



Measuring the contribution of the Outdoor Recreation Sector in Queensland

A report prepared for the Queensland Outdoor Recreation Federation

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Executive Summary

Synergies has been engaged by the Queensland Outdoor Recreation Federation to investigate the contribution of the Outdoor Recreation sector to the Queensland economy.

The main findings of our report in terms of the economic contribution and benefits delivered by the Outdoor Recreation sector are:

- an indicative estimate of its annual contribution to Gross State Product of at least \$2 billion;
- outdoor recreation is already a potentially large contributor to avoided health costs in the Queensland community and could play an increasingly important role in this regard in light of expected strong growth in health expenditure;
- a large and increasing body of international qualitative research indicates there are a wide range of benefits attributable to outdoor recreation in the areas of individual and community health, the environment and education.

In terms of priorities for the Outdoor Recreation sector, we find that:

- the significance of the private sector as a provider of outdoor recreation services is not well known and would benefit from an industry mapping exercise to assess the importance of the private enterprises in the sector;
- in the longer term, a set of satellite accounts for the Outdoor Recreation sector is the preferred approach to reporting the contribution of the sector as a whole to the Queensland economy;
 - this will be an expensive option to implement, with doubt about who will fund it, however reliance on targeted research into the value (measured in terms of benefits and avoided costs) of outdoor recreation is essential;
- it will be important for outdoor recreation service providers to understand how their services and particular outdoor recreation activities provide beneficial health outcomes as well as the cost-efficiencies of these services as a form of preventive health. Psychological and social cohesion benefits are also important; and
- access to sufficient areas of land and water with attributes suitable for outdoor recreation purposes, and which are managed for user satisfaction, safety, sustainability and compliance with relevant laws, is a challenge for the sector into the future although this challenge is not a new one.

The present contribution of the Outdoor Recreation sector to the community from an economic, social and environmental perspective is not widely understood because of gaps in public information. Consequently, the hundreds of thousands of Queenslanders who regularly engage in outdoor activity understand the benefits they derive but not how the community, economy and environment are benefited.

This report shows that the Outdoor Recreation sector is an important contributor to our community and that our community will clearly benefit from greater outdoor activity. However, the estimates formed in this report are approximate. Our main aim in this report is to present the available evidence and methods for quantifying the sector's contribution to the community. Further research is needed to narrow the range of estimates provided in this report.

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1 Introduction

Queensland Outdoor Recreation Federation (QORF) is a not-for-profit peak body, partly funded by the Queensland Government, whose main purpose is to raise the profile of the Queensland Outdoor Recreation sector within government and the community through:

- representation
- promotion
- advocacy
- influence on resource management
- quality
- education

Synergies has been engaged by QORF to provide an independent assessment on the economic contribution of outdoor recreation to the community. An important issue facing QORF is the lack of data which reflects the economic contribution of outdoor recreation, including quantifiable and non-quantifiable benefits, in Queensland. The purpose of our report is to investigate the economic and social importance of the Outdoor Recreation sector to the Queensland economy within existing data constraints.

The Report also outlines where further research is necessary to fully understand the economic contribution of outdoor recreation.

The remainder of our report is structured as follows:

- Section 2 provides background on the Outdoor Recreation sector, including identifying the types and attributes of activities that it covers, and summarising outdoor recreation participation data for Queensland;
- Section 3 estimates the size and significance of the Queensland Outdoor Recreation sector;
- Section 4 summarises the quantitative and qualitative benefits of outdoor recreation identified in a sample of literature and surveys we have reviewed;
- Section 5 details key factors likely to influence the future of outdoor recreation; and

- Section 6 recommends a number of actions to develop better information on the Outdoor Recreation sector.
- Attachment A provides a non-exhaustive list of outdoor recreation activities.

2 Background

In broad terms, we need to define the scope of the Queensland Outdoor Recreation sector in order to determine its economic contribution. Key definitional issues are the:

- importance of open spaces as the key defining characteristic of outdoor recreation;
- distinction between sports (which are more built-facility dependent) and outdoor recreation activities (which are predominantly open space dependent);
- overlap between outdoor recreation and tourism sectors in terms of participation in specific activities (e.g. bushwalking in national parks, surfing).

2.1 Defining the Outdoor Recreation sector

Outdoor recreation requires open spaces, including forests, rivers, the sea and mountains.

Open spaces often have a primary purpose other than outdoor recreation, such as:

- livestock grazing and transport (Queensland's stock route network);
- water supply (major dams and associated lakes and lands);
- road and/or rail transport (road and railway corridors);
- forestry (state forests and private commercial forests);
- mining and quarrying (including fossicking areas, finished mines and quarries);
- cropping and grazing – more than 80% of Queensland;
- nature conservation;
- maritime transport; and
- commercial fishing (Queensland's major rivers, reservoirs, harbours and State-controlled seas and declared State marine parks).

In contrast to other types of recreation and sports, outdoor recreation activities do not necessarily require facilities built exclusively for their use.

QORF (2010) considers outdoor recreation to incorporate non-competitive activities conducted outside buildings in the natural environment, on 'simulated' surfaces or in purpose-built facilities. QORF typically excludes organised competitions with formal rules as 'sports', however, it includes the competitive aspects of some activities, especially those dependent on the natural environment (e.g. surfing competitions,

orienteeing, endurance horse riding and long distance off-road motorcycle racing or car rallies).

There are minor differences between QORF's definition of outdoor recreation and that adopted by the then Queensland Government.

Under the Queensland Government's definition a number of activities for which an 'exclusive-use' space is specifically constructed would not be recognised as outdoor recreation (e.g. skateboard parks & climbing/abseiling towers). In contrast, QORF's definition would incorporate such purpose-built facilities where a non-competitive outdoor activity takes place.

Attachment A provides a non-exhaustive list of outdoor recreation activities recognised by QORF.

2.1.1 Outdoor recreation and tourism activities

It must also be recognised that high quality outdoor recreation opportunities are a major attractor of tourists to Queensland (e.g. fishing, camping, surfing, scuba diving, bush walking etc). The outdoor recreation and tourism sectors overlap substantially and in many circumstances are complementary. For the purpose of our exercise, we have attempted to measure the economic value of tourism-related outdoor recreation activities (e.g. participation in outdoor recreation through visits to national parks) but not the tourism sector in its broadest sense.

2.2 Provision of outdoor recreation activities

Outdoor recreation is a use of land and water and consequently is subject to relevant laws and to policy, planning, regulation and management regimes.

2.2.1 Government involvement

In Australia, governments are primarily responsible for providing outdoor spaces where recreation activities can be undertaken. This occurs mainly through government control of land use management and planning, which entails managing competing land use interests and values such as water supply, Indigenous and non-indigenous cultural heritage, forestry, nature conservation, urban development, farming, mining and transport infrastructure.

Outdoor recreation is usually a secondary use of outdoor space. In this context, outdoor recreation is, or can be, managed to limit conflicts with the primary use/s, for safety, sustainability, user satisfaction, and to ensure compliance with relevant laws.

Multiple land uses benefit the community if the combined net benefits from multiple uses are greater than single use.

All three tiers of government are involved in land use management and planning including provision of places for outdoor recreation and management of outdoor recreation activities in those places. Queensland examples include:

- Commonwealth Government management of the Great Barrier Reef Marine Park;
- Queensland Government responsibilities for (Queensland) areas dedicated as National Parks, Recreation Areas, Queensland Marine Parks and State Forests (under the relevant Queensland Statutes); and
- local government control of foreshores (including surfing beaches), local parks, recreation trails and urban bushland within cities and townships.

2.2.2 Private sector involvement

Private sector involvement is not well understood. It occurs mainly through:

- the provision of outdoor recreation services within outdoor spaces provided by government (i.e. on public land and in/on State-controlled waters);
- the supply of equipment for outdoor recreation participants; private land holders providing outdoor recreation on their land or allowing access to their land for outdoor recreation activities.

A QORF survey in 2010 concluded that 72% of outdoor recreation businesses were micro businesses with less than 5 employees.¹

There are several potential barriers to private sector provision of outdoor recreation including the cost and availability of liability insurance, access to recreation space and development approval processes in the *Sustainable Planning Act 2009*. Public liability issues are discussed further in section 5.3 of our report.

In summary, the significance of the private sector as a provider of outdoor recreation services is not well known and would benefit from an industry mapping exercise to assess the importance of the private enterprises in the sector.

¹ QORF. (2010). *Queensland Outdoor Sector Survey 2010*.

² Queensland Government (1997), *South East Queensland Outdoor Recreation Demand Study 1997*, available at, http://www.qorf.org.au/_dbase_upl/SEQ%20Outdoor%20Recreation%20Demand%20Study%201997.pdf

2.3 Participation in outdoor recreation activities

Data on participation in outdoor recreation is available from two sources. One is area defined and comprises three surveys of outdoor recreation conducted in 1997², 2001³ and mid-2007 in Queensland. The most recent of these was the *South East Queensland Outdoor Recreation Demand Study 2007*.⁴ The report *Outdoor Recreation Trends in South East Queensland (1997– 2007)* (the Trends Analysis) provides analysis of these surveys and factors driving the trends in outdoor recreation participation between 1997 and 2007.⁵

The other source is the Exercise, Recreation and Sport Survey (ERASS), a joint initiative of the Australian Sports Commission and State and Territory Departments of Sport and Recreation. This survey collected information on the frequency, duration, nature and type of physical activities participated in for exercise, recreation or sport from 21,603 persons aged 15 years and over by State and Territory for Australia. The data set extends back to 2001. The last survey was conducted in 2010.⁶

2.3.1 Trends in Queensland outdoor recreation

Trends in participation rates by activity

The Queensland survey shows that a high proportion of the South East Queensland population continues to enjoy a broad range of outdoor recreational activities. However, since 2001 there was a decrease in participation for most outdoor activities. Table 1 presents the comparison of participation rates from 1997 to 2007.

² Queensland Government (1997), *South East Queensland Outdoor Recreation Demand Study 1997*, available at http://www.qorf.org.au/_dbase_upl/SEQ%20Outdoor%20Recreation%20Demand%20Study%201997.pdf

³ Kiewa, J., Brown, T. and Hibbins, R. (2001), *South East Queensland Outdoor Recreation Demand Study*, available at http://www.qorf.org.au/_dbase_upl/2001%20SEQORDS.pdf

⁴ Queensland Government. (2007). *South East Queensland Outdoor Recreation Demand Study 2007*, available at http://www.qorf.org.au/_dbase_upl/2007%20SEQORDS%20small.pdf

⁵ Queensland Government, (2008) *Outdoor Recreation Trends in South East Queensland (1997-2007)*, available at http://www.qorf.org.au/_dbase_upl/2007%20Trends%20Analysis%20small.pdf

⁶ Australian Sports Commission (2010), *Participation in Exercise, Recreation and Sport, Annual Report 2010*, available at http://www.ausport.gov.au/_data/assets/pdf_file/0018/436122/ERASS_Report_2010.PDF

Table 1 A comparison of participation rates from 1997 to 2007

Activity	Participation in 1997 (%)	Participation in 2001 (%)	Participation in 2007 (%)
Picnicking	65	67	58
Walking or Nature Study	60	49	35
Camping	25	33	30
Bicycle riding	25	26	29
Horse riding	7	7	7
Water Activities	39	56	54
Driving 2WD Vehicles	31	24	15
Driving 4WD Vehicles	20	23	23
Driving other Vehicles	7	7	11
Riding on Motorised Watercraft	26	27	21
Riding on Non-Motorised Watercraft	17	19	17
Abseiling/rock-climbing	7	6	6

Source: Queensland Government. (2007). *South East Queensland Outdoor Recreation Demand Study 2007*. Brisbane, QLD: Queensland Government. Page 51.

As the above table highlights, picnicking remains the most popular activity, despite a decreasing participation rate from 2001, followed by water activities which has also experienced a decrease in participation rates. There have also been significant decreases for walking or nature study and driving 2WD vehicles since 2001. The only moderate increases in participation were in driving other vehicles and bicycle riding.

Trends in participation across age group and activity

Table 2 Incidence of participation across age groups (expressed as %)

Activity	15-24			25-39			40-54			55-64			65+		
	97	01	07	97	01	07	97	01	07	97	01	07	97	01	07
Picnicking	56	56	51	76	75	71	70	72	60	61	63	58	49	54	44
Walking or Nature Study	56	48	38	67	47	35	65	50	36	58	58	35	50	47	33
Camping	44	50	49	32	41	38	22	33	31	13	22	18	5	12	6
Bicycle Riding	39	42	41	35	35	31	25	26	31	9	13	19	4	7	11
Horse Riding	14	14	12	9	10	11	6	6	6	2	4	4	1	1	2
Water Activities	50	73	72	48	67	64	41	57	61	29	44	37	13	30	22
Driving 2WD Vehicles	30	24	18	36	29	16	38	22	18	26	20	12	15	11	9
Driving 4WD Vehicles	20	21	21	27	29	32	22	22	25	16	20	19	9	11	9
Driving other Vehicles	15	15	25	9	10	12	5	5	9	2	4	4	2	1	1
Riding on Motorised Watercraft	32	34	28	30	31	26	27	26	23	22	24	14	14	20	9
Riding on Non-Motorised Watercraft	26	28	29	22	19	17	22	19	19	7	13	11	5	8	6
Abseiling/Rock-climbing	22	21	18	8	5	5	8	4	4	1	3	3	0	2	1

Source: Queensland Government. (2007). *South East Queensland Outdoor Recreation Demand Study 2007*. Brisbane, QLD: Queensland Government. Page 56.

Table 2 presents the change in participation rates across age groups from 1997 to 2007. Evident is a decreasing trend in participation amongst the older age groups (55-64 and 65+), again with the exception of Bicycle Riding which has seen a steady increase in participation among those age groups.

2010 ERASS Survey

The ERASS Survey covers participation in a wide range of activities that meet our definition of outdoor recreation discussed in section 2.1 above. As well as reporting outcomes by individual activities, the survey results are also presented in terms of aggregated participation in organised (more likely to be sport) and non-organised (more likely to be outdoor recreation) activities.

In 2010, the weekly participation rate in non-organised physical activity in Australia was 57.4%.⁷ There is no reported data for Queensland on this measure. However, participation in non-organised physical activity over the previous 12 month period in Queensland was 70.2% compared to 70.8% nationally.⁸

⁷ Australian Sports Commission (2010), p 22. Weekly participation relates to the number of persons who participated in the non-organised activity at least once weekly in the last 12 months, expressed as a percentage of the population in the same group.

⁸ Australian Sports Commission (2010), p 2 & p 112. Total participation relates to persons aged 15 years and over who participated in physical activity for exercise, recreation and sport over a 12-month period prior to interview in 2010.

In 2010, the regular participation rate in non-organised physical activity was 38.5%, compared to 12.0% for organised physical activity.⁹

The 2010 ERASS Survey indicated that, in terms of the top ten physical activities across Australia, the largest increase in total participation between 2001 and 2010 was for aerobics/fitness. Participation in running, outdoor football, cycling and walking also increased over the ten-year period, although walking, running and cycling showed greater fluctuation over the period.¹⁰

Table 3 shows the 2010 Queensland data on participation rates for the most important predominantly outdoor recreation activities.¹¹

Table 3 Queensland participation rates for selected outdoor recreation activities, 2010

Activity	Males %	Females %	Persons %
Walking (other than bush)	26.4	43.5	35.0
Cycling	14.4	7.8	11.1
Running	13.7	8.1	10.9
Walking (bush)	5.1	5.1	5.1
Fishing	4.9	0.9*	2.9
Canoeing/kayaking	2.2	1.3	1.7
Horse riding, equestrian, polocross	0.4*	2.7	1.6
Sailing	1.4	0.2**	0.8
Waterskiing/powerboating	22.5	5.5**	0.8
Scuba diving	1.0*	0.2**	0.6*
Rockclimbing	0.3**	0.5*	0.4*

Note: * indicates data should be used with caution; ** indicates data is too unreliable for general use

Source: Australian Sports Commission, Participation in Exercise, Recreation and Sport, Annual Report 2010, p 121.

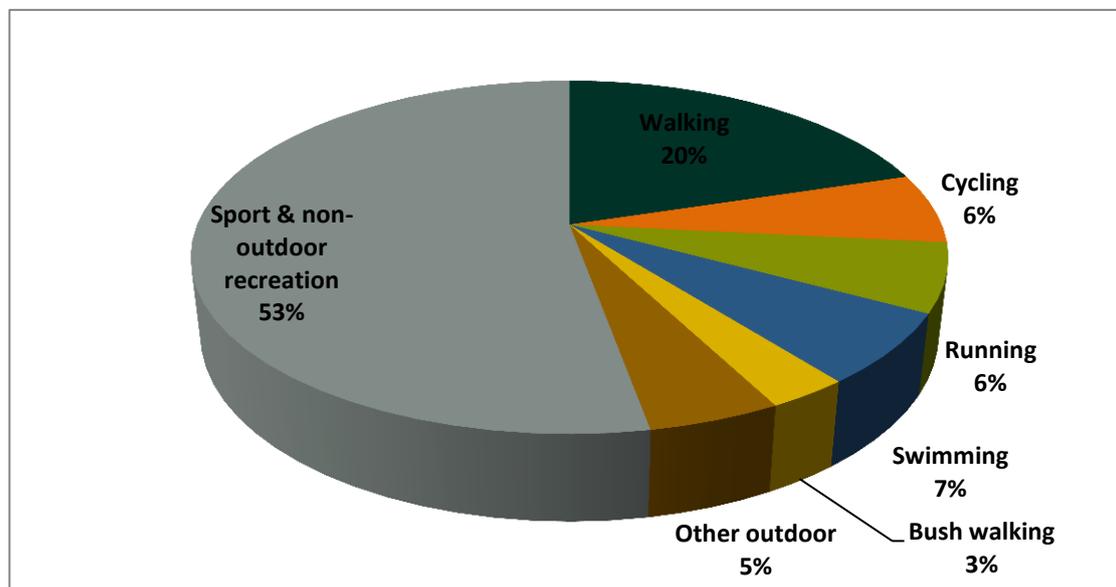
Figure 1 shows the 2010 participation data for all physical activity and the split between sport and indoor physical activity and outdoor physical activity. Figure 1 confirms the importance of walking (non-bush and bush), cycling and running in Queensland. The figure also shows the importance of outdoor recreation, in aggregate, as a form of physical activity undertaken by Queenslanders.

⁹ Australian Sports Commission (2010), p 22 & p 29. Regular participation is defined as those participating three times a week or more, on average, in the physical activity.

¹⁰ Australian Sports Commission (2010), p 2.

¹¹ Australian Sports Commission (2010), p 121.

Figure 1 Participation in physical activity, Queensland, 2010



Data source: ERASS 2010

The two data sets have not measured the same categories of outdoor recreation. For example, the data for walking is consistent across both data sets. However for activities such as rock climbing, boating, sailing and canoeing, and horse riding there are significant differences in the participation rates.

It should be noted, however, that these ERASS figures are perhaps a conservative estimate of participation in outdoor recreation. Two recently released studies using 2010 data support this notion, reporting recreational participation rates in Queensland for fishing¹² and cycling¹³ of 17% and 12.42% respectively; well above the rates reported in Table 3.

2.4 Conclusion

Only very minor differences exist between government and industry definition of the activities which constitute the Outdoor Recreation sector. The Government is a major provider of outdoor recreation spaces. For example, QPWS manage 7.5% of the State’s land area much of which is available for outdoor recreation; in addition parks and gardens, footpaths and walkways and waterways are owned and managed by some level of Government.

¹² Department of Agriculture, Fisheries and Forestry (2012), *Statewide Recreational Fishing Survey 2010*, available at http://www.dpi.qld.gov.au/documents/Fisheries_RecreationalFishing/SWRFS-Phase-1-factsheet-May.pdf

¹³ Austroads (2011), *Australian Cycling Participation 2011*, available at <http://www.austroads.com.au/abc/national-cycling-participation-2011>

Organised outdoor recreation services appear to be mainly provided by for-profit and not-for profit organisations. This view is based on the absence of large government enterprises providing outdoor recreation services in Queensland. Further, research to develop an industry map is recommended. Data on participation in outdoor recreation has been collected nationally until 2010. Data specific to Queensland has not been collected since 2007. Consistent data on participation in outdoor recreation is essential for good policy. This data gap should be addressed by Government given the linkages between outdoor recreation and the economy, health and well-being. The available evidence on these linkages is presented in the remaining chapters of this report.

3 Size and significance of Queensland Outdoor Recreation sector

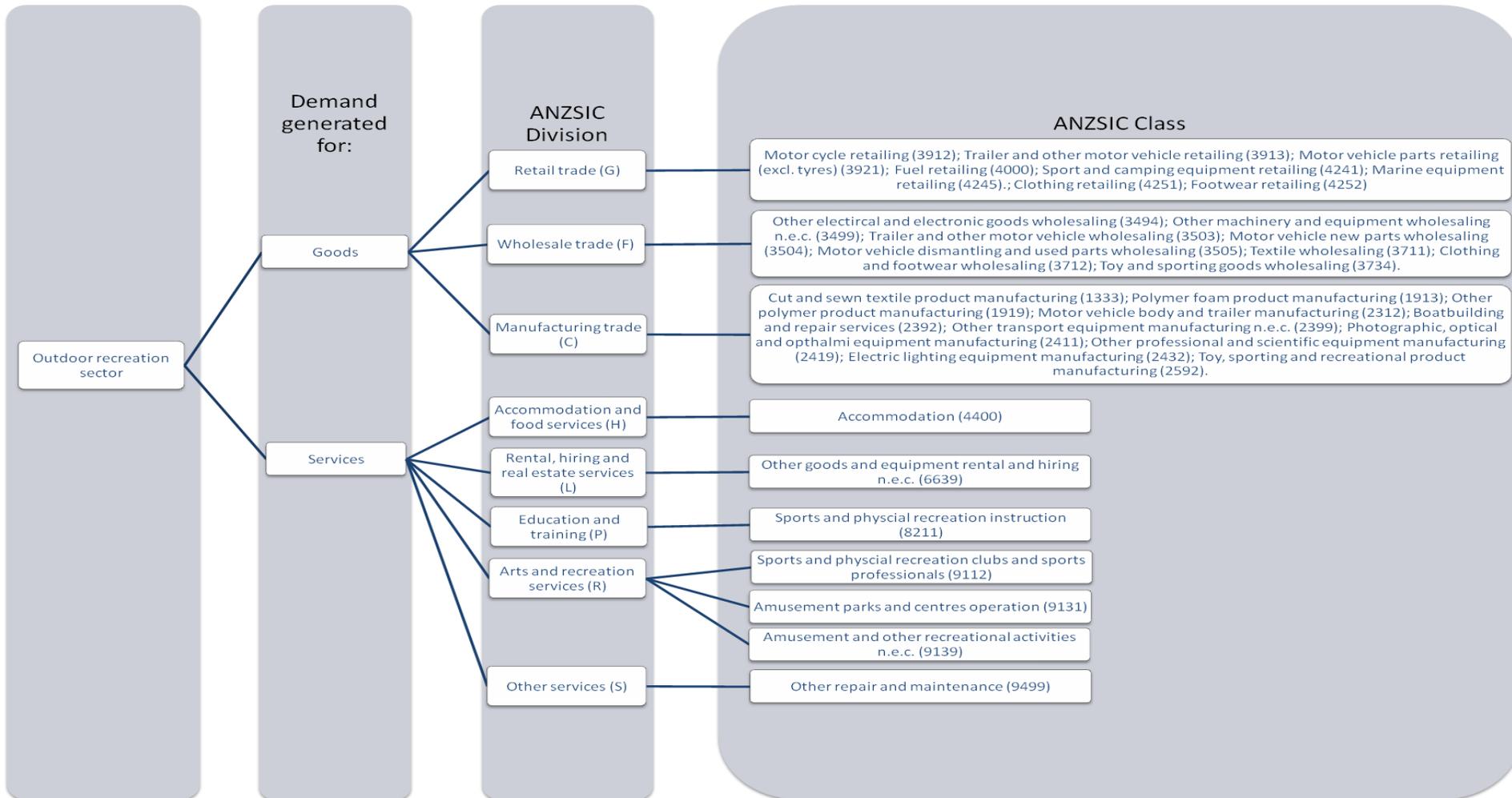
The Outdoor Recreation sector creates demand for a wide range of goods and services throughout the economy. Figure 2 below shows the broad and pervasive linkages between the demand for goods and services from outdoor recreation and the industries that meet that demand. However, there is no single Outdoor Recreation sector reported in official economic data which is consistent with the QORF's definition of outdoor recreation activities.

A number of Australian and international studies have attempted to quantify the economic contribution made by outdoor recreation and sport to a national or sub-national economy.¹⁴ These studies have employed a range of methodologies to measure the economic contribution of outdoor recreation. A key determinant of methodology is the available data.

In undertaking this project we faced the same data constraint. We outline a number of possible methodologies for estimating the contribution of the Outdoor Recreation sector to Queensland's Gross State Product and report a range for the potential economic contribution of the sector.

¹⁴ See for example, The Outdoor Industry Foundation (2006) "The Active Outdoor Economy", New York; Southwick and Associates (2007) "The Economics Associated with Outdoor Recreation, Natural Resources, Conservation and Historic Preservation", Florida; Department of Parks And Recreation of the State of California (2003) "A Study of the Economic Value of Outdoor recreation in California, CA and Department of Sport and Recreation (2008) "More than Winning: The real value of sport and recreation in Western Australia"

Figure 2 Linkages between outdoor recreation demand and supply



3.1 Estimation methodologies

The size of an industry or sector (a group of industries) is usually reported as its contribution to the value of annual economic production, which is called Gross Domestic Product (or Gross State Product for a State and or Territory).

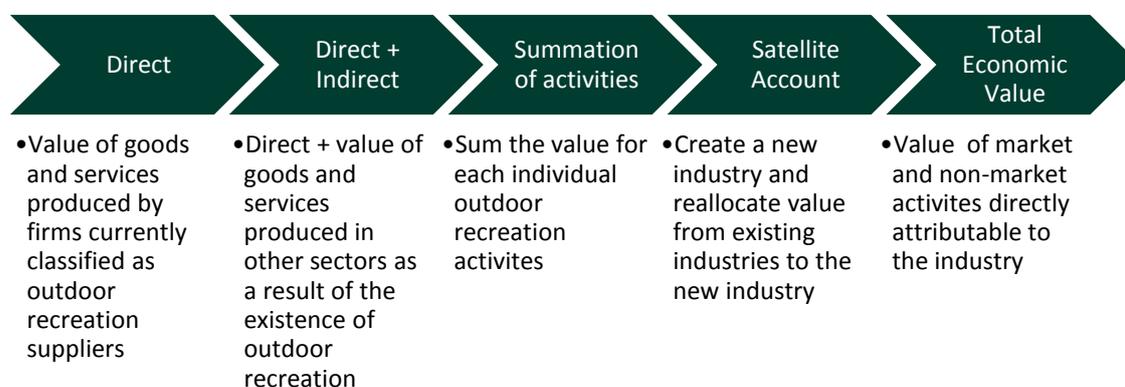
The significance of a sector is usually defined by its relative share of economic output compared to other industries. However, assessing significance can also depend on the context within in which it is being assessed. For example, is the industry an important generator of jobs, or is it an important exporter?

Size and significance usually refers to an assessment of the value of transactions that take place in relevant market/s. For example, outdoor recreation apparel is valued by the transactions in retail markets. However, there can be activity which creates value that is not captured in a market. Valuing these transactions is complex and is usually undertaken as part of a specific inquiry and not as a systematic attempt to measure what is called the “Total Economic Value” of an industry.

For this report our primary objective is to measure the market value of the Outdoor Recreation sector and then to report the most recent evidence in relation to non-market values.

To promote understanding of the complexity of determining the size and significance of the Outdoor Recreation sector, we define a range of possible values for its size. We describe five different methodologies (see Figure 3), that could be used to estimate the size of the Outdoor Recreation sector in Queensland. We consider that the range of estimates of the size of the Outdoor Recreation sector is defined by the Direct (minimum) and Total Economic Value (maximum) methods.

Figure 3 Estimation methodologies



3.1.1 Direct Estimate

This method measures the value of annual production of firms classified under the Australian and New Zealand Standard Industry Classification (ANZSIC) as part of the Outdoor Recreation sector.¹⁵ This estimate does not include non-market transactions such as work by volunteers or health benefits.

The relevant grouping of outdoor recreation firms in ANZSIC is shown in Figure 2. These firms are grouped into a unique class that is described by a four digit number. For example firms engaged in Sports and Physical Recreation Clubs and Sports Professionals are assigned the four digit number 9112. A top-down method is used to assign firms to a class. They are assigned to a division, then a sub-division, then a group and finally a class. Through this method all enterprises are uniquely assigned. The significance of this is that all firms engaged in producing outdoor recreation will belong to one of the 3 classes shown in Figure 2 with a four digit code.¹⁶

A major problem for the direct method is that no data is published at the 4 digit level. Data on output is only available at the sub-division level which means that publically available data on economic output of outdoor recreation firms is combined with other firms, for example, amusement park operators.¹⁷ The data must be manipulated to produce an estimate of economic output by outdoor recreation firms.

Employment share is used to estimate the proportion of output attributable to an industry. 201,000 people are employed in the ANZSIC division Arts and Recreation (and 103,600 in the sub-division Sport and Recreation).¹⁸ It is not possible to isolate employment in outdoor recreation in the ANZSIC groups in the sub-division Sport and Recreation. We examined the types of firms in each class and concluded that outdoor recreation firms are likely to predominate the ANZSIC group 913 “Amusement and Other Recreation Activities”.¹⁹ This group accounts for approximately 5% (10,500) of all paid employees in the Arts and Recreation. In June 2011, the latest available estimate, Queensland gross industry value added for the Arts and Recreation is \$1.54

¹⁵ The Australian and New Zealand Standard Industrial Classification (ANZSIC) provides a framework for organising data about businesses - by enabling grouping of business units carrying out similar productive activities. The ABS uses ANZSIC in most of its economic collections and for compilation of the national accounts.

¹⁶ As noted above it is immediately obvious that measuring the size and significance of outdoor recreation from a production perspective understates its importance as the demand for outdoor recreation does affects a much larger group of firms that those classified as outdoor recreation.

¹⁷ A further problem is that sub-division data is not reported by individual States and Territories, only for Australia as a whole.

¹⁸ Australian Bureau of Statistics. (2012). Labour Force, Australia, Detailed, Quarterly. Cat. 6291.0.55.003. Table 6, available at <http://www.abs.gov.au/AUSSTATS/abs@.nsf>.

¹⁹ Australian Bureau of Statistics. (2008). Australian and New Zealand Standard Industrial Classification (ANZSIC). Cat. 1292.0, available at <http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts>.

billion.²⁰ Using the employment share of 5%, the Outdoor Recreation sector contributes \$80.7 million to Gross State Product. This estimate suggests a very small outdoor recreation sector providing goods and services and compared with a demand side approach as shown in Figure 2, it will vastly understate the significance of the Outdoor Recreation sector to the economy.

An alternative approach is to analyse expenditure data. Two recent studies provide data which can be used to estimate direct consumption of outdoor recreation. A survey of businesses in the Outdoor Recreation sector estimated that that over 5.2 million persons in Australia used the services of the Outdoor Recreation sector in 2010.²¹ An estimate of the size of Outdoor Recreation sector can be formed by using this result combined with data on household expenditure from the ABS.

Average annual per person expenditure on sport and recreation in 2010 was \$590.²² The average total Australian consumer spend is estimated at \$3.06 billion.

To estimate total industry output the value of intermediate sales (sales to other firms) are added to final sales to consumers. We use the intermediate/final demand split of the Australian Arts and Recreation sector in Australia, which is 60% intermediate and 40% final demand. The total Australian output value derived by this method is approximately \$7.9 billion. We then estimate the value of output within Queensland using Queensland share of Australian population.²³ As a result, this method produces an estimate of output of \$1.58 billion in 2010. Using our input-output model for Queensland we estimate that a \$1.58 billion in output equates to a contribution to GSP of \$1 billion in 2010. A major limitation with this estimate is that the expenditure estimate relates to sport and recreation rather than outdoor recreation specifically.

The two approaches to estimate the direct contribution yield vastly different results. Using employment share to estimate the Outdoor Recreation sectors contribution to GSP produces a very low estimate of \$80 million. Using data on expenditure and number of potential consumers produces an estimate of \$1 billion.

²⁰ Australian Bureau of Statistics. (2011). Australian National Accounts: State Accounts, 2010-1. Cat. 5220.0, available at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/5220.02010-11?OpenDocument>.

²¹ Service Skills. (2010). National Outdoor Sector Survey 2010. Response to Question 33.

²² Calculated from average spend per family and using spend data from The Australian Bureau of Statistics "Household Expenditure Survey, Catalogue 6530.0, September 2011 and using an average household size of 2.8 persons.

²³ There may be an argument that Queensland might have a higher share of outdoor recreation activity due to its climatic advantages but there is no data support a change in population share.

The \$80 million estimate appears consistent with survey results reported by the QORF.²⁴ The survey reported that of the 67 respondents, 15 (22%) had turnover of more than \$1million per annum and 15 (22%) had turnover of more than \$100,000.

The major weakness of the direct method is that it is still based on production assessments or surveys which do not specifically capture information on all expenditure on outdoor recreation. It can provide information on the value of production of firms producing outdoor recreation services but it understates the significance of the sector to the economy. This is because many consumption decisions on outdoor recreation are made independently of decisions to purchase service from firms defined to be in the Outdoor Recreation sector.

3.1.2 Direct and indirect economic impact

An alternative method to measure the significance of an industry is to estimate the indirect economic impacts it has on other sectors and add this to its direct impacts.

The argument underpinning this method is that the value of economic activity in other sectors, that is created by outdoor recreation, ought to be included in the assessment of its contribution to the economy. However, to assess the significance of an industry sector it should be compared to all sectors. The exercise would need to be repeated for all other industry sectors. The real benefit of this approach is the insight it provides into the linkages between the Outdoor Recreation sector and other sectors.

To estimate the indirect economic impact from the Outdoor Recreation sector we assume that an Outdoor Recreation sector expands from \$0 to \$1.58 billion (using the expenditure based estimate of output). Our model of the Queensland economy (Queensland Non-Linear Multiregional Regional Model) was used to estimate the indirect impact.

²⁴ QORF. (2010). Queensland Outdoor Sector Survey 2010.

Table 4 Indirect impact of Outdoor Recreation sector in Queensland (2010-11), \$ million

Measure	Direct effects (1)	Flow-on Effects (2)	Total Impact =(1)+(2)
Turnover/output	1580	1438	3018
Value-Added	1009	897	1906
Factor Income	679	619	1298
FTE	6478	5895	12372

Source: Estimates from Synergies (2011) Queensland Non-Linear Model

Table 4 reports the breakdown of direct and indirect impacts across a range of economic variables. The main point to note from the results is that the Outdoor Recreation sector generates a level of economic activity of a similar magnitude in other sectors of the economy. That is, there are strong economic linkages between Outdoor Recreation and other sectors.

3.1.3 Bottoms-up approach

A bottoms-up approach to estimating the economic contribution of the Outdoor Recreation sector sums the contribution of the activities defined to be within the Outdoor Recreation sector (see Appendix A). This method overcomes the difficulty that arises from the lack of industry wide data. However in applying this methodology a number of additional problems were encountered:

- existing studies only comprise a small proportion of outdoor activities;
- different methodologies were used in the estimation;
- different time periods applied to the estimates; and
- different economic measures were reported.

The estimate was based on studies conducted on Recreational Fishing, National Parks and Surfing.

Study results

It was established that the expenditure per annum attributable to Recreational Fishing in Queensland in 2003-04 was approximately \$320 million per annum.²⁵ This estimate was based on estimates of direct expenditure per trip (e.g. fuel, accommodation, equipment, boats, bait etc). A more recent study has been announced but its results were not available.

A study on the contribution of tourism, estimated that \$345 million was generated by tourist expenditure attributable to the attractions of National Parks.²⁶ This was equivalent to 4.9% of tourism’s contribution to GSP. Similarly, a separate study of visitor expenditure in Queensland Parks and Wildlife Service-managed Areas, by the QPWS estimated direct expenditure of \$1022 million in 2003-04 resulting in a \$439 million contribution to Queensland GSP (excluding marine parks).²⁷

A study on surfing on the Gold Coast estimated the direct impact of the surfing industry on the output of the Gold Coast economy to be \$1.4 billion in 2007-08 with approximately 9,400 full-time equivalent employment positions.²⁸

Analysis

Table 5 reports a partial estimate of Outdoor Recreation sector’s contribution to GSP of \$1.77 billion to GSP in 2011-12 dollars.

Table 5 Outdoor recreation, contribution of selected activities, 2011-12

Outdoor activity	Expenditure \$million	GSP \$ million	GSP \$million, 2011-12
Recreational fishing (2003-04)	320	202	262
National Parks (2003-04)	1022	439	571
Surfing (Gold Coast) (2007-08)	1400	882	943
Total	2742	1423	1776

²⁵ Campbell, D. and Murphy, J. (2005), *The 2001-01 National Recreational Fishing Survey - Economic Report*, Canberra: Australian Government Department of Agriculture, Fisheries and Forestry.

²⁶ Driml, S et al. (2011) ‘A Method for Estimating the State-Wide Economic Significance of National Park Tourism: The Case of Queensland’, *Tourism Analysis*, vol. 16, pp.243-257.

²⁷ Eono, J. and Driml, S. (2006) *Expenditure by Visitors to Queensland Parks and Wildlife Service-managed Areas*. Environmental Protection Agency, Brisbane.

²⁸ AEC Group, (2009), *Surf Industry Review and Economic Contributions Assessment – Gold Coast City Council*, available at <http://businessgc.com.au/uploads/file/Sport/AEC%20Report%20-%20Surf%20Industry%20Summary-Web.pdf>

Note: Where GSP was not reported in the research it was derived by applying the ratio of sales to value-added for the Arts and Recreation sector. 2011-12 values were derived by using the percentage change in Arts and Recreation gross value-added from the date of the estimate to June 2011.

3.1.4 Satellite accounts

Traditional national accounts measure economic value at source of production (or sales) rather than the purpose of that spending. For example, the consumption of persons engaged in outdoor recreation would be normally treated (in standard national accounting) as part of spending on retail trade, which it undoubtedly is, however the spending occurred because the consumer engaged in outdoor recreation.

The difficulty in determining a reliable measure of the value of outdoor recreation was an issue which challenged the Tourism sector for many years. For example, spending on tourist activities takes place within traditional industries such as retail, accommodation, transport and personal services. For tourism to have additional economic value it has to be assumed that this level of spending would not have occurred without the purpose of tourism. The same idea can be applied to outdoor recreation.

Satellite accounts determine the value of activities that are not specifically designated as distinct industries under the standard national accounting systems. The data contained in satellite accounts can be used to assess the size and significance of a sector to a state or national economy.

No satellite accounts have been prepared for outdoor recreation. A satellite account provides the best approach to develop robust estimates of the economic value of the Outdoor Recreation sector. However, the development of a satellite accounts would be a lengthy and costly process and something that should be undertaken on a national basis.

For this report, we looked for studies in other countries that have assessed the economic contribution of outdoor recreation measured from purchases rather than production. Our review revealed only one US study. The demand for outdoor recreation was estimated to account for 3.4% of Gross National Product (the value of annual production of goods and services).²⁹ A study by Southwick and Associates illustrates that the demand created by outdoor recreation is met by a wide range of sectors, similar to the linkages in Figure 2. Box 1 provides further details of US studies on the value of recreation.

²⁹ The Outdoor Industry Foundation. (2006). *The Active Outdoor Economy*. New York. Southwick and Associates. (2007). "The Economics Associated with Outdoor Recreation, Natural Resources, Conservation and Historic Preservation.

Box 1 Value of Outdoor Recreation sector in the United States of America

The Outdoor Industry Foundation of the United States (2010) conducted an online survey of 40,000 persons to create a census of spending on outdoor recreation. Researchers then allocated this spending to traditional sectors as direct spending and calculated the total economic impact through the Minnesota IMPLAN economic model of the US and US States. The study found that the Outdoor Recreation sector in 2006:

- contributed \$730 billion annually;
- supported nearly 6.5 million jobs;
- generated \$88 billion in annual state and national tax revenue;
- provided sustainable growth in rural communities;
- generated \$289 billion annually in retail sales and services; and
- accounted for over 8 per cent of America's personal consumption expenditures.

In terms of value adding (additions to the Gross Domestic Product), this data suggests a value-added of approximately 3.4% of the US Economy. While this is a smaller percentage to the US economy than Manufacturing in 2006 (12.3%) and Retail Trade (6.5%) it is substantially larger than Agriculture, Forestry and Fishing (0.9%) and Mining (1.7%) and Arts and Recreation (1%).

A similar study by Southwick Associates (2011) examined the combined economic impact of Outdoor Recreation, natural resource conservation and historic visitation in the US. The study estimated the sectoral distribution of spending on outdoor recreation as follows:

- Manufacturing 26%
- Accommodation & Food Services 15%
- Retail Trade 6.4%
- Real Estate & Rental 6%
- Finance & Insurance 4.9%
- Professional, Scientific & Technical 4.2%
- Information 4.2%
- Transportation and Warehousing 4.1%
- Arts, Entertainment & Recreation 3.2%
- All Other Sector 26.0%.

Source: The Outdoor Industry Foundation. (2006). *The Active Outdoor Economy*. New York. Southwick and Associates. (2007). *The Economics Associated with Outdoor Recreation, Natural Resources, Conservation and Historic Preservation*.

If we assume that the demand for outdoor recreation is similar in developed economies, then we can use the results from these US studies to infer a value for outdoor recreation for Queensland. Participation rates for various outdoor recreation activities in Queensland³⁰ were compared to that of US studies.³¹ The analysis revealed broad similarities in participation rates for a number of activities, for example; day hiking (US) 38% c.f. walking/nature study (QLD) 35%, camping (US) 31.3% c.f.

³⁰ See Table 3- A comparison of participation rates from 1997 to 2007

³¹ National Survey on Recreation and the Environment. (2004). *Recreation Statistics: Participation Rates for Outdoor Activities in 2004*. College Station, PA: Venture Publishing.

camping (QLD) 30%; horse riding (US) 8.9% c.f. horse riding (QLD) 7% and off road driving (US) 22.5% c.f. driving 4WD (QLD) 23%.

The estimates are reported in Table 6.

Table 6 Indicative contribution of outdoor recreation to Qld GSP, total and by sector, June 2011

Sector	Sectoral proportion of total value of demand from outdoor recreation (%)	Value (\$m)
Manufacturing	26	2290
Accommodation & Food Services	15	1321
Retail Trade	6.4	564
Real Estate & Rental	6	528
Finance & Insurance	4.9	432
Professional, Scientific & Technical	4.2	370
Transportation and Warehousing	4.1	361
Information	4.2	370
Arts, Entertainment & Recreation	3.2	282
All Other Sectors	26	2290
Total Outdoor Recreation Contribution	100	8807

Source: ABS (2011). Cat No 5220.0 Australian National Accounts: State Accounts Table 4. Expenditure, Income and Industry Components of Gross State Product, Queensland, Chain volume measures and current prices.

An indicative estimate for the proportion of Gross State Product (the State equivalent of Gross Domestic Product (GDP)) accounted for by the Outdoor Recreation sector is \$8.8 billion, i.e. 3.5% of GSP, as at June 2011.³² Table 6 shows an indicative estimate of the value of production for different sectors of the economy from demand created by outdoor recreation. For example, manufacturing is assumed to account for 26% of the total value of demand from outdoor recreation.

It should be noted that the sectoral estimates reflect demand and the industrial structure of the US, not Australia. While differences in demand and industrial structure will produce different results, it is considered that the differences between developed countries like Australia and the US will not be so large to cause major differences. This qualification does, however, emphasise the need for further Australian specific research.

3.1.5 Total economic value

A total economic value (TEV) approach incorporates both direct values and the non-market benefits that have been documented in the areas of individual health and well-

³² This is the latest available GSP estimate available from the ABS.

being, the environment, the community and society, and education (see Section 4). This methodology would provide the broadest conceptualisation of the size and significance of the Outdoor Recreation sector. However, it is correspondingly difficult to quantify.

This method requires a considerable investment in research to establish robust estimates of non-market benefits. However, it is a useful concept to use when engaging with Government because it highlights the benefits that arise to society from Government intervention to increase the level of outdoor recreation. Of course, outdoor recreation is not the only activity with positive spillover benefits to the community and therefore a sound understanding of the total economic value will not guarantee greater government support. Also, the foundation of total economic value is the direct value of the Outdoor Recreation sector, which is not well understood.

3.2 Conclusion

Conceptually the Outdoor Recreation sector is an important generator of economic demand. By convention the size and significance of an industry is measured from production data. Measuring the size and significance using conventional economic data is likely to understate the economic contribution of the sector.

Establishing the size of the sector using conventional data is problematic as data is not published at an appropriate level to separate outdoor recreation from other the activities it is grouped with (i.e. gambling, sport, indoor recreation, arts and culture).

Using employment as a proxy for industry size we estimate the value of output from outdoor recreation firms to be \$80 million per annum. This appears consistent with survey data collected by the QORF. However, we believe this is capturing a small fraction of economic demand created by outdoor recreation. For example, outdoor recreation creates demand for equipment such as water craft, bicycles, off-road vehicles, camping gear, hiking and fishing equipment etc.

Estimating demand for outdoor recreation, albeit with imperfect data, produces a much larger estimate of \$1 billion per annum. Even this estimate is unlikely to reflect the equipment demand mentioned above.

The above approaches are top down, which means we form the estimate using data which aggregates all activities in the Outdoor Recreation sector. The construction of industry and expenditure data is a major limitation of the top down approach and is considered to underestimate the size of the sector.

A bottoms-up approach to estimating the economic contribution of the Outdoor Recreation sector sums the contribution of the activities defined to be within the

Outdoor Recreation sector. Updating the estimated values in existing studies for recreational fishing, national parks and surfing to 2011 values, we produce an estimate of around \$1.8 billion. This estimate represents a small number of outdoor recreation activities. This approach has issues in terms of different methodologies, time periods and data quality of the individual studies. However, for this report our bottom up estimate provides support for the view that direct estimates vastly understate the economic significance of outdoor recreation.

We also considered whether overseas studies can be used to infer a value for Australia. For developed countries conceptually we would expect to see a similar pattern of outdoor recreation. We were only able to find one paper which values outdoor recreation from the demand side. We examined US outdoor recreation participation data and found them to be consistent with Australian data. The US study estimated that outdoor recreation accounted for 3.4% of national economic production. By applying this estimate directly to Queensland GSP produces an estimate of \$8.8 billion.

This result appears implausibly high as it would infer that the Outdoor Recreation sector is as an important contributor as Tourism and more traditional sectors. While we cannot confidently endorse this number as it is based on only one study, it is clear that the economic contribution is much greater than might be inferred from production based measures of value.

Based on all the methods considered we consider that the economic contribution of outdoor recreation is at least \$2 billion per annum. We think that this is a very conservative estimate.

The inability to form an accurate from existing data is a major disadvantage for the sector.

The development of a set of satellite accounts for the Outdoor Recreation sector is the recommended approach to developing an estimate of the economic value of the sector. The development of a satellite accounts would be a lengthy and costly process and something that should be undertaken on a national basis.

4 Establish the benefits delivered by the Outdoor Recreation sector

There is wide recognition internationally regarding the benefits of physical activity. These benefits are often expressed in terms of the costs of inactivity or avoided health costs due to the physical activity. In our view, it is reasonable to link the benefits of physical activity to outdoor recreation given a large number of these outdoor activities involve a physical component.

However, the benefits of the Outdoor Recreation sector extend beyond purely economic considerations. By facilitating both contact with nature and physical activity, a growing body of research indicates outdoor recreation has positive health and wellbeing, environmental, community and educational impacts.

This section of our report provides a sample of the evidence regarding the quantitative and qualitative benefits of physical activity or outdoor recreation under the following headings:

- Individual health and well-being
- Environment
- Community and social
- Education

4.1 Individual health and well-being

The World Health Organisation defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”.³³

Although there are limited studies specifically investigating the impacts of outdoor recreation on health and well-being, there are many others concerning the benefits of access to the natural environment and engaging in physical activity; two key features of outdoor recreation.

These studies (discussed below) indicate that outdoor recreation offers a means of preventing and ameliorating the key health challenges facing Australian society now and in the future; specifically, lifestyle-related diseases such as obesity and cardiovascular problems, stress related illnesses and mental health problems.

³³ World Health Organisation, (2012), *Frequently Asked Questions*, available at <http://www.who.int/suggestions/faq/en/index.html>

4.1.1 Engaging in physical activity

It is widely accepted that physical recreation provides benefits such as improved strength, fitness and general health. Physical activity is important for people of all ages in both developing and maintaining healthy bodies.

Quantitative benefits

In 2008, it was estimated that the total economic cost of obesity in Australia was \$58.2 billion, which was made up of \$8.283 billion in financial costs of obesity and \$49.9 billion in the net cost of lost well-being.³⁴ These costs related to:³⁵

- direct financial costs incurred by the Australian health system through activities such as running hospitals and nursing homes, GP and specialist services, providing pharmaceuticals, allied health services, research and other direct costs (such as health administration);
- other financial costs, which include:
 - productivity losses due to short and long-term employment impacts and premature mortality;
 - carer costs reflecting the value of the work primarily undertaken by informal carers;
 - deadweight loss (DWL) from welfare, other government payments and taxation revenue foregone;
 - other costs, including equipment, aids and modifications, accommodation and transport costs, respite and other government programs; and
 - non-financial costs, including the loss of wellbeing, disability and premature death caused by obesity and its impacts.

On similar lines, Medibank Private estimated that the total cost of physical inactivity to the Australian economy in terms of both healthcare costs and mortality costs was \$13.8 billion in 2007-08.³⁶ These costs were assessed in terms of:

³⁴ Access Economics Pty Limited (2008) *The growing cost of obesity in 2008: three years on*, available at <http://www.diabetesaustralia.com.au/PageFiles/7830/FULLREPORTGrowingCostOfObesity2008.pdf>.

³⁵ Access Economics Pty Limited (2006) *The Economic Costs of Obesity*, available at http://www.pbworks.com.au/pdf/Economic_Costs_of_Obesity_Exec_Summ.pdf

³⁶ Medibank Private (2008) *The cost of physical inactivity: What is the lack of participation in physical activity costing Australia*, available at http://www.medibank.com.au/Client/Documents/Pdfs/pyhsical_inactivity.pdf

- net healthcare costs related to direct health expenditure in the public and private sectors for the prevention, diagnosis and treatment of medical conditions attributable to physical inactivity (\$719 million);
- economy-wide productivity costs (reflecting lower labour inputs) (\$9.3 billion); and
- mortality costs (reflecting the decline in the labour force) (\$3.8 billion).

In its 2012 report, PKF Corporate Advisory has taken the above Medibank Private data and using simple assumptions estimated the Queensland component of healthcare and mortality costs as follows:

- net healthcare costs (\$123 million)
- mortality costs (\$652 million).³⁷

Investment in recreational infrastructure can yield significant economic benefits by avoiding direct health costs associated with inactivity. A US cost-benefit analysis of using bike/pedestrian trails found that the direct health benefits of recreational trails exceeded the cost of establishing, maintaining and user's equipment. The study concluded that every \$1 investment in using trails led to \$2.94 in direct medical benefit.³⁸ A 2005 study of recreation value of Irish forest trails estimated the direct economic impact of forest recreation by Irish residents be €268 million, while the non-market value of forest recreation to be €97 million.³⁹ Investment in trails will yield maximum benefits where they are inter-connected, meet actual and future demand, are well maintained and are on publicly accessible land.⁴⁰

Qualitative benefits

International and Australian research indicates convincing evidence that regular physical activity can improve health outcomes and substantially reduce the risk of premature death, illness and disability.

Table 7 presents some of the proven benefits of physical activity.

³⁷ PKF Advisory (2012), *The Value of Sport to Queensland* (February), pp 15-17

³⁸ Wang, G. et al. (2005). A Cost-Benefit Analysis of Physical Activity Using Bike/Pedestrian Trails. *Health Promotion Practice*, Vol 6. Issue 2. pp 174-179.

³⁹ The Irish Sports Council Economic and Coillte. (2005). *Value of Trails and Forest Recreation in the Republic of Ireland*.

⁴⁰ Department of Local Government and Planning. (2007). *Active Trails A Strategy for Regional Trails in South East Queensland*, 2007

Table 7 Proven benefits of physical activity from research literature

Proved Benefits from research literature
Reduced risk of developing cardiovascular disease (coronary heart disease (CHD) and stroke
Reduced risk of mortality from CHD
Reduced risk of heart attack
Lowered levels of total blood cholesterol and triglycerides and increased high density lipoproteins (HDL or the “good” cholesterol
Reduced risk of developing high blood pressure
Reduced blood pressure in cases of diagnosed hypertension
Reduced risk of developing Type 2 diabetes
Reduced risk of being overweight or obese
Reduced risk of colon and breast cancer
Helping build and maintain healthy bones, muscles and joints
Reduced risk of osteoporosis
Reduced feelings of depression and anxiety and
Promoting psychological well-being and reducing feelings of distress.

Source: WHO (2003). Diet, nutrition and the prevention of chronic diseases. World Health Organisation: Geneva; Asia Pacific Cohort Studies Collaboration. (2003). The Effects of Diabetes on the Risks of Major Cardiovascular Diseases and Death in the Asia-Pacific Region. *Diabetes Care*. 26(2). p. 360-366; WHO (2002). The World Health Report 2002: Reducing risks, promoting healthy life. World Health Organization: Geneva.; Armstrong T & Dixon T (2002). The Global Burden of Physical inactivity (In prep), Q.H. Epidemiologists, Editor. AIHW: Brisbane.; American College of Sports Medicine (ACSM) .(1995). ACSM position stands on osteoporosis and exercise. *Medicine and Science in Sports and Exercise*. 27: p. i-vii.; Blumenthal J Babyak M Moore K Craighead W Herman S Khatri et al. (1999) . Effects of exercise training on older patients with major depression. *Archives of Internal Medicine*. 159(19): p. 2349-56.; Colditz G Cannuscio C & Frazier A (1997). Physical activity and reduced risk of colon cancer: implications for prevention. *Cancer Causes and Control*. 8: p. 649- 67.; Ellekjaer H et al (2000). Physical activity and stroke mortality in women-ten year follow up of the Nord-Trondelag Health Survey. *Stroke*. (31): p. 14-18.; Bauman, A., et al. (2002). *Getting Australia active: towards better practice for the promotion of physical activity*. National Public Health Partnership: Canberra.; Cardona M Coyne T et al (2002), The impact of diabetes on the health of Queenslanders, Health Information Centre, Queensland Health: Brisbane.; Gregg EW Pereira MA & Caspersen (2000). Physical activity, falls, and fractures among older adults: A review of the epidemiologic evidence. *Journal of the American Geriatrics Society*. 48: p. 883-93. ;Hassmén P Koivula N & Uutela A (2000). Physical exercise and psychological well-being: a population study in Finland. *Preventive Medicine*. 30: p. 17-25.; Leonard D McDermott R & O’Dea K (2002). Obesity, diabetes and associated cardiovascular risk factors among Torres Strait Islander people. *Aust NZ J Public Health*. 26: p. 144-9.; Mensink GBM et al (1999). Benefits of leisure-time physical activity on the cardiovascular risk profile at older age. *International Journal of Epidemiology*. 4(28): p. 659-66.; Picavet HS & Schouten JS (2000). Physical load in daily life and low back problems in the general population-The MORGEN study. *Preventive Medicine*. 31: p. 506-12.; Tobias K Gaziano & Berger (2003). Body Mass Index and the Risk of Stroke in Men. in Procor -Conference on Cardiovascular Health. 2003. United States.; USDHHS (1996). Physical Activity and Health: A Report of the Surgeon General. US Department of Health and Human Services: Atlanta.; Williams (2001). Physical fitness and activity as separate heart disease risk factors: a Meta analysis. *Medicine and Science in Sports and Exercise*. 5(33): p. 754-61.

There is evidence to suggest that benefits occur soon after beginning regular physical activity and are likely to occur when commencing regular physical activity at any age.⁴¹ Further, research indicates that lasting health benefits can be provided even after maintaining activity for only two years.

Biological and medical research indicates a strong and causal relationship specifically between physical *inactivity* and mortality from cardiovascular disease, diabetes and

⁴¹ Huang, N (2005). Motivating patients to move. *Australian Family Physician*. 34. 413-7.

coronary heart disease.⁴² The evidence is of the same strength as the risks between tobacco smoking and heart disease.

In September 2011, the World Health Organisation named physical inactivity and sedentary lifestyles as the fourth leading risk factor for global mortality. According to WHO, physical inactivity causes globally, about 10-16% of cases each of breast cancer, colon and rectal cancers and diabetes mellitus, and about 22% of ischaemic heart disease. The risk of getting a cardiovascular disease increases up to 1.5 times in people who do not follow minimum physical activity recommendations, and further, people who are not physically active are almost twice as likely to die from coronary heart disease.⁴³

According to the Royal Australian College of General Practitioners, the amount of disease that could be prevented if the population was at least moderately active is 18% for coronary heart disease, up to 16% for stroke, 13% for Type 2 diabetes, 19% for colon cancer, 9-12% for breast cancer, and up to 10% for depression symptoms.⁴⁴

Outdoor activity has been shown to have improved results over indoor activity. Outdoor activity generates greater enjoyment and satisfaction, and increases the desire to repeat the activity at a later date. A 2011 study found that compared with exercising indoors, exercise in natural environmental was associated with greater feelings of revitalisation and positive engagement, decreases in tension, confusion, anger, and depression.⁴⁵

4.1.2 Access to the natural environment

In assessing the benefits derived from access to the natural environment reference was made to the following literature reviews: *Healthy Parks, Health People*⁴⁶ and its recent update *Beyond Blue to Green*.⁴⁷

⁴² United States Surgeon General's report (USSG). (1996) Physical Activity and Health. Department of Health and Human Services. Washington DC, and Center for Disease Control, Atlanta Georgia. US Government Printing Office; Powell KE, Pratt M. (1996). Physical activity and health : Avoiding the short and miserable life. British Medical Journal 313:126-127; Bauman, A., Owen, N. and Rushworth, R.L. (1990) Recent trends and sociodemographic determinants of exercise participation in Australia. Community Health Studies; 14:19-26.

⁴³ National Heart Foundation (2001). Promoting physical activity: ten recommendations from the Heart Foundation, available at [www.heartfoundation.org.au/document/NHF/PP-554\(IS\)_Promoting_Phys_Act_May2001.pdf](http://www.heartfoundation.org.au/document/NHF/PP-554(IS)_Promoting_Phys_Act_May2001.pdf)

⁴⁴ The Royal Australian College of General Practitioners (2008). *Physical Activity: Policy endorsed by the 50th RACGP Council 9 February 2008*. VIC. Pg. 3.

⁴⁵ J. Thompson Coon, K. Boddy, K. Stein, R. Whear, J. Barton, M. H. Depledge (2011). ; Does Participating in Physical Activity in Outdoor Natural Environments Have a Greater Effect on Physical and Mental Wellbeing than Physical Activity Indoors? A Systematic Review'. *Environmental Science & Technology*. 45 (5), pp 1761-1772

⁴⁶ Mallar et al. (2008) *Healthy Parks, Health People: the health benefits of contact with nature in a park context*. Melbourne : Deakin University.

These papers found there was extensive anecdotal, theoretical and empirical evidence indicating that humans derive a range of beneficial physiological and psychological effects from both viewing and interacting with the natural environment.

For example, it was found that contact with nature produces an improved sense of wellbeing, self-awareness, self-esteem and mood which has positive physiological flow-on effects including improved immunity and the alleviation of symptoms associated with stress, depression, anxiety and psychosomatic illness.⁴⁸ Further, nature facilitates children's intellectual, emotional, social, spiritual and physical development. Play in nature, particularly during the critical period of middle childhood, appears to be an especially important time for developing the capabilities for creativity, problem-solving, and emotion and intellectual development.⁴⁹

Activities undertaken in natural settings have also been proven to have positive effects in reducing the impact of Attention Deficit Disorder and Attention Deficit Hyperactivity Disorder.⁵⁰ Further, students partaking in Outdoor and Experiential Education were found to have better engagement and enthusiasm for learning, better results, and a greater connection with their achievements as well as improvements in critical thinking.⁵¹

4.2 Environmental

There is a strong, complex and conflicted relationship between outdoor recreation and the natural environment (including the land, sea, ecosystems and wildlife).

According to the Queensland Government, naturalness is expressed on a range from completely untouched, wild, natural or remote to completely modified, built or developed depending on the proportion of natural and human-modified elements in the landscape.⁵²

⁴⁷ Townsend, M & Weerasuriya, R. (2010) *Beyond Blue to Green: the benefits of contact with nature for mental health and well-being*. Melbourne : Deakin University.

⁴⁸ Wells, N.M., Evans, G (2003). Nearby Nature: A Buffer of Life Stress Among Rural Children. *Environment and Behaviour*. Vol 35:3, 311-330.

⁴⁹ Kellert, Stephen (2005). Nature and Childhood Development. *Building for Life: Designing and Understanding the Human-Nature Connection*. Washington DC. Island Press.

⁵⁰ Faber, Taylor & Kuo, F (2008). Children with attention deficits concentrate better after a walk in the park. *Journal of Attention Disorders Online First*, available at <http://jad.sagepub.com>; Faber, T., Kuo, A., Sullivan, W (2001). Coping with ADD: The Surprising Connection to Green Play Settings. *Environment and Behaviour*. Vol.33. No. 1.

⁵¹ Foster. A., Linney, G (2007). Reconnecting Children Through Outdoor Education: A research summary. Toronto: The Council of Outdoor Educators of Ontario.

⁵² Queensland Government, Environmental Protection Agency, Queensland Parks and Wildlife Services, Operational Policy, Landscape classification system for visitor management, p 2.

In our view, the key issue is one of balancing the extent of human access to the environment and the impact this access has on environmental conditions in order to deliver a net societal benefit.

Pigram and Jenkins have commented on drawing this balance as follows:⁵³

It is unwise to jump to conclusions about the impact of outdoor recreation on the environment, or to accept, without qualification, predictions of undesirable or irreversible consequences of human use ... the outcome is a function of the attributes of the environment, the extent and nature (volume, intensity, behaviour of participants) of the recreation taking place, and resource management strategies.

Given its requirement for the provision of natural, open spaces, the Outdoor Recreation sector can benefit the environment by creating a demand for the preservation of such areas and an avenue by which revenue might be derived from them. However, some constraints on the type of access may be necessary depending on specific environmental characteristics.

Research suggests that outdoor recreation involvement generates personal attachment to a site, with associated feeling of ownership and duty of care for that site.⁵⁴ Some Australian reports note the increasing disengagement of humans from the natural environment, attributable to the increasing urbanisation of society.⁵⁵ Outdoor recreation has the ability to overcome this disengagement by promoting engagement with and awareness of the natural environment, aesthetic appreciation for nature and concern for vanishing wild places.

However, we have had difficulty finding studies identifying empirical evidence of the environmental benefits of recreation areas.

It should also be noted that valuing environmental benefits is not a straight forward task because there is generally no developed market with observable prices for the services provided by places where outdoor recreation occurs. However, there are a number of applied techniques that can be used to estimate an economic value (essentially the same as a net benefit) derived from the quality of the environment.

⁵³ Pigram J.J & J.M. Jenkins (2006), *Outdoor Recreation Management*, p 112.

⁵⁴ McIntyre, N. (1995). *National and international trends in outdoor recreation participation*. Report for the Department of Tourism, Sport and Racing. Brisbane: Griffith University, Centre for Leisure Research; Bryan, H. (1979). Leisure value systems and recreation specialization: The case of trout fisherman. *Journal of Leisure Research*, 9, 174-187.

⁵⁵ Mallar, C. Townsend, M., Brown, P., & St Leger, L. (2002a). *Health Parks Healthy People: The health benefits of contact with nature in a park context; Vol 1: A review of current literature*. Melbourne: Deakin University and Parks Victoria; Mallar, C., Townsend, M., Brown, P., & St Leger, L. (2002b). *Health Parks Healthy People: The health benefits of contact with nature in a park context; Vol 2: An annotated bibliography*. Melbourne: Deakin University and Parks Victoria;

4.3 Community and social

There are many social and psychological qualitative benefits from participating in outdoor recreation.⁵⁶ Studies have shown that outdoor recreation promotes socialising, and a chance to meet those who have similar interests⁵⁷, in addition to promoting cohesiveness, better relationships through cooperation, appreciation and respect for others⁵⁸. This contributes to a sense of community and social connectedness, promotes healthy families, neighbourhoods and communities of interest, and contributes to social wellbeing.

Along similar lines, the ABS 2006 General Social Survey found that, among people aged 18 years and over, those who participated in sport or physical recreation were more likely than others to be a volunteer (42% compared with 21% of non-participants), to be actively involved in social groups (75% compared with 43%), or actively involved in a civil or government group (23% compared with 11%).⁵⁹

The community benefits identified above develop what is known as social capital. Social capital is defined as “features of social life - networks, norms, and trust - that enable participants to act together more effectively to pursue shared objectives”.⁶⁰

Group participation in outdoor recreation activities such as cycling, camping, climbing, picnicking and sailing, among others, can enhance the development of social capital. The bonds and connections made between people who participate in an activity together occur through identification of being part of a group that share similar interests. According to studies⁶¹, outdoor recreation has a key role to play in the process of developing social capital because it has the potential to communicate across cultural boundaries that often divide communities.

⁵⁶ Ewert, A. W. (1989). *Outdoor Adventure Pursuits: Foundations, models, and theories*. Scottsdale, AZ: publishing Horizons, Inc; Dickson, T., Gray, T., Mann, K. (2008). *Australian Outdoor Adventure Activity Benefits Catalogue*. Centre for Tourism Research, University of Canberra. Page 3; Webb, D. J. (1999). *Recreational outdoor adventure programs*. In J. C. Miles & S. Priest (Eds.), *Adventure programming*. State College, PA: Venture; American Camp Association. (2005). *Directions: Youth Development Outcomes of the Camp Experience*. Martinsville: American Camp Association.

⁵⁷ Darst, P. W., & Armstrong, G. P. (1980). *Outdoor adventure activities for school and recreation programs*. Prospect Heights, IL: Waveland.,

⁵⁸ Ewert, A. W. (1989). *Outdoor Adventure Pursuits: Foundations, models, and theories*. Scottsdale, AZ: publishing Horizons, Inc

⁵⁹ ABS (2011), *Australian social trends, June 2011: Sport and physical recreation*, (June), p 2

⁶⁰ Putnam, R. (1995). Tuning in, tuning out: The strange disappearance of social capital in America, *Political Science & Politics*, 664-683.

⁶¹ Blackshaw, T., & Long, J. (2005). What's the big idea? A critical exploration of the concept of social capital and its incorporation into leisure policy discourse. *Leisure Studies*, 24, 239-258.

A US study in 2010 on the benefits delivered by municipal parks and reserves made a number of important findings regarding the role participation in outdoor recreation activities can play in delivering health benefits to the community:⁶²

- the supply of park and recreation resources is directly related to the amount of physical activity by people of all ages;
- the scientific evidence is compelling that investment in close-to-home recreation and park services is associated with significantly higher rates of physical activity with health benefits;
- medical journals now regularly publish articles on the role of parks and recreation in enhancing health;
- spending for parks and recreation may be an extremely cost-effective way to improve health and lower health expenditures by providing diverse opportunities for physical exercise and avoiding healthcare costs;
- parks and recreation can build upon existing health collaborations by embracing a wider range of partners (such as physicians, transportation and planning agencies, private insurance companies) to create greater awareness and use of parks and recreation for physical activity.

The value of the benefits would be expected to vary with the attributes of the park eg naturalness, facilities, size.

4.4 Educational

School and education groups are a major client for the outdoor sector (QORF Outdoor Sector Survey). Numerous educational activities are conducted in natural spaces including:

- Outdoor education programs / Extended stay outdoor education programs
 - School based – e.g. camps, excursions, fieldwork
 - Community based – e.g. Scouts, Guides, Duke of Edinburgh Award Scheme
- Adventure-based counselling
- Environmental education centres

⁶² Godbey G., Mowen A. (2010), The Benefits of Physical Activity Provided by Park and Recreation Services: The Scientific Evidence,

Research has shown that the outdoors is an effective space for learning and engagement of people of all ages. In addition, outdoor recreation activities enhance personal and social development. In primary and secondary school students, the main benefits relate to the development of life effectiveness skills. For example, benefits reported from participation in the Duke of Edinburgh program include improved relationships with self and others⁶³, whilst self-confidence and problem solving skills were enhanced in conjunction with gains in academic achievement as a result of students' involvement in outdoor education programs.⁶⁴

A major review of 150 pieces of international (including Australian) research into outdoor learning was conducted in 2004, covering the period from 1993 to 2003.⁶⁵ Major findings of the review included that fieldwork can have a positive impact on long-term memory due to the memorable nature of the fieldwork setting. Effective fieldwork and residential experience can also lead to individual growth and improvements in social skills. More importantly, there can be reinforcement between the affective and the cognitive, with each influencing the other and providing a bridge to higher order learning.

In an earlier Australian study by Neill and Richards⁶⁶, summaries of meta-analyses of the effects of outdoor education programs were created involving over 12,000 participants of mixed groups, ages, varied levels of experiences, course durations and types.⁶⁷ Their analysis of typically measured outcomes such as personal development, changes in self-concept, self-confidence and locus of control identified small to medium impacts on these outcomes, although, adult participants tended to achieve larger outcomes. They concluded that the results provided a positive endorsement of outdoor education as a legitimate and effective educational training method.

⁶³ Bailey, P (2004). Rekindling the spirit of adventure-Through participation in the expedition component of the Duke of Edinburgh's Award. The value of this challenge for the participant. Unpublished Ed.D., University of Wollongong, Wollongong.

⁶⁴ Haddock, C. (2007a). Education outside the classroom (EOTC) survey: Primary schools report. Wellington, NZ: Ministry of Education; Haddock, C. (2007b). Education outside the classroom (EOTC) survey: Secondary schools report. Wellington, NZ: Ministry of Education.

⁶⁵ Rickinson M., Dillon J., Teamey K., Morris M., Young Choi M., Sanders D., Benefield P. (2004,)A review of research on outdoor learning, (March)

⁶⁶ Neill, J. T., & Richards, G. E. (1998). Does Outdoor Education Really Work? A summary of recent meta-analyses. Australian Journal of Outdoor Education. 3(1), 1-9.

⁶⁷ Dickson, T., Gray, T., Mann, K. (2008). Australian Outdoor Adventure Activity Benefits Catalogue. Centre for Tourism Research, University of Canberra. Page 11.

4.4.1 Conclusion

There is a significant body of international and Australian research identifying the health, environmental, community and education benefits associated with outdoor recreation activities. This body of research could be expected to grow over time and further establish the important role of outdoor recreation.

Moreover, we expect the health benefits of physical activity (including outdoor recreation) to receive significant attention into the future and, as an issue, will provide an important opportunity for outdoor recreation in terms of demonstrating its importance to the economy. This is because of the quantifiable size of avoided costs for the health system from greater physical activity. Consequently, governments and private health insurers are likely to be the key drivers of research and recreation-related expenditure in this area given the increased resourcing and cost pressures bearing down on the public and private health systems.

5 Outlook for outdoor recreation in Queensland

It is important to describe and analyse the challenges facing the Outdoor Recreation sector into the future, including what may adversely impact on the supply and demand for these activities. The include:

- encroaching development activity and/or changes in land use and tenure;
- lifestyle factors, including sedentary lifestyles and work/leisure trade-offs; and
- public liability issues.

5.1 Competing land use

Land and water that is used for outdoor recreational purposes generally has an alternative primary use such as timber production, quarrying, crop growing or livestock, water catchment or nature conservation, among others.⁶⁸ As such, there can be difficulties in accessing sufficient, proximal open spaces for outdoor recreation. This situation is amplified as outdoor recreation is a competitor to other resource uses, for example mining, farming, housing development, which typically produces higher, or at least more easily measurable, economic value.

In addition, rapid population growth in Queensland is resulting in increased competition for land for urban and industrial development and to meet housing demand. As such, it is increasingly difficult to retain and provide open space land and water for outdoor recreation. However, this is likely to place greater importance on open space (e.g. parks, small nature reserves) forming part of residential developments. As discussed in section 5 of our report, there appear to be potentially significant individual and community health benefits from outdoor recreation on/in open space within built-up areas.

The QORF has noted that 1) the potential supply of both land and water for outdoor recreation has finite limits; and (2) there are restrictions on the capacity of government at all levels to acquire/release and manage new places for outdoor recreation activity. The challenge for the Outdoor Recreation sector, governments and communities is to find appropriate open space for conducting outdoor recreation. We concur with QORF's view and note that this will likely require strategies for engagement with all levels of government, other industry sectors and the wider community combined with a clear understanding of outdoor recreation land use priorities based on participation.

⁶⁸ Queensland Outdoor Recreation Federation (2010). *Strategic Plan: 2011-2013*. Brisbane, QLD: Queensland Outdoor Recreation Federation. p 12.

Any such advocacy should be focussed on the outdoor recreation activities that are delivering the largest societal benefits.

We agree with QORF regarding the importance of land tenure arrangements that support outdoor recreation, including the importance of private landholders in providing outdoor recreation opportunities into the future.⁶⁹

5.2 Lifestyle factors

There appear to be two major contrasting factors likely to impact on demand for outdoor recreation in the medium to long term:

- the apparent increasing trend to sedentary lifestyles in western counties such as Australia; and
- the effect of increasing household incomes, on average, on the demand for leisure.

Sedentary lifestyle is a term used to denote a type of lifestyle with no or irregular physical activity.

Society's increasing dependence on labour saving devices, technology and passive forms of entertainment are all contributing to lifestyles that are increasingly sedentary. In 2007-08, over two-thirds (68%) of men and around three-quarters (76%) of women were assessed as having a low level of exercise or being sedentary.⁷⁰ Queensland possessed the lowest rate of people meeting the *National Physical Activity Guidelines for Adults* than any other State (28%).

However, it is not only adults that are leading increasingly sedentary lifestyles. As illustrated by the Children's Participation in Cultural and Leisure Activities Survey⁷¹, many activities widely undertaken by children involve very little physical activity. Data from the most recent survey (2009) indicated that the most popular leisure activities reported by Queensland children were watching TV, DVDs and videos (98%) and participating in other screen-based activities (84.9%). Both of these figures had increased since the preceding survey in 2001. These passive forms of entertainment are likely to be displacing participation in recreational activities such as bike riding, backyard sports and outdoor recreation activities which were routine for most Australian households for much of the 20th century.

⁶⁹ Queensland Outdoor Recreation Federation (2010), p 13.

⁷⁰ ABS (2010). National Health Survey: Summary of Results, 2007-2008 (Reissue), Australia. Cat. No: 4364.0. Canberra: ABS.

⁷¹ ABS (2009). Children's Participation in Cultural and Leisure Activities, Australia. Cat. No. 4901.0, available at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/4901.0Main%20Features2Apr%202009?opendocument&tabname=Summary&prodno=4901.0&issue=Apr%202009&num=&view=>

Increasingly sedentary lifestyles will have adverse demand implications for outdoor recreation activities into the future should these trends continue. However, as discussed in section 5.1 of our report, we have some doubts as to the sustainability of these lifestyles from a national health expenditure perspective. In other words, we would expect governments and medical professionals to attempt to counter this trend, which creates an opportunity for outdoor recreation as one of the potential solutions to the problem.

As the wealth of society increases, the cost constraints in undertaking outdoor activities could be expected to ease. In this regard, the *South East Queensland Outdoor Recreation Demand Study 2007* identified cost constraints were more important for those who participated in vehicular activities, horse riding, motorised watercraft or climbing and abseiling.

Assuming that incomes of a significant proportion of the population continue to increase and that discretionary time is available, the ability to participate in outdoor recreation should increase over time in Australia. This indicates the importance of promotion of outdoor recreation as an activity of value to an individual and the community.

5.3 Public liability issues

The increase in public liability⁷² and professional indemnity⁷³ insurance premiums in 1999 had a significant effect on the supply of outdoor recreation activities in Queensland.

Although increases in public liability insurance premiums were not unique to the outdoor recreation industry, there were some reasons for the increase in public liability premiums that were specific to outdoor recreation/outdoor adventure. The QORF⁷⁴ identified the main reasons (specific to the outdoor recreation industry) for increases in premiums, included a reduction in the number of companies prepared to underwrite outdoor adventure activities, an inability to access coverage for certain activities perceived to be high risk, and the requirements by public landholders that holders of permits hold \$10 million in public liability insurance cover.

⁷² Public liability covers legal liability to the public for bodily injury or property damage arising out of the operation of the insured's business. Available at (http://www.ncpd.apra.gov.au/ClientFiles/Reports/ExNotes_Sep11.pdf)

⁷³ All policies that provide cover for a professional for actions taken against that person in tort and/or statute law for advice or services provided as part of their professional practice, including related legal expenses. This includes Directors' and Officers' Liability insurance and legal expense insurance, as well as Medical Indemnity insurance. Available at (http://www.ncpd.apra.gov.au/ClientFiles/Reports/ExNotes_Sep11.pdf)

⁷⁴ Queensland Outdoor Recreation Federation. (2002). *Response to the Senate Economics Committee: Inquiry into public liability insurance and professional indemnity insurance*. Brisbane, QLD: Queensland Outdoor Recreation Federation.

The increases resulted in a significant decrease in the supply of outdoor recreation activities with many providers unable to meet rising premium costs resulting in business closures. In addition, there was a continued restriction of access to land due to fear of litigation by both public and private landholders and a decrease in coverage with a consequential impact (e.g. modified activities, reduced access to areas) and deletion of certain activities from programs.⁷⁵

However, since the reforms in 2002⁷⁶ which allowed a more competitive insurance market to emerge, premiums have started to decrease. Data collected by the Insurance Council of Australia in 2009 indicated that public liability premiums fell (across all States), from an average of \$1,032 in 2003 to \$752 in 2008 – a decline of 27%. Overall the decrease in premium costs mirrored the increase in the number of policies written: just as the number of policies written recorded their largest increases in 2003 and 2004, average premiums recorded their largest falls in the 2003 and 2004 period with the rate of decline slowing over subsequent years.⁷⁷

History has shown that public liability and professional indemnity insurance premiums have the potential to act as a barrier to supply. Moreover, in practice, this is likely to be a risk largely beyond the control of the Outdoor Recreation sector to mitigate.⁷⁸

⁷⁵ Queensland Outdoor Recreation Federation. (2002). *Response to the Senate Economics Committee: Inquiry into public liability insurance and professional indemnity insurance*. Brisbane, QLD: Queensland Outdoor Recreation Federation.

⁷⁶ The Queensland Government implemented a program of tort reform, incorporating the *Personal Injuries Proceedings Act 2002*, the *Civil Liability Act 2003* and the *Professional Standards Act 2004*.

⁷⁷ Insurance Council of Australia (2009). Media Release: Tort Law Reforms a Success Five Years On, available at <http://www.insurancecouncil.com.au/media/20689/industry-in-focus-tort-law-reform-271109.pdf>

⁷⁸ Similar issues arise with other regulation, particularly *Workplace Health & Safety Act 1995* and *Work Health & Safety Act 2011*. The issue is determining an appropriate balance between duty of care and participation in risky activity. Over-regulation can reduce outdoor recreation and the private and community benefits discussed in Chapter 4.

6 Short term priorities for the Outdoor Recreation sector

This section of our report draws upon the key findings from each of the preceding sections of our report to propose short term advocacy-related priorities for QORF.

6.1.1 Maximising outcomes from interaction with governments

There is strong evidence to indicate that governments recognise the importance of outdoor recreation areas and activities to the community. However, as previously noted, outdoor recreation is just one amongst many competing land uses. The key questions in terms of being able to demonstrate the need for outdoor recreation into the future relate to being able to answer the following:

- Are there any significant restrictions on the availability of outdoor spaces such that the supply of outdoor recreation activities is constrained?
- Is the demand for outdoor recreation activities being satisfied, and if not, where are the areas of most significant unmet demand?
- What are the benefits of outdoor recreation and how can these be quantified?

In our view, it is difficult to answer any of these questions given current information available on the Outdoor Recreation sector in Queensland.

More generally, maximising the profile and awareness of outdoor recreation in relation to government will entail:

- Funding – requires justification of outdoor recreation activities against competing demands for funds;
- Measurable outcomes from the provision of outdoor recreation funding, either in financial or non-financial terms;
- Land use – demonstrated demand in the community for outdoor recreation space, including understanding the type of outdoor spaces required for diverse outdoor recreation activities and experiences.

6.1.2 Key data gaps for Outdoor Recreation sector

We have explored a range of methods to estimate of the economic contribution of the Outdoor Recreation sector in Queensland using official data sources. Estimating economic contribution from public data will considerably understate the contribution of outdoor recreation to the economy. We consider that outdoor recreation in

Queensland contributes at least \$2 billion each year to the State economy and the true contribution is likely to be much higher.

The creation of a set of satellite accounts for the Outdoor Recreation sector is the best way to value the contribution of the sector to the Queensland economy. We recognise this would likely be a difficult, long and costly process. It is an exercise that should be undertaken nationally. However, there appears to be no better alternative.

6.1.3 Understanding outdoor recreation participation trends

The South East Queensland outdoor recreation demand studies provide a very important time series of data on the level and nature of demand for outdoor recreation activities.

However, the large time lapses between the study release dates make its results less useful as the basis for building the Outdoor Recreation sector's profile and as a tool for government land/ water use planning. In addition, more analysis of the drivers of the changes in demand over time is critical, including in the 2007 study to better understand the decrease in demand across activities.

If possible, QORF should attempt to influence the nature of analysis undertaken in relation to the next participation study. Of course, more frequent participation studies would also allow a more dynamic understanding of the Outdoor Recreation sector's participation profile, but we realise funding constraints may preclude this as an option.

6.1.4 Research on benefits of Outdoor Recreation sector

The health benefits of outdoor recreation, measured in terms of avoided health expenditure, are substantial. Moreover, we expect the health benefits of physical activity (including outdoor recreation) to receive significant attention into the future. This issue will provide an important opportunity for the sector in terms of demonstrating its importance to government and the community.

In this regard, it will be important for outdoor recreation service providers to understand the extent to which their services grant physical activity and health outcomes as well as the cost-efficiencies of these services as a form of preventive health. An associated research task would also be for the Outdoor Recreation sector to better understand the amount of physical activity that occurs across different outdoor recreation contexts and how programs, people, promotion, and place influence physical activity levels.

In addition to the quantifiable health benefits, there is a large amount of research indicating the broad range of individual and community health, environmental and

educational benefits of outdoor recreation. This body of research will grow over time and assist to entrench the importance of outdoor recreation to the community.

6.1.5 Medium term challenges for Outdoor Recreation sector

There is little doubt that gaining access to sufficient variety and area of open spaces for outdoor recreation purposes is the biggest challenge for the sector into the future. However, this appears to be more a continuation of current circumstances than anything new.

In our view, there are opportunities for the sector to increase its profile but this will depend on demonstrating its economic significance and the identification of the benefits of outdoor recreation in its many forms, particularly the health benefits. Our views on these latter issues have been noted above.

A QORF's non-exhaustive list of recreation activities

- Abseiling
- Base-jumping
- Cycling: road bikes – touring and road racing and mountain bikes – touring, downhill, mountain, cross-country and trials
- Camping: tent, caravan and campervan
- Caving: including cave diving
- Climbing: rock climbing, canyoning and mountaineering
- Canoeing and kayaking: white water, flat water, surf and sea
- Driving off-road vehicles: touring, racing and challenge courses
- Fishing: line, spear and net
- Gliding: hang gliding and paragliding
- Horse riding: recreational trail riding and endurance competition
- Hunting and shooting: with firearms, spears, bow and arrows
- Riding off-road motorcycle-like vehicles: trail bikes, motocross bikes, trikes, quads, etc– recreational rides, touring, enduro and motocross
- Picnicking
- Power boating: recreational touring, racing and other forms of competition using motor boats, jet skis, etc.
- Sailing: yachts, sailboards, kite boards and any other wind-powered vessels
- SCUBA diving and snorkelling
- Surfing: surfing, boogie boarding, stand up paddling, wave skiing and surf skiing
- Swimming: body surfing, swimming in rivers, creeks, waterholes and the sea
- Walking: walking, running, orienteering, rogaining and bushwalking
- Water-skiing: skiing, tobogganing, wake-boarding and para-sailing