ECONOMIC CONTRIBUTION OF RECREATIONAL PROSPECTING

MINELAB ELECTRONICS

4 DECEMBER 2020

PRIVATE AND CONFIDENTIAL

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Minelab Electronics
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4 December 2020

Dear Fraser,

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.

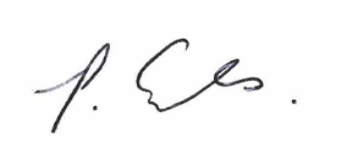
Our work has been undertaken in accordance with our engagement letter dated 12 March 2020. The responsibility for determining the adequacy of the scope of works performed by us to meet your requirements is that of Minelab. We have summarised the agreed scope of work in Section 2.

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 December 2020 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 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
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
PMAT	Prospectors and Miners Association of Tasmania
PMAV	Prospectors and Miners Association of Victoria
PWI	Personal wellbeing index
RISE model	Regional Industry Structure and Employment

CONTENTS

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 small-scale professional reasons such as 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.

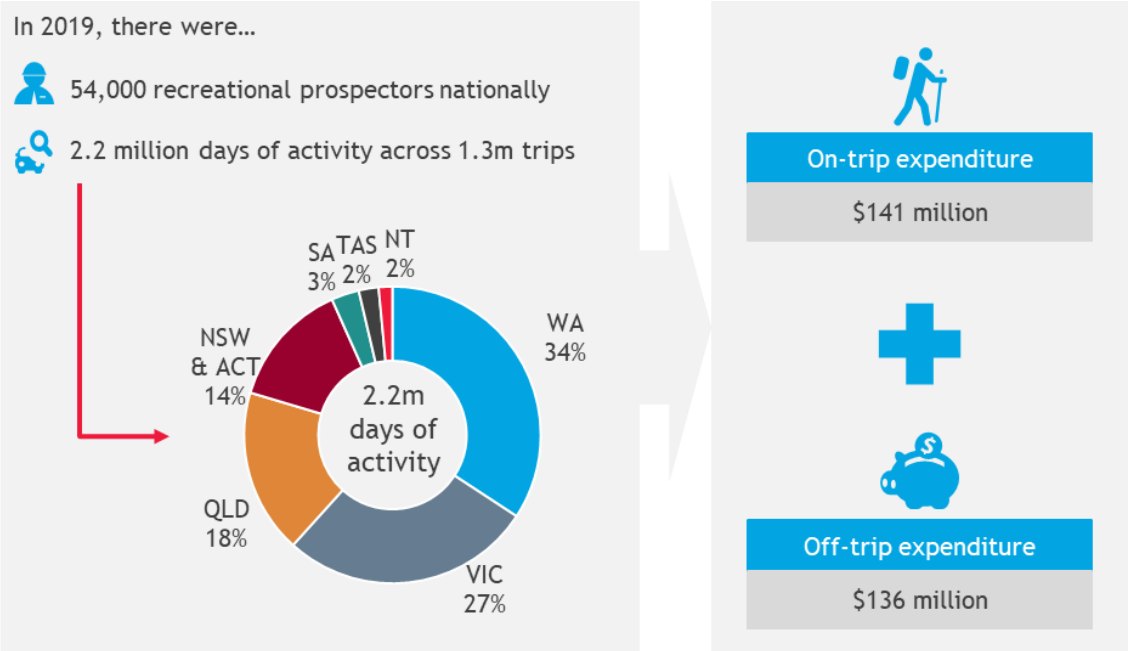
The "modern gold rush", as media dubbed it, has not gone unnoticed. There is frequent media reporting on ordinary prospectors striking gold in all corners of Australia. Reality television shows like the Discovery Channel's Aussie Gold Hunters, which is broadcast in 122 countries around the world, have 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



Source: BDO analysis

EXECUTIVE SUMMARY (CONT'D)

The survey and analysis of survey results established that there were an estimated 54,000 recreational prospectors in Australia in 2019, with around 85% of them undertaking at least one day of prospecting. Together, this adds up to approximately 2.2m days of recreational prospecting activity carried out over 1.3m trips. Prospectors are estimated to have spent $141m while on the trip and $136m 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.

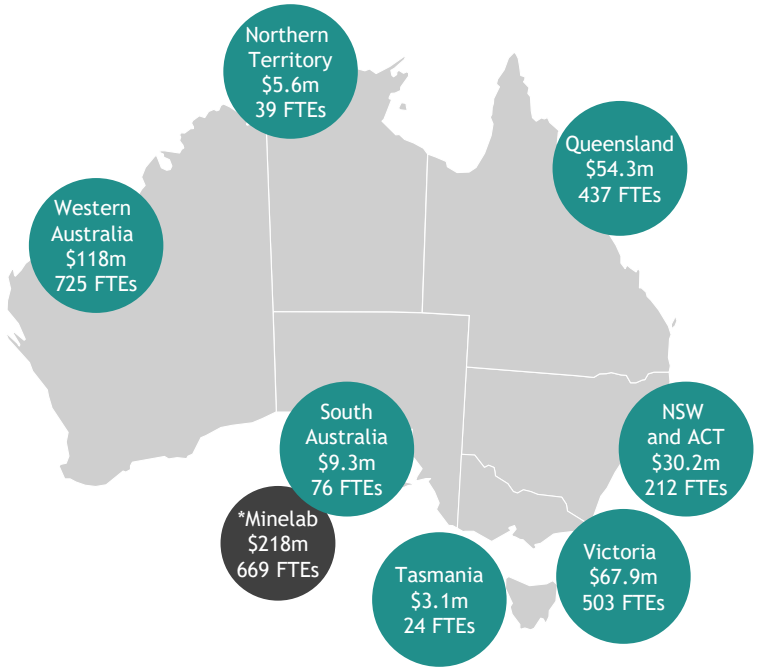
In 2019, the expenditure and income together directly contributed a total of $143m to the national GDP and employed 887 FTEs.

An additional $238m in GDP and 1,560 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 $381m in GDP and 2,447 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 high skilled staff in research and manufacturing with the lower valued manufacturing tasks occurring offshore. High skill 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 $218 million (in terns of GSP) and 669 FTE jobs to South Australia's economy (as shown in Figure 2):

- $148 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 century.

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, accessibility to the areas for prospecting which is subject to different regulations in different state and territories and various licensing approvals.

Section 2

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 gold price and recurrent media exposure in recent years has led to a rise in popularity in 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.

Section 3

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, a national survey of recreational prospectors in Australia was undertaken to collect primary data for the recreational prospecting industry. The purposes of the survey are multifold, including:

- Estimate the **population size and expenditure pattern** of recreational prospectors in Australia and its states and territories.
- Gather relevant data to use as the basis for estimating the **economic contribution** of recreational prospecting activity in Australia and its states and territories.
- Gather relevant information to use as the basis for estimating the **social contribution** of recreational prospecting activity in Australia and its states and territories.

This report outlines the methodology used for analysing the 'population size and expenditure pattern' and 'economic contribution' aspects of the survey responses and the results of these analyses. The analysis and results relating to the 'social contribution' aspect of the survey is contained in a separate BDO report titled *Social Contribution of Recreational Prospecting*.

This section details the method used to collect the primary data and analysis undertaken to estimate the population size and activity pattern of recreational prospectors.

3.1.1 Survey design

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

The survey questions 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 relevant themes for this report are 'activities', 'expenditures' and 'income'.

3.1.2 Survey fieldwork

The survey fieldwork was administered by market research company Action Market Research (AMR). AMR administered an online survey using, supplemented by computer-assisted telephone interview (CATI). The data collection period commenced on 14 July 2020 and closed on 26 August 2020. Key steps involved in the fieldwork were:

- Obtain survey sample. The initial sample was provided from the Minelab customer database and included:
  - Full sample = 81,725 records
  - Useable sample = 29,299 records (email listed and duplicates removed).

  This sample was supplemented by opt-in survey participants who may not have been registered with Minelab, 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 a prize draw incentive was used. The prize offered was the choice of a Minelab Equinox-800 or Gold Monster 1000 metal detector.

- Pilot interviews. An initial 16 interviews were conducted as part of the pilot interviews to trial the survey questions. Participants were sourced from multiple states including Victoria, New South Wales, Western Australia, Queensland and South Australia. Among those included in the pilot test were representatives from the following organisations:
  - PMAV
  - NAPFA
  - APLA
  - Townsville Metal Detecting Club
  - The Outback Prospector.
- Online survey. The online survey was administered between 30 July and 21 August 2020.
- Lastly, 111 CATIs were conducted to supplement the online responses received in order to improve sample representativeness in certain geographic areas. The distribution of CATIs across states and territories are indicated in Table 1.

Table 1 CATI participant questions

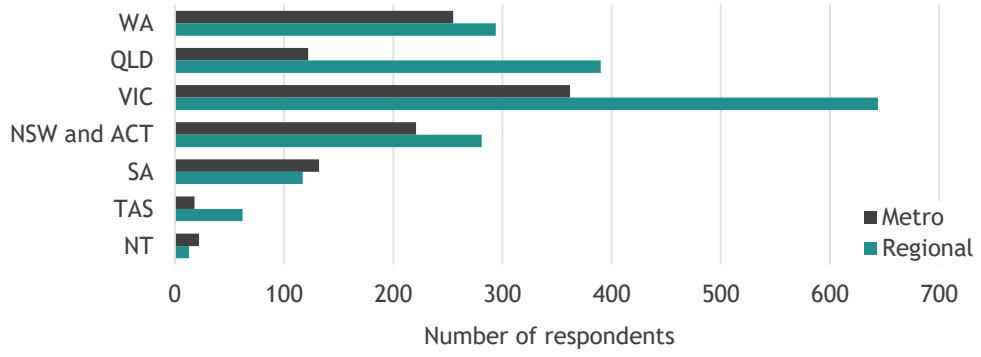
Location	Metro	Regional	Total
ACT	-	-	0
NSW	3	28	31
QLD	14	31	45
SA	9	2	11
TAS	-	-	0
VIC	-	-	0
WA	15	4	19
NT	2	3	5
Not in Australia	-	-	0
Total	**43**	**68**	**111**

Source: BDO survey of recreational prospectors 2020

3.1.3 Completed survey responses

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 responses is provided in Figure 2.

Figure 2 Geographical distribution of survey responses



Source: BDO survey of recreational prospectors 2020

3.1.4 Analysis of survey results

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

1 Estimate recreational prospecting population size, demographic characteristics and avidity.

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.

Step 1: Estimate recreational prospecting population size, demographic characteristics and avidity

The number of people who participate in recreational prospecting activities in Australia from time to time is uncertain and the estimation is difficult:

- In the states of Victoria, Western Australia and Queensland, prospectors are required to purchase a permit to undertake any prospecting activity and the number of permits issued is either publicly available or available via request from the relevant government departments. However, these permits are valid for varying time periods from one month to indefinite, and participants are not required to report their actual prospecting activities so the level of avidity in these states is also uncertain.
- Permits in other state and territories are not universally required and the number of permits was not consistently available.

One available and comparable statistic that indicates the level of participation in each state and territory is the number of Minelab metal detectors sold in a given year. This metric was calculated from the Minelab sales data provided to BDO for this analysis.

Given the uncertainty in the population size of recreational prospectors, a combination of permit statistics and Minelab sales data have been used to form the best estimate of the population size for recreational prospectors, as follows:

a) From Minelab sales data estimate the market size in each state in 2019 in terms of the volume of metal detectors sold and expenditure on metal detectors at retail value.

b) Estimate the number of prospectors in each state and territory by multiplying the number of detectors sold in 2019 by the frequency with which prospectors tend to purchase metal detectors on average in each state and territory. The frequency was estimated from the purchase histories of registered Minelab customers using the Minelab customer database provided to BDO for the analysis.[1]

c) With the number of active participants established, a number of inactive participants was added in each state and territory based on a review of studies on similar outdoor recreational activities in Australia. A literature review on the avidity rate was undertaken to inform an estimate of the proportion of prospectors that are inactive.

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.

[1] The frequency was approximately every two years in most states and territories but was double in Western Australia due to gold-focused market tending to purchase higher value and longer life detectors. This means that in most states and territories, each prospector has a 50 per cent chance of purchasing a detector in any given year or equivalently, half of the prospecting population purchases a detector each year. Hence, multiplying the number of sales in a given year by the average number of years between purchases approximates the population size.

SURVEY METHODOLOGY (CONT'D)

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 2 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 per cent. We therefore adopt the assumption that 85 per cent of the population of recreational prospectors are active in a given year.

d) Ensure the estimated number of active prospectors in each state and territory in 2019 is equal or greater than the number of Miners' Rights (or equivalent) issued, where applicable.

e) Run the economic model using this population estimate.

f) Compare the scaled-up estimated expenditure by survey participants on detectors with the expenditure estimated directly in step a) above to ensure it is similar.

g) Adjust the aggregate expenditure on metal detectors estimated from the survey to match the market size estimated directly from step a). The adjustment involved reducing the estimated spend on detectors by approximately 26 per cent.

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 per cent 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.

Section 4

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.

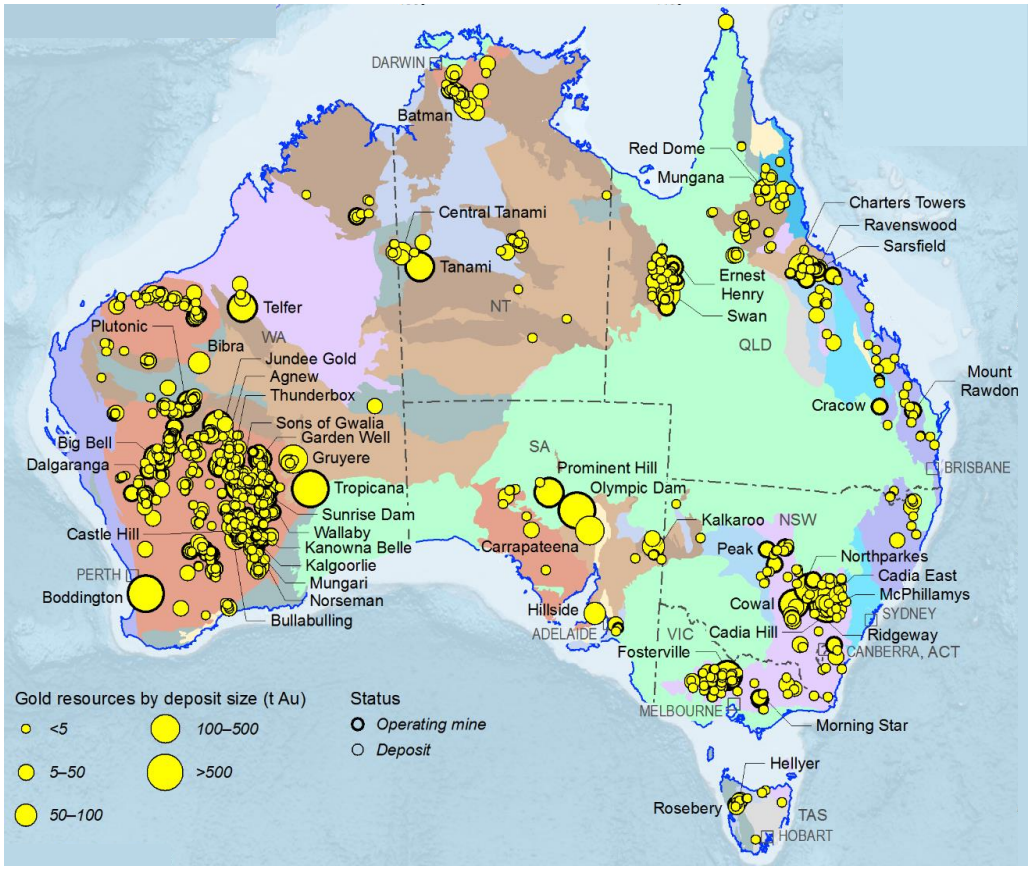
Small-scale professional prospectors may be able to use mechanised machinery depending on whether prospecting under a prospecting right/permit or lease/license.

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 3.

Figure 3 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 3).

RECREATIONAL PROSPECTING IN AUSTRALIA (CONT'D)

Table 3 Established permitted and prohibited prospecting areas in each state and territory

Jurisdiction	Permitted areas	Restricted areas
Western Australia	▸ 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	▸ Reserved Land ▸ National parks ▸ Nature Reserves ▸ Within Town Sites ▸ Classified Reserves (e.g. cemeteries)
Victoria	▸ 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	▸ Prohibited Crown land ▸ State Parks ▸ National Parks ▸ Select streams, creeks and rivers
Queensland	▸ Unoccupied land – unless there has been a determination of native title. ▸ Road reserves – collection only, digging not permitted. ▸ General Permission Areas (GPAs) – where landholders have given general permission for prospecting on specific areas of their properties. ▸ Designated prospecting lands/areas – such as sites near Warwick and Gympie	▸ 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.
NSW/ACT	▸ Fossicking Districts ▸ Crown Land – requires consent from appropriate authority ▸ Coal, Mineral and Petroleum Titles – requires consent from the holder of an authority, mineral claim or prospecting license prior to any prospecting activity ▸ Mineral Claims and Prospecting Licenses – requires consent from the claim or license holder before any prospecting activity	▸ National Parks ▸ Native Title ▸ State Forests – permit required from Forests NSW
South Australia	▸ Echunga Gold fields – Chapel Hill (Old Echunga) and Jupiter Creek which are located on Historic Reserves controlled by the State's Department for Energy and Mining. ▸ Gumeracha Goldfields – Watts Gully Diggings in the Mount Crawford Forest Reserve.	▸ National Parks ▸ Conservation Parks ▸ Forest Reserves
Tasmania	▸ 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	▸ Reserved Land ▸ National parks ▸ Nature Reserves ▸ Within Town Sites ▸ Classified Reserves (e.g. cemeteries)
Northern Territory	▸ Any land is accessible (such as Crown land, declared prospecting areas etc.) as long as correct notifications and consents are gained where required	

Source: Government of Western Australia Department of Mines, Industry Regulation and Safety, 'Prospectors & fossickers', in Minerals & Mining
Victoria State Government Jobs, Precincts and Regions, 'Where you can prospect and fossick'
Victoria State Government Jobs, Precincts and Regions, 'Rivers and streams where you can't fossick', in Licensing & approvals
Queensland Government, 'Fossicking in Queensland', in Recreational areas, facilities and activities
NSW Government NSW Resources Regulator, 'Fossicking – A Guide to Fossicking in NSW'
Government of South Australia Department for Energy and Mining, 'Fossicking', in Exploration
Tasmanian Government, 'Prospecting and fossicking', in Mineral Resources Tasmania
Northern Territory Government, 'Land access', in 'Fossicking in the Northern Territory'

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.

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'.

Section 5

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 per cent 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.

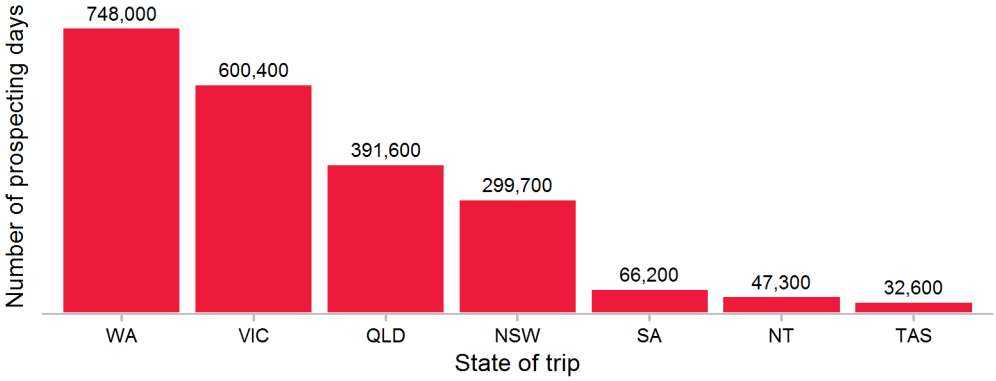
5.2 Economic contribution of recreational prospecting to Australia

Prospecting activity

In 2019, it was estimated that there were 54,000 recreational prospectors across Australia who undertook approximately 2,186,000 days of prospecting activity across 1,318,000 trips.

The majority of recreational prospectors and semi-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 4.

Figure 4 Location of prospecting days in Australia by trip state in 2019



Source: BDO survey of recreational prospectors 2020

Expenditure

Across all prospecting trips and days, approximately $277m was spent by all recreational prospectors:

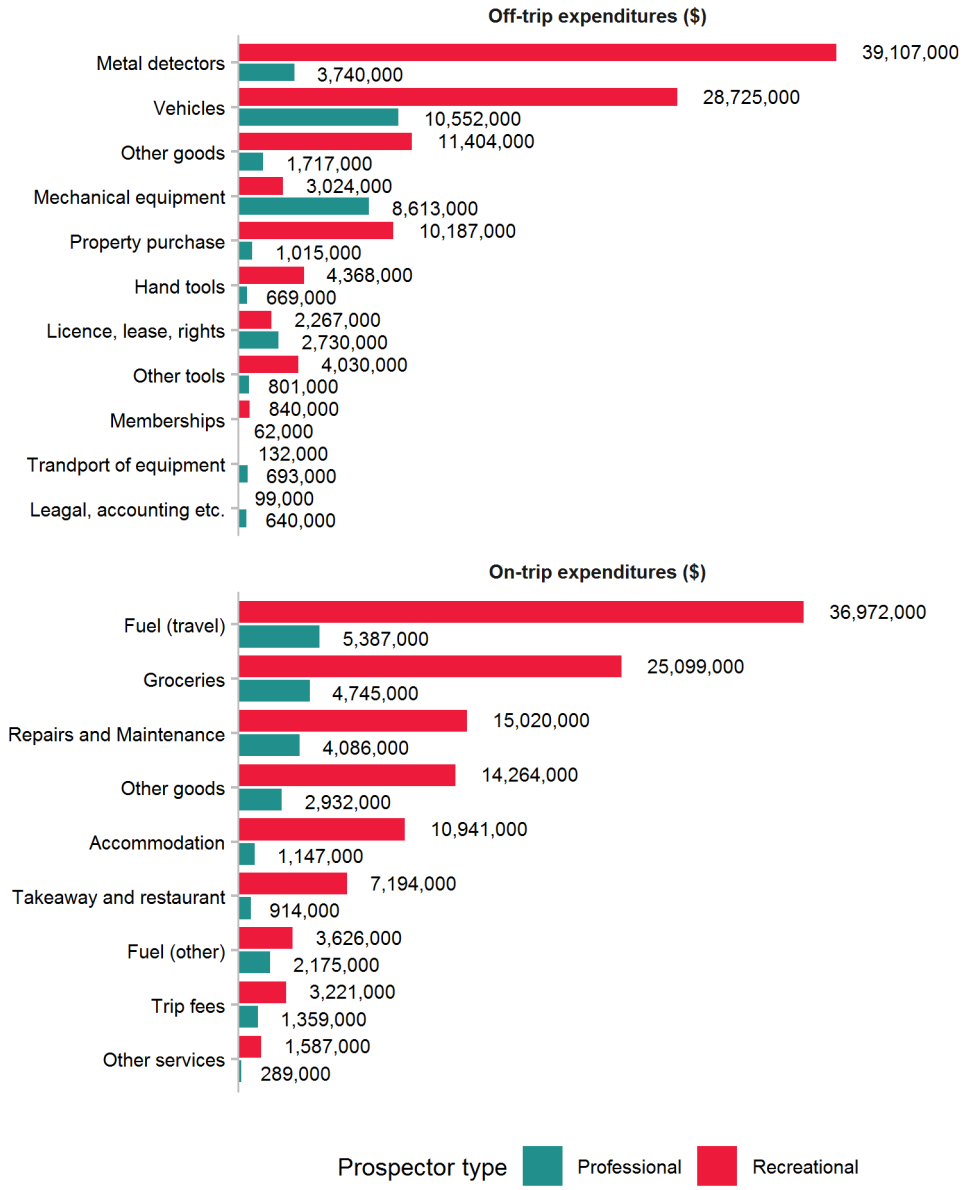
$141m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries.

$136m was spent on off-trip expenditure items where the most significant expenditure items were on metal detectors for hobby prospectors, and vehicles and machinery for semi-professional prospectors.

The distribution of expenditure across various items is presented in Figure 5.

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

Figure 5 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 OF RECREATIONAL PROSPECTING IN AUSTRALIA (CONT'D)

Economic contribution of prospecting activity

These economic activities generated by recreational prospectors contributed around $381m (in terms of GDP) and 2,447 FTEs to the Australian economy:

- $143m and 887 FTEs were directly contributed from expenditure and people employed associated with recreational prospecting and income earned through recreational prospecting.
- $238m and 1,560 FTEs were indirectly contributed from expenditure spent and people employed to support the flow-on activities associated with recreational prospecting, such as in retail, manufacturing and logistical services.

Out of the top five sectors, the largest contribution was made in the retail trade sector and the contribution to the top five sectors represents around 34 per cent of the total (see Table 4).

Table 4 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	40.1	540
2	Wholesale trade	24.3	146
3	Finance	21.8	39
4	Prof scientific tech services	19.5	177
5	Personal & other services	19.4	278
	Other sectors	256	1,267
	Total	**381**	**2,447**

Source: BDO analysis

ECONOMIC CONTRIBUTION RECREATIONAL PROSPECTING BY STATE AND TERRITORY

Recreational prospecting activities vary across states and territories 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.

5.3 Economic contribution of recreational prospecting by states and territory

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 5 and Table 6).

Table 5 Economic contribution to GSP across states and territories 2019

	Contribution to GSP ($m)		
State/ territory	Direct	Indirect	Total
Western Australia	65.3	52.9	**118.2**
Victoria	31.4	36.6	**67.9**
Queensland	25.3	29.1	**54.3**
NSW and ACT	13.5	16.7	**30.2**
South Australia	4.4	5.0	**9.3**
Northern Territory	3.3	2.3	**5.6**
Tasmania	1.6	1.5	**3.1**
Total	**143**	**238**	**381**

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

Table 6 Economic contribution to employment (FTEs) across states and territories 2019

	Contribution to employment (FTEs)		
State/ territory	Direct	Indirect	Total
Western Australia	374	351	**725**
Victoria	219	284	**503**
Queensland	203	234	**437**
NSW and ACT	97	115	**212**
South Australia	36	40	**76**
Northern Territory	24	15	**39**
Tasmania	11	13	**24**
Total	**887**	**1,560**	**2,447**

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

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

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

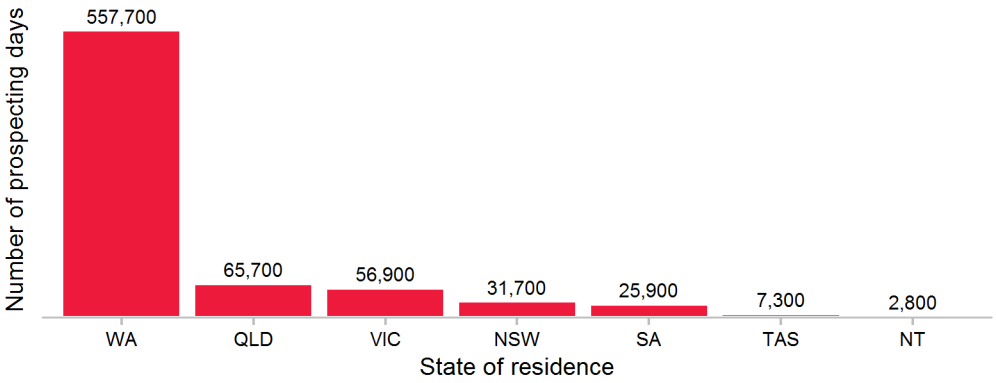
5.3.1 Western Australia

Prospecting activity

In 2019, it was estimated that there were 13,500 recreational prospectors in Western Australia who undertook approximately 748,000 days of prospecting activity across 324,500 trips. The majority of activity (approximately 75 per cent) in terms of prospecting days was undertaken by Western Australian residents and the remaining 25 per cent of activity undertaken by 3,100 interstate visitors.

The majority of prospectors reported being active for less than 50 days in the past year and the most significant interstate visitation was from residents of Queensland and Victoria. The number of days of activity by prospectors by state and territory of residence is illustrated in Figure 6.

Figure 6 Source of prospecting days in Western Australia by state/territory of residence in 2019



Source: BDO survey of recreational prospectors 2020

Expenditure

Across all prospecting trips and days, approximately $104m was spent by all recreational prospectors in Western Australia:

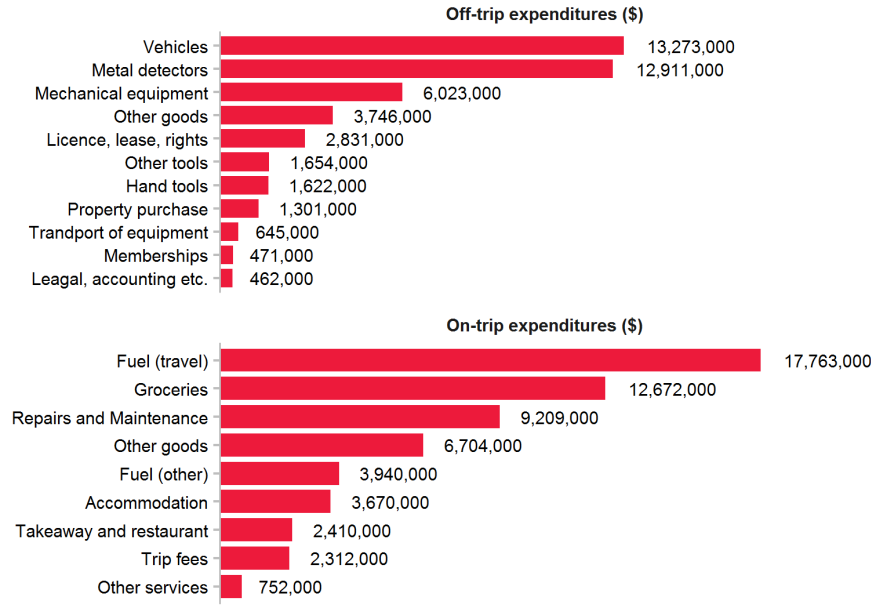
$59.4m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries.

$44.9m was spent on off-trip expenditure items where the most significant expenditure items were on metal detectors and vehicles.

The distribution of expenditure spent in Western Australia associated with recreational prospecting across various items is presented in Figure 7.

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

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



Source: BDO survey of recreational prospectors 2020

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

These economic activities generated by recreational prospectors contributed around $60.8m (in terms of GSP) and 380 FTEs to the Western Australian economy:

- $65.3m and 374 FTEs were directly contributed from expenditure and people employed associated with recreational prospecting and income earned through recreational prospecting.
- $52.9m and 351 FTEs were indirectly contributed from expenditure spent and people employed to support the flow-on activities associated with recreational prospecting.

Out of the top five sectors, the largest contribution was made in the retail trade sector and the contribution to the top five sectors represents around 32 per cent of the total (see Table 7).

Table 7 Economic contribution of recreational prospecting to Western Australia by sector, top 5 sectors by GDP (2019)

Rank	Top 5 Sectors	GDP ($m)	Employment (FTEs)
1	Retail Trade	13.6	194
2	Wholesale Trade	8.6	61
3	Personal & Other Serv	7.7	94
4	Road Transport	4.3	42
5	Oil & Gas Extraction	3.9	4
	Other sectors	80.1	331
	Total	**118.2**	**725**

Source: BDO analysis

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

5.3.2 Victoria

Prospecting activity

In 2019, it was estimated that there were 15,100 recreational prospectors in Victoria who undertook approximately 600,500 days of prospecting activity across 427,000 trips. The majority of activity (approximately 78 per cent) in terms of prospecting days was undertaken by Victorian residents and the remaining 22 per cent of activity undertaken by 4,500 interstate visitors.

The majority of prospectors reported being active for less than 50 days in the past year and the most significant interstate visitation was from residents of Queensland and South Australia. The number of days of activity by prospectors by state and territory of residence is illustrated in Figure 8.

Figure 8 Source of prospecting days in Victoria by state/territory of residence in 2019

Source: BDO survey of recreational prospectors 2020

Expenditure

Across all prospecting trips and days, approximately $69.1m was spent by all recreational prospectors in Victoria:

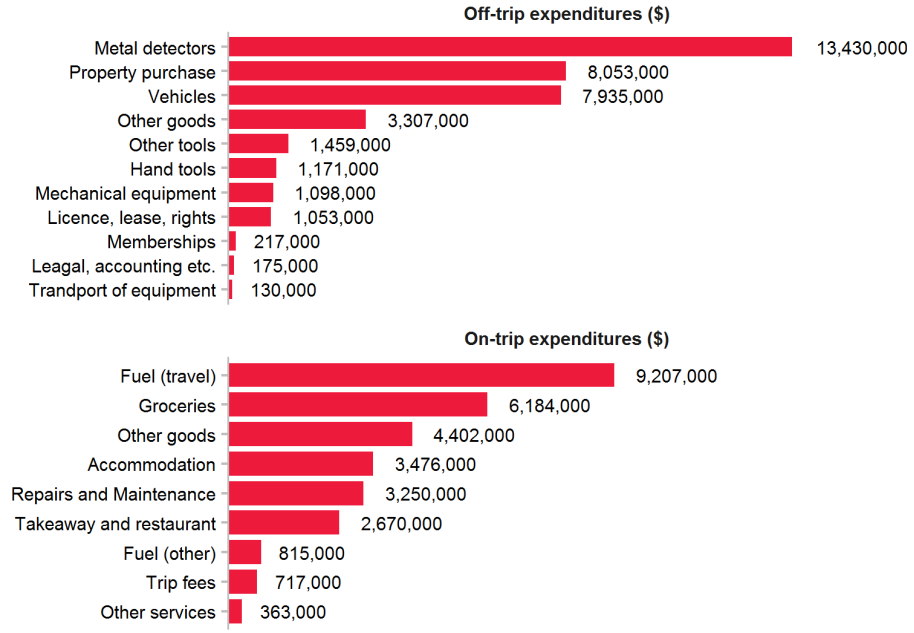
$31.1m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries.

$38.0m was spent on off-trip expenditure items where the most significant expenditure items were on metal detectors and vehicles.

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

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

Figure 9 Expenditures in Victoria in 2019 associated with recreational prospecting



Source: BDO survey of recreational prospectors 2020

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

These economic activities generated by recreational prospectors contributed around $67.9m (in terms of GSP) and 254 FTEs to the Victorian economy:

- $31.4m and 219 FTEs were directly contributed from expenditure and people employed associated with recreational prospecting and income earned through recreational prospecting.
- $36.6m and 284 FTEs were indirectly contributed from expenditure spent and people employed to support the flow-on activities associated with recreational prospecting.

Out of the top five sectors, the largest contribution was made in the retail trade sector and the contribution to the top five sectors represents around 34 per cent of the total (see Table 8).

Table 8 Economic contribution of recreational prospecting to Victoria by sector, top 5 sectors by GDP (2019)

Rank	Top 5 Sectors	GDP ($m)	Employment (FTEs)
1	Retail Trade	8.8	126
2	Wholesale Trade	4.3	42
3	Finance	3.5	8
4	Personal & Other Serv	3.3	46
5	Prof Scientific Tech Serv	3.1	30
	Other sectors	45.0	251
	Total	**67.9**	**503**

Source: BDO analysis

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

5.3.3 Queensland

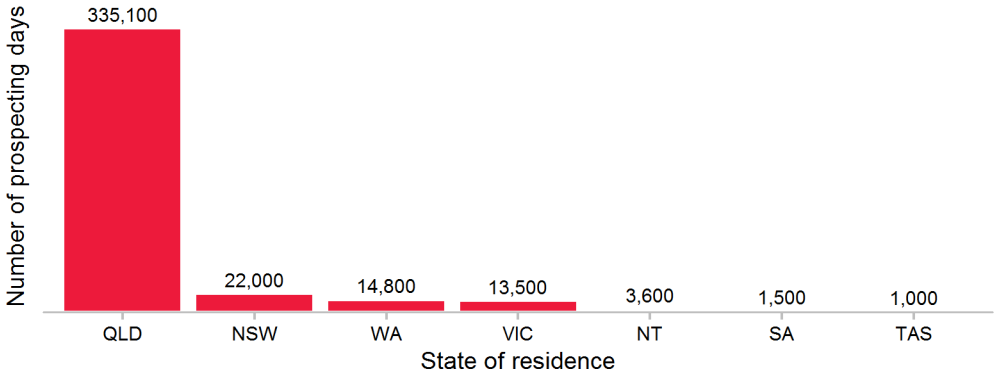
Prospecting activity

In 2019, it was estimated that there were 11,200 recreational prospectors in Queensland who undertook approximately 391,600 days of prospecting activity across 252,300 trips.

The majority of activity (approximately 86 per cent) in terms of prospecting days was undertaken by Queensland residents and the remaining 14 per cent of activity undertaken by 1,900 interstate visitors.

The majority of prospectors reported being active for less than 50 days in the past year and the most significant interstate visitation was from residents of NSW and ACT, and Western Australia. The number of days of activity by prospectors by state and territory of residence is illustrated in Figure 10.

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



Source: BDO survey of recreational prospectors 2020

Expenditure

Across all prospecting trips and days, approximately $53.9m was spent by all recreational prospectors in Queensland:

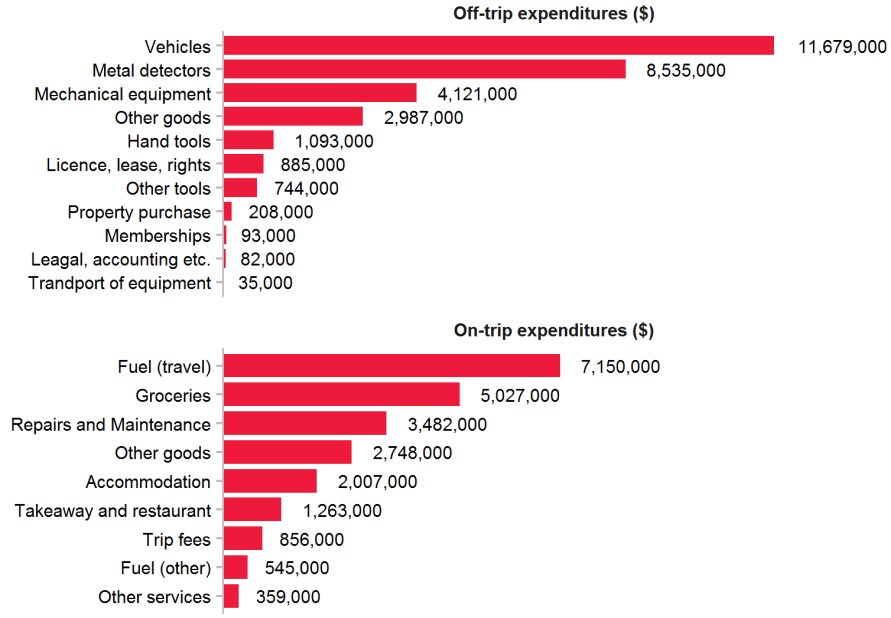
$23.4m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries.

$30.5m was spent on off-trip expenditure items where the most significant expenditure items were on metal detectors and vehicles.

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

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

Figure 11 Expenditures in Queensland in 2019 associated with recreational prospecting



Source: BDO survey of recreational prospectors 2020

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

These economic activities generated by recreational prospectors contributed around $54.3m (in terms of GSP) and 437 FTEs to the Queensland economy:

- $25.3m and 203 FTEs were directly contributed from expenditure and people employed associated with recreational prospecting and income earned through recreational prospecting.
- $29.1m and 234 FTEs were indirectly contributed from expenditure spent and people employed to support the flow-on activities associated with recreational prospecting.

Out of the top five sectors, the largest contribution was made in the retail trade sector and the contribution to the top five sectors represents around 37 per cent of the total (see Table 9).

Table 9 Economic contribution of recreational prospecting to Queensland by sector, top 5 sectors by GDP (2019)

Rank	Top 5 Sectors	GDP ($m)	Employment (FTEs)
1	Retail Trade	7.8	119
2	Wholesale Trade	4.5	44
3	Personal & Other Serv	3.4	48
4	Road Transport	2.6	22
5	Prof Scientific Tech Serv	1.8	19
	Other sectors	34.2	186
	Total	**54.3**	**437**

Source: BDO analysis

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

5.3.4 NSW and ACT

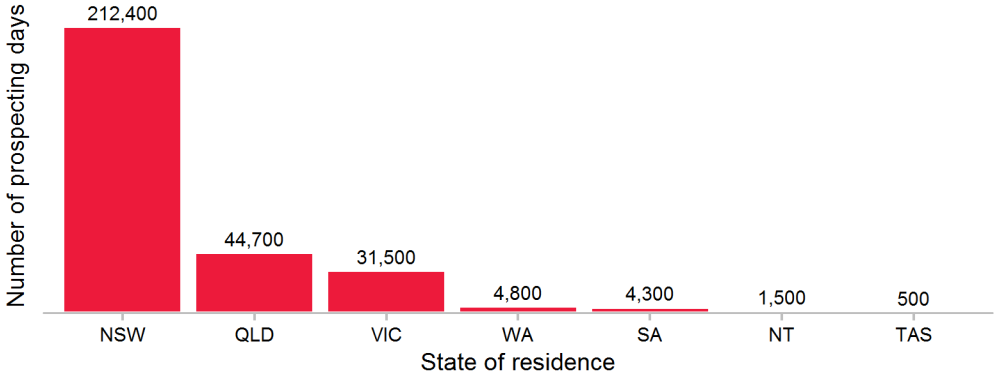
Prospecting activity

In 2019, it was estimated that there were 8,300 recreational prospectors in NSW and the ACT who undertook approximately 299,700 days of prospecting activity across 299,700 trips.

The majority of activity (approximately 71 per cent) in terms of prospecting days was undertaken by NSW and ACT residents and the remaining 29 per cent of activity undertaken by 3,400 interstate visitors.

The majority of prospectors reported being active for less than 50 days in the past year and the most significant interstate visitation was from residents of Queensland and Victoria. The number of days of activity by prospectors by state and territory of residence is illustrated in Figure 12.

Figure 12 Source of prospecting days in NSW and ACT by state/territory of residence in 2019



Source: BDO survey of recreational prospectors 2020

Expenditure

Across all prospecting trips and days, approximately $29.4m was spent by all recreational prospectors in NSW and ACT:

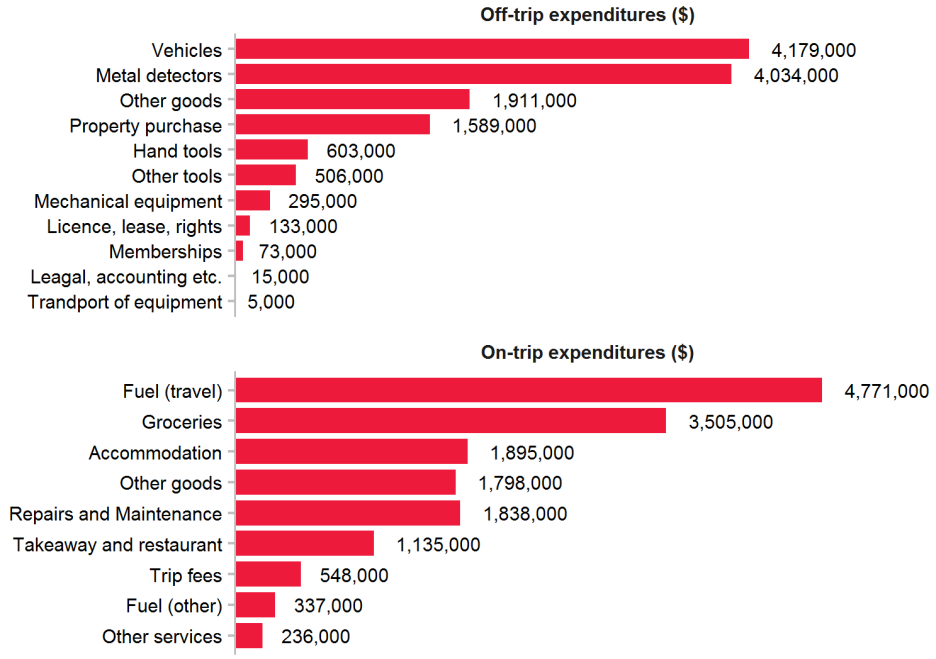
$16.1m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries.

$13.3m was spent on off-trip expenditure items where the most significant expenditure items were on vehicles and metal detectors.

The distribution of expenditure spent in NSW and ACT associated with recreational prospecting across various items is presented in Figure 13.

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

Figure 13 Expenditures in NSW and ACT in 2019 associated with recreational prospecting



Source: BDO survey of recreational prospectors 2020

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

These economic activities generated by recreational prospectors contributed around $30.2m (in terms of GSP) and 212 FTEs to the NSW and ACT economy:

- $13.5m and 97 FTEs were directly contributed from expenditure and people employed associated with recreational prospecting and income earned through recreational prospecting.
- $16.7m and 115 FTEs were indirectly contributed from expenditure spent and people employed to support the flow-on activities associated with recreational prospecting.

Out of the top five sectors, the largest contribution was made in the retail trade sector and the contribution to the top five sectors represents around 35 per cent of the total (see Table 10).

Table 10 Economic contribution of recreational prospecting to NSW and ACT by sector, top 5 sectors by GDP (2019)

Rank	Top 5 Sectors	GDP ($m)	Employment (FTEs)
1	Retail trade	3.8	52
2	Finance	2.0	5
3	Wholesale Trade	1.7	17
4	Personal & Other Serv.	1.7	22
5	Prof. Scientific Tech. Serv.	1.4	13
	Other sectors	19.5	103
	Total	**30.2**	**212**

Source: BDO analysis

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

5.3.5 South Australia

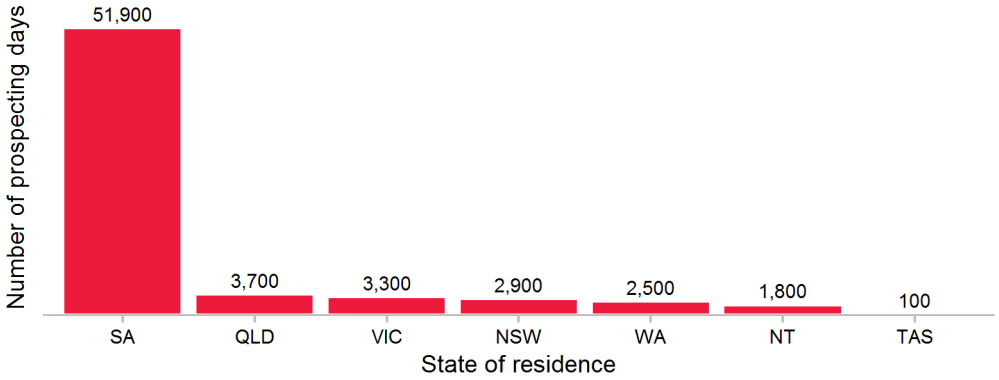
Prospecting activity

In 2019, it was estimated that there were 3,400 recreational prospectors in South Australia who undertook approximately 66,200 days of prospecting activity across 53,000 trips.

The majority of activity (approximately 78 per cent) in terms of prospecting days was undertaken by South Australian residents and the remaining 22 per cent of activity undertaken by 800 interstate visitors.

The majority of prospectors reported being active for less than 50 days in the past year and the most significant interstate visitation was from residents of Queensland and Victoria. The number of days of activity by prospectors by state and territory of residence is illustrated in Figure 14.

Figure 14 Source of prospecting days in South Australia by state/territory of residence in 2019



Source: BDO survey of recreational prospectors 2020

Expenditure

Across all prospecting trips and days, approximately $10.0m was spent by all recreational prospectors in South Australia:

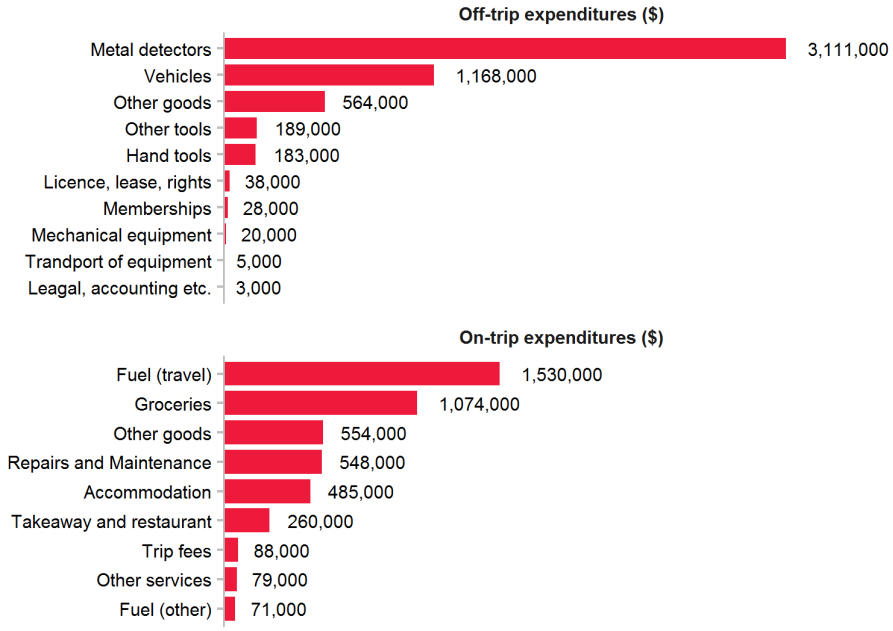
$4.7m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries.

$5.3m was spent on off-trip expenditure items where the most significant expenditure items were on metal detectors and vehicles.

The distribution of expenditure spent in South Australia associated with recreational prospecting across various items is presented in Figure 15.

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

Figure 15 Expenditures in South Australia in 2019 associated with recreational prospecting



Source: BDO survey of recreational prospectors 2020

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

These economic activities generated by recreational prospectors contributed around $9.3m (in terms of GSP) and 76 FTEs to the South Australian economy:

- $4.4m and 36 FTEs were directly contributed from expenditure and people employed associated with recreational prospecting and income earned through recreational prospecting.
- $5.0m and 40 FTEs were indirectly contributed from expenditure spent and people employed to support the flow-on activities associated with recreational prospecting.

Out of the top five sectors, the largest contribution was made in the retail trade sector and the contribution to the top five sectors represents around 38 per cent of the total (see Table 11).

Table 11 Economic contribution of recreational prospecting to South Australia by sector, top 5 sectors by GDP (2019)

Rank	Top 5 Sectors	GDP ($m)	Employment (FTEs)
1	Retail Trade	1.4	21
2	Wholesale Trade	0.8	7
3	Personal & Other Serv	0.6	8
4	Road Transport	0.4	5
5	Prof Scientific Tech Serv	0.4	4
	Other sectors	5.8	32
	Total	**9.3**	**76**

Source: BDO analysis

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

5.3.6 Tasmania

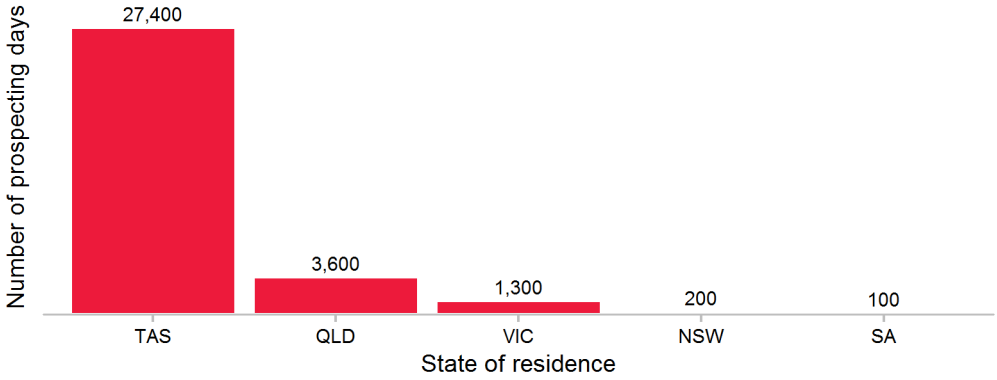
Prospecting activity

In 2019, it was estimated that there were 1,100 recreational prospectors in Tasmania who undertook approximately 32,600 days of prospecting activity across 22,200 trips.

The majority of activity (approximately 84 per cent) in terms of prospecting days was undertaken by Tasmanian residents and the remaining 16 per cent of activity undertaken by 200 interstate visitors.

The majority of prospectors reported being active for less than 50 days in the past year and the most significant interstate visitation was from residents of Queensland and Victoria. The number of days of activity by prospectors by state and territory of residence is illustrated in Figure 16.

Figure 16 Source of prospecting days in Tasmania by state/territory of residence in 2019



Source: BDO survey of recreational prospectors 2020

Expenditure

Across all prospecting trips and days, approximately $2.5m was spent by all recreational prospectors in Tasmania:

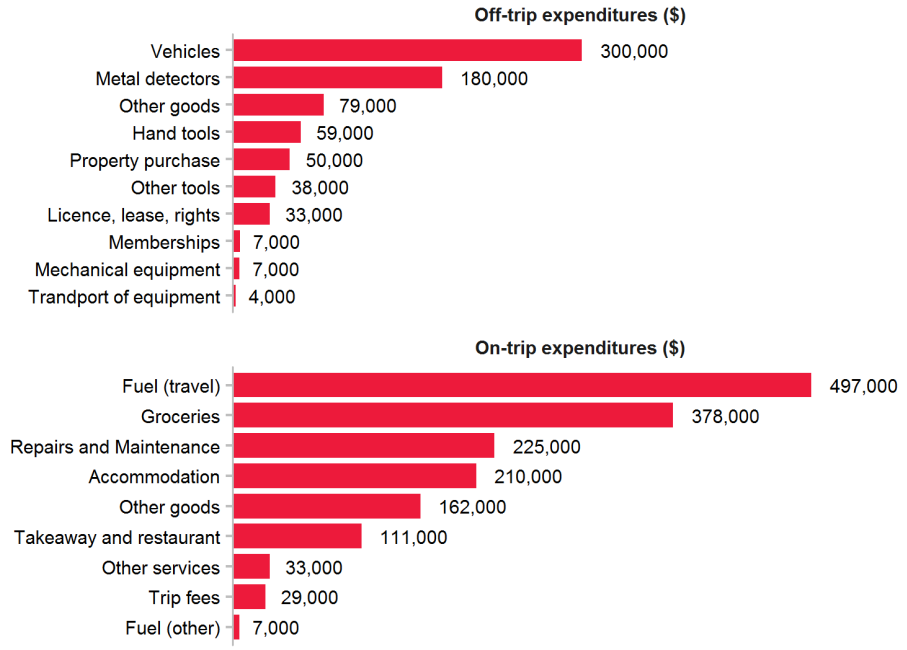
$1.7m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries.

$0.8m was spent on off-trip expenditure items where the most significant expenditure items were on metal detectors and vehicles.

The distribution of expenditure spent in Tasmania associated with recreational prospecting across various items is presented in Figure 17.

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

Figure 17 Expenditures in Tasmania in 2019 associated with recreational prospecting



Source: BDO survey of recreational prospectors 2020

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

These economic activities generated by recreational prospectors contributed around $3.1m (in terms of GSP) and 24 FTEs to the Tasmanian economy:

- $1.6m and 11 FTEs were directly contributed from expenditure and people employed associated with recreational prospecting and income earned through recreational prospecting.
- $1.5m and 13 FTEs were indirectly contributed from expenditure spent and people employed to support the flow-on activities associated with recreational prospecting.

Out of the top five sectors, the largest contribution was made in the retail trade sector and the contribution to the top five sectors represents around 30 per cent of the total (see Table 12).

Table 12 Economic contribution of recreational prospecting to Tasmania by sector, top 5 sectors by GDP (2019)

Rank	Top 5 Sectors	GDP ($m)	Employment (FTEs)
1	Retail Trade	0.3	5
2	Personal & Other Serv	0.2	4
3	Wholesale Trade	0.2	2
4	Accommodation	0.1	1
5	Road Transport	0.1	2
	Other sectors	2.2	10
	Total	**3.1**	**24**

Source: BDO analysis

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

5.3.7 Northern Territory

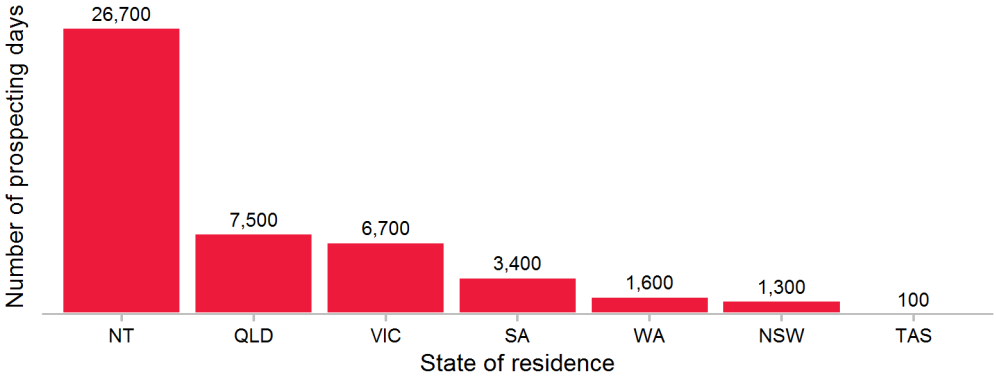
Prospecting activity

In 2019, it was estimated that there were 1,500 recreational prospectors in the Northern Territory who undertook approximately 47,300 days of prospecting activity across 29,600 trips.

Northern territory residents made up approximately 56 per cent of prospecting days undertaken and the remaining 44 per cent of activity undertaken by 800 interstate visitors.

The majority of prospectors reported being active for less than 50 days in the past year and the most significant interstate visitation was from residents of Queensland and Victoria. The number of days of activity by prospectors by state and territory of residence is illustrated in Figure 18.

Figure 18 Source of prospecting days in the Northern Territory by state/territory of residence in 2019



Source: BDO survey of recreational prospectors 2020

Expenditure

Across all prospecting trips and days, approximately $6.1m was spent by all recreational prospectors in the Northern Territory:

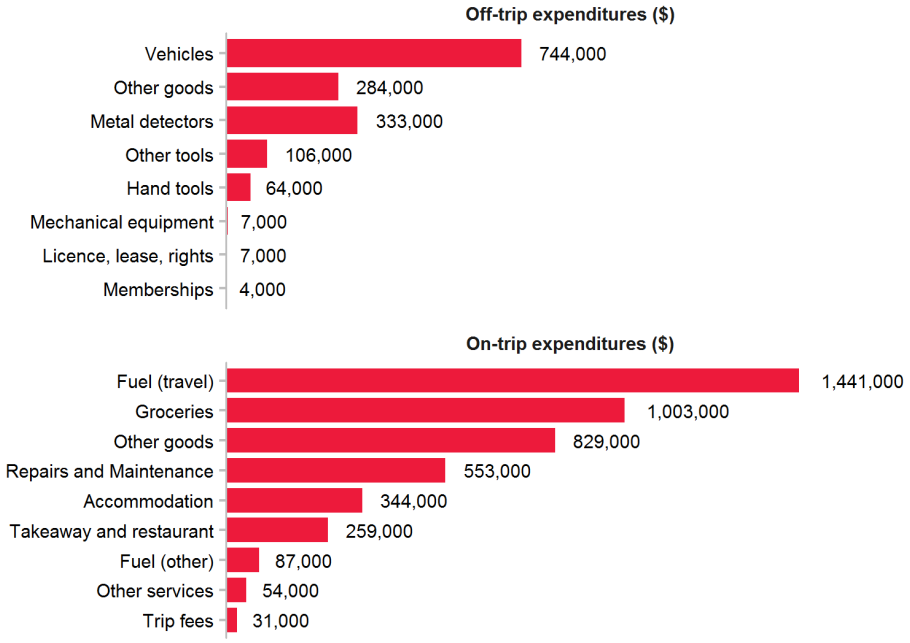
$4.6m was spent on on-trip expenditure items where the most significant expenditure items were fuel and groceries.

$1.5m was spent on off-trip expenditure items where the most significant expenditure items were on metal detectors and vehicles.

The distribution of expenditure spent in the Northern Territory associated with recreational prospecting across various items is presented in Figure 19.

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

Figure 19 Expenditure in the Northern Territory in 2019 associated with recreational prospecting



Source: BDO survey of recreational prospectors 2020

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

These economic activities generated by recreational prospectors contributed around $5.6m (in terms of GSP) and 39 FTEs to the Northern Territory economy:

- $3.3m and 24 FTEs were directly contributed from expenditure and people employed associated with recreational prospecting and income earned through recreational prospecting.
- $2.3m and 15 FTEs were indirectly contributed from expenditure spent and people employed to support the flow-on activities associated with recreational prospecting.

Out of the top five sectors, the largest contribution was made in the retail trade sector and the contribution to the top five sectors represents around 37 per cent of the total (see Table 13).

Table 13 Economic contribution of recreational prospecting to the Northern Territory by sector, top 5 sectors by GDP (2019)

Rank	Top 5 Sectors	GDP ($m)	Employment (FTEs)
1	Retail Trade	0.8	11
2	Personal & Other Serv	0.5	8
3	Wholesale Trade	0.4	3
4	Accommodation	0.2	2
5	Road Transport	0.2	2
	Other sectors	3.6	12
	Total	**5.6**	**39**

Source: BDO analysis

ECONOMIC CONTRIBUTION OF MINELAB IN SOUTH AUSTRALIA

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.

Section 6

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REFERENCES

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Section 7

APPENDICES

APPENDIX A – SURVEY INSTRUMENT

Ask this section for all

INTRO1	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. Your response is confidential. 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. 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. To avoid the effect of COVID-19 please provide your answers in relation to the 2019 calendar year.	Next button

INTRO1	First, a few questions about your prospecting activities.	

Q1	Did you go prospecting in Australia recreationally or at a small-scale during 2019? ▸ Yes ▸ No	Compulsory Single response

Ask only if Q1 = 'No'

Q2	Do you plan to go prospecting in Australia recreationally or at a small-scale in the next 12 months? ▸ Yes ▸ No [TERMINATE]	Compulsory Single response

Q3	Which of the following best describes your prospecting status? 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)'. ▸ Large-scale/corporate [TERMINATE] ▸ Small-scale/professional (to earn a living) ▸ Recreational (casual prospector)	Compulsory Single response

Q4a	Do you use a metal detector for your prospecting activities? ▸ Yes ▸ No [TERMINATE]	Compulsory Single response

APPENDIX A – SURVEY INSTRUMENT (CONT'D)

Q4b	In addition to metal detecting, what other prospecting methods do you use? ▸ Panning ▸ River sluicing (not including highbanking) ▸ Highbanking ▸ Dry blowing ▸ Push and scrape ▸ Picks, shovels, hammers, sieves, shakers ▸ Other (specify):_____ ▸ None of the above	Compulsory Select multiple

Q5a	What is your main target when prospecting via [ask once for each method selected at Q4] ▸ Gold ▸ Treasure/coins/relics ▸ Gemstones/fossils/minerals ▸ Other (specify):_____	Compulsory Select multiple

Q6	What types of permit do you hold? ▸ Miner's Right or permit, please specify: _____ ▸ Prospecting lease or license that provides exclusive access to land, please specify: _____ ▸ Exploration leaseholder, please specify: _____ ▸ Mining leaseholder, please specify: _____ ▸ Other (specify): _____ ▸ None	Compulsory Select multiple

Q7	Are you a member of the following prospecting or detecting associations? We will ask about activities with local clubs later. ▸ NSW and ACT Prospectors and Fossickers Association (NAPFA) ▸ Prospectors and Miners Association Victoria (PMAV) ▸ Amalgamated Prospectors and Leaseholders Association (APLA) ▸ Other (specify):_____ ▸ None	Compulsory Select multiple

Q8	How long have you been prospecting? ▸ 1 year ▸ 2 - 5 years ▸ 6 - 10 years ▸ 11 - 20 years ▸ Over 20 years ▸ Prefer not to answer	Compulsory Single response

APPENDIX A – SURVEY INSTRUMENT (CONT'D)

Ask this section for all

INTRO3	Next, a few questions about you…	

Q9	Are you... ▸ Male ▸ Female ▸ Other ▸ Do not wish to answer	Compulsory Single response

Q10	What is your age category? ▸ Under 18 [TERMINATE] ▸ 18-24 ▸ 25-29 ▸ 30-34 ▸ 35-39 ▸ 40-44 ▸ 45-49 ▸ 50-54 ▸ 55-59 ▸ 60-64 ▸ 65-74 ▸ 75 and over ▸ Do not wish to answer	Compulsory Single response

Q11	Where do you live? ▸ ACT ▸ NSW – Sydney, Wollongong or Newcastle area ▸ NSW – elsewhere ▸ QLD – Brisbane area ▸ QLD – elsewhere ▸ SA – Adelaide area ▸ SA – elsewhere ▸ TAS – Hobart area ▸ TAS - elsewhere ▸ VIC – Melbourne area ▸ VIC – elsewhere ▸ WA – Perth area ▸ WA – elsewhere ▸ NT – Darwin area ▸ NT - elsewhere ▸ Not in Australia	Compulsory Single response

Ask this section only if they have been prospecting in 2019 (Q1)

INTRO4	Now we would like to find out about the prospecting trips you went on in Australia during 2019, including close to home and interstate.	

APPENDIX A – SURVEY INSTRUMENT (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? ▸ No, prospected within my home state only [SKIP TO Q17 expenditure items] ▸ Yes, prospected outside my home state	Compulsory Single response

Q14	Which states or territories did you prospect in during 2019? ▸ New South Wales ▸ Queensland ▸ Victoria ▸ South Australia ▸ Tasmania ▸ Western Australia ▸ Northern Territory ▸ Australian Capital Territory ▸ Outside Australia	Compulsory Select multiple

Q15 — In 2019, how many **trips** 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)						

APPENDIX A – SURVEY INSTRUMENT (CONT'D)

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

Q16	And in 2019, how many days 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)						

Q17	In 2019, what did you spend money on while on prospecting trips? Please include anything you 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. We will ask later about your spending while not on trips (i.e. metal detectors, other tools, vehicles, etc.). ▸ Fuel for travel ▸ Fuel for all other purposes (e.g. operation of equipment) ▸ Groceries, drinks and alcohol for self-catering/consumption at your accommodation ▸ Takeaway and restaurant meals ▸ Accommodation [HIDE IF ONLY DID DAY TRIPS, see Q12] ▸ Vehicle/motorbike/equipment repairs and maintenance ▸ Prospecting trip fees (e.g. for club trips, guides or land access) ▸ Other services used on trips (e.g. medical, parking or laundry) ▸ Other prospecting related items purchased on your trips ▸ Not applicable – I did not spend any money while on prospecting trips	Check box Compulsory Multiple response except 'Not applicable'

APPENDIX A – SURVEY INSTRUMENT (CONT'D)

Hide if Q17 = 'Not applicable'

Q18	And while on your prospecting trips in 2019, how much did you spend in total on each of these items? Please include: ▸ Anything you 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) ▸ Please exclude: ▸ Any money paid on your behalf by someone else who travelled with you on the prospecting trips.								Radio button Grid Compulsory
		$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	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? If you bought items from more than one location, please select the location where the most money was spent.				Radio button Grid Compulsory Single response per row
		Closer to home	Closer to destination	Unknown	
	A [Populate with responses from Q17 but exclude 'Accommodation']				

Ask this section for all

INTRO5	Now we'd like you to consider what you've spent when you've NOT been on prospecting trips, to support your prospecting activities. [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."]	

APPENDIX A – SURVEY INSTRUMENT (CONT'D)

Q20	During the last 5 years, which of the items from the following list have you spent money on to support your prospecting activities? ▸ Metal detectors ▸ All other hand operated and non-mechanical equipment (gold pan, sieve, cradle or rocker, hand operated sluice box, hand operated dry blower etc). ▸ Mechanical equipment and machinery ▸ Any other prospecting tools ▸ Licenses and land leasing costs ▸ Purchase of a property for prospecting ▸ Vehicles/motorbikes (purchased with prospecting in mind) ▸ Transportation of equipment by a commercial company ▸ Professional services (e.g. legal costs, accounting, etc) ▸ Prospecting memberships (e.g. clubs and associations) ▸ 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.) ▸ Not applicable – I did not spend any money to support prospecting activities over the last 5 years	Check box Compulsory Multiple response Except Not applicable

Hide if Q20 = 'No applicable'

Q21	And during the last 5 years, approximately how much have you spent on these items?									Radio button Grid Compulsory Single response per row
		$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]									

Hide if Q20 = 'No applicable'

Q21a	And during the last 5 years, approximately how much have you spent on these items?	Radio button Grid Compulsory Single response per row
		Capture $ amount
f.	[Populate with responses from Q20 if Q21 = "$101,001 or more"]	

APPENDIX A – SURVEY INSTRUMENT (CONT'D)

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 prospecting activities 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%**
	Mechanical equipment and machinery					
	Vehicles/motorbikes (purchased with prospecting in mind)					
	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.)					

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.

Q24	Which of the following is the <u>highest level</u> of formal education that you have completed? ▸ Postgraduate Degree Level ▸ Graduate Diploma and Graduate Certificate Level ▸ Bachelor Degree Level ▸ Advanced Diploma and Diploma Level ▸ Certificate III & IV Level ▸ Secondary Education - Years 10 and above ▸ Certificate I & II Level ▸ Secondary Education - Years 9 and below ▸ Do not wish to answer	Radio Button Compulsory Single response

APPENDIX A – SURVEY INSTRUMENT (CONT'D)

Q25	How would you describe your employment status? ▸ Employed - full-time ▸ Employed - part-time/casual ▸ Unemployed and looking for paid work ▸ Not employed and not looking for paid work ▸ Do not wish to answer	Radio button Compulsory Single response

Q26	Are you currently a student studying full-time or part-time? ▸ No ▸ Yes - full-time ▸ Yes - part-time ▸ Do not wish to answer	Radio button Compulsory Single response

Q27	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. What is your gross or pre-tax weekly household income? Please include the income earned by all working people in your household. Include income received from government pensions investments/dividends, and salaried employment. ▸ Less than $499 (less than $25,999 per year) ▸ $500-$999 ($26,000-$51,999 per year) ▸ $1,000-$1,749 ($52,000-$90,999 per year) ▸ $1,750-$2,499 ($91,000-$129,999 per year) ▸ $2,500 or more ($130,000 or more per year) ▸ Don't know ▸ Prefer not to say	Radio button Compulsory Single response

Q28	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'. What is your estimate of the total ounces of gold you found over the last 5 years (2014-2019)? ▸ Unsure ▸ Prefer not to say ▸ Please enter estimated ounces: _____ Of the ounces of gold that you found over the last 5 years (2014-2019), how much have you sold? ▸ Unsure ▸ Prefer not to say ▸ Please enter estimated ounces: _____ How much other income did you earn from prospecting activities over the last 5 years (2014-2019) (excluding sales of gold)? ▸ Unsure ▸ Prefer not to say ▸ Please enter estimated value: $_____	Single selection radio button Compulsory

APPENDIX A – SURVEY INSTRUMENT (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.	

Q29	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). [Please select up to 5 of the following] ▸ …to relax and unwind ▸ …to spend time in the outdoors ▸ …to spend time with family ▸ …to spend time with friends ▸ …to meet new people ▸ …to get away from my day-to-day life ▸ …to experience and learn about Australian cultural heritage ▸ …to get away from other people ▸ ...because it is challenging ▸ …because it is exciting ▸ …to make money ▸ …to get exercise ▸ …to spend time in places that are special to me ▸ …for therapy or coping mechanism ▸ …to spend time in nature ▸ …other (please describe)	Non-Compulsory Select multiple (1 to 5) Randomise order of items for each respondent

APPENDIX A – SURVEY INSTRUMENT (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

		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												

Q31	How would you rate your general health? Unlike the earlier questions, please answer this in relation to your current circumstances. ▸ Excellent ▸ Very good ▸ Good ▸ Fair ▸ Poor	Radio button Non-Compulsory Single response

APPENDIX A – SURVEY INSTRUMENT (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	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? Much more positive A little more positive The same A little more negative Much more negative Unsure	Select one Non-compulsory

Show on same page as Q32a and show only if Q32a = a, b, d or e.

Q32b	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: ▸ Bushfires (unable to go prospecting) ▸ Bushfires (all other reasons) ▸ COVID-19 (unable to go prospecting) ▸ COVID-19 (all other reasons) ▸ None of these reasons	Select all that apply Non-compulsory

Q33	Who do you usually go prospecting with? ▸ I prospect alone ▸ I prospect with family ▸ I prospect with a group of friends ▸ I prospect with a club	Rank between 1 to 4 responses

APPENDIX A – SURVEY INSTRUMENT (CONT'D)

Q34	How did you hear about this survey? ▸ Email invitation from BDO ▸ Prospecting association ▸ Prospecting club ▸ Other source (forums, facebook, word of mouth etc.)	Compulsory single response

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 B – SURVEY RESPONDENT CHARACTERISTICS

7.1 Respondent characteristics

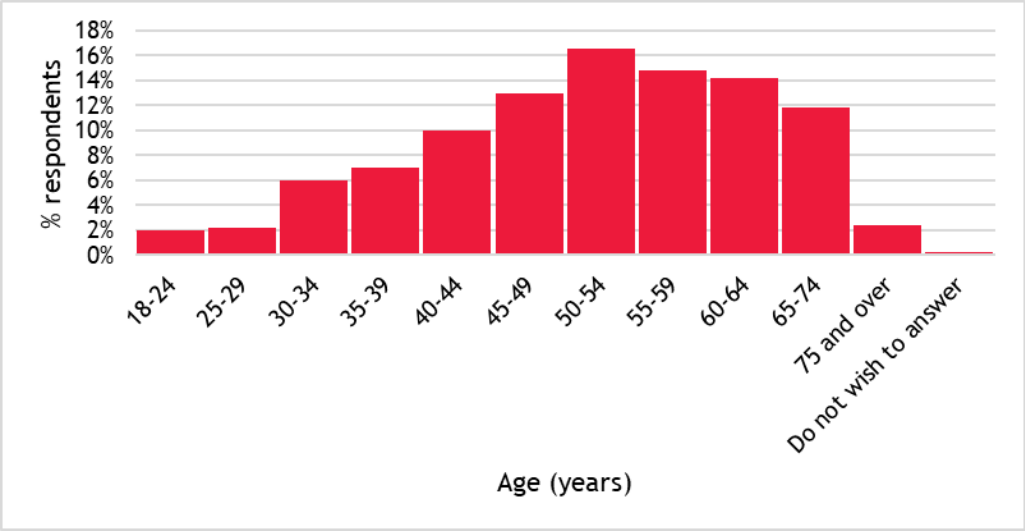
The demographic characteristics of recreational prospectors are detailed in this section. This report is informed by 2,933 survey responses that reported on expenditure and demographic data. In all cases the data are weighted, meaning that the results are representative of the recreational prospecting 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.

7.1.1 Age

The weighted age distribution of recreational prospectors is shown in Figure 20. It indicates that over 80% of prospectors are 40 years or above (n=2,933).

Figure 20 Age of survey respondents across Australia



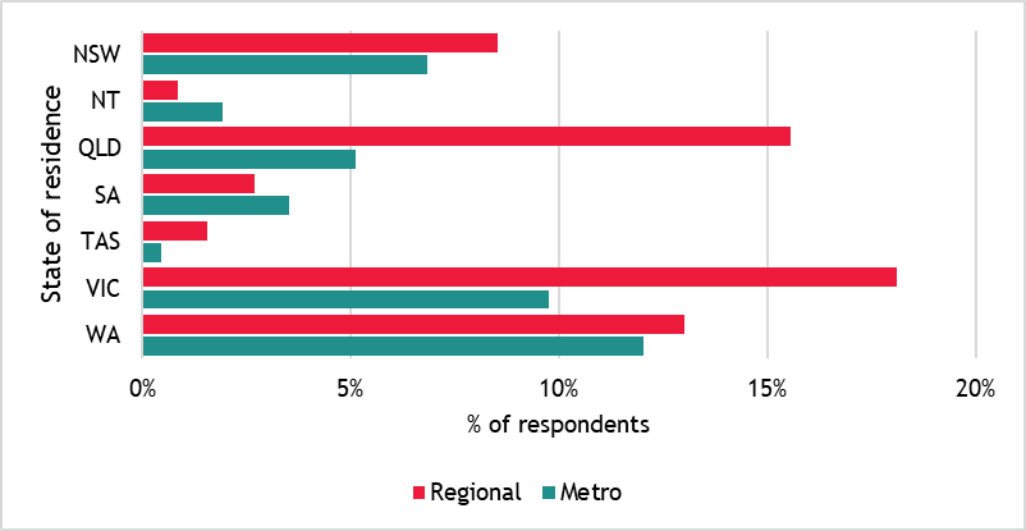
7.1.2 Gender

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).

7.1.3 Regional or metropolitan

The proportion of recreational prospectors who live in regional or metropolitan areas is presented in Figure 21. Based on the responses, there was a slightly uneven balance between respondents reporting that they lived in regional (60 per cent) or metropolitan (40 per cent) 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.

Figure 21 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).

7.1.4 Employment

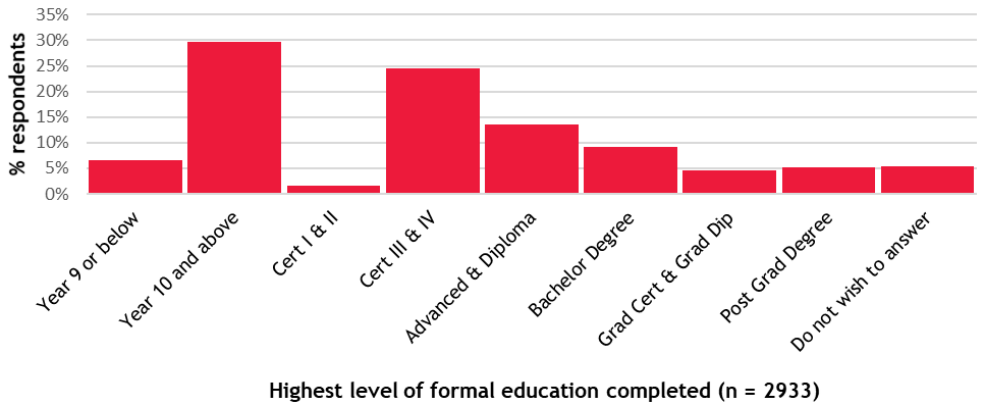
Figure 22 shows that slightly more than half of recreational prospectors are in full-time paid employment (53 per cent), with the next largest group being not employed and not looking for paid work (21 per cent). Given the age profile of prospectors in Figure 22, this second group is likely to be mostly retired. Part-time and casually employed made up 14 per cent of respondents while just 4 per cent indicated that they were unemployed and looking for paid work. A further 5 per cent of respondents indicated that they were studying, either full-time (1 per cent) or part-time (3 per cent).

Figure 22 Employment status of survey respondents

7.1.5 Educational attainment

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

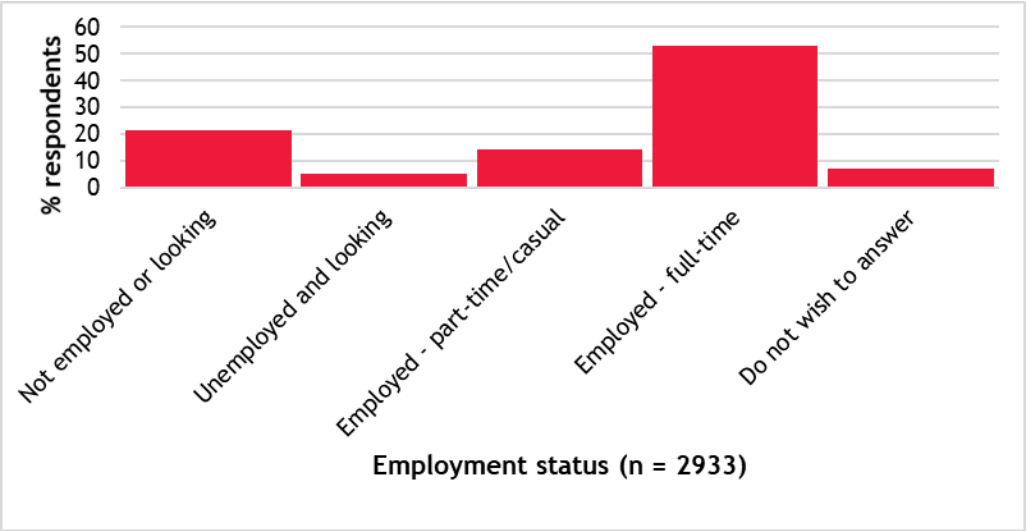
Figure 23 Highest level of formal education completed by recreational prospectors



7.1.6 Household income

Respondents were asked to indicate what their household income was in the previous 12 months. Although 24 per cent of respondents preferred not to answer the question, 76 per cent 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 per cent). The distribution of household income amongst recreational prospectors is shown in Figure 24.

Figure 24 Household income reported by prospectors



APPENDIX C - DETAILED ECONOMIC CONTRIBUTION RESULTS

7.2 Economic contribution detailed results

Table 14 Economic contribution of recreational prospecting to Australia 2019

	Top 5 Sectors	GDP ($m)	Household income ($m)	Employment (FTEs)
	Prospecting expenditure			
(1)	Direct	99.6	58.3	887
(2)	Flow-on	185.4	103.2	1,216
	▸ Production	66.1	40.1	437
	▸ Consumption	119.3	63.1	779
(1+2)	**Total**	**285**	**162**	**2,103**
	Expenditure of finds			
	Direct	43.5	43.5	-
	Flow-on	52.7	27.9	344
	Total	**96.2**	**71.3**	**344**
	Combined			
(1)	Direct	143.1	101.7	887
(2)	Flow-on	238.1	131.1	1,560
	▸ Production	66.1	40.1	437
	▸ Consumption	172.0	91.0	1,123
(1+2)	**Total**	**381**	**233**	**2,447**

Source: BDO analysis

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

Table 15 Economic contribution of recreational prospecting to Western Australia 2019

	Top 5 Sectors	GDP ($m)	Household income ($m)	Employment (FTEs)
	Prospecting expenditure			
(1)	Direct	43.1	24.2	374
(2)	Flow-on	36.4	17.8	238
	▸ Production	13.4	6.7	81
	▸ Consumption	23.0	11.1	157
(1+2)	**Total**	**79.5**	**42.0**	**612**
	Expenditure of finds			
	Direct	22.2	22.2	-
	Flow-on	16.5	8.0	113
	Total	**38.7**	**30.1**	**113**
	Combined			
(1)	Direct	65.3	46.3	374
(2)	Flow-on	52.9	25.8	351
	▸ Production	13.4	6.7	81
	▸ Consumption	39.4	19.1	270
(1+2)	**Total**	**118**	**72.1**	**725**

Source: BDO analysis

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

Table 16 Economic contribution of recreational prospecting to Victoria 2019

	Top 5 Sectors	GDP ($m)	Household income ($m)	Employment (FTEs)
	Prospecting expenditure			
(1)	Direct	21.8	12.4	219
(2)	Flow-on	27.5	15.6	216
	▸ Production	9.8	6.4	83
	▸ Consumption	17.7	9.2	133
(1+2)	**Total**	**49.3**	**28.0**	**435**
	Expenditure of finds			
	Direct	9.6	9.6	-
	Flow-on	9.0	4.7	68
	Total	**18.6**	**14.3**	**68**
	Combined			
(1)	Direct	31.4	22.0	219
(2)	Flow-on	36.6	20.3	284
	▸ Production	9.8	6.4	83
	▸ Consumption	26.7	13.9	201
(1+2)	**Total**	**67.9**	**42.3**	**503**

Source: BDO analysis

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

Table 17 Economic contribution of recreational prospecting to Queensland 2019

	Top 5 Sectors	GDP ($m)	Household income ($m)	Employment (FTEs)
	Prospecting expenditure			
(1)	Direct	19.6	12.0	203
(2)	Flow-on	24.2	13.1	195
	▸ Production	9.2	5.4	77
	▸ Consumption	14.9	7.7	118
(1+2)	**Total**	**43.7**	**25.1**	**398**
	Expenditure of finds			
	Direct	5.7	5.7	-
	Flow-on	4.9	2.5	39
	Total	**10.6**	**8.3**	**39**
	Combined			
(1)	Direct	25.3	17.8	203
(2)	Flow-on	29.1	15.6	234
	▸ Production	9.2	5.4	77
	▸ Consumption	19.8	10.3	157
(1+2)	**Total**	**54.3**	**33.4**	**437**

Source: BDO analysis

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

Table 18 Economic contribution of recreational prospecting to NSW and ACT 2019

	Top 5 Sectors	GDP ($m)	Household income ($m)	Employment (FTEs)
	Prospecting expenditure			
(1)	Direct	10.1	6.2	97
(2)	Flow-on	13.8	7.7	95
	▸ Production	5.4	3.4	39
	▸ Consumption	8.4	4.3	56
(1+2)	**Total**	**23.8**	**14.0**	**192**
	Expenditure of finds			
	Direct	3.4	3.4	-
	Flow-on	2.9	1.5	20
	Total	**6.3**	**4.9**	**20**
	Combined			
(1)	Direct	13.5	9.6	97
(2)	Flow-on	16.7	9.2	115
	▸ Production	5.4	3.4	39
	▸ Consumption	11.3	5.8	76
(1+2)	**Total**	**30.2**	**18.9**	**212**

Source: BDO analysis

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

Table 19 Economic contribution of recreational prospecting to South Australia 2019

	Top 5 Sectors	GDP ($m)	Household income ($m)	Employment (FTEs)
	Prospecting expenditure			
(1)	Direct	3.4	2.1	36
(2)	Flow-on	4.1	2.3	33
	▸ Production	1.5	0.9	13
	▸ Consumption	2.6	1.3	20
(1+2)	**Total**	**7.5**	**4.4**	**70**
	Expenditure of finds			
	Direct	1.0	1.0	-
	Flow-on	0.9	0.4	7
	Total	**1.9**	**1.5**	**7**
	Combined			
(1)	Direct	4.4	3.1	36
(2)	Flow-on	5.0	2.7	40
	▸ Production	1.5	0.9	13
	▸ Consumption	3.5	1.8	27
(1+2)	**Total**	**9.3**	**5.8**	**76**

Source: BDO analysis

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

Table 20 Economic contribution of recreational prospecting to Tasmania 2019

	Top 5 Sectors	GDP ($m)	Household income ($m)	Employment (FTEs)
	Prospecting expenditure			
(1)	Direct	0.9	0.6	11
(2)	Flow-on	1.0	0.5	8
	▸ Production	0.4	0.2	4
	▸ Consumption	0.6	0.3	5
(1+2)	**Total**	**2.0**	**1.1**	**19**
	Expenditure of finds			
	Direct	0.6	0.6	-
	Flow-on	0.5	0.3	4
	Total	**1.2**	**0.9**	**4**
	Combined			
(1)	Direct	1.6	1.2	11
(2)	Flow-on	1.5	0.8	13
	▸ Production	0.4	0.2	4
	▸ Consumption	1.1	0.6	9
(1+2)	**Total**	**3.1**	**2.0**	**24**

Source: BDO analysis

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

Table 21 Economic contribution of recreational prospecting to Northern Territory 2019

	Top 5 Sectors	GDP ($m)	Household income ($m)	Employment (FTEs)
	Prospecting expenditure			
(1)	Direct	2.4	1.2	24
(2)	Flow-on	1.8	0.7	12
	▸ Production	0.8	0.4	6
	▸ Consumption	0.9	0.3	6
(1+2)	**Total**	**4.2**	**1.9**	**36**
	Expenditure of finds			
	Direct	0.9	0.9	-
	Flow-on	0.5	0.2	3
	Total	**1.5**	**1.1**	**3**
	Combined			
(1)	Direct	3.3	2.1	24
(2)	Flow-on	2.3	0.9	15
	▸ Production	0.8	0.4	6
	▸ Consumption	1.5	0.5	9
(1+2)	**Total**	**5.6**	**3.0**	**39**

Source: BDO analysis

Table 22 Economic contribution of Minelab to South Australia 2019/20

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