossicking licence, to determine the population estimate of prospectors in Queensland overall, including those who do so without a fossicking licence. Of those who indicated they did not hold a Queensland fossicking licence:
 - 42.4% of those who went prospecting in Queensland in the past 10 years did so with alternative licences/permissions/permits, while 57.59% did so without any relevant licences/permits/permissions.

Method 3 - Remaining states and territories:

In the absence of any publicly available prospecting licence data, the method used to calculate the population estimates for New South Wales and the Australian Capital Territory, the Northern Territory and South Australia utilises Minelab sales data and the previously calculated estimates of the number of active prospectors in Victoria, Western Australia, and Queensland.

Using Minelab sales data, and an estimation of the company's market share of metal detector sales in Australian states and territories, the total detector unit sales for each state and territory in 2019 were able to be calculated.

From detector unit sales and previously estimated active prospector population for Victoria, Western Australia, and Queensland, the number of prospectors per metal detector sold was calculated for each state. The average value for 'active prospectors per detector sale' across the three states were then calculated. Given that the detector unit sales were available in all states and territories, the average value for 'active prospectors per detector sale' was used to determine the number of active prospectors in New South Wales and the Australian Capital Territory, the Northern Territory and South Australia.

³ Fossicking licences are also available for an 'educational organisation' or 'commercial tour operator' for terms of 1-year, but it has been assumed that those covered by these licences do not meet the definition of a recreational prospector unless they obtain a licence at a later point, in which case they will be captured as an 'individual' or 'family' licence holder.

SURVEY METHODOLOGY (CONT'D)

Population Size

Active prospector numbers in each state and territory in 2019 were estimated using the three methods above. To determine the total number of prospectors, it was assumed that 85% of prospectors were active, while the remainder were inactive.⁴ This assumption was based on the outcome of a literature review of studies on similar outdoor recreational activities in Australia, the details of which are outlined in Box 4.

⁴ While active prospectors are defined as those who undertook at least one day of prospecting in 2019, inactive prospectors are defined as those did not undertake any prospecting activities in 2019 but intended to in the future.

SURVEY METHODOLOGY (CONT'D)

Box 4. Summary of literature review on avidity rates of similar outdoor activities

The literature review indicated that activities with high avidity tend to be those where a large investment and/or recurring expense is required to maintain access (see Table 2). The population in these studies also tends to be a known sub-set of residents. For example, a current game hunting licence and specialised equipment is required to hunt duck or deer in Victoria and a fishing boat and licence is required to be a boat-based recreational fisher in Western Australia.

In contrast, in low avidity activities, only a small investment and no or very little recurring cost is required to maintain access; and since the population is all residents, much of the population has never invested in accessing the activity. If those who have never invested in accessing the activity were removed from the population then the participation rate would be higher. Conversely as an example, if the residents of Victoria who do not have current access to duck hunting were included in the population then the avidity rate would be much lower.

- ▶ In order to use these studies to estimate the avidity rate of recreational prospecting, the following factors were considered:
- ▶ Investment in recreational prospecting equipment is substantial with the average metal detector costing over \$1,000 and expenditure on other equipment and vehicles being much higher.
- ▶ Purchasing a permit is necessary for recreational prospecting in some states and territories.
- ▶ The population to be estimated is all people who go recreational prospecting from time to time.

Table 3 Summary of avidity from studies on similar outdoor recreation activities

Range	Active (%)	Activity	Population	Region	Year	Source
High avidity activities	87%	Duck hunting	Game hunters licenced for duck	VIC	2020	RMCG 2020
	85%	Recreational fishing	Recreational Fishing Boat Licence holders	WA	2015	Ryan et. al. 2017
	76%	Deer hunting	Game hunters licenced for deer	VIC	2013	RMCG 2014
	44%	Deer hunting	Game hunters licenced for deer	VIC	2020	RMCG 2020
Low avidity activities	29%	Recreational fishing	All residents	TAS	2000	Henry and Lyle 2003
	29%	Recreational fishing	All residents	WA	2000	Henry and Lyle 2003
	26%	Duck hunting (poor season)	Game hunters licenced for duck	VIC	2013	RMCG 2020
	25%	Recreational fishing	All residents	NZ	2014	Wynne-Jones et. al. 2014
	13%-25%	Recreational fishing	All residents	Various states and territories across Australia	2000	Henry and Lyle 2003

Since recreational prospecting requires investment in equipment and permits, and the population is a sub-set of residents (not everyone in the region), the proportion of the population that is active can be expected to be similar to that of licence duck or deer hunters or licenced recreational fishing boat owners, at around 85%. We therefore adopt the assumption that 85% of the population of recreational prospectors are active in a given year.

A summary of the total number of active and inactive prospectors in each state and territory in 2019, is provided in Table 4 below.

SURVEY METHODOLOGY (CONT'D)

Table 4. Population of recreational prospectors in Australia in 2019, by State and Territory

State/Territory	Active	Inactive	Total
WA	36,485	6,439	42,924
VIC	31,535	5,565	37,100
NSW and ACT	18,914	3,338	22,251
QLD	13,598	2,400	15,998
SA	4,466	788	5,254
NT	836	148	984
TAS	623	110	733
AUSTRALIA	106,457	18,787	125,244

Step 2: Weighting of the survey sample from each state to be representative of the estimated population of each state

The survey sample of active prospectors from each state and territory was sufficient to weight individual responses to match the population gender and age distributions for each state. Assuming these characteristics are correlated with recreational prospecting behaviour, this provides a better estimate of population level activity than simply weighting each response by the ratio of population size to sample size.

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 ABS to weight household surveys (ABS 2000), that has since been applied by the ABS to other industry and household surveys (ABS 2016, 2017a, 2017b). The average of the resulting weights applied to the sample of active prospectors was 18.4 as the survey captured over 5% of the estimated total population.

Since the sample of inactive prospectors was small for individual states, as expected with a voluntary survey, the relative differences between expenditure patterns of active and inactive participants were calculated at a national level to avoid extreme values from smaller sample size states and territories. The national relative differences were then applied to the expenditure by the active population of each state and territory to estimate the expenditure by the inactive population in each state and territory.

Step 3: Partition weighted prospecting activity into the states they occurred in

The activities of recreational prospectors tend not to be limited to their state and territory of residence. As an example, a recreational prospector who lives in Victoria may purchase a metal detector and other tools from an online store based in New South Wales, go prospecting in Victoria and South Australia spending money in both states along the way, find gold in either state, then travel home to Victoria to sell the gold and spend the revenue.

This analysis partitions this activity into the state and territory that the transactions occurred in as this is where economic contributions are realised. The state and territory results can therefore be interpreted as the economic contribution to a given state and territory of recreational prospecting in Australia and includes:

- ▶ On-trip expenditures associated with recreational prospecting in the state or territory, regardless of the state and territory of residence of the prospector.
- ▶ Off-trip expenditures associated with recreational prospecting in the state or territory, regardless of the state and territory of residence of the prospector and where they tend to prospect.
- ▶ Expenditure of income earned through recreational prospecting by residents of that state or territory, regardless of which state or territory the finds or income were made. Income is only included if it is realised (for example, by selling gold) as unrealised income from finds that are not sold cannot be spent in the economy. Further, it is only included for prospectors who indicated that they prospect for recreational purposes, rather than to earn an income, as the expenditure of income by those who prospect to earn a living is already counted in their on-trip and off-trip expenditures (above) while those who prospect for recreation are assumed to make their on-trip and off-trip expenditures regardless of whether they earn any income from prospecting.

RECREATIONAL PROSPECTING IN AUSTRALIA



RECREATIONAL PROSPECTING IN AUSTRALIA

4.1 Segmentation of the recreational prospecting industry

The recreational prospecting industry within the scope of this study can be segmented in a few different ways, i.e. by types of prospectors, prospecting targets and prospecting methods.

4.1.1 Types of prospectors

People are drawn to recreational prospecting for a variety of different reasons, the excitement and optimism of finding gold, spending time in nature and outdoors, seeking a sense of adventure and challenge and making an income to earn a living.

Depending on the main motivations of the prospectors, they can be classified into two categories:

- ▶ **Recreational prospectors** - prospectors who participate in the activity primarily for non-commercial reasons, such as recreational (e.g. hobby), tourism, educational or social reasons.
- ▶ **Small-scale professional prospectors** - prospectors who prospect full time and primarily to earn a living. These prospectors are different from corporate miners and prospectors in that they operate at a small scale and are mostly self-employed.

4.1.2 Prospecting targets

The most commonly sought-after target for recreational prospectors is gold.

There is also increasing interest in the community in treasure hunting, for example, coins and relics, with the majority of hobbyists said to begin their hobby in treasure hunting by first delving into coin hunting.

4.1.3 Prospecting methods

There are numerous methods employed in recreational prospecting and typically more than one method is used at one time.

Almost all prospecting at a recreational level (including small-scale professionals) involve the use of a metal detector.

In general, people who engage in recreational prospecting activities are permitted to use hand-held, un-motorised tools (i.e. pans, hammers, picks and shovels, shakers, sieves, river sluices, etc.), with explosives and mechanised machinery strictly prohibited.

Small-scale professional prospectors may be able to use mechanised machinery depending on whether prospecting under a prospecting right/permit or lease/licence.

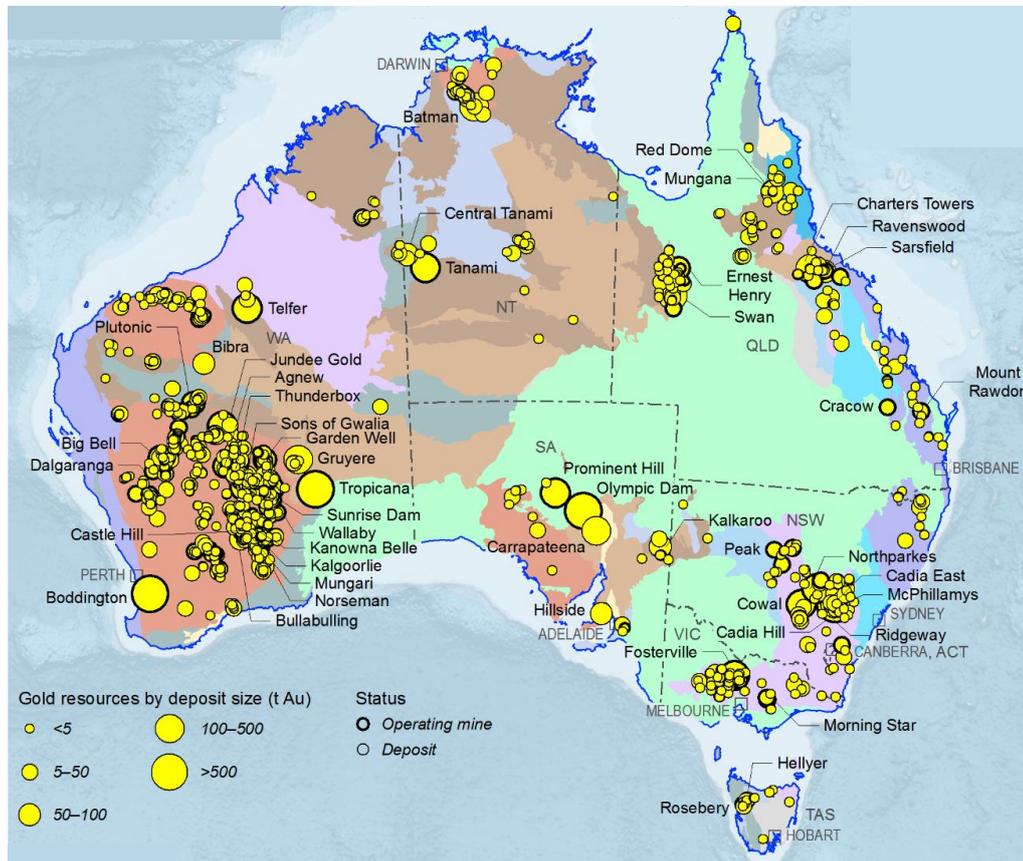
4.2 Locations of prospecting

Locations of prospecting activities are determined by both locations of deposits and accessibility to the land areas where deposits are located.

For prospectors whose primary targets are gold, the distribution of gold deposits are highlighted in Figure 5.

RECREATIONAL PROSPECTING IN AUSTRALIA (CONT'D)

Figure 5. Gold resources and deposit size in Australia



Source: Australian Government Geoscience Australia

Not all of these areas are accessible to recreational prospectors. There are strict rules and regulations in each state and jurisdiction that stipulate permitted areas and prohibited areas for recreational prospecting activities (see Table 5).

RECREATIONAL PROSPECTING IN AUSTRALIA (CONT'D)

Table 5. Established permitted and prohibited prospecting areas in each state and territory

Jurisdiction	Permitted areas	Restricted areas
WA	A Miner's Right is required to prospect on unallocated / vacant Crown land, including pastoral leases (land used for grazing and timber). Miner's Right holders must notify pastoralists of their intention to prospect. Further, consent is required from mining tenement holders to prospect on mining tenements.	No prospecting is permitted in the following areas: <ul style="list-style-type: none"> ▶ Reserved Land ▶ National parks ▶ Nature Reserves ▶ Within Town Sites ▶ Classified Reserves (e.g. cemeteries).
VIC	A Miner's Right is required to prospect (referred to as 'fossick' in Victoria) on except for prospecting at tourist mines and similar sites which charge a fee for entry. Areas permitted for prospecting include: <ul style="list-style-type: none"> ▶ Crown land other than prohibited and land where consent is required. ▶ Permitted Areas in State and National Parks - Beechworth Historic Park, Castlemaine Diggings National Heritage Park, Chiltern-Mt Pilot National Park, Heathcote-Graytown National Park, Reef Hills State Park Enfield State Park, Warrandyte State Park, Kooyoora State Park, Kara National Park, Paddy's Ranges State Park, Greater Bendigo National Park, Steiglitz Historic Park. ▶ Private land - consent from the land owner or occupier is required. ▶ Mining, prospecting or retention licence areas but not exploration licence areas - consent must be sought from the licence holder. 	No prospecting is permitted in the following areas: <ul style="list-style-type: none"> ▶ Prohibited Crown land ▶ State Parks ▶ National Parks ▶ Select streams, creeks and rivers.
NSW and ACT	<ul style="list-style-type: none"> ▶ Fossicking Districts ▶ Crown Land - requires consent from appropriate authority. ▶ Private land - consent must be sought from the landholder. ▶ Coal, Mineral and Petroleum Titles - consent must be sought from an authority, mineral claim or prospecting licence holder. ▶ Mineral Claims and Prospecting Licences - consent must be sought from the claim or licence holder. ▶ State Forests - permit required. 	No prospecting is permitted in the following areas: <ul style="list-style-type: none"> ▶ National Parks - consent may be provided in certain circumstances. ▶ Native Title - unless consent is sought from the relevant registered native title body corporate.
QLD	A licence is required to prospect (referred to as 'fossick' in Queensland) on most land throughout Queensland, except for tourist mines and similar sites which charge a fee for entry. Area permitted for prospecting includes: <ul style="list-style-type: none"> ▶ Occupied/private land (including both freehold and leasehold tenures) which requires written consent from the landholder. ▶ Unoccupied land - unless there has been a determination of native title. ▶ Road reserves - collection only, digging not permitted. ▶ Public gold prospecting areas comprising General Permission Area (GPA) and Designated Fossicking Areas (DFA), across <ul style="list-style-type: none"> - Clermont: 11 GPAs including 7 state forests areas and 4 council managed land areas - Warwick: 2 GPAs (Talgai, Durakai) and 1 DFA (Thames Creek) - Charters Towers: 1 GAP (Youngs Block) - Gympie: 1 DFA (Deep Creek). 	No prospecting is permitted in the following areas: <ul style="list-style-type: none"> ▶ National Parks ▶ Conservation Parks ▶ High preservation areas ▶ Nominated waterways of wild river areas ▶ State forests and timber reserves ▶ Other areas declared by regulation which are signposted.
SA	<ul style="list-style-type: none"> ▶ Unalienated Crown land - consent must be sought from the Department of Environment and Water ▶ Established fossicking areas which have been established on part of the Echunga goldfields and Gumeracha goldfields. 	No prospecting is permitted in the following areas: <ul style="list-style-type: none"> ▶ National Parks ▶ Conservation Parks ▶ Forest Reserves

RECREATIONAL PROSPECTING IN AUSTRALIA (CONT'D)

Jurisdiction	Permitted areas	Restricted areas
NT	<p>Prospecting is allowable on any land providing the correct notifications and consents are gained. This include:</p> <ul style="list-style-type: none"> ▶ Vacant Crown land ▶ Declared prospecting areas. ▶ Application area of an exploration licence or extractive mineral exploration licence ▶ Granted area of an extractive mineral exploration licence. ▶ Private/occupied land - consent must be sought from the landholder. 	<p>No prospecting is permitted in the following areas:</p> <ul style="list-style-type: none"> ▶ Aboriginal sacred sites ▶ Commonwealth land, including defence facilities and national parks such as Uluru and Kakadu.
TAS	<p>Prospecting is allowed in 10 declared fossicking areas in Tasmania. Outside of these areas, a licence is required to prospect in the following areas:</p> <ul style="list-style-type: none"> ▶ Private property - consent must be sought from the property owner. ▶ Existing mining leases, retention licences or exploration licences - consent must be sought from the mineral tenement holder. ▶ Unallocated or vacant Crown land - except pastoral leases (land used for grazing and timber) which requires a Miner's Right and prior written consent from land occupiers ▶ Land subject to an application for an exploration licence or mining lease only if consent is sought from both the applicant and Director of Mines ▶ Permanent Timber Production Zone Land, Future Potential Production forest, Regional Reserves and in some Conservation Areas. 	<p>No prospecting is permitted in the following areas:</p> <ul style="list-style-type: none"> ▶ National parks ▶ Nature Reserves ▶ Nature Recreation Areas ▶ Historic Sites ▶ Conservation Covenanted Areas ▶ Public and municipal reserves (e.g. tips, cemeteries).

Source: Western Australia Government; Victoria State Government; Queensland Government; NSW Government; South Australia Government; Tasmanian Government; Northern Territory Government

4.3 Recreational prospecting associations

There are four main recreational prospecting associations in Australia:

▶ APLA

APLA's origins first began in 1889 when prospectors and miners on the Yilgarn goldfield formed the first union for prospectors and miners in Western Australia. The formation of APLA was in response to the State passing regulations which enabled mining companies to gain exceptions enabling increased accessibility to mining. However, these exceptions were not available to individual or non-incorporated prospecting groups which disadvantage prospectors. Since the formation of APLA, it has protected and progressed the interests of prospectors and leaseholders for over 100 years.

In 2019, APLA was estimated to represent between 15,000 and 20,000 members engaged in recreational prospecting in Western Australia.

▶ PMAV

PMAV was established in 1980 with the goal to protect the rights and opportunities of those wishing to partake in recreational prospecting activities in Victoria. PMAV has since established strong connections with Government and other associations and clubs which share similar interests and goals. PMAV consists of eight branches throughout Victoria, and these branches organise field trip days on private and crown land, social events and guest speakers for its members.

▶ NAFPA

NAFPA was formed in 2012 with the goal to gain fairer access to public land for prospecting and fossicking activities, on behalf of all fossickers and prospectors in NSW and ACT. In addition, NAFPA aims to promote prospecting and fossicking for minerals, particularly for gold, and continues to educate the public on the importance that gold prospecting has had to building the Australian economy.

In 2014, NAFPA reported approximately 1,000 members and continues to grow.

RECREATIONAL PROSPECTING IN AUSTRALIA (CONT'D)

► **PMAT**

In 2015, PMAT was incorporated and has since represented and lobbied on behalf of people in the recreational prospecting industry in Tasmania. Currently, PMAT has an estimated 100 members.

In addition to its role representing recreational prospectors, PMAT also runs approximately four field trips per year, with one of these often including a raffle with varied prizes such as gold nuggets, gift vouchers, firewood or the exclusive right to prospect on 'a freshly laid bed of wash at a gold mine'.

ECONOMIC CONTRIBUTION RESULTS



ECONOMIC CONTRIBUTION OF RECREATIONAL PROSPECTING IN AUSTRALIA

This section details the methodology used to undertake the economic contribution assessment of recreational prospecting and details the results of the economic contribution modelling related to recreational prospecting (detailed tables are included in Appendix C).

5.1 Economic contribution of recreational prospecting methodology

Economic contribution modelling examines the contribution to economic outputs (in terms of both value add to gross state product (GSP)/gross domestic product (GDP) and employment (full-time equivalents (FTEs)) from the economic activities generated:

- ▶ Directly from expenditure associated with prospecting activities by individuals in the recreational prospecting industry; and
- ▶ Indirectly from flow-on activities, such as in retail, manufacturing and logistical services.

The Regional Industry Structure and Employment (RISE) model, constructed by BDO EconSearch, has been used to estimate the economic contribution of recreational prospecting in Australia.

The RISE models use an extension of the conventional input-output method to provide a comprehensive economic framework that is applied widely in the resource planning process, particularly for regional economic contribution applications.

To estimate regional economic contribution, the RISE model requires information on the magnitude of various expenditures and where they occur, in this case, gathered from the survey. 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.

Survey data were used to determine the direct expenditures only. For expenditure in subsequent rounds (expenditure by businesses and households that received money from recreational prospectors) a set of assumptions based on average inter-sector expenditure were used. For example, if households in the regional economy spent 13% of their income on food on average, it was assumed that, for instance, those working in accommodation establishments that serve recreational prospectors did likewise.

Transform expenditures occurring in each state from 'purchasers' prices' to 'basic prices'

In economic modelling terms, expenditure by recreational prospectors 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 recreational prospectors 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 Regional Industry Structure and Employment (RISE) model. Purchasers to basic price ratios were derived from ABS data (ABS 2013, Table 9). This process ensured that margins, such as retail and transport margins, were allocated to the appropriate sectors, taxes were properly identified and that regional imports were not included as part of the regional economic contribution estimation process.

The final adjustment to the base data was allocation of expenditure data in basic prices to the relevant input-output sectors (78 intermediate sectors, other value added or imports) in which the expenditure occurred, thus compiling a profile of sales to final demand. This process was undertaken for each state taking account of the size of each relevant industry in each state and territory.

5.2 Economic contribution of recreational prospecting to Australia

Prospecting activity

In 2019, it was estimated that there were 125,244 recreational prospectors across Australia, of which 85%, or 106,457, undertook at least one day of prospecting during the year.

Approximately 5,103,900 days of prospecting activity were undertaken in Australia in 2019, across 3,042,500 trips.

The majority of recreational prospectors and small-scale professional prospectors reported being active for less than 50 days in the past year, where semi-professional prospectors tended to go on trips more often and for longer trips on average compared to those who prospected for purely non-commercial reasons ('hobby prospectors'). The number of days of activity by prospectors in each state and territory is illustrated in Figure 6.

ECONOMIC CONTRIBUTION OF RECREATIONAL PROSPECTING IN AUSTRALIA (CONT'D)

Figure 6. Location of prospecting days in Australia by state of trip in 2019



Source: BDO survey of recreational prospectors 2020

Note: NSW includes the number of prospecting days for both NSW and ACT

Expenditure

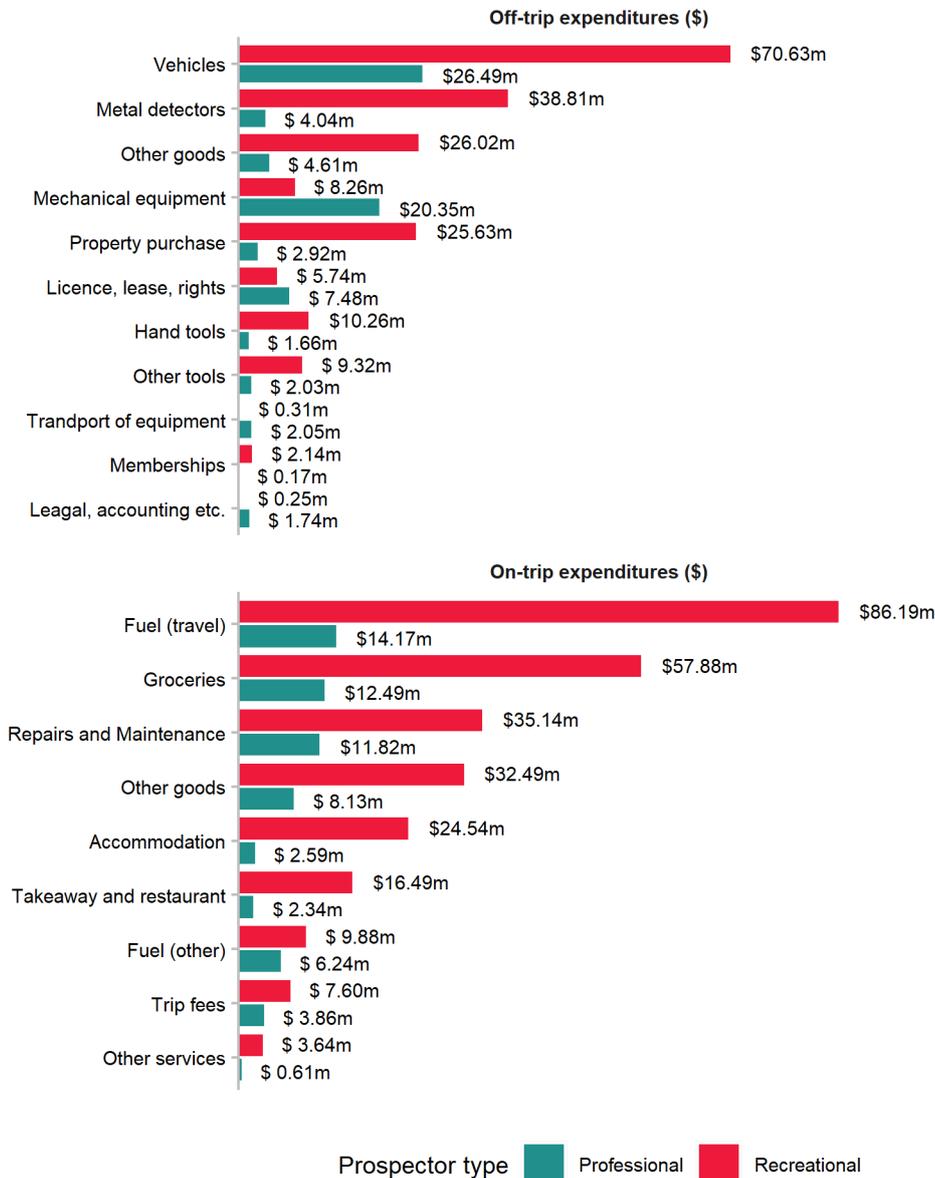
Across all prospecting days and trips, approximately \$607.0m was spent by all recreational prospectors:

- ▶ \$270.9m was spent on off-trip expenditure items where the most significant expenditure items were on vehicles for both hobby and semi-professional prospectors.
- ▶ \$336.1m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries.

The distribution of expenditure across various items is presented in Figure 7.

ECONOMIC CONTRIBUTION OF RECREATIONAL PROSPECTING IN AUSTRALIA (CONT'D)

Figure 7. Expenditures in Australia in 2019 associated with recreational prospecting



Note: The value of vehicle purchases attributable to recreational prospecting was calculated by including only vehicles purchased with recreational prospecting in mind then adjusting the value down by the proportion of use that the respondent attributes to their prospecting activities.

Source: BDO survey of recreational prospectors 2020

Economic Contribution

The economic activities generated by recreational prospectors contributed around \$887.1m (in terms of GDP) and 5,553 FTEs to the Australian Economy:

- ▶ \$338.0m was directly contributed from expenditure associated with prospecting activities and from income earned through recreational prospecting
- ▶ \$549.1m was indirectly contributed from the flow-on activities associated with recreational prospecting

ECONOMIC CONTRIBUTION OF RECREATIONAL PROSPECTING IN AUSTRALIA (CONT'D)

- ▶ 1,956 FTE direct jobs were contributed through recreational prospecting
- ▶ 3,597 FTE flow-on jobs were contributed through indirect association with recreational prospecting.

Out of the top five sectors, the largest contribution was made in the retail trade sector, with the contribution to the top five sectors representing around 32% of the total (see Table 6).

Table 6. Economic contribution of recreational prospecting to Australia by sector, top 5 sectors by GDP (2019)

Rank	Top 5 Sectors	GDP (\$m)	Employment (FTEs)
1	Retail Trade	86.6	1,165
2	Wholesale Trade	52.6	316
3	Finance	50.3	91
4	Personal & Other Serv	46.5	666
5	Prof Scientific Tech Serv	44.5	403
	Other sectors	606.6	2,913
	Total	887.1	5,553

Source: BDO Analysis 2021

5.3 Economic contribution of recreational prospecting by states and territory

Recreational prospecting activities vary across states and territories, and the tendency for participants to travel means a significant amount of activity in many states and territories is undertaken by residents of other states and territories.

The economic contributions of recreational prospecting activity in each given state and territory in Australia is presented in this section.

In 2019, the most economic activity in terms of prospecting days undertaken was found to have occurred in Western Australia, followed by Victoria and Queensland. Similarly, the economic contribution associated with recreational prospecting in terms of GSP and employment was largest in Western Australia, followed by Victoria and Queensland (see Table 7 and Table 8).

Table 7. Economic Contribution to GSP across states and territories

State/ territory	Contribution to GSP (\$m)		
	Direct	Indirect	Total
WA	191.5	153.8	345.3
VIC	70.1	79.7	149.8
NSW and ACT	33.2	40.3	73.4
QLD	37.5	42.9	80.4
SA	6.4	7.0	13.5
NT	3.2	2.2	5.4
TAS	1.1	1.2	2.3
Total	338.0	549.1	887.1

Note: The values reported for Australia are larger than the sum of the states as interstate spending is excluded from the individual state analyses but is included in the Australia analysis.

Source: BDO Analysis 2021

ECONOMIC CONTRIBUTION OF RECREATIONAL PROSPECTING IN AUSTRALIA (CONT'D)

Table 8. Economic contribution to employment (FTEs) across Australian states and territories in 2019

State/ territory	Contribution to employment (FTEs)		
	Direct	Indirect	Total
WA	1,038	1,019	2,057
VIC	455	617	1,072
NSW and ACT	229	277	506
QLD	302	345	646
SA	50	57	107
NT	24	15	39
TAS	8	10	18
Total	1,956	3,597	5,553

Note: The values reported for Australia are larger than the sum of the states as interstate spending is excluded from the individual state analyses but is included in the Australia analysis.

Source: BDO Analysis 2021

The remainder of this section repeats the national economic contribution results reporting structure for each respective state and territory, to provide a more detailed overview of activity and economic ‘footprint’ for each state and territory of interest.

5.3.1 Western Australia

Prospecting Activity

In 2019, it was estimated that there were 42,924 total recreational prospectors in Western Australia, of which 85%, or 36,485, undertook at least one day of prospecting during the year.

Approximately 2,133,300 days of recreational prospecting activity were undertaken in Western Australia in 2019, across 967,100 trips.

The majority of activity (approximately 83%) in terms of prospecting days was undertaken by Western Australian residents, with the remaining 17% undertaken by approximately 5,900 interstate visitors. The most significant sources of interstate visitation were from residents of Victoria and Queensland. The number of days of prospecting activity by state and territory of residence is illustrated in Figure 8.

ECONOMIC CONTRIBUTION OF RECREATIONAL PROSPECTING IN AUSTRALIA (CONT'D)

Figure 8. Source of prospecting days in Western Australia by state/territory of residence in 2019



Source: BDO Analysis 2021

Note: NSW includes the number of prospecting days for both NSW and ACT

Expenditure

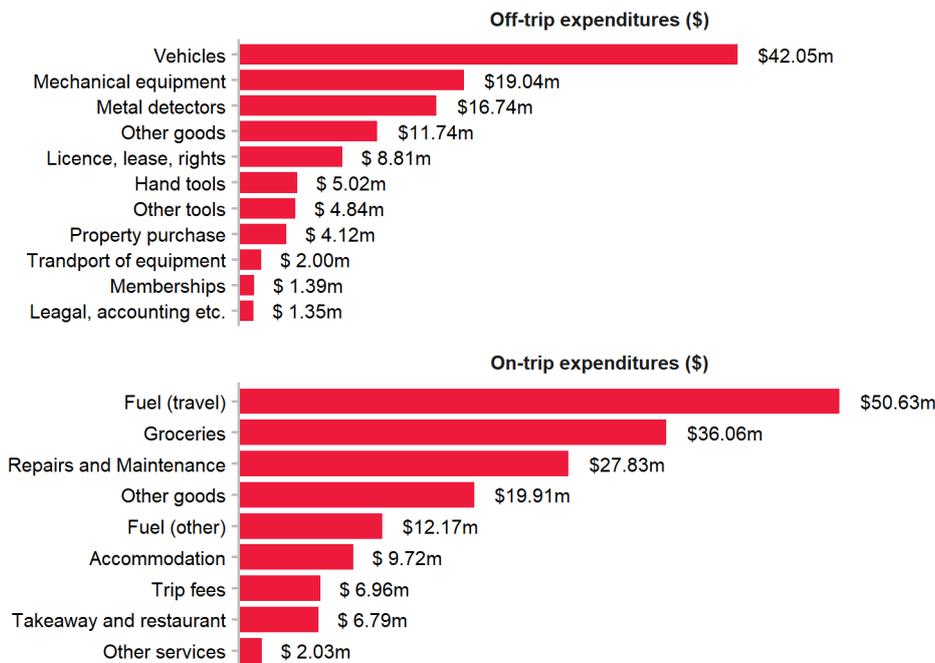
Across all prospecting days and trips, approximately \$289.2m was spent by recreational prospectors in Western Australia in 2019:

- ▶ \$117.1m was spent on off-trip expenditure items where the most significant expenditure items were vehicles and mechanical equipment.
- ▶ \$172.1m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries.

The distribution of expenditure in Western Australia associated with recreational prospecting across various items is presented in Figure 9.

ECONOMIC CONTRIBUTION OF RECREATIONAL PROSPECTING IN AUSTRALIA (CONT'D)

Figure 9. Expenditures in Western Australia in 2019 associated with recreational prospecting



Source: BDO Analysis 2021

Note: The value of vehicle purchases attributable to recreational prospecting was calculated by including only vehicles purchased with recreational prospecting in mind then adjusting the value down by the proportion of use that the respondent attributes to their prospecting activities.

Economic Contribution

The economic activities generated by recreational prospectors contributed around \$345.3m (in terms of GSP) and 2,057 FTEs to the Western Australian Economy:

- ▶ \$191.5m was directly contributed from expenditure associated with prospecting activities and from income earned through recreational prospecting
- ▶ \$153.8m was indirectly contributed from the flow-on activities associated with recreational prospecting
- ▶ 1,038 FTE direct jobs were contributed through recreational prospecting
- ▶ 1,019 FTE flow-on jobs were contributed through indirect association with recreational prospecting.

Out of the top five sectors, the largest contribution was made in the retail trade sector, with the contribution to the top five sectors representing around 31% of the total (see Table 9).

ECONOMIC CONTRIBUTION RESULTS BY STATES AND TERRITORIES (CONT'D)

Table 9. Economic contribution of recreational prospecting to Western Australia by sector, top 5 sectors by GSP (2019)

Rank	Top 5 Sectors	GSP (\$m)	Employment (FTEs)
1	Retail Trade	37.4	533
2	Wholesale Trade	23.7	166
3	Personal & Other Serv	22.8	279
4	Road Transport	11.7	115
5	Oil & Gas Extraction	11.2	10
	Other sectors	238.6	954
	Total	345.3	2,057

Source: BDO Analysis 2021

5.3.2 Victoria

Prospecting Activity

In 2019, it was estimated that there were 37,100 total recreational prospectors in Victoria, of which 85%, or 31,535, undertook at least one day of prospecting during the year.

Approximately 1,414,800 days of recreational prospecting activity were undertaken in Victoria in 2019, across 1,018,100 trips.

The majority of activity (approximately 83%) in terms of prospecting days was undertaken by Queensland residents, with the remaining 17% undertaken by approximately 8,900 interstate visitors. The most significant sources of interstate visitation were from residents of NSW and ACT, and South Australia. The number of days of prospecting activity by state and territory of residence is illustrated in Figure 10.

Figure 10. Source of prospecting days in Victoria by state/territory of residence in 2019



Source: BDO Analysis 2021

Note: NSW includes the number of prospecting days for both NSW and ACT

Expenditure

Across all prospecting days and trips, approximately \$145.7m was spent by recreational prospectors in Victoria in 2019:

- ▶ \$72.8m was spent on off-trip expenditure items where the most significant expenditure items were property purchases and vehicles.
- ▶ \$72.9m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries.

ECONOMIC CONTRIBUTION OF RECREATIONAL PROSPECTING IN AUSTRALIA (CONT'D)

The distribution of expenditure in Queensland associated with recreational prospecting across various items is presented in Figure 11.

Figure 11. Expenditures in Victoria in 2019 associated with recreational prospecting



Source: BDO Analysis 2021

Note: The value of vehicle purchases attributable to recreational prospecting was calculated by including only vehicles purchased with recreational prospecting in mind then adjusting the value down by the proportion of use that the respondent attributes to their prospecting activities.

Economic Contribution

The economic activities generated by recreational prospectors contributed around \$149.8m (in terms of GSP) and 1,072 FTEs to the Victorian Economy:

- ▶ \$70.1m was directly contributed from expenditure associated with prospecting activities and from income earned through recreational prospecting
- ▶ \$79.7m was indirectly contributed from the flow-on activities associated with recreational prospecting
- ▶ 455 FTE direct jobs were contributed through recreational prospecting
- ▶ 617 FTE flow-on jobs were contributed through indirect association with recreational prospecting.

Out of the top five sectors, the largest contribution was made in the retail trade sector, with the contribution to the top five sectors representing around 32% of the total (see Table 10).

ECONOMIC CONTRIBUTION OF RECREATIONAL PROSPECTING IN AUSTRALIA (CONT'D)

Table 10. Economic contribution of recreational prospecting to Victoria by sector, top 5 sectors by GSP (2019)

Rank	Top 5 Sectors	GSP (\$m)	Employment (FTEs)
1	Retail Trade	17.6	251
2	Wholesale Trade	8.6	85
3	Finance	7.6	17
4	Personal & Other Serv	7.4	104
5	Prof Scientific Tech Serv	6.6	65
	Other sectors	102.1	550
	Total	149.8	1,072

Source: BDO Analysis 2021

5.3.3 Queensland

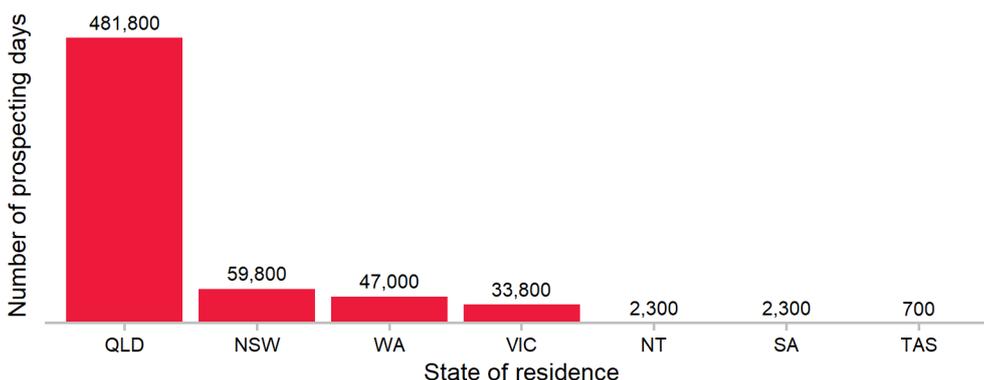
Prospecting Activity

In 2019, it was estimated that there were 15,998 total recreational prospectors in Queensland, of which 85%, or 13,598, undertook at least one day of prospecting during the year.

Approximately 627,700 days of recreational prospecting activity were undertaken in Queensland in 2019, across 398,700 trips.

The majority of activity (approximately 77%) in terms of prospecting days was undertaken by Queensland residents, with the remaining 23% undertaken by approximately 4,600 interstate visitors. The most significant sources of interstate visitation were from residents of NSW and ACT, and Western Australia. The number of days of prospecting activity by state and territory of residence is illustrated in Figure 12.

Figure 12. Source of prospecting days in Queensland by state/territory of residence in 2019



Source: BDO Analysis 2021

Note: NSW includes the number of prospecting days for both NSW and ACT

Expenditure

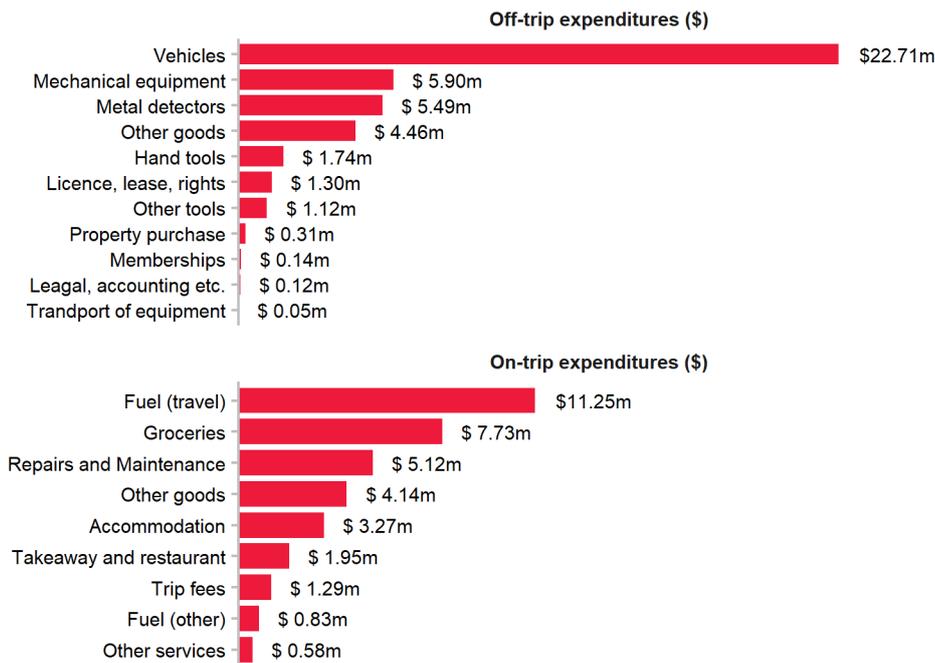
Across all prospecting days and trips, approximately \$79.5m was spent by recreational prospectors in Queensland in 2019:

- ▶ \$43.3m was spent on off-trip expenditure items where the most significant expenditure items were vehicles and mechanical equipment.
- ▶ \$36.2m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries.

ECONOMIC CONTRIBUTION OF RECREATIONAL PROSPECTING IN AUSTRALIA (CONT'D)

The distribution of expenditure in Queensland associated with recreational prospecting across various items is presented in Figure 13.

Figure 13. Expenditures in Queensland in 2019 associated with recreational prospecting



Source: BDO Analysis 2021

Note: The value of vehicle purchases attributable to recreational prospecting was calculated by including only vehicles purchased with recreational prospecting in mind then adjusting the value down by the proportion of use that the respondent attributes to their prospecting activities.

Economic Contribution

The economic activities generated by recreational prospectors contributed around \$80.4m (in terms of GSP) and 646 FTEs to the Queensland Economy:

- ▶ \$37.5m was directly contributed from expenditure associated with prospecting activities and from income earned through recreational prospecting
- ▶ \$42.9m was indirectly contributed from the flow-on activities associated with recreational prospecting
- ▶ 302 FTE direct jobs were contributed through recreational prospecting
- ▶ 345 FTE flow-on jobs were contributed through indirect association with recreational prospecting.

Out of the top five sectors, the largest contribution was made in the retail trade sector, with the contribution to the top five sectors representing around 37% of the total (see Table 11).

ECONOMIC CONTRIBUTION RESULTS BY STATES AND TERRITORIES (CONT'D)

Table 11. Economic contribution of recreational prospecting to Queensland by sector, top 5 sectors by GSP (2019)

Rank	Top 5 Sectors	GSP (\$m)	Employment (FTEs)
1	Retail Trade	11.4	174
2	Wholesale Trade	6.6	64
3	Personal & Other Serv	5.0	71
4	Road Transport	3.8	32
5	Prof Scientific Tech Serv	2.7	28
	Other sectors	50.9	278
	Total	80.4	646

Source: BDO Analysis 2021

5.3.4 NSW and ACT

Prospecting Activity

In 2019, it was estimated that there were 22,251 total recreational prospectors in NSW and ACT, of which 85%, or 18,914, undertook at least one day of prospecting during the year.

Approximately 731,100 days of recreational prospecting activity were undertaken in NSW and ACT in 2019, across 520,000 trips.

The majority of activity (approximately 77%) in terms of prospecting days was undertaken by NSW and ACT residents, with the remaining 23% undertaken by approximately 6,100 interstate visitors. The most significant sources of interstate visitation were from residents of Victoria and Queensland. The number of days of prospecting activity by state and territory of residence is illustrated in Figure 14.

Figure 14. Source of prospecting days in NSW and ACT by state/territory of residence in 2019



Source: BDO Analysis 2021

Note: NSW includes the number of prospecting days for both NSW and ACT

Expenditure

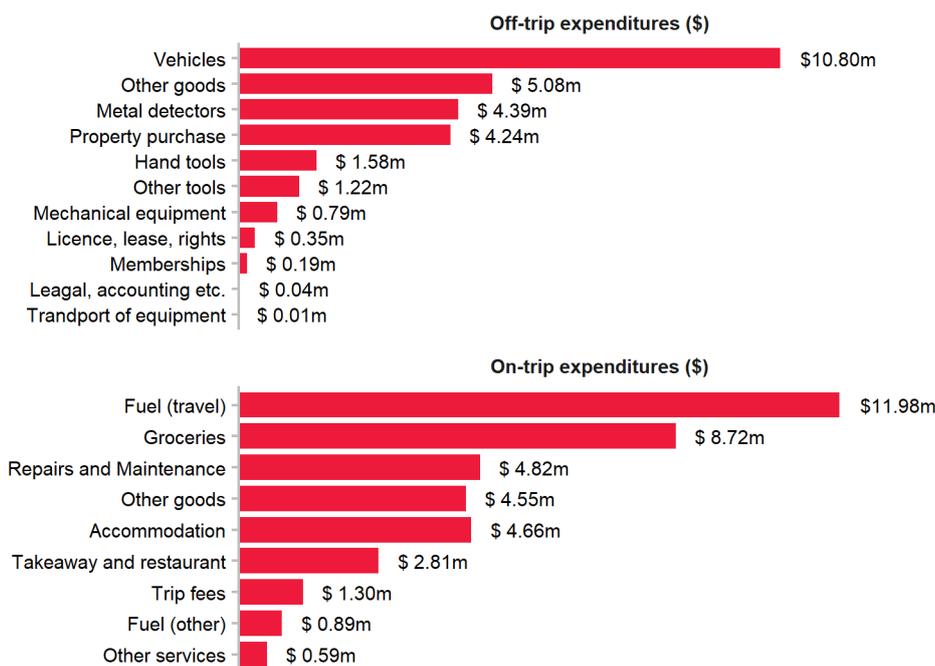
Across all prospecting days and trips, approximately \$69.0m was spent by recreational prospectors in NSW and ACT in 2019:

- ▶ \$28.7m was spent on off-trip expenditure items where the most significant expenditure items were vehicles and mechanical equipment.

ECONOMIC CONTRIBUTION RESULTS BY STATES AND TERRITORIES (CONT'D)

► \$40.3m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries. The distribution of expenditure in Queensland associated with recreational prospecting across various items is presented in Figure 15. Error! Reference source not found..

Figure 15. Expenditures in NSW and ACT in 2019 associated with recreational prospecting



Source: BDO Analysis 2021

Note: The value of vehicle purchases attributable to recreational prospecting was calculated by including only vehicles purchased with recreational prospecting in mind then adjusting the value down by the proportion of use that the respondent attributes to their prospecting activities.

Economic Contribution

The economic activities generated by recreational prospectors contributed around \$73.4m (in terms of GSP) and 506 FTEs to the NSW and ACT Economy:

- \$33.2m was directly contributed from expenditure associated with prospecting activities and from income earned through recreational prospecting
- \$40.3m was indirectly contributed from the flow-on activities associated with recreational prospecting
- 229 FTE direct jobs were contributed through recreational prospecting
- 277 FTE flow-on jobs were contributed through indirect association with recreational prospecting.

Out of the top five sectors, the largest contribution was made in the retail trade sector, with the contribution to the top five sectors representing around 34% of the total (see Table 12).

ECONOMIC CONTRIBUTION RESULTS BY STATES AND TERRITORIES (CONT'D)

Table 12. Economic contribution of recreational prospecting to NSW and ACT by sector, top 5 sectors by GSP (2019)

Rank	Top 5 Sectors	GSP (\$m)	Employment (FTEs)
1	Retail Trade	8.6	120
2	Finance	4.9	11
3	Personal & Other Serv	4.3	57
4	Wholesale Trade	4.0	38
5	Prof Scientific Tech Serv	3.4	31
	Other sectors	48.3	249
	Total	73.4	506

Source: BDO Analysis 2021

5.3.5 South Australia

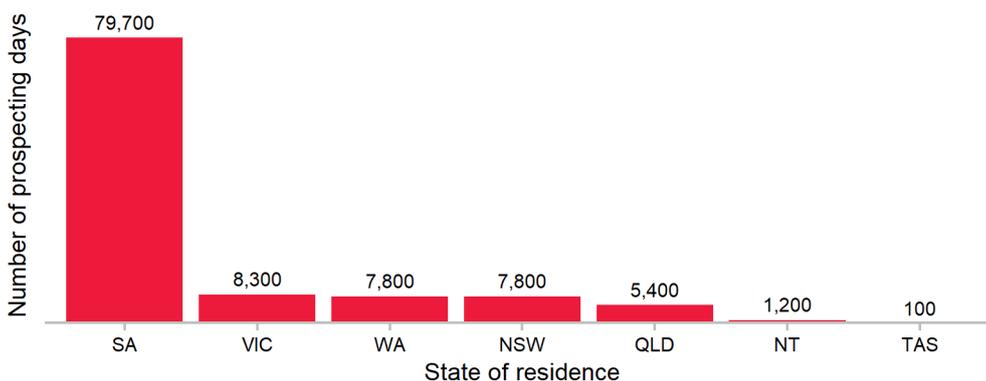
Prospecting Activity

In 2019, it was estimated that there were 5,254 total recreational prospectors in South Australia, of which 85%, or 4,466, undertook at least one day of prospecting during the year.

Approximately 110,300 days of recreational prospecting activity were undertaken in South Australia in 2019, across 87,600 trips.

The majority of activity (approximately 72%) in terms of prospecting days was undertaken by South Australian residents, with the remaining 28% undertaken by approximately 1,800 interstate visitors. The most significant sources of interstate visitation were from residents of Victoria and Western Australia. The number of days of prospecting activity by state and territory of residence is illustrated in Figure 16.

Figure 16. Source of prospecting days in South Australia by state/territory of residence in 2019



Source: BDO Analysis 2021

Note: NSW includes the number of prospecting days for both NSW and ACT

Expenditure

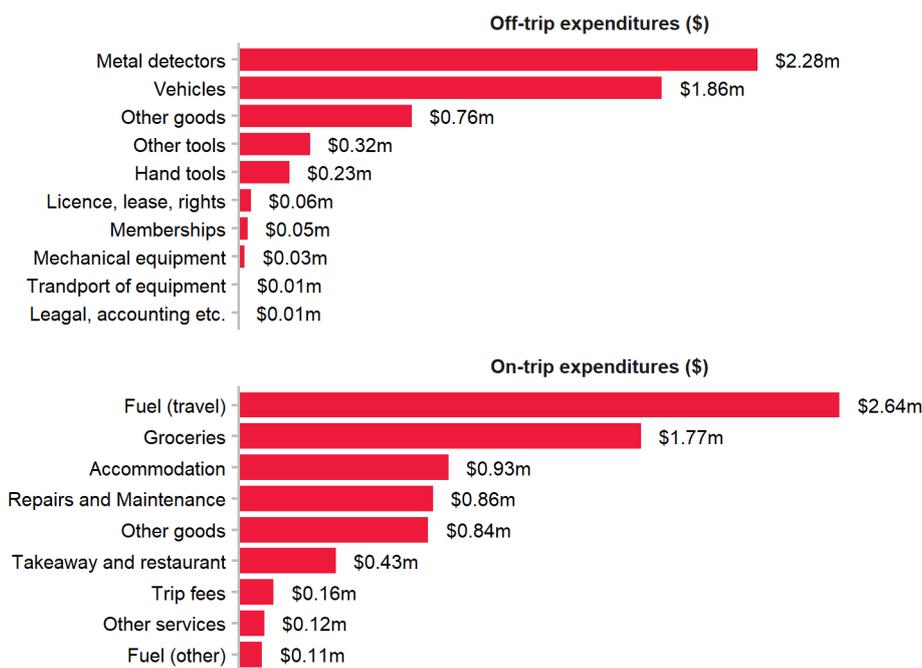
Across all prospecting days and trips, approximately \$13.5m was spent by recreational prospectors in Queensland in 2019:

- ▶ \$5.6m was spent on off-trip expenditure items where the most significant expenditure items were vehicles and mechanical equipment.

ECONOMIC CONTRIBUTION RESULTS BY STATES AND TERRITORIES (CONT'D)

► \$7.9m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries. The distribution of expenditure in Queensland associated with recreational prospecting across various items is presented in Figure 17.

Figure 17. Expenditures in South Australia in 2019 associated with recreational prospecting



Source: BDO Analysis 2021

Note: The value of vehicle purchases attributable to recreational prospecting was calculated by including only vehicles purchased with recreational prospecting in mind then adjusting the value down by the proportion of use that the respondent attributes to their prospecting activities.

Economic Contribution

The economic activities generated by recreational prospectors contributed around \$13.5m (in terms of GSP) and 107 FTEs to the Queensland Economy:

- \$6.4m was directly contributed from expenditure associated with prospecting activities and from income earned through recreational prospecting
- \$7.0m was indirectly contributed from the flow-on activities associated with recreational prospecting
- 50 FTE direct jobs were contributed through recreational prospecting
- 57 FTE flow-on jobs were contributed through indirect association with recreational prospecting.

Out of the top five sectors, the largest contribution was made in the retail trade sector, with the contribution to the top five sectors representing around 35% of the total (see Table 13).

ECONOMIC CONTRIBUTION RESULTS BY STATES AND TERRITORIES (CONT'D)

Table 13. Economic contribution of recreational prospecting to South Australia by sector, top 5 sectors by GSP (2019)

Rank	Top 5 Sectors	GSP (\$m)	Employment (FTEs)
1	Retail Trade	1.8	28
2	Wholesale Trade	1.0	8
3	Personal & Other Serv	0.9	12
4	Accommodation	0.5	7
5	Road Transport	0.5	6
	Other sectors	8.7	47
	Total	13.5	107

Source: BDO Analysis 2021

5.3.6 Tasmania

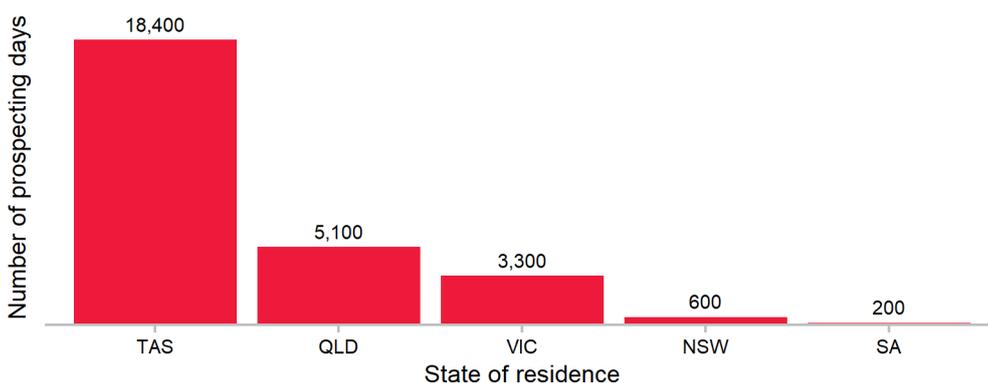
Prospecting Activity

In 2019, it was estimated that there were 733 total recreational prospectors in Tasmania, of which 85%, or 623, undertook at least one day of prospecting during the year.

Approximately 27,600 days of recreational prospecting activity were undertaken in Tasmania in 2019, across 18,100 trips.

The majority of activity (approximately 67%) in terms of prospecting days was undertaken by Tasmanian residents, with the remaining 33% undertaken by approximately 400 interstate visitors. The most significant sources of interstate visitation were from residents of Queensland and Victoria. The number of days of prospecting activity by state and territory of residence is illustrated in Figure 18.

Figure 18. Source of prospecting days in Tasmania by state/territory of residence in 2019



Source: BDO Analysis 2021

Note: NSW includes the number of prospecting days for both NSW and ACT

Expenditure

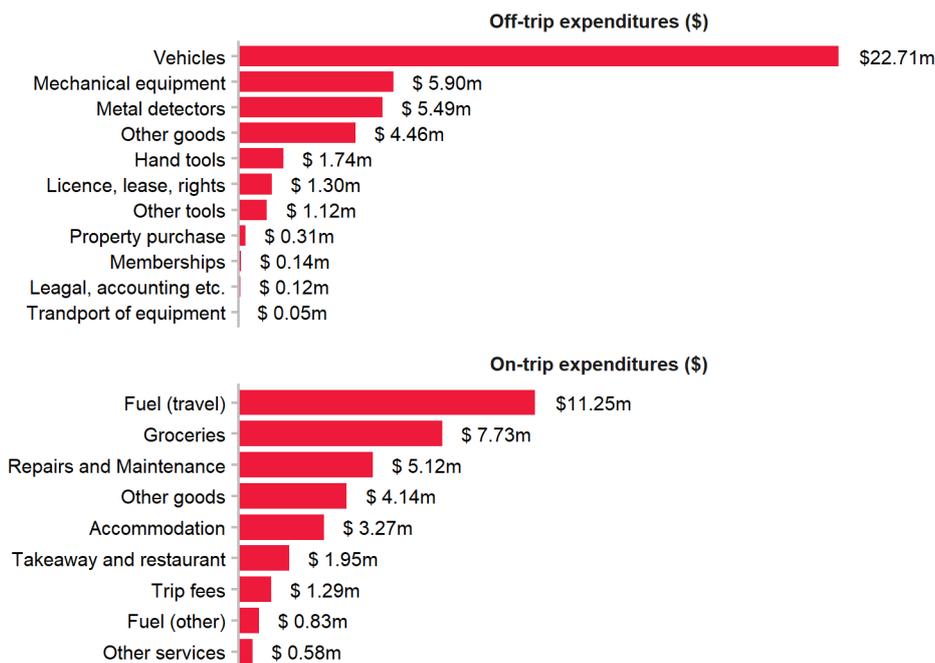
Across all prospecting days and trips, approximately \$1.8m was spent by recreational prospectors in Tasmania in 2019:

- ▶ \$0.5m was spent on off-trip expenditure items where the most significant expenditure items were vehicles and mechanical equipment.
- ▶ \$1.3m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries.

ECONOMIC CONTRIBUTION RESULTS BY STATES AND TERRITORIES (CONT'D)

The distribution of expenditure in Tasmania associated with recreational prospecting across various items is presented in Figure 19.

Figure 19. Expenditures in Tasmania in 2019 associated with recreational prospecting



Source: BDO Analysis 2021

Note: The value of vehicle purchases attributable to recreational prospecting was calculated by including only vehicles purchased with recreational prospecting in mind then adjusting the value down by the proportion of use that the respondent attributes to their prospecting activities.

Economic Contribution

The economic activities generated by recreational prospectors contributed around \$2.3m (in terms of GSP) and 18 FTEs to the Tasmanian Economy:

- ▶ \$1.2m was directly contributed from expenditure associated with prospecting activities and from income earned through recreational prospecting
- ▶ \$1.1m was indirectly contributed from the flow-on activities associated with recreational prospecting
- ▶ 8 FTE direct jobs were contributed through recreational prospecting
- ▶ 10 FTE flow-on jobs were contributed through indirect association with recreational prospecting.

Out of the top five sectors, the largest contribution was made in the retail trade sector, with the contribution to the top five sectors representing around 31% of the total (see Table 14).

ECONOMIC CONTRIBUTION RESULTS BY STATES AND TERRITORIES (CONT'D)

Table 14. Economic contribution of recreational prospecting to Tasmania by sector, top 5 sectors by GSP (2019)

Rank	Top 5 Sectors	GSP (\$m)	Employment (FTEs)
1	Retail Trade	0.2	3
2	Personal & Other Serv	0.1	3
3	Wholesale Trade	0.1	1
4	Accommodation	0.1	2
5	Health & Community Serv	0.1	1
	Other sectors	1.6	8
	Total	2.3	18

Source: BDO Analysis 2021

5.3.7 Northern Territory

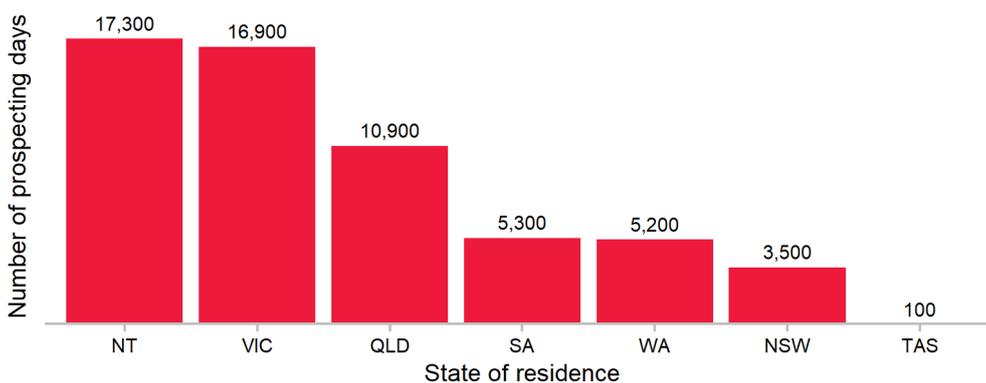
Prospecting Activity

In 2019, it was estimated that there were 984 total recreational prospectors in the Northern Territory, of which 85%, or 836, undertook at least one day of prospecting during the year.

Approximately 59,100 days of recreational prospecting activity were undertaken in Queensland in 2019, across 32,900 trips.

The majority of activity (approximately 71%) in terms of prospecting days was undertaken by approximately 1,800 interstate visitors, with the remaining 29% undertaken by Northern Territory residents. The most significant sources of interstate visitation were from residents of Victoria and Queensland. The number of days of prospecting activity by state and territory of residence is illustrated in Figure 20.

Figure 20. Source of prospecting days in Northern Territory by state/territory of residence in 2019



Source: BDO Analysis 2021

Note: NSW includes the number of prospecting days for both NSW and ACT

Expenditure

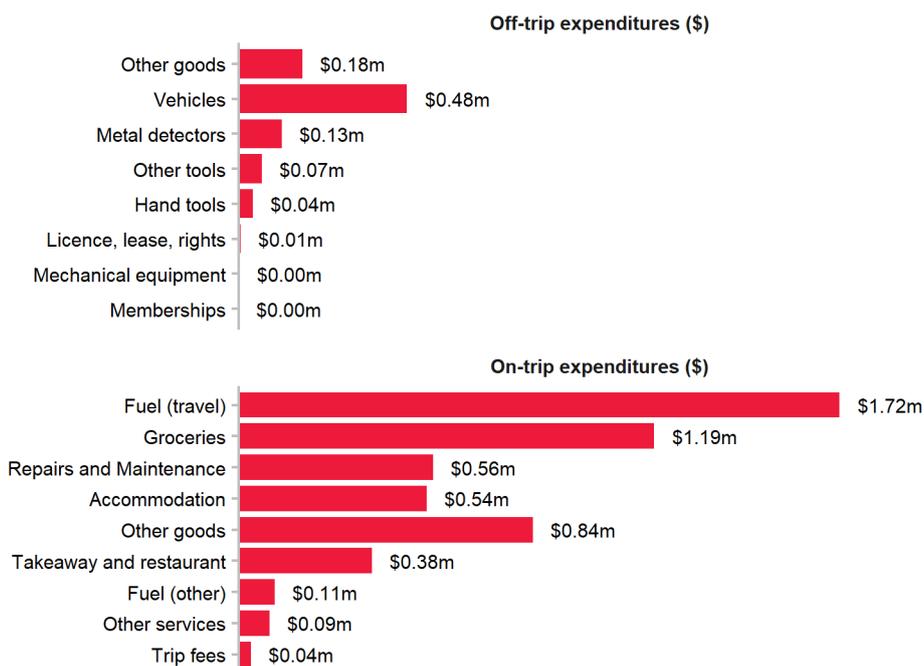
Across all prospecting days and trips, approximately \$6.4m was spent by recreational prospectors in the Northern Territory in 2019:

- ▶ \$0.9m was spent on off-trip expenditure items where the most significant expenditure items were vehicles and mechanical equipment.

ECONOMIC CONTRIBUTION RESULTS BY STATES AND TERRITORIES (CONT'D)

► \$5.5m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries. The distribution of expenditure in the Northern Territory associated with recreational prospecting across various items is presented in Figure 21.

Figure 21. Expenditures in Northern Territory in 2019 associated with recreational prospecting



Source: BDO Analysis 2021

Note: The value of vehicle purchases attributable to recreational prospecting was calculated by including only vehicles purchased with recreational prospecting in mind then adjusting the value down by the proportion of use that the respondent attributes to their prospecting activities.

Economic Contribution

The economic activities generated by recreational prospectors contributed around \$5.4m (in terms of GSP) and 39 FTEs to the Northern Territory Economy:

- \$3.2m was directly contributed from expenditure associated with prospecting activities and from income earned through recreational prospecting
- \$2.2m was indirectly contributed from the flow-on activities associated with recreational prospecting
- 25 FTE direct jobs were contributed through recreational prospecting
- 15 FTE flow-on jobs were contributed through indirect association with recreational prospecting.

Out of the top five sectors, the largest contribution was made in the retail trade sector, with the contribution to the top five sectors representing around 39% of the total (see Table 15).

ECONOMIC CONTRIBUTION RESULTS BY STATES AND TERRITORIES (CONT'D)

Table 15. Economic contribution of recreational prospecting to Northern Territory by sector, top 5 sectors by GSP (2019)

Rank	Top 5 Sectors	GSP (\$m)	Employment (FTEs)
1	Retail Trade	0.7	10
2	Personal & Other Serv	0.5	8
3	Wholesale Trade	0.4	3
4	Accommodation	0.3	3
5	Road Transport	0.2	2
	Other sectors	3.3	13
	Total	5.4	39

Source: BDO Analysis 2021

5.4 Economic contribution of Minelab to South Australia methodology

The economic contribution of Minelab's research and development, manufacturing and marketing operations in South Australia are not captured by the economic contribution results for recreational prospecting as they are not directly attributable to individuals' prospecting activity as described in the survey.

Rather, Minelab's operations in South Australia service a global market for which Australia is the largest single market. The overall size of the Australian market supports Minelab's operations in South Australia. The economic contribution of Minelab's business operations in South Australia were modelled and reported separately with the following steps:

- 1 Collect Minelab's financial and employment data from Codan, including its annual reports.
- 2 Attribute the appropriate proportion of Codan activities to South Australia based on the data from the step before.
- 3 Transform the business expenditures from Minelab financial data to basic prices (as described in the box above).
- 4 Run the RISE economic model for South Australia using the Minelab financial data at basic prices.
- 5 Report results in terms of direct and flow-on gross state product and full-time equivalent employment.

5.5 Economic contribution of Minelab to South Australia results

Minelab's global operations are primarily based in South Australia. The business employs high skilled staff in research and manufacturing with the lower valued manufacturing tasks occurring offshore.

High-skilled employment is associated with high wages and these support a significant amount of economic activity in South Australia through consumption expenditure. Business expenditures by Minelab also support economic activity in South Australia.

In 2019/20, Minelab contributed around \$218m (in terms of GSP) and 669 FTE to the South Australian economy:

- ▶ \$148m and 100 FTEs were directly contributed from business expenditure.
- ▶ \$69.3m and 569 FTEs were indirectly contributed through flow-on effects.

The particularly high ratio of indirect employment to direct employment is due to the high skill nature of Minelab's employment. That is, business expenditures are relatively high per employee and wages (which support consumption expenditure) are also relatively high, each contributes to the relatively high flow-on employment in the rest of the state compared to the average business.

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APPENDICES



APPENDIX A - SURVEY INSTRUMENTS

7.1 Expenditure Survey

Ask this section of all

INTRO1	<p>We are undertaking a survey to better understand the experiences of people who prospect in Australia. The purpose is to inform an independent review of the economic and social contributions of recreational prospecting to Australia. Activities relevant to this survey include recreational prospecting or fossicking for gold and small-scale professional prospecting for gold.</p> <p><u>Your response is confidential.</u></p> <p>We respect your privacy and the sensitivity of information about your recreational and prospecting activities. This research is funded by Minelab. However, your response will only be seen by the researchers at BDO and interviewers at Action Market Research. We will only publish summary results from the survey and your individual responses will not be distributed outside of the research team and will not be provided to Minelab.</p> <p>Your response will help us to understand the role of recreational prospecting and to describe this role to the wider community. Variation between different prospectors and their activities is important to this research so we ask you to please be open and honest about your own situation. Thank you very much for your valuable time and assistance.</p> <p>To avoid the effect of COVID-19 please provide your answers in relation to the 2019 calendar year.</p>	Next button
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INTRO1	First, a few questions about your prospecting activities.
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Q1	<p>Did you go prospecting in Australia recreationally or at a small-scale during 2019?</p> <ol style="list-style-type: none"> 1. Yes 2. No 	Compulsory Single response
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Ask only if Q1 = 'No'

Q2	<p>Do you plan to go prospecting in Australia recreationally or at a small-scale in the next 12 months?</p> <ol style="list-style-type: none"> 1. Yes 2. No [TERMINATE] 	Compulsory Single response
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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q3	<p>Which of the following best describes your prospecting status?</p> <p><i>Please only consider your personal activities i.e. if you prospect casually in your own time and are an employee at a large-scale mine then select 'Recreational (casual prospector)'.</i></p> <ol style="list-style-type: none"> 1. Large-scale/corporate [TERMINATE] 2. Small-scale/professional (to earn a living) 3. Recreational (casual prospector) 	Compulsory Single response
Q4a	<p>Do you use a metal detector for your prospecting activities?</p> <ol style="list-style-type: none"> 1. Yes 1. No [TERMINATE] 	Compulsory Single response
Q4b	<p>In addition to metal detecting, what other prospecting methods do you use?</p> <ol style="list-style-type: none"> 2. Panning 3. River sluicing (not including highbanking) 4. Highbanking 5. Dry blowing 6. Push and scrape 7. Picks, shovels, hammers, sieves, shakers 8. Other (specify): _____ 9. None of the above 	Compulsory Select multiple
Q5a...	<p>What is your main target when prospecting via [ask once for each method selected at Q4]</p> <ol style="list-style-type: none"> 1. Gold 2. Treasure/coins/relics 3. Gemstones/fossils/minerals 4. Other (specify): _____ 	Compulsory Select multiple
Q6	<p>What types of permit do you hold?</p> <ol style="list-style-type: none"> 1. Miner's Right or permit, please specify: 2. Prospecting lease or license that provides exclusive access to land, please specify: 3. Exploration leaseholder, please specify: 4. Mining leaseholder, please specify: 5. Other (specify): _____ 6. None 	Compulsory Select multiple

APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q7	<p>Are you a member of the following prospecting or detecting associations?</p> <p><i>We will ask about activities with local clubs later.</i></p> <ol style="list-style-type: none"> 1. NSW and ACT Prospectors and Fossickers Association (NAPFA) 2. Prospectors and Miners Association Victoria (PMAV) 3. Amalgamated Prospectors and Leaseholders Association (APLA) 4. Other (specify): _____ 5. None 	<p>Compulsory</p> <p>Select multiple</p>
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Q8	<p>How long have you been prospecting?</p> <ol style="list-style-type: none"> 1. 1 year 2. 2 - 5 years 3. 6 - 10 years 4. 11 - 20 years 5. Over 20 years 6. Prefer not to answer 	<p>Compulsory</p> <p>Single response</p>
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Ask this section of all

INTRO3	<p>Next, a few questions about you...</p>
--------	--

Q9	<p>Are you...</p> <ol style="list-style-type: none"> 1. Male 2. Female 3. Other 4. Do not wish to answer 	<p>Compulsory</p> <p>Single response</p>
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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q10	<p>What is your age category?</p> <ol style="list-style-type: none"> 1. Under 18 [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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Q11	<p>Where do you live?</p> <ol style="list-style-type: none"> 1. ACT 2. NSW – Sydney, Wollongong or Newcastle area 3. NSW – elsewhere 4. QLD – Brisbane area 5. QLD – elsewhere 6. SA – Adelaide area 7. SA – elsewhere 8. TAS – Hobart area 9. TAS - elsewhere 10. VIC – Melbourne area 11. VIC – elsewhere 12. WA – Perth area 13. WA – elsewhere 14. NT – Darwin area 15. NT - elsewhere 16. Not in Australia 	<p>Compulsory Single response</p>
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Ask this section only if they have been prospecting in 2019 (Q1)

INTRO4	<p>Now we would like to find out about the prospecting trips you went on in Australia <u>during 2019</u>, including close to home and interstate.</p>
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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q12a: Firstly, how many prospecting day-trips did you go on in 2019? Please also consider each day of prospecting on your own land as a day trip.

Trips: _____ (integer)

Q12b: How many overnight or extended trips did you go on in 2019 and how many days did you spend on those trips in total?

Trips: _____ (integer)

Total days: _____ (integer)

Q13	Did you prospect outside of your home state in 2019? 1. No, prospected within my home state only [SKIP TO Q17 expenditure items] 2. Yes, prospected outside my home state	Compulsory Single response
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Q14	Which states or territories did you prospect in during 2019? 1. New South Wales 2. Queensland 3. Victoria 4. South Australia 5. Tasmania 6. Western Australia 7. Northern Territory 8. Australian Capital Territory 9. Outside Australia	Compulsory Select multiple
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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q15	In 2019, how many <u>trips</u> did you take in each state? [Populate states with responses from Q14]							Radio button Grid Compulsory
			1-3 trips	4-10 trips	11-20 trips	21-30 trips	31-50 trips	Over 50 trips
a.	State							
b.	State							
c.	State							
d.	Etc (including outside Australia if selected).							

Ask only if did short or extended trips (see Q12)

Q16	And in 2019, how many <u>days</u> did you spend prospecting in each state? [Populate states with responses from Q14]							Radio button Grid Compulsory
			1-10 days	11-20 days	21 - 50 days	51- 100 days	101- 200 days	Over 201 days
a.	State							
b.	State							
c.	State							
d.	Etc (including outside Australia if selected).							

APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

<p>Q17</p>	<p>In 2019, what did you spend money on while on prospecting trips?</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. But if someone else who was on a trip with you paid for you, then exclude that amount.</p> <p>We will ask later about your spending while not on trips (i.e. metal detectors, other tools, vehicles, etc.).</p> <ol style="list-style-type: none"> 1. Fuel for travel 2. Fuel for all other purposes (e.g. operation of equipment) 3. Groceries, drinks and alcohol for self-catering/consumption at your accommodation 4. Takeaway and restaurant meals 5. Accommodation [HIDE IF ONLY DID DAY TRIPS, see Q12] 6. Vehicle/motorbike/equipment repairs and maintenance 7. Prospecting trip fees (e.g. for club trips, guides or land access) 8. Other services used on trips (e.g. medical, parking or laundry) 9. Other prospecting related items purchased on your trips 10. Not applicable – I did not spend any money while on prospecting trips 	<p>Check box</p> <p>Compulsory</p> <p>Multiple response except Not applicable</p>
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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Hide if Q17 = 'Not applicable'

Q18	<p>And while on your prospecting trips in 2019, how much did you spend in total on each of 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) Any money paid for you by someone who didn't go on the prospecting trips (e.g. employer or parents) <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 prospecting trips. 										<p>Radio button Grid Compulsory Single response per row</p>
		\$1- \$100	\$101 - \$200	\$201 - \$500	\$501 - \$1,000	\$1,001 - \$2,000	\$2,001 - \$5,000	\$5,001 - \$10,000	\$10,001 or more		
a.	[Populate with responses from Q17]										

Hide if Q17 = 'not applicable'

Hide if Q13 = 'No, prospected within my home state only'

Q19	<p>What was the location of the business/es from which you bought these items? For example, were the items bought in your home state, at the main prospecting destination or at another location?</p> <p>If you bought items from more than one location, please select the location where the most money was spent.</p>				<p>Radio button Grid Compulsory Single response per row</p>
		Closer to home	Closer to the destination	Unknown	
a.	[Populate with responses from Q17 but exclude 'Accommodation']				

APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Ask this section of all

INTRO5	<p>Now we'd like you to consider what you've spent when you've NOT been on prospecting trips, to support your prospecting activities.</p> <p>[Display this second sentence only if they have been on prospecting trips(i.e. if Q1 = 'Yes'): "Please exclude the expenses made during prospecting trips that you have already told us about above."]</p>
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Q20	<p>During the last 5 years, which of the items from the following list have you spent money on to support your prospecting activities?</p> <ol style="list-style-type: none"> 1. Metal detectors 2. All other hand operated and non-mechanical equipment (gold pan, sieve, cradle or rocker, hand operated sluice box, hand operated dry blower etc). 3. Mechanical equipment and machinery 4. Any other prospecting tools 5. Licenses and land leasing costs 6. Purchase of a property for prospecting 7. Vehicles/motorbikes (purchased with prospecting in mind) 8. Transportation of equipment by a commercial company 9. Professional services (e.g. legal costs, accounting, etc) 10. Prospecting memberships (e.g. clubs and associations) 11. Other equipment to support your prospecting activities (eg. vehicle equipment/accessories, safety and first-aid equipment, camping equipment, clothing and shoes, GPS and other devices, mapping software, magazine subscriptions, attending events, etc.) 12. Not applicable – I did not spend any money to support prospecting activities over the last 5 years 	<p>Check box Compulsory Multiple response Except Not applicable</p>
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Hide if Q20 = 'Not applicable'

Q21	<p>And during the last 5 years, approximately how much have you spent on these items?</p>	<p>Radio button Grid Compulsory Single response per row</p>									
			\$1- \$500	\$501- \$1000	\$1,001- \$2,000	\$2,001 - \$5,000	\$5,001 - \$10,000	\$10,001 - \$20,000	\$20,001- \$50,000	\$50,001 - \$100,000	\$100,001 or more
e.	[Populate with responses from Q20]										

APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q21a	You indicated that you spent more than \$100,000 on some items. Please enter the actual total value spent on each over the last 5 years.		Multiple numerical input Compulsory Single response per row
		Capture \$ amount	
f.	[Populate with responses from Q20 if Q21 = "\$100,001 or more"]		

Ask if Q20 = 3, 7 or 8 (see text below) and only show the relevant rows.

Q22	And approximately what percentage of the use of these items has been on <u>prospecting activities</u> versus non prospecting activities?					Radio button Grid Compulsory Single response per row
	Percentage accounted for by prospecting...	1% - 20%	21% - 40%	41% - 60%	61% - 80%	81% - 100%
a.	Mechanical equipment and machinery					
b.	Vehicles/motorbikes (purchased with prospecting in mind)					
c.	Other items to support your prospecting activities (e.g. vehicle equipment/accessories, safety and first-aid equipment, camping equipment, clothing and shoes, GPS and other devices, mapping software , magazine subscriptions, attending events, etc.)					

APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Hide if Q20 = 'Not applicable'

Q23	What is the <u>main</u> location of the business/es from which you bought these items over the last 5 years? For example, for online purchases, please consider where the vendor is located (if known).										Radio button Compulsory Single response per row
	ACT	NSW	QLD	SA	TAS	VIC	WA	NT	Overseas	Unsure	
[Populate with responses from Q20]											

Ask this section of all

INTRO6	Now we would like to know a little more about you, to help us better understand who goes prospecting.
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Q24	Which of the following is the <u>highest level</u> of formal education that you have completed?	Radio Button Compulsory Single response
	<ol style="list-style-type: none"> 1. Postgraduate Degree Level 2. Graduate Diploma and Graduate Certificate Level 3. Bachelor Degree Level 4. Advanced Diploma and Diploma Level 5. Certificate III & IV Level 6. Secondary Education - Years 10 and above 7. Certificate I & II Level 8. Secondary Education - Years 9 and below 9. Do not wish to answer 	

Q25	How would you describe your employment status?	Radio button Compulsory Single response
	<ol style="list-style-type: none"> 1. Employed - full-time 2. Employed - part-time/casual 3. Unemployed and looking for paid work 4. Not employed and not looking for paid work 5. Do not wish to answer 	

APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q26	<p>Are you currently a student studying full-time or part-time?</p> <ol style="list-style-type: none"> 1. No 2. Yes - full-time 3. Yes - part-time 4. Do not wish to answer 	<p>Radio button Compulsory Single response</p>
Q27	<p><i>We appreciate that financial information is sensitive and this question has a 'Prefer not to say' option as we respect your privacy. We ask about household income to see how different groups of people benefit from prospecting in different ways so your answer is valuable and appreciated, should you choose to provide it.</i></p> <p>What is your gross or pre-tax <u>weekly household income</u>?</p> <p><i>Please include the income earned by all working people in your household. Include income received from government pensions investments/dividends, and salaried employment.</i></p> <ol style="list-style-type: none"> 1. Less than \$499 (less than \$25,999 per year) 2. \$500-\$999 (\$26,000-\$51,999 per year) 3. \$1,000-\$1,749 (\$52,000-\$90,999 per year) 4. \$1,750-\$2,499 (\$91,000-\$129,999 per year) 5. \$2,500 or more (\$130,000 or more per year) 6. Don't know 7. Prefer not to say 	<p>Radio button Compulsory Single response</p>

APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q28	<p><i>Another sensitive but important question is the income you have earned from prospecting. This question also has an 'Unsure' and 'Prefer not to say' option but your response will provide us with a better understanding of how much economic activity is stimulated by the income earned from prospecting activities'.</i></p> <p>What is your estimate of the total <u>ounces of gold</u> you found over the last 5 years (2014-2019)?</p> <ul style="list-style-type: none">• Unsure• Prefer not to say• Please enter estimated ounces: _____ <p>Of the <u>ounces of gold</u> that you found over the last 5 years (2014-2019), how much have you sold?</p> <ul style="list-style-type: none">• Unsure• Prefer not to say• Please enter estimated ounces: _____ <p>How much <u>other income</u> did you earn from prospecting activities over the last 5 years (2014-2019) (excluding sales of gold)?</p> <ul style="list-style-type: none">• Unsure• Prefer not to say• Please enter estimated value: \$ _____	Single selection radio button Compulsory
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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Ask this section of all

INTRO7	This last section asks some questions about the main reasons you prospect and the types of social, health and wellbeing benefits you get from prospecting.	
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Q29	<p>What are the top 5 reasons you like to go prospecting? (If the most important reason/s you prospect aren't given, please type them in the space provided).</p> <p><i>[Please select up to 5 of the following]</i></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 experience and learn about Australian cultural heritage 8. ...to get away from other people 9. ...because it is challenging 10. ...because it is exciting 11. ...to make money 12. ...to get exercise 13. ...to spend time in places that are special to me 14. ...for therapy or coping mechanism 15. ...to spend time in nature 16. ...other (please describe) 	<p>Non-Compulsory Select multiple (1 to 5)</p> <p>Randomise order of items for each respondent</p>
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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

For each of questions Q28, Q29 and Q30 please include the following text on the page:

“If any of the questions make you feel uncomfortable, you do not have to answer them. If you are feeling distressed or need assistance, you can contact the following services for assistance, 24 hours a day: **Beyond Blue - 1300 22 4636** **Lifeline - 13 11 14**”

Q30	Thinking about your own life and personal circumstances, how satisfied are you with the following? Unlike the earlier questions, please answer this in relation to your current circumstances. Please indicate how satisfied or dissatisfied you are with each of the following.	Radio button Non-Compulsory																																																																																																																																																						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 15%;"></th> <th colspan="10" style="text-align: center;">Completely Dissatisfied</th> <th colspan="2" style="text-align: center;">Completely Satisfied</th> <th style="text-align: center;">Don't Know</th> </tr> <tr> <th></th> <th></th> <th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th> <th></th><th></th> </tr> </thead> <tbody> <tr> <td>a.</td> <td>Your life as a whole</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>b.</td> <td>Your standard of living</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>c.</td> <td>Your health</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>d.</td> <td>What you are currently achieving in life</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>e.</td> <td>Your personal relationships</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>f.</td> <td>How safe you feel</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>g.</td> <td>Feeling part of your community</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>h.</td> <td>Your future security</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>			Completely Dissatisfied										Completely Satisfied		Don't Know			0	1	2	3	4	5	6	7	8	9	10			a.	Your life as a whole														b.	Your standard of living														c.	Your health														d.	What you are currently achieving in life														e.	Your personal relationships														f.	How safe you feel														g.	Feeling part of your community														h.	Your future security														
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g.	Feeling part of your community																																																																																																																																																							
h.	Your future security																																																																																																																																																							

Q31	How would you rate your general health? Unlike the earlier questions, please answer this in relation to your current circumstances. <ol style="list-style-type: none"> 1. Excellent 2. Very good 3. Good 4. Fair 5. Poor 	Radio button Non-Compulsory Single response
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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

In the last four weeks, how often have you felt...							Radio button Non-Compulsory Single response
Q32		none of the time	a little of the time	some of the time	most of the time	all of the time	
		1	2	3	4	5	
a.	Nervous						
b.	Hopeless						
c.	Restless or fidgety						
d.	Depressed						
e.	That everything was an effort						
f.	Worthless						

Q32a	<p>You have just described how you feel and your current health and wellbeing. Do you think your responses would have been more positive or more negative if you had answered in 2019?</p> <ol style="list-style-type: none"> 1. Much more positive 2. A little more positive 3. The same 4. A little more negative 5. Much more negative 6. Unsure 	Select one Non-compulsory
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Show on same page as Q32a and show only if Q32a = a, b, d or e.

Q32b	<p>You said that your answers would have been different in 2019 so we would like to understand whether the bushfire season or COVID-19 affected your responses at all. Please indicate which factors affected your responses:</p> <ol style="list-style-type: none"> 1. Bushfires (unable to go prospecting) 2. Bushfires (all other reasons) 3. COVID-19 (unable to go prospecting) 4. COVID-19 (all other reasons) 5. None of these reasons 	Select all that apply Non-compulsory
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Q33	<p>Who do you usually go prospecting with?</p> <ol style="list-style-type: none"> 1. I prospect alone 2. I prospect with family 3. I prospect with a group of friends 4. I prospect with a club 	Rank between 1 to 4 responses
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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q34	How did you hear about this survey? <ol style="list-style-type: none">1. Email invitation from BDO2. Prospecting association3. Prospecting club4. Other source (forums, facebook, word of mouth etc.)	Compulsary single response
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Q35 To say thank you for responding to the survey, Minelab has provided prizes to give away in a prize draw. Would you like to enter the prize draw?

- Yes
- No

Ask if Q35 = "Yes"

Q36 Please enter your name and preferred contact details so we can contact you if you win.

Name: _____

Contact details: _____

Last page

Thank you for your time and your valuable contribution to this important research. We will look to share the findings with you through Minelab and the prospecting associations soon.

APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

7.2 Population Survey

Ask this section of all

INTRO1	<p>We are undertaking a survey to establish the total population of people who participate in recreational prospecting in Australia. The ultimate purpose of the survey is to help describe the important role the recreational prospecting industry has in Australia.</p> <p>The results of this survey will inform an independent review of the economic and social contributions of recreational prospecting activities to Australia. Activities relevant to this survey include recreational prospecting or fossicking for gold and small-scale professional prospecting for gold.</p> <p><u>Your response is confidential.</u></p> <p>We respect your privacy and the sensitivity of information about your licencing status. This research is funded by Minelab. However, your response will only be seen by the researchers at BDO and interviewers at Action Market Research. We will only publish summary results from the survey and your individual responses will not be distributed outside of the research team and will not be provided to Minelab or government agencies.</p> <p>Your response on the possessions and uses of the prospecting licences and permits in various states will help us to understand the total number of recreational prospectors in each state. Variation between different prospectors and their licencing status is important to this research so we ask you to please be open and honest about your own situation. Thank you very much for your valuable time and assistance.</p>	Next button
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INTRO1	First, a few questions about you...
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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q1	<p>What is your age category?</p> <ol style="list-style-type: none"> 1. Under 18 [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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Q2	<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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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q3	<p>Where do you live?</p> <ol style="list-style-type: none"> 1. ACT 2. NSW – Sydney, Wollongong or Newcastle area 3. NSW – elsewhere 4. QLD – Brisbane area 5. QLD – elsewhere 6. SA – Adelaide area 7. SA – elsewhere 8. TAS – Hobart area 9. TAS - elsewhere 10. VIC – Melbourne area 11. VIC – elsewhere 12. WA – Perth area 13. WA – elsewhere 14. NT – Darwin area 15. NT - elsewhere 16. Not in Australia 	<p>Compulsory Single response</p>
INTRO2	<p>Next, a few questions about your prospecting activities.</p>	
Q4	<p>Which of the following best describes your prospecting status?</p> <p><i>Please only consider your personal activities i.e. if you prospect casually in your own time and are an employee at a large-scale mine then select 'Recreational (casual prospector)'.</i></p> <ol style="list-style-type: none"> 2. Large-scale/corporate [TERMINATE] 3. Small-scale/professional (to earn a living) 4. Recreational (casual prospector) 	<p>Compulsory Single response</p>
Q5	<p>Do you use a metal detector for your prospecting activities?</p> <ol style="list-style-type: none"> 1. Yes 2. No 	<p>Compulsory Single response</p>
Q6	<p>What is your main target when prospecting? (select all that apply):</p> <ol style="list-style-type: none"> 1. Gold 2. Treasure/coins/relics 3. Gemstones/fossils/minerals 	<p>Compulsory Select multiple</p>

APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q7	<p>In which state(s) did you go prospecting in the past 10 years? (select all that apply)</p> <ul style="list-style-type: none"> 10. NSW/ACT 11. QLD 12. VIC 13. TAS 14. WA 15. NT 16. SA 17. Outside Australia 18. I have not been prospecting in the past 10 years 	<p>Compulsory Select multiple</p>
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If answers to Q7 include 'NSW/ACT':

INTRO2a	<p>You indicated that you prospect in NSW/ACT, we will ask you a few questions on your licence status in NSW/ACT.</p>
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Q8a	<p>Which of the following permits/licences have you held to fossick for gold in NSW/ACT?</p> <ul style="list-style-type: none"> 1. NSW State Forestry Fossicking Permit 2. Mining tenements (i.e. exploration and mining titles) 3. Permissions from landholders and/or lessees of Crown Land 4. Permissions from owners of mining tenements (i.e. exploration licence, mining lease, etc.) 5. Not applicable – I fossick without any relevant licences/permits/permissions 6. Other: (please specify) 	<p>Compulsory Select multiple</p>
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Ask Only if Answers to Q8a include the selection of Option '1. NSW State Forestry Fossicking Permit'.

Q9a	<p>You indicated that you have held NSW State Forestry Fossicking Permits. In which year did you acquire your most recent Permit? If you are unsure, please provide your best guess.</p> <ul style="list-style-type: none"> 1. Prior to 2010 2. 2010 3. 2011 4. 2012 5. 2013 6. 2014 7. 2015 8. 2016 9. 2017 10. 2018 11. 2019 12. 2020 13. 2021 	<p>Compulsory Single Response</p>
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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q10a	<p>How many adult persons are covered under your NSW State Forestry Fossicking Permit?</p> <p>14. Just myself</p> <p>15. Myself and one other adult</p>	Compulsory Single Response
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If answers to Q7 include 'VIC':

INTRO2b	You indicated that you prospect in VIC, we will ask you a few questions on your licence status in VIC.
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Q8b	<p>In which year did you acquire your VIC Miner's Rights? If you are unsure, please provide your best guess.</p> <ol style="list-style-type: none"> 1. Prior to 2010 2. 2010 3. 2011 4. 2012 5. 2013 6. 2014 7. 2015 8. 2016 9. 2017 10. 2018 11. 2019 12. 2020 13. 2021 14. Not applicable - I have held other licences instead or prospect with landholder/leaseholder permission 15. Not applicable – I prospect without Miner's Rights or any other relevant licences/permits/permissions 	Compulsory Single Response
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Q9b	<p>In which year did you most recently go prospecting in VIC? If you are unsure, please provide your best guess.</p> <ol style="list-style-type: none"> 1. Prior to 2010 2. 2010 3. 2011 4. 2012 5. 2013 6. 2014 7. 2015 8. 2016 9. 2017 10. 2018 11. 2019 12. 2020 13. 2021 	Compulsory Single Response
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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q10b	<p>Do you currently hold any other valid VIC licences or permits (other than Miner's Rights)? (select all that apply)</p> <ol style="list-style-type: none"> 1. Prospecting License 2. Exploration License 3. Mining License 4. None 5. Other: (please specify) 	<p>Compulsory Select multiple</p>
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If answers to Q7 include 'WA':

INTRO2c	<p>You indicated that you prospect in WA, we will ask you a few questions on your licence status in WA.</p>
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Q8c	<p>In which year did you acquire your WA Miner's Rights (? If you are unsure, please provide your best guess.</p> <ol style="list-style-type: none"> 1. Prior to 2010 2. 2010 3. 2011 4. 2012 5. 2013 6. 2014 7. 2015 8. 2016 9. 2017 10. 2018 11. 2019 12. 2020 13. 2021 14. Not applicable - I have held other licences instead or prospect with landholder/leaseholder permission 15. Not applicable – I prospect without Miner's Rights or any other relevant licences/permits/permissions 	<p>Compulsory Single Response</p>
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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q9c	<p>In which year did you most recently go prospecting in WA? If you are unsure, please provide your best guess.</p> <ol style="list-style-type: none"> 1. Prior to 2010 2. 2010 3. 2011 4. 2012 5. 2013 6. 2014 7. 2015 8. 2016 9. 2017 10. 2018 11. 2019 12. 2020 13. 2021 	Compulsory Single Response
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Q10c	<p>Do you currently hold any other valid WA tenements or permits (other than Miner's Rights)? (select all that apply)</p> <ol style="list-style-type: none"> 1. Section 40E permit 2. Prospecting Lease 3. Special Prospecting Lease for Gold 4. Exploration Lease 5. Mining Lease 6. None 7. Other: (please specify) 	Compulsory Select multiple
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If answers to Q7 include 'QLD':

INTRO2d	You indicated that you fossick in QLD, we will ask you a few questions on your licence status in QLD.
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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Q8d	<p>In which year did you acquire your QLD Fossicking Licence? If you are unsure, please provide your best guess.</p> <ol style="list-style-type: none"> 1. Prior to 2010 2. 2010 3. 2011 4. 2012 5. 2013 6. 2014 7. 2015 8. 2016 9. 2017 10. 2018 11. 2019 12. 2020 13. 2021 14. Not applicable - I have held other licences instead or fossick with landholder/leaseholder permission 15. Not applicable – I prospect without a fossicking licence or any other relevant licences/permits/permissions 	Compulsory Single Response
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Skip if Q8d = “Not applicable”

Q9d	<p>Please indicate the term of the licence you last acquired. If you are unsure, please provide your best guess.</p> <ol style="list-style-type: none"> 1. 1 month 2. 6 months 3. 1 year 	Compulsory Single Response
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Skip if Q8d = “Not applicable”

Q10d	<p>How many adult persons are covered under your QLD Fossicking Licence?</p> <ol style="list-style-type: none"> 16. Just myself 17. Myself and one other adult 	Compulsory Single Response
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If answers to Q7 do not include either ‘NSW/ACT’, ‘QLD’, ‘VIC’, or ‘WA’:

INTRO2e	<p>The focus of this survey is prospectors’ licencing status in the states of NSW/ACT, QLD, VIC and WA. Given you have indicated that you prospect in [INSERT THE CHOICE USER SELECTED], no further licencing inputs are required from you.</p>
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APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Ask this section of all

Q11	Who do you usually go prospecting with? <ol style="list-style-type: none"> 1. I prospect alone 2. I prospect with family 3. I prospect with a group of friends 4. I prospect with a club 	Rank between 1 to 4 responses
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Q12	Are you a member of the following prospecting or detecting associations? <i>We will ask about activities with local clubs later.</i> <ol style="list-style-type: none"> 1. NSW and ACT Prospectors and Fossickers Association (NAPFA) 2. Prospectors and Miners Association Victoria (PMAV) 3. Amalgamated Prospectors and Leaseholders Association (APLA) 4. Other (specify): _____ 5. None 	Compulsory Select multiple
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Q13	What format do you receive most of your information about Minelab and Minelab's products? <ol style="list-style-type: none"> 1. Minelab Website 2. Dealer Website 3. Minelab/Dealer Facebook Pages 4. Facebook Groups 5. Instagram 6. Dealer Visits 7. Retailer Visits eg BCF or Anaconda 8. Brochures 9. Personal Contacts/Other Users 10. Other 	Compulsory Single response
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Q14 To say thank you for responding to the survey, Minelab has provided prizes to give away in a prize draw. Would you like to enter the prize draw?

- Yes
- No

Ask if Q14 = "Yes"

Q15 Please enter your name and preferred contact details so we can contact you if you win.

Name: _____

Contact details: _____

Last page

APPENDIX A - SURVEY INSTRUMENTS (CONT'D)

Thank you for your time and your valuable contribution to this important research. We will look to share the findings with you through Minelab and the prospecting associations soon.

APPENDIX B - SURVEY RESPONDENT CHARACTERISTICS

7.3 Respondent Characteristics

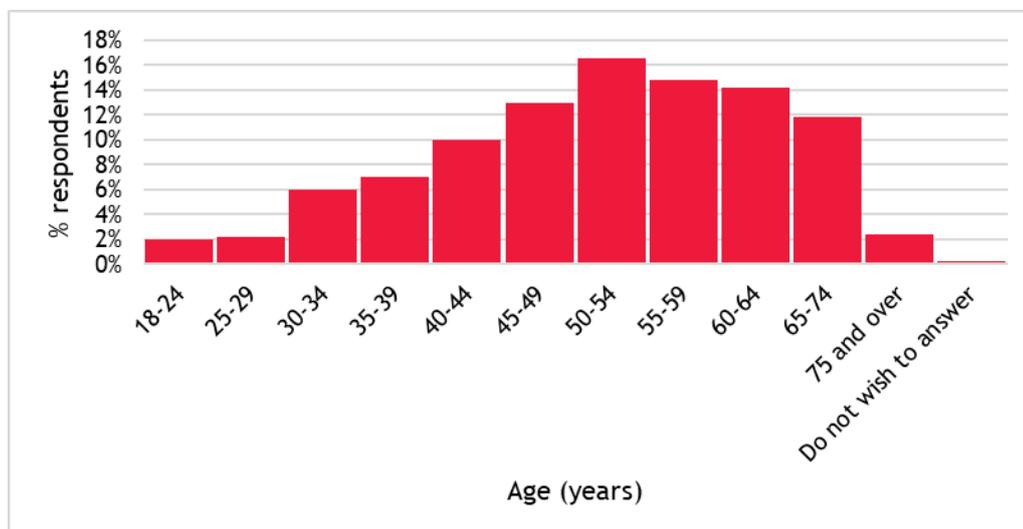
The demographic characteristics of recreational prospectors are detailed in this section. This analysis is informed by the 2,933 responses to the expenditure survey conducted between 14 July and 26 August 2020, which contained questions relating to expenditure and demographic data. In all cases the data are weighted, meaning that the results are representative of the recreational prospecting population.

The average recreational prospector is over 40 years of age, male, in full-time paid employment, has completed high school and earns between \$52,000 and \$90,999 per year. They also have better personal wellbeing, lower psychological distress and similar general health in comparison to the wider Australian population.

7.3.1 Age

The weighted age distribution of recreational prospectors is shown in Figure 22. It indicates that over 80% of prospectors are 40 years or above (n=2,933).

Figure 22 Age of survey respondents across Australia



7.3.2 Gender

Overall, the majority of survey respondents were men (2,599, 87%) while 328 (13%) were women and 6 respondents (0%) chose not to answer (n=2,933).

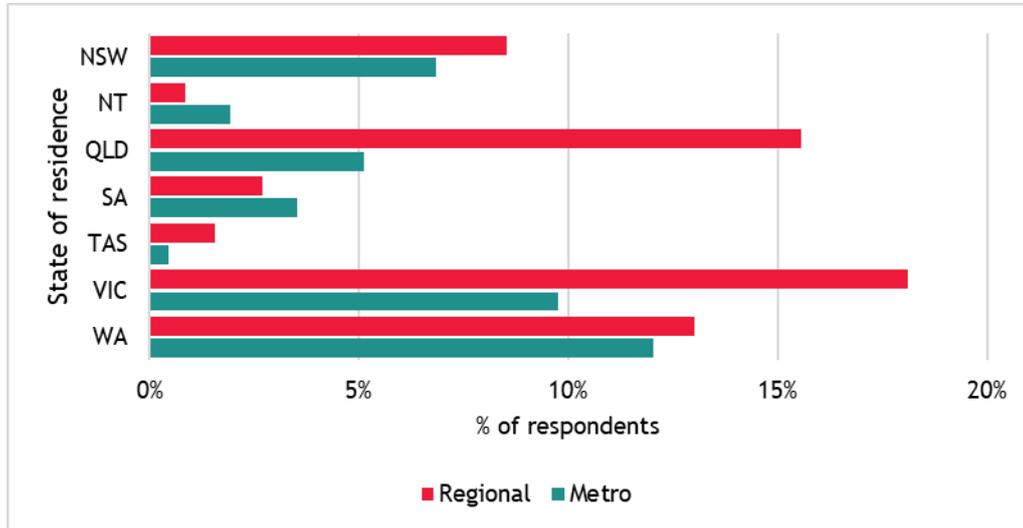
7.3.3 Regional or metropolitan

The proportion of recreational prospectors who live in regional or metropolitan areas is presented in Appendix b - Survey rESPONDENT cHARACTERISTICS (CONT'D)

Figure 23. Based on the responses, there was a slightly uneven balance between respondents reporting that they lived in regional (60%) or metropolitan (40%) areas. Respondents from South Australia and the Northern Territory were more likely to be from metropolitan areas, whereas respondents from New South Wales, Queensland, Tasmania, Victoria and Western Australia were more likely to be regional.

APPENDIX B - SURVEY RESPONDENT CHARACTERISTICS (CONT'D)

Figure 23 Percentage of survey respondents in Regional or Metropolitan Areas of each State and Territory

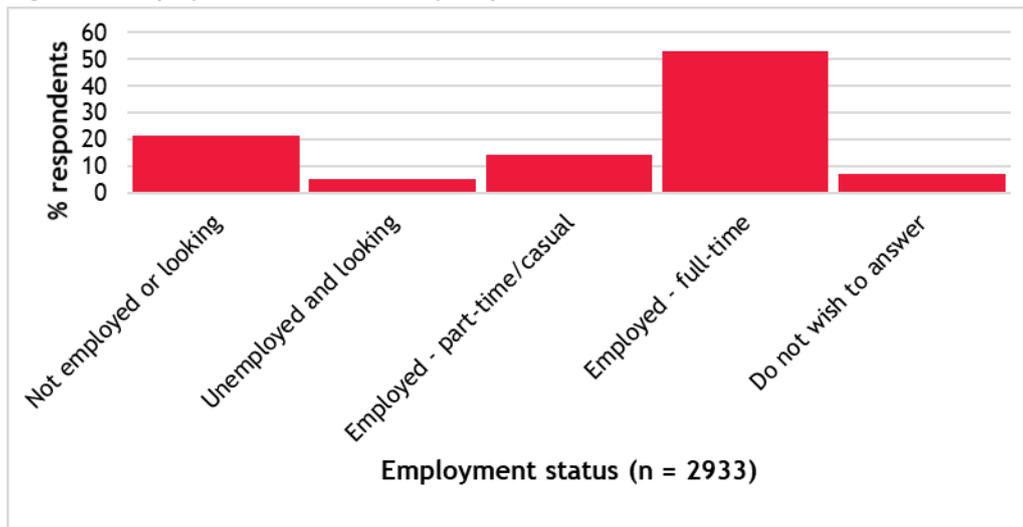


Note: Regional/metropolitan categorisations classified as: NSW Metro (ACT, Sydney, Wollongong or Newcastle area), NSW Regional (NSW - elsewhere), NT Metro (Darwin area), NT Regional (NT - elsewhere), QLD Metro (Brisbane area), QLD Regional (QLD - elsewhere), SA Metro (Adelaide area), SA Regional (SA - elsewhere), TAS Metro (Hobart area), TAS Regional (TAS - elsewhere), VIC Metro (Melbourne area), VIC Regional (VIC - elsewhere), WA Metro (Perth area), WA Regional (WA - elsewhere).

7.3.4 Employment

Figure 24 shows that slightly more than half of recreational prospectors are in full-time paid employment (53%), with the next largest group being not employed and not looking for paid work (21%). Given the age profile of prospectors in Figure 24, this second group is likely to be mostly retired. Part-time and casually employed made up 14% of respondents while just 4% indicated that they were unemployed and looking for paid work. A further 5% of respondents indicated that they were studying, either full-time (1%) or part-time (3%).

Figure 24 Employment status of survey respondents

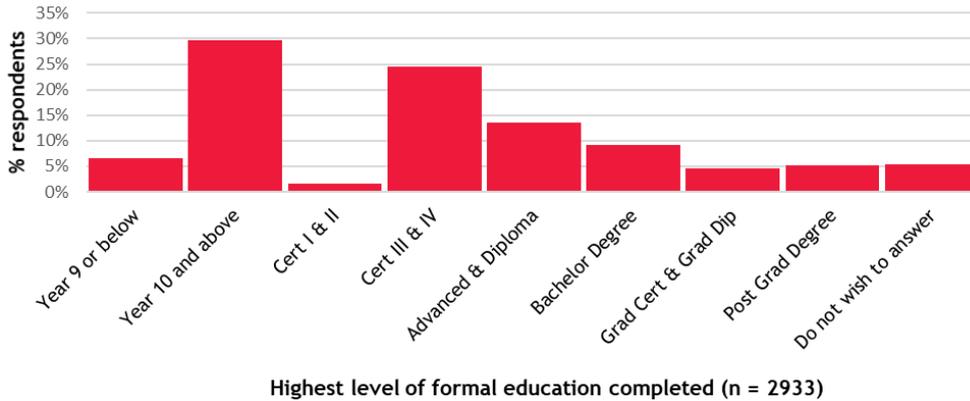


APPENDIX B - SURVEY RESPONDENT CHARACTERISTICS (CONT'D)

7.3.5 Educational attainment

Educational attainment varied across respondents with 58% indicating that they had completed a post-school qualification such as a certificate, diploma or university degree. However, 36% had not completed further education following high-school, as outlined in Figure 25.

Figure 25 Highest level of formal education completed by recreational prospectors



7.3.6 Household income

Respondents were asked to indicate what their household income was in the previous 12 months. Although 24% of respondents preferred not to answer the question, 76% of respondents did answer the question and the largest group of recreational prospectors had an income of between \$52,000 and \$90,999 per year (21%). The distribution of household income amongst recreational prospectors is shown in Figure 26.

Figure 26 Household income reported by prospectors



APPENDIX C - DETAILED ECONOMIC CONTRIBUTION RESULTS

Table 16. Economic contribution of recreational prospecting to Australia 2019

Activity	GSP (\$m)	Household income (\$m)	Employment (FTEs)
Prospecting expenditure			
(1) Direct	224.3	128.3	1,956
(2) Flow-on	411.1	228.7	2,696
▶ Production	147.3	89.2	974
▶ Consumption	263.7	139.5	1,723
(1+2) Total	635.3	357.0	4,652
Expenditure of finds			
Direct	113.8	113.8	-
Flow-on	138.0	73.0	901
Total	251.8	186.8	901
Combined			
(1) Direct	338.0	242.1	1,956
(2) Flow-on	549.1	301.7	3,597
▶ Production	147.3	89.2	974
▶ Consumption	401.7	212.4	2,624
(1+2) Total	887.1	543.7	5,553

Source: BDO Analysis 2021

APPENDIX C - DETAILED ECONOMIC CONTRIBUTION RESULTS (CONT'D)

Table 17. Economic contribution of recreational prospecting to Western Australia 2019

Activity	GSP (\$m)	Household income (\$m)	Employment (FTEs)
Prospecting expenditure			
(1) Direct	121.3	67.3	1,038
(2) Flow-on	101.5	49.6	662
▶ Production	37.5	18.7	224
▶ Consumption	63.9	30.9	438
(1+2) Total	222.8	116.9	1,700
Expenditure of finds			
Direct	70.3	70.3	-
Flow-on	52.3	25.3	358
Total	122.5	95.5	358
Combined			
(1) Direct	191.5	137.6	1,038
(2) Flow-on	153.8	74.8	1,019
▶ Production	37.5	18.7	224
▶ Consumption	116.2	56.2	795
(1+2) Total	345.3	212.4	2,057

Source: BDO Analysis 2021

APPENDIX C - DETAILED ECONOMIC CONTRIBUTION RESULTS (CONT'D)

Table 18. Economic contribution of recreational prospecting to Victoria 2019

Activity	GSP (\$m)	Household income (\$m)	Employment (FTEs)
Prospecting expenditure			
(1) Direct	46.5	25.7	455
(2) Flow-on	57.4	32.6	450
▶ Production	20.6	13.5	174
▶ Consumption	36.8	19.1	276
(1+2) Total	104.0	58.3	905
Expenditure of finds			
Direct	23.6	23.6	-
Flow-on	22.2	11.5	167
Total	45.9	35.2	167
Combined			
(1) Direct	70.1	49.3	455
(2) Flow-on	79.7	44.1	617
▶ Production	20.6	13.5	174
▶ Consumption	59.0	30.6	443
(1+2) Total	149.8	93.4	1,072

Source: BDO Analysis 2021

APPENDIX C - DETAILED ECONOMIC CONTRIBUTION RESULTS (CONT'D)

Table 19. Economic contribution of recreational prospecting to Queensland 2019

Activity	GSP (\$m)	Household income (\$m)	Employment (FTEs)
Prospecting expenditure			
(1) Direct	29.2	17.8	302
(2) Flow-on	35.9	19.4	289
▶ Production	13.8	8.0	114
▶ Consumption	22.1	11.5	175
(1+2) Total	65.1	37.2	591
Expenditure of finds			
Direct	8.2	8.2	-
Flow-on	7.0	3.7	56
Total	15.3	11.9	56
Combined			
(1) Direct	37.5	26.0	302
(2) Flow-on	42.9	23.1	345
▶ Production	13.8	8.0	114
▶ Consumption	29.1	15.1	231
(1+2) Total	80.4	49.1	646

Source: BDO Analysis 2021

APPENDIX C - DETAILED ECONOMIC CONTRIBUTION RESULTS (CONT'D)

Table 20. Economic contribution of recreational prospecting to NSW and ACT 2019

Activity	GSP (\$m)	Household income (\$m)	Employment (FTEs)
Prospecting expenditure			
(1) Direct	24.1	14.7	229
(2) Flow-on	32.4	18.2	224
▶ Production	12.8	8.1	92
▶ Consumption	19.7	10.2	132
(1+2) Total	56.5	32.9	453
Expenditure of finds			
Direct	9.1	9.1	-
Flow-on	7.8	4.0	53
Total	16.9	13.1	53
Combined			
(1) Direct	33.2	23.8	229
(2) Flow-on	40.3	22.3	277
▶ Production	12.8	8.1	92
▶ Consumption	27.5	14.2	185
(1+2) Total	73.4	46.0	506

Source: BDO Analysis 2021

APPENDIX C - DETAILED ECONOMIC CONTRIBUTION RESULTS (CONT'D)

Table 21. Economic contribution of recreational prospecting to South Australia 2019

Activity	GSP (\$m)	Household income (\$m)	Employment (FTEs)
Prospecting expenditure			
(1) Direct	4.9	2.9	50
(2) Flow-on	5.7	3.1	46
▶ Production	2.1	1.3	19
▶ Consumption	3.6	1.9	28
(1+2) Total	10.5	6.0	97
Expenditure of finds			
Direct	1.6	1.6	-
Flow-on	1.4	0.7	10
Total	2.9	2.3	10
Combined			
(1) Direct	6.4	4.5	50
(2) Flow-on	7.0	3.8	57
▶ Production	2.1	1.3	19
▶ Consumption	5.0	2.6	38
(1+2) Total	13.5	8.3	107

Source: BDO Analysis 2021

APPENDIX C - DETAILED ECONOMIC CONTRIBUTION RESULTS (CONT'D)

Table 22. Economic contribution of recreational prospecting to Tasmania 2019

Activity	GSP (\$m)	Household income (\$m)	Employment (FTEs)
Prospecting expenditure			
(1) Direct	0.7	0.4	8
(2) Flow-on	0.8	0.4	7
▶ Production	0.3	0.2	3
▶ Consumption	0.5	0.2	4
(1+2) Total	1.5	0.8	15
Expenditure of finds			
Direct	0.4	0.4	-
Flow-on	0.3	0.2	3
Total	0.8	0.6	3
Combined			
(1) Direct	1.2	0.9	8
(2) Flow-on	1.1	0.6	9
▶ Production	0.3	0.2	3
▶ Consumption	0.8	0.4	7
(1+2) Total	2.3	1.5	18

Source: BDO Analysis 2021

APPENDIX C - DETAILED ECONOMIC CONTRIBUTION RESULTS (CONT'D)

Table 23. Economic contribution of recreational prospecting to Northern Territory 2019

Activity	GSP (\$m)	Household income (\$m)	Employment (FTEs)
Prospecting expenditure			
(1) Direct	2.6	1.2	25
(2) Flow-on	1.8	0.7	12
▶ Production	0.9	0.4	6
▶ Consumption	0.9	0.3	6
(1+2) Total	4.4	1.9	37
Expenditure of finds			
Direct	0.6	0.6	-
Flow-on	0.4	0.1	2
Total	1.0	0.7	2
Combined			
(1) Direct	3.2	1.8	25
(2) Flow-on	2.2	0.9	15
▶ Production	0.9	0.4	6
▶ Consumption	1.3	0.4	8
(1+2) Total	5.4	2.6	39

Source: BDO Analysis 2021

Table 24. Economic contribution of Minelab to South Australia 2019/20

Activity	GSP (\$m)	Employment (FTEs)
Prospecting expenditure		
(1) Direct	148.2	100
(2) Flow-on	69.3	248
▶ Production	36.1	569
▶ Consumption	33.2	321
(1+2) Total	217.5	669

Source: BDO Analysis 2021

