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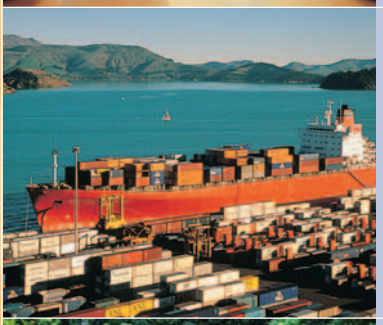
The Economic and Social Value of Sport and Recreation to New Zealand



Paul Dalziel

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The Economic and Social Value of Sport and Recreation to New Zealand

Paul Dalziel

September 2011

Research Report No. 322

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Foreword

I am pleased to present this report on the *Economic and Social Value of Sport in New Zealand* by Professor Paul Dalziel, Professor of Economics at the AERU Research Unit at Lincoln University.

The work delivers on a commitment in SPARC's 2009-2015 Strategic Plan to investigate and measure the value sport and recreation brings to the nation, in terms of economic benefits, health savings and social and cultural gains.

This new work has good foundations. It builds on and extends earlier work for SPARC's predecessor, the Hillary Commission, by BERL (Business and Economic Research Ltd) and incorporates preliminary work for SPARC by NZIER. It also draws on and extends international studies. I thank Professor Dalziel for the considerable time and effort that has gone into this study.

Professor Dalziel's work shows that the sector is much larger and its contribution to GDP (Gross Domestic Product) substantially greater than previous studies have shown. The market value of sport and recreation to the New Zealand economy in 2008/09 is estimated to be **$5.2 billion, or 2.8 per cent of GDP**. This puts the sector on a par with the dairy industry's contribution to the New Zealand economy.[1]

The estimate of market value tells only part of the story. This new study shows that sport and active recreation result in gains in productivity and health benefits valued at $1.0 billion. Putting a dollar value on the personal benefits of participating in sport and recreation adds a further $6 billion dollars, bringing Professor Dalziel's overall estimate of the value of the sector to New Zealanders to $12.2 billion.

The study also estimates that the tax revenue from the sector is two and half times that of government expenditure. This represents an excellent return on the government's investment.

These are impressive figures and will provide sport and recreation organisations, local councils, commercial enterprises and government agencies with the hard facts they need to make sound investment decisions and leverage more resources. The results also will allow the sector to demonstrate how sport and recreation can help generate jobs, income, exports and sustainable local economies, as well as contributing to New Zealand's international profile.

SPARC knows that sport and recreation is not just about economic benefits and a companion report – *Value of Sport and Recreation: Case Study of Northern United Rugby Football Club*[2] – illustrates some of the personal and social values for individuals, families and communities from taking part in sport.

Peter Miskimmin
Chief Executive
SPARC

[1] A 2010 study by NZIER estimated that the dairy sector accounts for 2.8% of GDP, or $5 billion.
[2] This study was by Research New Zealand and the report is on SPARC's web site.

Key Messages

Sport and recreation activities are highly valued by New Zealanders

- There are more than 15,000 sports and recreation clubs in New Zealand.
- These are supported by approximately 776,000 volunteers.

Sport and recreation industries provide employment for New Zealanders

- The 2006 Census recorded 36,831 people employed in the sector.
- This is larger than the house construction sector (36,093 people).

Sport and recreation industries contribute to the New Zealand economy

- The value-added contribution of the sport and recreation sector (narrowly defined) to GDP in 2008/09 is estimated to have been $3.8 billion, or 2.1 per cent.
- This is larger than the accommodation, restaurants and bars sector ($3.6 billion).

Sport and recreation occupations provide income to New Zealanders

- The 2006 Census recorded 25,251 people in sport and recreations occupations.
- The total annual personal income for people in the sport and recreation occupations in 2006 is estimated to have been $875 million (measured in 2009 values).

Sport and recreation education is important in New Zealand schools

- Just over five per cent of *The National Curriculum* is related to sport and recreation.
- This same share of teacher salaries in 2008/09 would account for $172 million.

Sport and recreation facilities are a large investment by New Zealand local governments

- In 2008/09, Councils spent $345 million on new sport and recreation facilities.
- This represents value added in the construction sector that year of $100 million.

Sport and recreation volunteers contribute valuable services to New Zealanders

- Volunteers contributed 51.3 million hours to sport and recreation in 2007/08.
- The estimated market value of the volunteered services is $728 million (2009 values).

Sport and recreation provide additional social benefits to New Zealand

- Increased work productivity and better health outcomes, net of the costs of serious sport and recreation accidents, produced social benefits of $1.0 billion in 2009.
- Direct benefits enjoyed by participants are estimated to be a further $5.9 billion.

Sport and recreation activities are an important part of New Zealand's tax base

- The contribution of the sport and recreation sector (broadly defined) to GDP in 2008/09 is estimated to have been $4.5 billion, or 2.4 per cent.
- This is estimated to have generated tax revenue of $1.3 billion.

Sport and recreation comprise an important economic sector in New Zealand

- The full contribution of sport and recreation to GDP (including volunteered services) in 2008/09 is estimated to have been more than $5.2 billion, or 2.8 per cent.
- This is as large as a recent estimate of the contribution made by the dairy sector.

Key Facts and Estimates

The study has produced four major headline results, all of which have been conservatively estimated:

- *The contribution of the sport and recreation sector (narrowly defined) to GDP in 2008/09 is estimated to have been $3.8 billion, or 2.1 per cent.*
- *The contribution of the sport and recreation sector (broadly defined) to GDP in 2008/09 is estimated to have been $4.5 billion, or 2.4 per cent.*
- *The contribution of sport and recreation to GDP including volunteered services in 2008/09 is estimated to have been $5.2 billion, or 2.8 per cent.*
- *The total value of sport and recreation to New Zealanders in 2008/09 is estimated to have been at least $12.2 billion when the opportunity cost of time is included.*

Each chapter in the main body of the report has produced its own set of key facts and estimates. These are reproduced here under their chapter headings that make up 'the six Ps of valuing sport and recreation'.

Chapter 2: Participation in Sport and Recreation in New Zealand

- 92 per cent of young people surveyed by the Sport and Physical Activity Surveys in 1997, 1998 and 2000 had taken part in one or more sports or physical activities during the previous two weeks.
- 51 per cent of secondary school students were recorded in the NZSSSC census as having a meaningful involvement with a school sports programme in 2010.
- Young people reported in the 2008/09 National Survey of Children and Young People's Physical Activity and Dietary Behaviours that they spent on average 29 minutes per day (203 minutes per week) in organised sport.
- 96 per cent of adults reported in the 2007/08 Active New Zealand survey that they had taken part in one or more sport and recreation activities over the previous 12 months. If walking and gardening are excluded, the percentage is still at 83 per cent.
- Adults reported in the 2007/08 Active New Zealand survey that they spent on average 149 minutes per week on sport and recreation activities.
- 25 per cent of adults reported in the 2007/08 Active New Zealand survey that they had volunteered their time for one or more sport and recreation activities.
- Analysis for SPARC estimates that over the course of a full year, volunteers contribute 51.3 million hours to sport and recreation.

Chapter 3: Professionals and Volunteers in the Sport and Recreation Sector

- As at 11 February 2011, 522 individuals from 16 sports were 'carded' by the New Zealand Academy of Sport in recognition of their ability/potential to deliver against the SPARC High Performance mission.
- The 2006 Census recorded 48,363 people (2.6 per cent of those in employment) reporting that they worked in a sport and recreation occupation or in a sport and recreation industry (or both).
- The total income earned in 2005/06 by people in sport and recreation occupations is estimated to have been $792.6 million (equivalent to $875 million in 2008/09 values), which implies an average annual income in those occupations that year of $31,391.
- The market value of volunteered services to the New Zealand sport and recreation sector in 2007/08 was $704 million, or $728 million in 2008/09 values.

Chapter 4: Producers of Sport and Recreation Goods and Services

- **The value-added contribution of the sport and recreation sector (narrowly defined) to GDP in 2008/09 is estimated to have been $3.8 billion, or 2.1 per cent.**
- Total revenue generated by enterprises in selected sports and recreation categories in 2008 is estimated to have been $4.7 billion, 22.3 per cent of which came from sports and physical recreation venues, grounds and facilities operation.
- Total spending by households on selected sports and recreation categories in 2006/07 is estimated to have been $1.3 billion, or 1.6 per cent of total expenditure.
- Based on six categories of commodity exports and imports clearly related to sport and recreation, in 2010 the sector's exports are estimated to have been $451.4 million and its imports are estimated to have been $446.6 million.

Chapter 5: Providers of Sport and Recreation Infrastructure

- **The contribution of the sport and recreation sector (broadly defined) to GDP in 2008/09 is estimated to have been $4.5 billion, or 2.4 per cent.**
- **The contribution of sport and recreation to GDP including volunteered services in 2008/09 is estimated to have been $5.2 billion, or 2.8 per cent.**
- Just over five per cent of the topics in New Zealand's National Curriculum for schools clearly involve sport and recreation education.
- 35 per cent of secondary school teachers were recorded as being involved with school sport in 2010.
- Central government's spending on sport and recreation in the 2009/10 fiscal year was budgeted to be $483.1 million.
- Local government fixed assets for sport and recreation in the 2008/09 financial year are estimated to have been valued at $7.0 billion.

- Statistics New Zealand recorded 14,910 sports non-profit institutions as at October 2005, only 9.3 per cent of which employed any paid staff.

Chapter 6: Promotion of Sport and Recreation to Spectators and Supporters

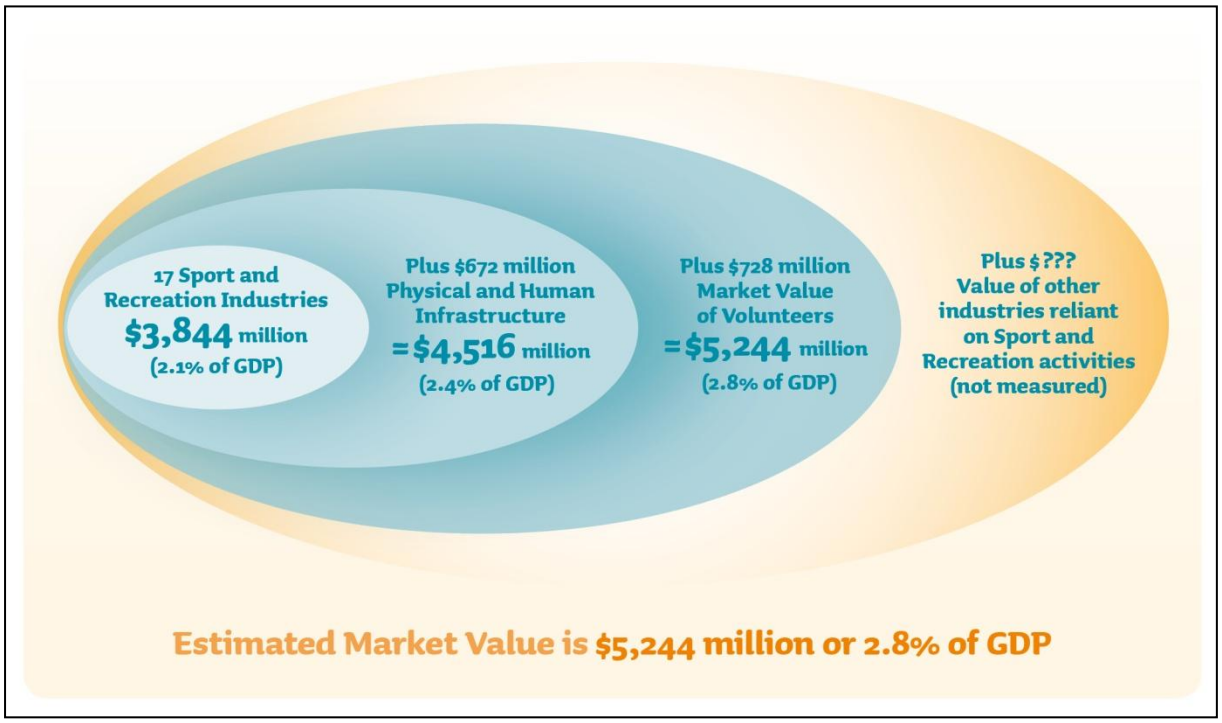
- Rugby, netball and tennis television broadcast programmes all had an average daily reach of around 200,000 people in 2009/10.
- A recent survey suggests that one in ten New Zealanders attend a sporting event in a week, with rugby union being the most popular spectator sport.
- Another survey estimated that New Zealanders buy almost 2 million tickets for sports events at an average price of $31 per ticket.
- As one example, Westpac Stadium in Wellington hosted 32 sports events involving a total of 482,901 spectators in the 2009/10 financial year; independent analysis estimates that it has provided on average an economic benefit of $48.4 million and 673 full-time equivalent jobs to the Wellington region.
- 85 per cent of international visitors whose main purpose was holiday/vacation in 2009 said that they had gone walking and trekking during their visit; 47 per cent said their visit had included boating.
- A Covec study by Vuletich and Trent (2009) identified 664 sports and recreation events in Auckland in 2008, involving an estimated 1,492,000 people.
- New Zealand's international profile as a great place for sport and recreation is explicitly used by fashion clothing export enterprises to market their products.

Chapter 7: Personal Net Benefits from Participation in Sport and Recreation

- Taking into account the number of New Zealand adults who meet physical activity guidelines through participation in sport and recreation, the gross personal benefits as a result of increased work productivity and improved health outcomes are estimated to have been $4.2 billion in 2009.
- Taking into account the economic costs from premature deaths and serious injuries incurred while involved in sport and recreation activities (estimated to have been $3.2 billion), the net personal benefits are estimated to have been $1.0 billion in 2009.
- The total number of hours New Zealand adults spent participating in sport and recreation in 2008/09, including watching young people in organised sport and acting as volunteers, is estimated to have been 544.9 million hours.
- **Using the statutory minimum wage to value conservatively the opportunity cost of time spent in sport and recreation activities, a broader estimate of the net personal benefits to New Zealanders from sport and recreation in 2008/09 is $6.9 billion.**

Figures 5.6 and 7.4 in the report provide a visual image of the report's four major headline results. These two figures are reproduced on the next two pages.

Figure A: Estimated Market Value of Sport and Recreation in New Zealand, 2008/09



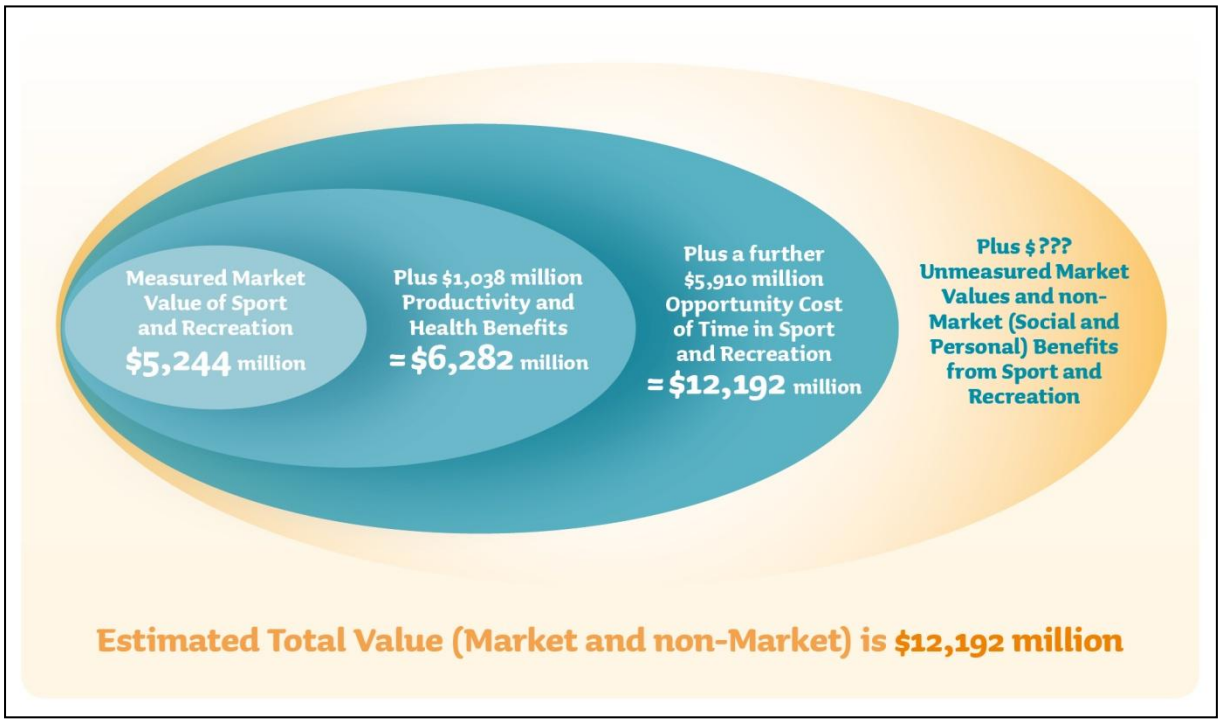
1. The report has identified 17 industries that produce goods and services necessary to perform sport and recreation (see Table 3.2). The first oval shows the contribution of these industries to GDP in 2008/09. This is a narrow definition of the sport and recreation sector; see Chapter 4.

2. The second oval includes an additional $672 million from: (i) incomes of people working in sport and recreation occupations outside of the 17 industries; (ii) investment by central government in sport and recreation education in schools; and (iii) local government expenditure on new sport and recreation facilities. This captures some aspects of a broader definition of the sector; see Chapter 5.

3. The third oval takes into account the market value of volunteered services. The additional $728 million comes from assigning a volunteer wage rate of $14.19 per hour to the 51.3 million hours volunteers spent supporting sport and recreation over a year; again see Chapter 5.

4. The estimates in the first three ovals are conservative because they do not all include everything the sport and recreation sector contributes to the economy. Data are not available, for example, for dependent sectors such as recreation-related tourism and broadcasting. This is reflected in the final, undefined, oval.

Figure B: Estimated Total Value of Sport and Recreation in New Zealand, 2008/09



1. The first oval shows the contribution of sport and recreation to GDP in 2008/09, extended to include volunteered services. This is the same as the third oval in the previous diagram.

2. The second oval includes an additional $1,038 million. This comes from estimating a dollar value from increased work productivity and improved health outcomes of physically active people, net of the negative impacts of premature accidental deaths and serious sport and recreation injuries; see Chapter 7.

3. The third oval takes an alternative measure of net benefits, based on estimating the opportunity cost of time spent participating in sport and recreation activities (including acting as a volunteer or watching young people play organised sport). This is a new approach that uses the statutory minimum wage to value this time. It produces an additional $5,910 million of net personal benefits; again see Chapter 7.

4. As in the previous diagram, these first three ovals do not all include everything the sport and recreation sector contributes to the economy, which is reflected in the final, undefined, oval.

Glossary of Terms and Abbreviations

Term	Definition
ACC	Accident Compensation Corporation, which provides comprehensive, no-fault personal injury cover for all New Zealand residents and visitors to New Zealand (including for sport and recreation injuries).
Active leisure	The term used to describe sport and recreation activities in surveys undertaken for the Hillary Commission before 2003).
AES	Annual Enterprise Survey, conducted by Statistics New Zealand.
ANZSCO	Australian and New Zealand Standard Classification of Occupations.
ANZSIC06	Australian and New Zealand Standard Industrial Classification 2006.
Carded athletes	Sportspeople in New Zealand who are eligible for an allocation of funding and services in support for high performance sport.
Depreciation	The decrease in an asset's value over time; for example, as a result of wear and tear through use.
DOC	Department of Conservation, responsible for administering about 30 per cent of New Zealand's total land area.
Economic impact	A measure of net financial benefits produced in a region as a result of some event (for example, hosting a large sporting event).
Employment ratio	The share of employment in an industrial sector that is accounted for by a sub-section of the sector.
Externality	The impact of an economic activity on people who are not directly involved in the activity (for example, being physically active through recreation reduces some health costs that otherwise the government would have to pay).
Full-time equivalent employment	The number of employees working at least 30 hours per week (including those who are self-employed) plus one half of the number of employees working part-time (less than 30 hours per week).
GDP	Gross Domestic Product, a measure of the market value of all the goods and services newly produced in an economy during a period of time.
HES	Household Economic Survey, conducted by Statistics New Zealand every three years.

IVS	International Visitor Survey, a sample survey of approximately 5,200 international visitors to New Zealand aged 15 years or older per year.
Kiwisport	A government initiative launched in August 2009 to increase support for children playing sport in primary and secondary schools.
LAC	Local Authority Census, conducted annually by Statistics New Zealand.
LCI	Labour Cost Index, calculated by Statistics New Zealand using survey data every three months.
Local government	Regional, city or district councils operating in New Zealand under the Local Government Act 2002.
Loss of quality of life	An estimate of the monetary value of pain and suffering experienced by a person as a result of a serious accident.
Market value of volunteered services	The cost that a recipient would pay if they purchased volunteered services at their market price. Statistics New Zealand estimated a value of $12.15 per hour for volunteered services as at March 2004.
Multiplier analysis	Some studies argue that the size of a sector has a multiplied impact on the economy because it stimulates demand in other sectors; this approach is controversial and has not been adopted in this report.
Non-market benefits	The benefits enjoyed by individuals for which they have not had to pay a market price (for example, the benefits enjoyed by a family from a day spent in a national or regional park).
Non-profit sector	Institutions that provide goods and services or transfers to households and the community, that are not profit-oriented, and are operating both voluntarily and independently of government.
NZSSSC	New Zealand Secondary Schools Sports Council.
Opportunity cost of time	The benefits that a person would have enjoyed if he or she had spent his time engaged in their next most valued activity.
Physically Active	A person is physically active if they meet the guideline of participating in at least 30 minutes of moderate-intensity activity on most, if not all, days of the week.
Revealed preference	A technique used to estimate the value people place on a non-market activity, based on what their behaviour reveals about their preferences.
SNA	System of National Accounts, a framework for measuring economic activity in a country using internationally agreed standards supervised by the United Nations.

SPARC	Sport and Recreation New Zealand, a Crown agency set up to promote, encourage and support physical recreation and sport in New Zealand.
Sport and recreation employment	People whose principal occupation recorded in the 2006 Census was either in one of 17 sport and recreation industries (Table 3.2) or in one of 42 sport and recreation occupations (Table 3.4) or both.
Sport and recreation infrastructure	Core assets (such as parks, sports grounds, stadiums, gymnasiums and swimming pools) and core people (such as qualified school teachers, administrators and officials) necessary for sport and recreation as a sector to flourish.
Sport and recreation sector (broadly defined)	Based on European standards for SSAs, the broad definition includes industries for which sport and recreation are important inputs for their production processes (for example, television broadcasting). This report has been able to measure some components of this broad definition.
Sport and recreation sector (narrowly defined)	Based on European standards for SSAs, the narrow definition focuses on industries producing goods and services necessary to perform sport and recreation. In this report, the narrowly defined sector is comprised of 17 industries providing sport and recreation goods and services, as listed in Table 3.2 or Table 4.2.
SSA	Sport Satellite Account, an extension to a country's System of National Accounts to measure the economic importance of the sports sector.
Value added	The value of a sector's production minus the value of all intermediate goods used in production and supplied by other sectors of the economy.
Value of Statistical Life	An economic measure of the cost of a premature death, based on the amount of income New Zealand residents are willing to forego to reduce road risk by one more premature death.
Volunteered services	Work performed without pay for the benefit of other people (for example, acting as an unpaid secretary of a sports club).
Work productivity	A measure of the value of the output produced in an enterprise per hour of work.

Chapter 1
Introduction

Consider a typical weekend in New Zealand. Before dawn, sleepers in Department of Conservation huts wake up and prepare for a day of tramping, climbing or hunting. In towns and cities, rowers begin arriving at smooth stretches of water to prepare for training or racing, and swimmers begin their early morning schedule of conditioning work. Throughout the country, cyclists and runners eat a carefully considered breakfast before setting out on their week's long distance exercise.

As the morning progresses, playing fields, stadiums and gymnasiums up and down the country are filled by tens of thousands of young people engaged in sport competitions, spurred on by large numbers of parents and siblings supporting them on the sidelines. At different times of the year, some of these young people are picked for representative teams that travel to participate in national tournaments.

As morning turns into afternoon, sport and recreation involving adult participants become more common. The recreation includes a wide-range of water based activity on rivers or lakes, in harbours or at the beach, or in public or private swimming pools. It also includes families travelling to regional parks for bike trails or walking tracks. The sport includes a wide range of social competitions, but also top-grade contests for which the participants (including the contest officials) have trained seriously during the week. After these events, club rooms everywhere provide opportunities for members to socialise and talk about what they have done or watched.

Sport and recreation activities continue into the evening. It is a rare Saturday, for example, when there is no night-time horse or dog racing. National competitions involving team franchises or provincial representative teams often include evening events to increase the size of the television audience. These national competitions are typically organised by professional sports administrators and many of the participants receive at least some financial reward. All day, however, thousands of people are involved as volunteers, helping participants of all ages get the most from their activities.

In some parts of the country, local professional or volunteer organisers may have arranged a special event or tournament that attracts hundreds of visitors as participants or spectators. This includes fun runs, marathons, road cycle races, yachting or rowing regattas, masters sporting tournaments, annual regional or national championships, and the like.

The weekend will typically include one or more sports events involving individuals or teams selected to represent New Zealand. For some contests, the media will have been in a frenzy for days, reporting on individual form and making predictions about the outcome. The event may be watched by an audience of hundreds of thousands of New Zealanders, and will be the subject of much debate afterwards. Overnight and for the rest of the week, broadcasters and journalists will prepare and publish commentary eagerly consumed by supporters.

1.1 Measuring the value of sport and recreation

The examples in the previous paragraphs illustrate the vast range of sport and recreation events that attract New Zealanders every week as participants, administrators, supporters and spectators. There are more than 15,000 sports and recreation clubs at a local level in New Zealand, supported by approximately 776,000 volunteers. It is clear that sport and recreation are highly valued in New Zealand, indicated by the time and financial resources that individuals and communities devote to activities related to sport and recreation.

The size of New Zealand's investment in providing sport and recreation opportunities, both organised and non-organised, is significant. Thirty per cent of New Zealand's land area, for example, is managed by the Department of Conservation 'for conservation, scientific and recreational purposes'. Local governments invest billions of dollars in providing indoor and outdoor sporting facilities that aim to cater for everyone, from youngsters first learning to chase after a ball to professional athletes competing in front of a television audience of millions. Community clubs and private businesses complement these public facilities by providing their own goods and services to New Zealanders engaged in sport and recreation.

There are a number of public programmes that aim to support participation in sport and recreation. In August 2009, for example, the Government launched its Kiwisport initiative to increase its support for children playing sport in primary and secondary schools. This programme is implemented through a partnership between the Ministry of Education and SPARC (Sport and Recreation New Zealand). SPARC is a Crown agency set up to "promote, encourage and support physical recreation and sport in New Zealand". It has 14 statutory functions which it performs by working in partnership with a large number of national, regional and local sport and recreation organisations.

Given this high level of public and private investment, it is important that stakeholders have some shared understanding of the benefits, and the value of those benefits, that are produced by people's participation in sport and recreation. Consequently, **the purpose of this report** is to work towards achieving a shared understanding by:

- presenting a comprehensive framework for measuring the net benefits produced from sport and recreation in New Zealand; and
- offering estimates of the value of these benefits where relevant data are available.

1.2 Previous New Zealand research on valuing benefits

The first investigation of the economic significance of sport and recreation in New Zealand was sponsored in 1993 by the Hillary Commission (the agency responsible for government promotion of participation in sport and physical activity before SPARC was established in 2003). The report was the joint product of BERL, the Business Research Centre and the LINZ Activity and Health Research Unit of the University of Otago, authored by Benedikte Jensen, Charles Sullivan, Noela Wilson, Margaret Berkely and David Russell (Jensen *et al*, 1993). The research included some quantitative estimates measuring the value of what was then called the physical leisure sector.

- In 1991 the physical leisure sector, conservatively estimated, provided a direct contribution to New Zealand's GDP of $831 million, which represented 1.2 per cent of GDP.
- In 1991 the estimated monetary equivalent of the work by volunteers with sports and youth groups was $196 million, which was larger than the contribution of the market and non-profit physical leisure service sectors' combined contributions of $179 million.
- In 1991, spending on physical leisure goods and services represented 2.1 per cent of total household expenditure in New Zealand.
- In the 1990/91 financial year, the government spent approximately $489 million on physical leisure, most of which ($302 million) was by local councils.
- In 1991 there were approximately 14,530 people employed on a full-time equivalent basis in the physical leisure industry, which represented a small increase from 1.07 per cent of the New Zealand workforce in 1987 to 1.11 per cent in 1991.
- If the 31 per cent of New Zealanders who reported they were active for less than three hours a day could be reduced to 21 per cent, the estimated potential saving to the economy from people enjoying better health would be $48 million per year.

The report suggested that 'physical leisure has major benefits to the physical and mental health of the general population, particular benefits for many people with disabilities, appears useful as a part of programmes to reduce crime, and can even help in developing an appropriate New Zealand image in export markets' (Jensen *et al*, 1993, p. 5) without being able to measure the size of these influences.

The Hillary Commission published two subsequent research reports from BERL to update the economic analysis (Frater *et al*, 1998, and Goodchild *et al*, 2000). These reports concentrated on estimating the size of New Zealand's sport and recreation industry, although they also recognised the value of volunteer contributions and the health benefits that individuals can gain from active participation. Some of the key findings from the BERL research were (Goodchild *et al*, 2000, p. 1):

- In 1999 real gross output from the sector was $1,973 million, and had grown by 2.5 per cent per annum since 1996.
- In 1999 real value added (that is, the contribution to the country's GDP) was $886 million, representing an increase of 0.4 per cent per annum since 1996.
- In 1999 nominal household expenditure on physical leisure goods and services accounted for $961 million.
- In 1999 there were 22,489 full-time equivalent jobs in industries directly related to physical leisure activities, which represented a growth rate of 2.6 per cent per annum since 1996 (compared with the national average of 1.2 per cent per annum).

At the same time, the Hillary Commission produced an update from the Business Research Centre on the social impact of physical leisure (Sullivan, 1998). This report focused on three areas: social cohesion; youth at risk; and sport and the nation. It offered some New Zealand and overseas case studies to illustrate how physical leisure can be *part* of successful efforts

to build social cohesion, to provide support for youth at risk and to raise the country's international profile.

Sullivan's (1998) report finished with a short section on 'events tourism', noting that a high proportion of events designed to attract visitors to a region or country are focussed on physical leisure. It cited Wellington's 'Eventful Capital' promotion as an example. In 2007 SPARC commissioned the New Zealand Tourism Research Institute to produce an annotated bibliography on the likely impacts of major sports events for a host community or country. Based on its review of the international literature, the report's conclusions on the economic benefits were generally sceptical (NZTRI, 2007, pp. 31-32):

- The majority of evidence arguing that events do have a significant economic impact are likely to be premised on methodologically deficient studies. There is a need to be sceptical of reports commissioned or authored by those standing to benefit from an event, if the substantial economic impacts/benefits are predicted. …
- There is increasing scepticism in media (and therefore the general public) and academic circles of the ability for mega-events to provide economic impacts/benefits. Efforts to justify support for an event for economic reasons alone is not encouraged. There are winners and losers from mega events; not all stakeholders share equally in the distribution of an event's costs and benefits. …
- Economic impacts are maximised when government, event organisers and the private sector interact effectively. A 'build it and they will come' will not be the most effective strategy.
- Sporting events have the potential to build the brand of their host destination, but they must be strategically incorporated into a destination's overall marketing plan.

More recently, SPARC's strategic planning includes adopting a strong leadership role in investigating and demonstrating the value of sport and recreation to New Zealanders (SPARC, 2009, p. 14):

> We will work across central government, local government, sport and recreation organisations, funding bodies and other potential stakeholders to better access and leverage investment opportunities.
>
> Key to this will be investigating and measuring what value sport and recreation provides to the nation, in terms of economic benefits, health savings, social and cultural gains. We will use sound evidence to help us demonstrate value and will share this evidence with our partners, to assist them in leveraging more resource.

Consistent with this role, SPARC commissioned three further research projects in 2010. The first was a case study of the role played by a sports club (Northern United Rugby Football Club – Norths) in its local community, prepared by Research New Zealand (Research New Zealand, 2010). The case study's focus was on the value that the club has to its members and their families, as well as to others in the wider community. The study's summary identified nine themes: Wellbeing and youth development; Proud yet humble; Mentors; Dedication and commitment; Winning and success; Career aspirations; Loyalty to the club legacy; Family time; and Norths a community.

The second project was a comprehensive stocktake of research on outdoor recreation by Kay Booth and Pip Lynch (Booth and Lynch, 2010). It included a chapter on the positive benefits of outdoor recreation (Chapter 18), which quoted Kaval and Yao's (2007) conclusion that non-market benefits from outdoor recreation are over $5 billion annually, exceeding market benefits of approximately $4 billion. The chapter also cited what were described as exemplary studies of Project K's youth development programme. These studies found that participants improved their general well-being, family cohesion, self-confidence, self-esteem, self-efficacy, and peer relationships, with some effects enduring for several months beyond the programme and being more marked for some participant groups than others.

The third project was some preliminary economic analysis for SPARC by NZIER. On the basis of that preliminary work, SPARC commissioned further technical analysis by AERU at Lincoln University on the economic and social value of sport and recreation to New Zealand. This present report presents results from the analysis performed by NZIER and AERU.

1.3 International research on valuing benefits

There has been considerable work internationally to measure the value of benefits from participation in sport and recreation and to estimate the size of the sector's contribution to gross domestic product. This section does not attempt to summarise all of this literature, but offers examples of some recent major documents that have been particularly influential in the preparation of this report.

In Europe some progress has been made on agreed methods and standards for creating Sport Satellite Accounts (SSA) in member countries of the European Union (Gratton, 2009; SIRC, 2010; MSE and SpEA, 2010). An SSA uses a country's System of National Accounts to construct "a robust statistical framework to measure the economic importance of a specific industry (here: the sports sector) in the national economy" (MSE and SpEA, 2010, p. 2; see Gratton and Taylor, 2002, Chapter 2 for an explanation and justification of this approach).[1] It is generally recognised that the implementation of SSAs is a costly and time-consuming project (idem, p. 1), so there are no current plans to introduce an SSA for New Zealand. Nevertheless, the approach of the European project is useful for the way in which it recognises two definitions of the sector. The narrow definition aims to encompass all industries which produce goods and services that are necessary to perform sport, while the broad definition aims to also include relevant parts of the industries for which sport is an important input for their production processes (for example, television broadcasting). As much as possible, this report has aimed to adopt the broad approach to defining sport and recreation, and has sought to produce estimates that are consistent with New Zealand's System of National Accounts.

An overseas example of a similar approach is provided by a report prepared for Sport England by the Sport Industry Research Centre at Sheffield Hallam University (SIRC, 2007).

[1] Statistics New Zealand, for example, produces a *Tourism Satellite Account* to provide a picture of the role tourism plays in New Zealand; see www.stats.govt.nz/browse_for_stats/industry_sectors/tourism/tourism-satellite-account-2010.aspx. A Sports Satellite Account would be produced on similar principles.

The report aimed to measure the economic importance of sport in London, using official statistics data (apart from some primary data collection on volunteer contributions) within a national income accounting framework. The SIRC report identified seven sectors: consumers; commercial sport; commercial non-sport (such as a beer company sponsoring a football club); local government; central government; and sectors outside London. This present report has not been able to replicate that level of detail, but it has sought to follow its example in using national income accounting principles in a consistent manner.

In November 2009, Frontier Economics published a report prepared for the Australian Sport Commission on the economic contribution of sport to Australia. The report did not attempt to estimate the total contribution, but focussed on identifying the *extra* social benefits that are created by participation in sport but not received directly by the participants themselves. In the language of economics, such benefits are called 'externalities' and represent a major justification for government investment in programmes that encourage greater participation in sport and recreation. Frontier Economics (2009, p. v) therefore focused on investigating two propositions:

- Sport activities that are conducted at a community level contribute to well being through impacts on health, social cohesion and socialisation.

- Elite sport activities contribute to well being because of the value Australians attach to international sporting success.

The report was able to provide an estimate of the health benefits, stating: "Existing research suggests that gross healthcare savings of about $1.49 billion per year would be possible through increased physical activity; and that productivity gains could be about 1 per cent of GDP per year (around $12 billion in 2008-09)" (Frontier Economics, 2009, p. vi, measured in Australian dollars). The approach taken in Australia to produce these figures has been influential in the approach taken in this report to produce New Zealand estimates.

The Frontier Economics Report was not able to quantify the impacts on social cohesion and socialisation. This is a universal issue. A report produced by Elizabeth Mulholland (2008) for the Canadian Centre for Ethics and Sport surveyed the international literature to produce a comprehensive account of how sport and recreation *might* contribute to giving children a healthy start in life and to building stronger and more inclusive communities. A report by Sport England (2004) provided some evidence, relying on case studies with positive associations between sport-based initiatives and improved personal or social outcomes. This present report considers the channels described by these two reports.

An important contribution to this question has been a review published by the Government of Western Australia's Department of Sport and Recreation (Martin, 2010), which presents empirical studies of the association between children's physical activity participation and academic achievement, and finds that 'the large majority of university-based, internationally published research in this field has found a positive association' (Martin, 2010, p. 3). In particular, Martin reports with references to the original studies that (idem):

> Correlation studies, which explored the relationship between either physical activity or fitness and academic achievement retrospectively or prospectively, have found:

- physical activity was a significant, positive predictor of academic achievement. Body mass index, diet and physical activity explained up to 24% of the variance in academic achievement after controlling for gender, parental education, family structure and absenteeism;
- there was a significant, positive link between physical activity participation and academic performance;
- higher physical fitness, physical capacity and physical activity were associated with higher school ratings of scholastic ability;
- students who reported a greater level of exercise spent more time in sport and achieved higher grade point averages; and
- greater physical activity level was associated with positive achievement orientation.

The Conference Board of Canada adopted a different approach to this question, which was to commission a Sport Participation Impact Analysis Household Survey (see Bloom *et al*, 2005). This was a questionnaire-based representative national telephone survey of Canadian adults (aged 16 years or older) about their own and their household's participation in sport, and its impact on them and their household. The study was able to collate perceptions on the benefits of sport and to analyse differences in responses between people who reported high sport participation and people who reported low sport participation. The study found, for example, that (Bloom *et al*, 2005, p. 42):

> Overall, survey respondents see a strong net positive social impact of sport participation. They feel strongly that sport brings families together and encourages people to interact in the broader community and beyond, often with people of different social backgrounds, even though they do not see it as breaking down economic barriers.

Many of the international reports considered for this report focus primarily on sport. An exception is a report produced by the Outdoor Industry Foundation (2006) in the United States, which estimates that the contribution to the U.S. economy of the active outdoor recreation economy is in the order of US$730 billion per annum. The report identifies eight major outdoor recreation activities: bicycling; camping; fishing; hunting; paddling; snow sports; trail; and wildlife viewing. It measures the retail sales associated with active outdoor recreation trips (such as hospitality and transport) and with purchases of outdoor recreation gear (apparel, footwear, equipment, accessories and services). It then calculates the multiplier or ripple effect of these retail sales through the rest of the economy. This report does not adopt a multiplier analysis for estimating its results, but does point to the ripple effects that can arise from activity in a particular sector.

Access Economics produced a report in 2010 for ACT Sport and Recreation Service on the economic contribution of sport and recreation in the Australian Capital Territory (ACT). This report identified four key elements making up the total economic contribution: 'the direct contribution of sport and recreation organisations; the contribution from retail spending on sporting equipment; the preventative health benefits provided by physical activity; and the benefits of sports-related tourism' (Access Economics, 2010, p. iii). Aggregating these key elements, the report produced a total estimate of $245.2 million in 2008-09. This approach of identifying key elements is also the approach taken in this present report, although it

adopts a more comprehensive classification system as explained below in the final section of this introductory chapter.

1.4 Structure of this report

This report is structured around six Ps of valuing sport and recreation.

- Participation in Sport and Recreation
- Professionals and Volunteers in Sport and Recreation
- Producers of Sport and Recreation Goods and Services
- Providers of Sport and Recreation Infrastructure
- Promotion of Sport and Recreation to Supporters and Spectators
- Personal Net Benefits from Sport and Recreation

Thus, Chapter 2 begins the analysis with data collected by SPARC and others on the level of participation by New Zealanders in sport and recreation. This chapter pays attention to young people (including in school environments) as well as adults, and to the contributions of volunteers in assisting others to participate in sport and recreation. It draws on two recent surveys to present information on the proportion of the population involved in sport and recreation activities, as well as the average time spent on these activities.

Chapter 3 develops the themes of Chapter 2 by providing further analysis of people who earn income through sport and recreation and offering an estimate of the market value of the contributions of volunteers. The professionals include a relatively small group of paid athletes, but also administrators, officials, coaches, instructors, outdoor recreation guides, team managers and providers of specialist services such as physiotherapy. The Chapter is able to draw on Census data to provide estimates of the average incomes earned in different sport and recreation occupations. It is also able to estimate that the total value to the sector of volunteer services in 2007/08, measured in 2009 values, was $728 million over twelve months.

Chapter 4 considers the contribution of producers of sport and recreation goods and services to the national economy. The chapter is comprised of four sectors. Section 4.1 uses employment data from Chapter 3 and gross domestic product (GDP) industry data from Statistics New Zealand to estimate that the sport and recreation sector is about 2.1 per cent of GDP. This is a much larger estimate than the figure of 1.2 per cent produced by Jensen *et al*. (1993) for the Hillary Commission. That analysis is supplemented in Sections 4.2 and 4.3 with data drawn from the Annual Enterprise Survey and the Household Economic Survey. These data do not form part of this report's estimate of the value of sport and recreation (to avoid double-counting) but they do offer other insights on the importance of the sport and recreation sector for business revenue and for household spending respectively. Section 4.4 is a brief commentary on exports and imports related to the sport and recreation sector.

Using the terminology of the sport satellite accounts in the European Union, the analysis in Chapter 4 is based on a *narrow* definition of the sport and recreation sector. Chapters 5 and 6 seek to broaden that definition to include other industries that are highly relevant to sport and recreation. Chapter 5 analyses the provision of infrastructure (physical and human) by central government, regional councils, district councils, city councils, private enterprise and

clubs. It records the capital value of public sector investments and discusses sources of funding for sporting organisations in New Zealand; in particular, the New Zealand Lottery Grants Board, gaming trusts and societies, and sponsorship. It focuses on three important examples of economic activity not included in the analysis of Chapter 4: the incomes of people employed in sport and recreation occupations outside the sport and recreation sector; investment by central government in sport and recreation components of *The National Curriculum* in primary and secondary schools; and investment by local government in new sport and recreation facilities. Including these items in the analysis of Chapter 3 brings the size of the sector up to 2.4 per cent of GDP. If the market value of the contributions of volunteers is also incorporated, the size is increased to 2.8 per cent.

Chapter 6 pays attention to the large body of economic activity associated with promoting sport and recreation to spectators and supporters. This includes revenue from: admission fees paid by spectators at sport and recreation events; broadcasting events, either on subscription TV or free-to-air services; media reporting of sports and recreation events; purchases of specialist books and magazines; merchandising of memorabilia and team clothing; sales of food and drink at sports-oriented venues; and organisation of supporter tours. The chapter also recognises that New Zealand's prominent profile as a country with a strong sport and recreation identity creates commercial opportunities, including sport and recreational tourism, and sales of fashion garments designed with an outdoor recreation theme. This chapter is unable to measure the size of this activity, but provides examples to demonstrate their potential.

Chapter 7 broadens the analysis again, by considering the personal net benefits from sport and recreation. Section 7.1 estimates productivity and health benefits and Section 7.2 estimates the costs of sport injuries and accidental deaths. This analysis produces a net benefit of $1.0 billion. Section 7.3 measures the benefits that must result in order to justify the opportunity cost of the time spent participating in sport (including as an unpaid volunteer). It uses the statutory minimum wage to value this time, implying a net benefit of a further $5.9 billion, or $6.9 billion in total.

Chapter 8 concludes the report. It notes the study's four major headline results, all of which have been conservatively estimated:

- The contribution of the sport and recreation sector (narrowly defined) to GDP in 2008/09 is estimated to have been $3.8 billion, or 2.1 per cent.

- The contribution of the sport and recreation sector (broadly defined) to GDP in 2008/09 is estimated to have been $4.5 billion, or 2.4 per cent.

- The contribution of sport and recreation to GDP including volunteered services in 2008/09 is estimated to have been $5.2 billion, or 2.8 per cent.

- The total value of sport and recreation to New Zealanders in 2008/09 is estimated to have been at least $12.2 billion when the opportunity cost of time is included.

Section 8.1 of the chapter uses these figures to calculate the tax revenue generated by the sport and recreation sector. The chapter then looks forward to the future. Section 8.2 proposes a set of indicators that can be used to track progress of the value of sport and recreation to New Zealand. Section 8.3 discusses some priority areas for further work revealed in the course of preparing this research report.

Chapter 2
Participation in Sport and Recreation in New Zealand

Key Facts and Estimates

- 92 per cent of young people surveyed by the Sport and Physical Activity Surveys in 1997, 1998 and 2000 had taken part in one or more sports or physical activities during the previous two weeks.
- 51 per cent of secondary school students were recorded in the NZSSSC census as having a meaningful involvement with a school sports programme in 2010.
- Young people reported in the 2008/09 National Survey of Children and Young People's Physical Activity and Dietary Behaviours that they spent on average 29 minutes per day (203 minutes per week) in organised sport.
- 96 per cent of adults reported in the 2007/08 Active New Zealand survey that they had taken part in one or more sport and recreation activities over the previous 12 months. If walking and gardening are excluded, the percentage is still at 83 per cent.
- Adults reported in the 2007/08 Active New Zealand survey that they spent on average 149 minutes per week on sport and recreation activities.
- 25 per cent of adults reported in the 2007/08 Active New Zealand survey that they had volunteered their time for one or more sport and recreation activities.
- Analysis for SPARC estimates that over the course of a full year, volunteers contribute 51.3 million hours to sport and recreation.

As explained in Chapter 1, sport and recreation are important parts of New Zealanders' weekly lives. This chapter provides an overview of the sport and recreation sector by drawing on available data that measures the number of New Zealanders participating in sport and recreation (young people in Section 2.1 and adults in Section 2.2), and the amount of time they spend in these activities (Section 2.3). Section 2.4 considers trends over time, while Section 2.5 provides information on the wider context of how physically active people are overall. A feature of the sport and recreation sector is that large numbers of volunteers participate to manage, operate or support activities and events; Section 2.6 provides data on the importance of this volunteer work.

People also engage in sport and recreation as spectators and supporters – ranging from the interested to the fanatics. This engagement is expressed through attending live matches and events and by viewing, listening to and reading about sport and recreation in the media. This aspect of sport and recreation participation is described in Chapter 6.

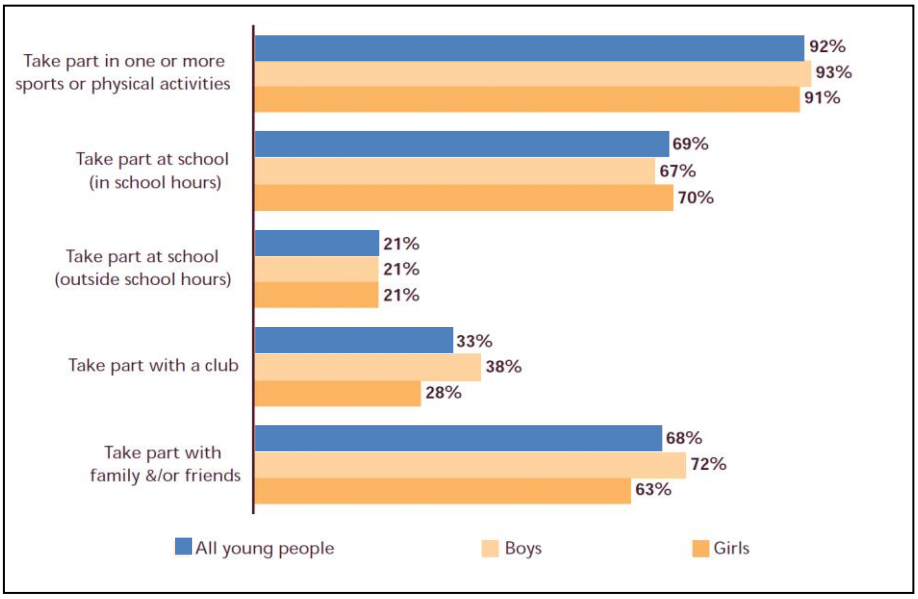
2.1 Young people's participation in sport and recreation

Three sources of data are available on young people's participation in sport and recreation. First, the former Hillary Commission undertook national Sport and Physical Activity Surveys in 1997, 1998 and 2000, which involved in total 12,500 adults (people aged 18 and over) and 4,000 young people (5-17-year-olds). In 2003, SPARC published an analysis of the combined results from the three surveys (SPARC, 2003). Most of the data in this Section comes from that combined analysis.

Second, SPARC together with the Ministries of Health, Education and Youth Development commissioned a national survey of physical activity, sedentary behaviours and dietary habits in five to 24-year-olds in New Zealand. The survey involved face-to-face interviews with follow-up telephone calls with a nationally representative sample of 2,503 participants from September 2008 to May 2009. A report on the study has been published (Clinical Trials Research Unit and Synovate, 2010), providing more recent data used in Section 2.3 below.

Third, NZSSSC regularly carries out a census of the number of students who have a meaningful engagement with sport in their secondary school. The resulting data are published on the NZSSSC website (see www.nzsssc.org.nz/secondary_schools_sports_data). Two tables from the 2010 survey are also included in this section.

Figure 2.1: Participation by young people in sport and recreation, 1997/98-2000/01



Source: SPARC (2003), p. 26.

The Sport and Physical Activity Surveys included one young person chosen at random from each surveyed household where children were present. These questions were answered by the interviewed adult, focusing on all the sport and recreation young people had done in the last two weeks (recreation was termed 'active leisure' in the surveys). The results showed that almost all young people (92 per cent overall; 93 per cent for boys and 91 per cent for girls) had taken part in one or more sports or physical activities during the previous two weeks, as shown in Figure 2.1.

Around seven out of ten young people (69 per cent; 67 per cent for boys and 70 per cent for girls) took part in sport and recreation at school in school hours, while three out of ten (33 per cent; 38 per cent for boys and 28 per cent for girls) took part with a club. Almost seven out of ten young people (68 per cent) also took part in sport and recreation activities with family or friends. Participation in at least one sport or recreation activity was lower for 16 and 17 year olds than for 5 to 15 year olds.

Table 2.1 presents the top five sports and top five recreation activities from the combined surveys. The top five sports played by boys were rugby (24 per cent of boys played this sport), soccer (23 per cent) cricket (19 per cent), basketball (11 per cent) and touch rugby (9 per cent). For girls, the top five sports were netball (18 per cent), soccer (12 per cent), athletics (10 per cent), basketball (8 per cent) and tennis (7 per cent). For boys and girls, the most popular recreation activity was swimming (27 per cent and 32 per cent respectively) followed by cycling for boys (20 per cent) and exercising for girls (25 per cent).

Table 2.1: Top five sports and recreation activities by boys and girls, 1997/98-2000/01

Boys		**Girls**	
	Per Cent		Per Cent
Sports		*Sports*	
Rugby Union	24	Netball	18
Soccer	23	Soccer	12
Cricket	19	Athletics	10
Basketball	11	Basketball	8
Touch Rugby	9	Tennis	7
Recreation		*Recreation*	
Swimming	27	Swimming	32
Cycling	20	Exercising	25
Exercising	18	Outdoor Games	19
Outdoor Games	16	Cycling	17
Running/Jogging	15	Walking	17

Source: SPARC (2003).

Almost two-thirds of young people (62%) received some coaching or instruction for at least one of their chosen sport and recreation activities. Coaching took place at schools, clubs and recreation centres, and involved teachers, parents, club coaches and young people.

Table 2.2 uses data collected by NZSSSC in 2010. It shows that just over one-half of secondary school students (51.4 per cent) were recorded as having a meaningful involvement with a school sports programme that year. Meaningful involvement includes: representing the school in that sport; or taking part in a sport provided in-school over a period of 6 weeks or more; or playing for a club arranged by the school when the school had no teams in that sport; or taking part in sport provided through the Kiwisport initiative. It

does not include students that took part in 'one off' in-school events such as school athletics or swimming sports or short-term inter-form or house events. Male students were more likely to be involved than female students (54.9 per cent compared with 47.9 per cent). There are some strong regional variations, from a low of 38.6 per cent in Waitakere to a high of 71.2 per cent in Wairarapa.

Table 2.2: Secondary school students involved in sport, by region, 2010

Region	Per Cent of Students	Per Cent of Males	Per Cent of Females
Aoraki	65.1%	65.1%	65.0%
Auckland (Auckland)	52.4%	59.1%	46.2%
Auckland (Counties)	40.7%	46.5%	34.4%
Auckland (Harbour)	49.8%	54.0%	45.3%
Auckland (Waitakere)	38.6%	42.5%	34.7%
Bay of Plenty	47.0%	49.3%	44.7%
Canterbury	52.8%	54.1%	51.6%
Eastland	42.4%	45.7%	39.2%
Hawkes Bay	57.9%	61.1%	54.7%
Manawatu	55.2%	60.6%	49.1%
Northland	42.6%	51.2%	36.8%
Otago	66.2%	67.2%	65.2%
Southland	56.7%	58.0%	55.4%
Taranaki	63.2%	70.4%	56.2%
Tasman	44.5%	43.0%	46.1%
Waikato	53.2%	56.6%	49.5%
Wairarapa	71.2%	71.4%	71.1%
Wanganui	56.7%	56.7%	56.8%
Wellington	56.8%	58.5%	55.0%
National Total	**51.4%**	**54.9%**	**47.9%**

Source: NZSSSC census data, downloaded 21 February 2011 at www.nzsssc.org.nz/secondary_schools_sports_data.

Table 2.3 lists the top five sports played by secondary school students in 2010. The list for male students is very similar to the sports list for boys in Table 2.1; it involves the same five sports in the same order, but with a larger share by rugby. There are some differences in the top five sports for female students; netball is still the most popular, but with a far greater share in the secondary school 2010 data (41 per cent). This is easily the highest share in the table, followed for female students by soccer, volleyball, basketball and hockey.

Table 2.3: Top five sports by secondary school students, 2010

Male Students		Female Students	
	Per Cent		Per Cent
Rugby Union	34	Netball	41
Soccer	19	Soccer	14
Cricket	14	Volleyball	13
Basketball	13	Basketball	11
Touch Rugby	9	Hockey	11

Note: Per cent is of male or female students participating in sport.

Source: NZSSSC census data, downloaded 21 February 2011 at www.nzsssc.org.nz/secondary_schools_sports_data.

2.2 Adult participation in sport and recreation

The best source of data for adult participation in sport and recreation in New Zealand is SPARC's *2007/08 Active New Zealand* survey (Active NZ). This surveyed adults aged 16 and over, with core results published online (www.activenzsurvey.org.nz) and in a SPARC report (SPARC, 2008b). For this present report, SPARC reanalysed those results to exclude 16 and 17-year-olds to allow valid comparisons with the earlier New Zealand Sport and Physical Activity Surveys. Results show almost all adults take part in sport and recreation activities – over 12 months, more than nineteen out of twenty (96 per cent) adults said they had taken part in at least one activity (from a list of over 100 activities). This provides a measure of total participation. Participation rates decreased when people were asked about what they do in a shorter timeframe, but even when asked about the previous week, eight out of ten adults (79 per cent) still said they had taken part in at least one activity.

On average, over 12 months, adults participated in between four and five (4.4) sport and recreation activities. Walking and gardening were the two most popular activities; over 12 months, six out of ten adults (66 per cent) went for walks and four out of ten (45 per cent) did some gardening. If these two activities are excluded, the data still show that eight out of ten adults (83 per cent) took part in at least one activity over 12 months, while during any week the figure was five out of ten (52 per cent). Table 2.4 shows participation in the 25 most popular activities (excluding walking and gardening) and the average number of activities.

Table 2.4: Sport and recreation participation over 12 months, all adults, 2007/08

All Adults (18 years and over)	Number	Per Cent
Swimming	1,053,471	33.8%
Equipment-based exercise	812,726	26.1%
Cycling	700,497	22.5%
Fishing	603,028	19.3%
Jogging/running	515,083	16.5%
Golf	402,917	12.9%
Dance	336,009	10.8%
Tramping	290,316	9.3%
Pilates/Yoga	275,184	8.8%
Tennis	270,027	8.7%
Aerobics	262,625	8.4%
Cricket	214,811	6.9%
Canoeing/kayaking	192,067	6.2%
Snow sports	186,715	6.0%
Callisthenics	186,331	6.0%
Football	184,608	5.9%
Netball	180,402	5.8%
Touch	180,088	5.8%
Bowls	168,042	5.4%
Exercising other	165,274	5.3%
Table tennis	153,583	4.9%
Basketball	151,874	4.9%
Rugby	142,927	4.6%
Hunting	136,365	4.4%
Surfing/Body boarding	133,713	4.3%
Average Number of Activities	*3.3 per person*	

Notes: 4,297 adults 18 years and over took part in the survey; 1,780 men and 2,517 women. The table shows the top 25 sport and recreation activities, *excluding* walking and gardening.

Basketball includes indoor basketball and outdoor basketball. *Cricket* includes indoor cricket and outdoor cricket. *Cycling* includes cycling/biking and mountain biking. *Dance* includes all dance genres (e.g. ballet, ballroom, contemporary/modern, country/folk/line, cultural/national, hip-hop/break/ krump, jazz/tap, latin, ceroc,) but excludes dance (club, rave, disco). *Fishing* includes fresh water and marine/salt water fishing. *Football* includes indoor football and outdoor football. *Hunting* includes hunting (deerstalking and pig hunting) and hunting (other). *Motorsports* include car, kart and motorcycle motorsports. *Netball* includes indoor netball and outdoor netball. *Snow sports* include snowboarding and skiing.

Source: Active NZ Survey.

The participation figures used in the analysis in the chapters that follow generally exclude walking and gardening. Gardening is excluded because it is not part of SPARC's core business and so the substantial economic activity associated with gardening is not included in the estimates of the value of sport and recreation. Walking is excluded because, although it is an important recreation activity, the informal nature of this activity and the information captured by Active NZ makes it difficult to assign any service provision or economic activity to walking; note, however, that tramping is included in the participation figures.

Table 2.5: Sport and recreation participation over 12 months, males and females, 2007/08

Male Adults	Number	Per Cent	Female Adults	Number	Per Cent
Swimming	484,795	32.3%	Swimming	568,676	35.2%
Fishing	449,328	30.0%	Equip-based exercise	421,077	26.0%
Cycling	411,378	27.4%	Cycling	289,119	17.9%
Equip-based exercise	391,649	26.1%	Dance (various)	242,632	15.0%
Golf	308,498	20.6%	Jogging/ running	241,331	14.9%
Jogging/running	273,752	18.3%	Pilates/Yoga	233,304	14.4%
Cricket	168,916	11.3%	Aerobics	208,670	12.9%
Tramping	151,687	10.1%	Fishing	153,700	9.5%
Tennis	147,668	9.8%	Netball	142,799	8.8%
Football	138,742	9.3%	Tramping	138,629	8.6%
Rugby	125,605	8.4%	Tennis	122,359	7.6%
Touch	123,949	8.3%	Callisthenics	117,043	7.2%
Hunting	122,605	8.2%	Exercising other	106,956	6.6%
Canoeing/kayaking	121,680	8.1%	Golf	94,419	5.8%
Snow sports	116,546	7.8%	Aquarobics	86,364	5.3%
Basketball	110,121	7.3%	Bowls	76,969	4.8%
Table tennis	100,474	6.7%	Canoeing/kayaking	70,387	4.4%
Diving/scuba diving	99,557	6.6%	Horse riding/equestrian	69,540	4.3%
Surfing/body boarding	94,077	6.3%	Snow sports	70,169	4.3%
Dance (various)	93,377	6.2%	Touch	56,139	3.5%
Bowls	91,073	6.1%	Table tennis	53,109	3.3%
Squash	83,320	5.6%	Volleyball	47,041	2.9%
Motor sports	76,881	5.1%	Cricket	45,895	2.8%
Shooting	70,956	4.7%	Football	45,866	2.8%
Callisthenics	69,288	4.6%	Badminton	42,392	2.6%
Average Number of Activities	*3.8 per person*		*Average Number of Activities*	*2.8 per person*	

Notes: As for Table 2.4.

Source: Active NZ Survey.

Participation rates (over 12 months) do not differ substantially across the different age groups or between men and women when all activities are considered. However, when walking and gardening are excluded, rates are slightly lower for women (80 per cent) than men (86 per cent) and for the older age groups (the figures over 12 months are: 18-24 years, 92 per cent; 25-34 years, 91 per cent; 35-49 years, 88 per cent; 50-64 years, 79 per cent and 65+ years, 65 per cent).

The popularity of different activities varies for men and women (Table 2.5) and by age. Young people reported taking part in more activities than older people (on average 18 to 24-year-olds took part in 5.1 activities (compared with 1.3 for those aged 65 years and over; if walking and gardening are included the respective figures were 5.7 and 2.7 activities).

People take part in sport and recreation activities in different ways. Active NZ found that over one-third (35 per cent) of adults participated in at least one organised competition or event. Men (43 per cent) were more likely to participate in this way than women (28 per cent) and participation in competitions and events decreased as age increased (from 45 per cent for 18 to 24-year-olds to 25 per cent for those aged 65 years and over).

Three out of ten (30 per cent) adults belonged to a club or gym/fitness centre to take part in sport and recreation activities (including sport and physical activity clubs, social clubs and other types of club). Around one-sixth (16 per cent) of adults belonged to a sport or physical activity club. Almost four out of ten (37 per cent) received some instruction or coaching from a coach, instructor, teacher or trainer for one or more of the activities they take part in.

2.3 Time spent taking part in sport and recreation

Information on the amount of time adults spend taking part in sport and recreation activities is available from the Active NZ survey, while the 2008/09 National Survey of Children and Young People's Physical Activity and Dietary Behaviours provides information about the time young people aged 5 to 24 years spend playing "organised" sport (which refers to any sports, games, or activities, such as aerobics, that were structured in nature).

On average, adults spend around 5 hours a week (304 minutes) taking part in all sport and recreation activities, widely defined to include walking and gardening; see Table 2.6. Men spend more time taking part in sport and recreation activities than women (on average, men spend 5 hours and 24 minutes and women spend 4 hours and 45 minutes taking part in sport and recreation activities).

The figures above include all types of activities. As the last two data rows of Table 2.6 reveal, walking and gardening account for nearly half of this time. The average falls to 2 hours and 29 minutes when these two activities are excluded (on average, people spend just under an hour a week gardening and just under one and a half hours walking). If these activities are not included, then the average time spent by adults on sport and recreation activities per week is 149 minutes. The time spent taking part in the different activities varies by age. For older adults, gardening and walking contribute more to the time they spend on sport and recreation activities than for younger adults.

Table 2.6: Time spent participating in sport and recreation activities, adults by age, 2007/08

Average minutes per week spent on:	18-24 Years	25-34 Years	35-49 Years	50-64 Years	65+ Years	All Adults
Total: All Activities	279	293	290	308	353	304
Sport and Recreation Activities	222	169	149	121	112	149
Gardening	6	29	44	79	113	56
Walking	50	82	83	90	110	85

Note: Sport and Recreation activities excludes walking and gardening. Adults are 18 years and older.

Source: Data provided to SPARC drawing on the Active NZ Survey (SPARC, 2008).

Table 2.7 draws on data from the 2008/09 National Survey of Children and Young People's Physical Activity and Dietary Behaviours analysing the time young people aged 5 to 24 years spend playing organised sport. It shows that, on average, children and young adults said they spent just under half an hour (29 minutes) per day in what was categorised as "organised" sport (as opposed to time spent in free play).

Those aged 10 to 14 years spent the most time in organised sport (42 minutes per day). Young adults (aged 20 to 24 years) spent the least amount of time in organised sport (10 minutes per day). Females spent significantly less time playing organised sport than males (20 minutes compared with 38 minutes for males). This pattern occurred across all age groups.

Table 2.7: Time spent participating in sport and recreation activities, young people by age, 2008/09

Average minutes per day spent in organised sport:	5-9 Years	10-14 Years	15-19 Years	20-24 Years	All Young People
Males	28	50	40	18	38
Females	18	33	16	3	20
Total	23	42	29	10	29

Source: Clinical Trials Research Unit and Synovate (2010), Table 17, p. 56 and Figure 31, p. 57.

2.4 Trends in participation

Comparing results from the Active NZ survey with those from the earlier Sport and Physical Activity Surveys shows that participation in sport and recreation activities over 12 months has remained at similar levels.[2] In 1997/98, 74 per cent of adults said they took part in one or more sport and recreation activities (excluding walking and gardening) over 12 months, while in 2007/08 the comparable figures was 78 per cent. Participation by men has remained at the same level over the ten-year period (82 per cent in 1997/98 and 83 per cent in 2007/08), while for women the figures suggest that participation has increased (67 per cent in 1997/98 and 74 per cent in 2007/08).

The Sport and Physical Activity Surveys indicated that young people's overall participation in sport and recreation declined from 93.0 per cent in 1997/98 to 88.5 per cent in 2000/01. This difference was statistically significant, but of course it is not possible to know whether the trend continued over the next decade. The decline over the two surveys occurred for both boys and girls across a number of settings including at school, during and outside school hours. However, the level of participation in club activities did not change, either for all young people or by age or gender. The picture for individual activities varied, however. For example, for participation in club activities, results for soccer showed that participation by all young people increased by nearly 6 percentage points (from 11.5 per cent in 1997/98 to 17.4 per cent in 2000/01), while boys' participation in rugby union declined by 7 percentage points (from 18.1 per cent in 1998/99 to 11.1 per cent in 2000/01).

2.5 Physical activity levels

As well as sport and recreation, New Zealanders are active in other ways, including active travel, occupational activities and everyday activities like climbing the stairs, housework or washing the car. While these physical activities are important for New Zealanders, they are not a priority for SPARC but are the responsibility of agencies such as the New Zealand Transport Agency and the Ministry of Health. Understanding activity levels is important, however, in estimating the health benefits of being active. The information in this section is included as context for Chapter 7, which analyses the personal net benefits of being active through participation in sport and recreation.

Physical activity guidelines for adults state that adults should participate in at least 30 minutes of moderate-intensity activity on most, if not all, days of the week. Active NZ asked about involvement in all types of physical activity and assessed the intensity at which people did each activity. Results show that just over one-half (49 per cent) of adults met the guideline (of the remainder, 38 per cent did some activity and 13 per cent were inactive). One-fifth of adult New Zealanders meet the guideline by doing sport and recreation activities and this figure is consistent for men and women and people of all ages.

[2] Note that the 1997/98 Sport and Physical Activity Survey asked participants about fewer activities than in the 2007/08 Active NZ Survey. To make valid comparisons, only the activities that were common to both surveys have been included in this trend analysis. This means that the 12-month participation figure for 2007/08 quoted in this section is different from the figure in Section 2.2.

For young people (5 to 18 years), the guidelines state that, throughout each day, they should do 60 minutes or more of moderate- to vigorous-intensity physical activity. The recent survey of 5 to 24-year-olds provides some indication of the extent to which young people met this guideline or (for those 18 years and over) the guideline for adults. Overall, two-thirds of 5 to 24-year-olds (69.5 per cent) met the relevant guideline, but this ranged from almost all 5 to 9-year-olds (99.5 per cent) to only 19.3 per cent of 20 to 24-year-olds.[3]

A survey of how active adults (18 to 65 years) were in 20 countries over the years 2002 to 2004 showed New Zealanders were the most active (Bauman *et al*, 2009). Over six out of ten New Zealanders (63.1 per cent) were in the 'high active' category (24.7 per cent were 'moderate active' and 12.2 per cent were 'low active'). Other countries with a high proportion of 'high active' adults were the Czech Republic (62.9 per cent), the USA (62.0 per cent), Canada (59.6 per cent) and Australia (58.6 per cent). Countries achieved high physical activity in different ways, with New Zealanders, along with adults from Australia, Canada and the USA, showing a greater volume of vigorous-intensity physical activity, relative to moderate-intensity activity and walking. This confirms the popularity of sporting and recreation activities for New Zealanders as shown in the country's participation surveys.

2.6 Volunteers

Volunteers play a key role in sport and recreation. Over 12 months, Active NZ found that one in four (25 per cent) adults, over 776,000 people, volunteered their time for one or more sport and recreation activities. The percentage of men and women volunteering is similar. Volunteering levels peak in the 35 to 49-year-old age group (at 35 per cent). Volunteers act as coaches/instructors/trainers (48 per cent of all volunteers), referees/officials/judges/ umpires (31 per cent), as administrators/secretaries/committee members (29 per cent) and as parent helpers (42 per cent).

A recent study has revealed that the non-profit sector and the contributions of volunteers are very large compared with other countries. Proportionally, New Zealand has the seventh largest non-profit sector workforce in the world (Sanders *et al*, 2008, p. 12):

> As a share of the economically active population, the non-profit sector workforce – paid staff and volunteers – in the countries for which data are available varies from a high of 15.9 percent in the Netherlands to a low of 0.7 percent in Romania, with a 41-country average of 5.6 percent. The Aotearoa New Zealand figure, at 9.6 percent, is among the highest, putting the country ahead of United States and Australia in the relative size of its non-profit organisation workforce. It also puts Aotearoa New Zealand ahead of the averages for the two country clusters that it most closely resembles – the Anglo-Saxon and Nordic clusters.

The contribution of volunteers to the non-profit sector is unusually high by world standards (Sanders *et al*, 2008, p. 13):

[3] Unlike the information for adults, these results are based on records from active movement devices and not self-reported levels of activity.

> At 67 percent, the volunteer share of the non-profit workforce in New Zealand easily outdistances the 48 percent for the Anglo-Saxon country cluster, not to mention the 41-country average of 42 percent. In fact, 90 percent of New Zealand non-profit organisations employ no paid staff, and so rely on volunteers to function.

The *Non-profit Institutions Satellite Account: 2004* prepared by Statistics New Zealand (2007) records that culture, sport and recreation is the largest sub-sector in the non-profit sector, accounting for 44.6 per cent of all non-profit institutions. Just over one-third of the non-profit institutions in this sub-sector (34.5 per cent) are associated with sports (Statistics New Zealand, 2007, Table 8.01.02, p. 45).

Information is collected about the sport and recreation activities that these volunteers support but we do not know how much of this effort goes into supporting sport and recreation for young people. However, we can assume that the people who are parent helpers are supporting young people's sport and this group contributes an estimated 14.9 million hours over the course of a year. Overall, over the course of a year, it is estimated that volunteers of all types contribute 51.3 million hours to sport and recreation. Coaches/instructors contributed 16.6 million hours, referees and other officials contributed 6.6 million hours, and administrators and committee members contributed 10.6 million hours.

Chapter 3
Professionals and Volunteers in the Sport and Recreation Sector

Key Facts and Estimates

- As at 11 February 2011, 522 individuals from 16 sports were 'carded' by the New Zealand Academy of Sport in recognition of their ability/potential to deliver against the SPARC High Performance mission.
- The 2006 Census recorded 48,363 people (2.6 per cent of people in employment) reporting that they worked in a sport and recreation occupation or in a sport and recreation industry (or both).
- The total income earned in 2005/06 by people in sport and recreation occupations is estimated to have been $792.6 million (equivalent to $875 million in 2008/09 values), which implies an average annual income in those occupations that year of $31,391.
- The market value of volunteered services to the New Zealand sport and recreation sector in 2007/08 was $704 million, or $728 million in 2008/09 values.

Some high profile New Zealanders are able to earn high incomes as elite international sports stars; for example, Sir Bob Charles as a professional golfer (winner of the British Open Championship in 1963, inducted into the World Golf Hall of Fame in 2008) and Ryan Nelsen, ONZM, as a professional footballer (playing for Blackburn Rovers in the English Premier League since 2005). New Zealand has produced full-time professional athletes competing internationally such as Nick Willis and Kim Smith. Some sports support professional teams competing in Australasian competitions, such as the ANZ Championship (netball), the Hyundai A League (football), the National Basketball League, the National Rugby League (NRL) and Super 15 Rugby. Elite sportspeople representing New Zealand in individual and team sports apply their skills all round the world. Although New Zealand has a smaller pool of athletes and less funding to call upon than many countries, New Zealand sportspeople and teams have achieved great international successes in a diverse range of sports.

A small group of elite sport participants receive funding as part of government investment in high performance sport. SPARC works in partnership with the New Zealand Academy of Sport (NZAS) to provide a national network of high performance operations that supports elite athletes and their support personnel to compete on the world stage. In 2010, 700 athletes and support people (including members of teams) from 29 sports were recognised and funded to different degrees as elite sportspeople. This includes 'carded athletes' who are eligible for an allocation of funding and services, as determined by their national sport organisation. As at 11 February 2011, there were 522 carded individuals from 16 sports; see Table 3.1. Support includes Performance Enhancement Grants to allow world class athletes to dedicate time to training and competing, and Prime Minister's Athletes Scholarships. The

Scholarships help athletes' sports careers by providing opportunities outside of their sport and recognising their dedication to representing their country in high performance sport. This support allows them to pursue educational opportunities in preparation for a career after sport.

Table 3.1: Carded athletes as at 11 February 2011

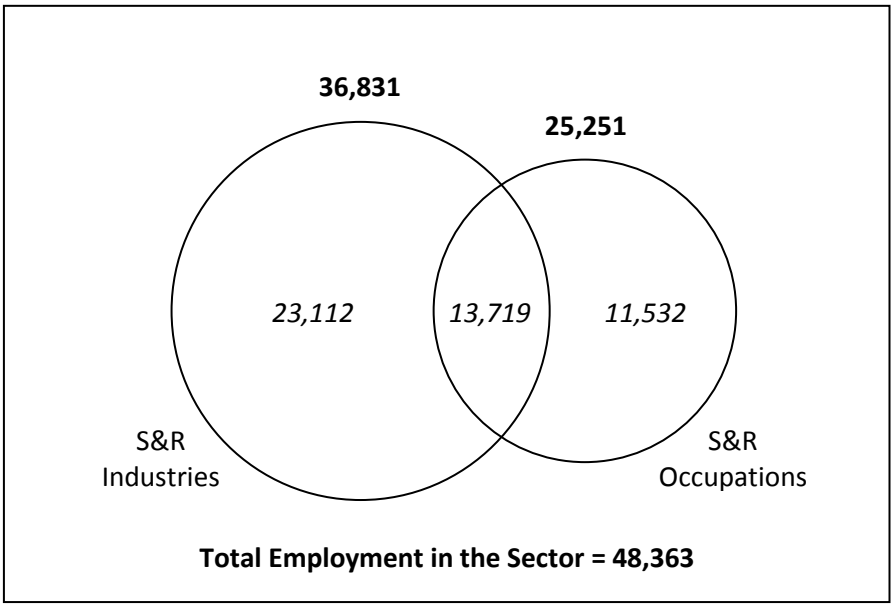
Sport	Number	Sport	Number
Athletics	39	Paralympics	31
Bike	68	Rowing	79
Canoeing	24	Swimming	36
Curling	2	Taekwondo	13
Equestrian	17	Triathlon	26
Football	28	Winter Sports - Snow Sports	12
Hockey	47	Winter Sports - Ice Sports	3
Netball	45	Yachting	52

Source: SPARC website (www.sparc.govt.nz/en-nz/high-performance/Athletes/Carding/).

These elite athletes are only a small proportion of the number of New Zealanders employed in the sport and recreation sector. A much larger number are engaged as professional coaches, trainers, officials, administrators, support staff, facility staff and so on. Data on sports and recreation employment can be obtained from the New Zealand Census of Population and Dwellings. Normally held every five years, the Census includes questions asking New Zealand adults about the main activity (that is, the industry) of the business in which they worked and about their occupation in the job where they worked the most hours.

Figure 3.1 provides aggregate data drawn from the 2006 Census. Details of the definitions used will be presented in Sections 3.1 and 3.2. In summary, the analysis counted 36,831 people employed in sport and recreation industries and 25,251 people employed in sport and recreation occupations. There is some overlap between the two groups; Statistics New Zealand advises that 13,719 people were employed in sport and recreation occupations in sport and recreation industries. As shown in Figure 3.1, this means that 23,112 people were employed in sport and recreation industries but not in sport and recreation occupations and 11,532 people were employed in sport and recreation occupations outside the sport and recreation industries. Summing these three italicised statistics in Figure 3.1, the total count of employment in the sport and recreation sector in 2006 was 48,363.

Figure 3.1: Employment in the sport and recreation sector, 2006



Source: Statistics New Zealand, Census 2006 data.

In the 2006, there were 1,874,667 valid responses to the question about industries and 1,873,371 valid responses to the question about occupations. Consequently (using the lower figure of 1,873,371 to calculate the percentage of people employed in the total sport and recreation sector), the analysis concludes that:

- 2.58 per cent of all employed people are employed in the sport and recreation sector.
- 1.96 per cent of all employed people are employed in sport and recreation industries.
- 1.35 per cent of all employed people are employed in sport and recreation occupations.

The first two sections of this chapter use data from the 2006 Census to describe the major sport and recreation industries (Section 3.1) and occupations (Section 3.2) in New Zealand. The industries identified as sport and recreation industries are presented in Table 3.2 and the sport and recreation occupations are presented in Table 3.4. Section 3.3 then draws on Census data to provide an estimate of the personal incomes earned in sport and recreation occupations.

A feature of the sport and recreation sector in New Zealand, as in other countries, is the importance of volunteers. The chapter therefore concludes in Section 3.4 with an estimate of the market value of volunteered services in the sector.

3.1 Sport and recreation industries

The sport and recreation industries in Figure 3.1 are comprised of 17 industries selected for this study in consultation with SPARC. Table 3.2 presents employment data for these 17 industries, using data from the 2006 Census, based on the Australian and New Zealand Standard Industrial Classification 2006 (ANZSIC06 V1.0). The total of 36,831 represents 2.0 per cent of all people employed (excluding those whose responses were 'don't know, refused to answer, response unidentifiable, response outside scope or not stated').

Table 3.2: Employment in sport and recreation industries, 2006

Industry	Number
Amusement and Other Recreation Activities (not elsewhere classified)	1,959
Amusement Parks and Centres Operation	936
Boatbuilding and Repair Services	3,963
Health and Fitness Centres and Gymnasia Operation	3,054
Horse and Dog Racing Administration and Track Operation	702
Horse Farming	1,404
Nature Reserves and Conservation Parks Operation	2,853
Other Horse and Dog Racing Activities	1,392
Physiotherapy Services	2,175
Sport and Camping Equipment Retailing	3,777
Sport and Physical Recreation Administrative Service	1,698
Sport and Physical Recreation Clubs and Sports Professionals	4,320
Sports and Physical Recreation Instruction	2,136
Sports and Physical Recreation Venues, Grounds and Facilities Operation	4,377
Toy and Sporting Goods Wholesaling	1,299
Toy, Sporting and Recreational Product Manufacturing	738
Turf Growing	48
TOTAL	**36,831**

Source: Statistics New Zealand, Census 2006 data, ANZSIC06 V1.0.

The list in Table 3.2 is intended to be conservative. Although some industries will include activities that are not within the scope of this report (some people employed in some amusement parks, for example), this is balanced by the exclusion of other industries that clearly have a large sport and recreation component (consider, for example, the people employed as sports journalists or to broadcast sport events on free-to-air or subscription television).

Table 3.3 provides an indication of the significance of the sport and recreation industries by comparing it with other similar sized industries in New Zealand, based on the 2006 Census database. The table lists the top ten industries ranked by employment including the composite 'Sport and Recreation' industry defined in Table 3.2. This composite industry is fifth in the Top Ten list, lying between the 'House Construction' industry (36,093 employed) and the 'Cafés and Restaurants' industry (41,580).

Table 3.3: Top ten industries ranked by employment, 2006

Industry	Number
Supermarket and Grocery Stores	46,899
Primary Education	42,927
Hospitals (except Psychiatric Hospitals)	42,237
Cafes and Restaurants	41,580
Sport and Recreation	*36,831*
House Construction	36,093
Dairy Cattle Farming	33,510
Accommodation	30,744
Central Government Administration	27,309

Source: Statistics New Zealand, Census 2006 data, ANZSIC06 V1.0 and Table 3.2.

3.2 Sport and recreation occupations

Table 3.4 lists the major sport and recreation occupations listed in the 2006 Census, based on the Australian and New Zealand Standard Classification of Occupations (ANZSCO, V1.0). Note that as in the list of industries in Table 3.2 above, the list in Table 3.4 does not include people employed for their sports and recreation expertise within a more general category (sports journalists, for example). The occupations have been grouped together into five categories, depicted in Figure 3.2. This reinforces that the number of people making a living as professional sportspersons and officials is relatively small (just over 1,000 people). Nevertheless, the overall number of New Zealanders engaged in sport and recreation occupations is significant. The total of 25,251 represents 1.3 per cent of all people employed (excluding those whose responses were 'unidentifiable, outside scope or not stated').

The largest of the five groups is under the heading of sport and recreation support. This group includes occupations where a large part of the work is involved in sport and recreation but there are clearly other important aspects to the occupation. In these cases, Table 3.4 has counted only half the numbers recorded in the Census for the occupation (conference and event organisers, massage therapists and recreation coordinators). Even so, there were 8,394 people recorded in these positions, including 2,496 physiotherapists.

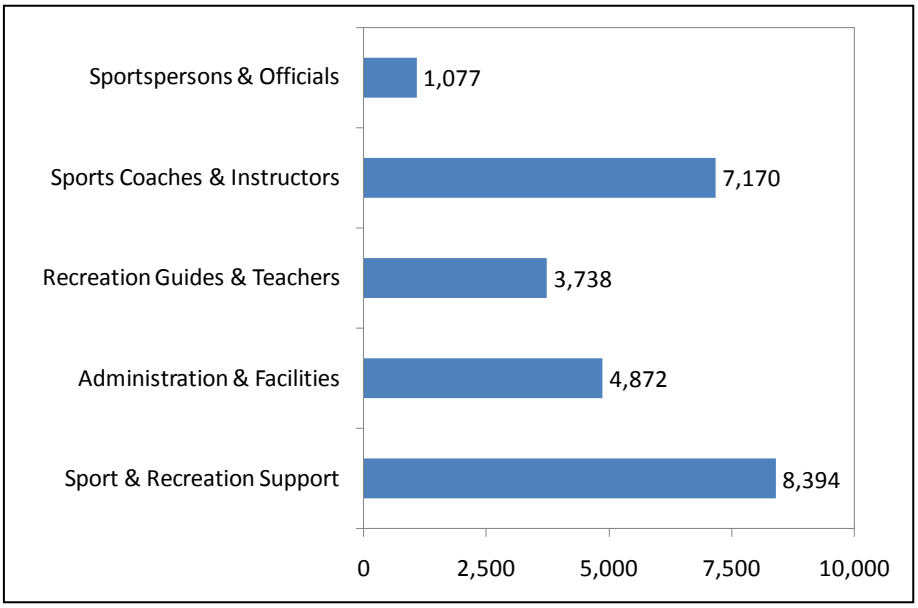
Table 3.4: Employment in sport and recreation occupations, 2006

Category	Occupation	Number	Number
Sportspersons and Officials	Golfer	228	
	Footballer	204	
	Jockey	129	
	Other Sportspersons	249	
	Sports Umpire	159	
	Dog or Horse Racing Official	87	
	Other Sports Official	21	1,077
Sports Coaches and Instructors	Fitness Instructor	2,457	
	Swimming Coach or Instructor	1,152	
	Horse Trainer	870	
	Tennis Coach	264	
	Gymnastics Coach or Instructor	249	
	Horse Riding Coach or Instructor	249	
	Snowsport Instructor	72	
	Other Sports Coach or Instructor	1,857	7,170
Recreation Guides and Teachers	Lifeguard	1,179	
	Dance Teacher (Private Tuition)	765	
	Outdoor Adventure Instructor	423	
	Fishing Guide	147	
	Whitewater Rafting Guide	132	
	Diving Instructor (Open Water)	129	
	Mountain or Glacier Guide	99	
	Trekking Guide	72	
	Bungy Jump Master	57	
	Hunting Guide	36	
	Other Outdoor Adventure Guides	699	3,738
Administration and Facilities	Greenkeeper	2,631	
	Sports Administrator	1,116	
	Park Ranger	543	
	Sports Centre Manager	363	
	Fitness Centre Manager	153	
	Turf Grower	36	
	Sports Development Officer	30	4,872
Sport and Recreation Support	Physiotherapist	2,496	
	Boat Builder and Repairer	1,989	
	Conference and Event Organiser (1)	1,248	
	Stablehand	1,125	
	Massage Therapist (1)	636	
	Horse Breeder	402	
	Bicycle Mechanic	219	
	Recreation Coordinator (1)	150	
	Sail Maker	129	8,394
TOTAL			**25,251**

Note: (1) Only half the number in this occupation is included as sports and recreation.

Source: Statistics New Zealand, Census 2006 data, ANZSCO V1.0.

Figure 3.2: Employment in sport and recreation occupations, 2006



Source: Table 3.4.

Nearly 11,000 people were counted as employed as coaches, instructors, guides and teachers, either in sports (7,170 people) or recreation activities (3,738 people). Another 4,872 people were recorded as involved in sport and recreation administration and care of facilities, including 2,631 greenkeepers. Although the Census asks New Zealand residents about their occupation in the job where they worked the most hours, this does not mean that the job is necessarily full-time. This is evident when the income earned in each occupation is considered, as discussed in Section 3.3.

3.3 Personal income earned in sport and recreation occupations

Census data can be used to provide an indication of the personal income earned by people whose main occupation is a sport and recreation occupation (as defined in the previous section). The Census asks people to state their total personal income from all the sources of income, before tax, for the 12 months ending 31 March 2006. The form provides 14 options giving bands of income as shown in Table 3.5. The table also shows the number of people from the sport and recreation occupations (as defined in Table 3.4) who reported income in each band. This ranges from 167 people reporting a loss for the year (nearly one-third of whom were horse breeders or horse trainers) to 596 people reporting a personal income from all sources greater than $100,000 (including 135 sportspersons).

Figure 3.3 shows the distribution of personal income in the sport and recreation occupations. Just over 35 per cent of the incomes are $20,000 or less, suggesting that these are not full-time positions. Half of the people (49.8 per cent) in these occupations reported personal incomes between $20,001 and $50,000. Smaller groups of people were earning above $50,000, with only 5.4 per cent earning above $70,000 from all sources of income.

Table 3.5: Distribution of incomes in sport and recreation occupations, 2006

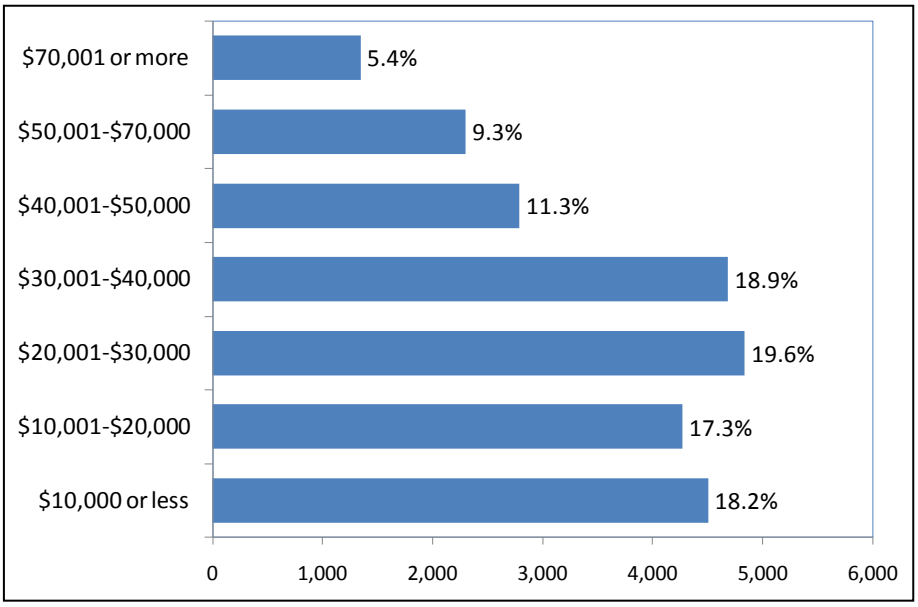
Income Band	Number of People in the Band	Assumed Average Income	Total Income ($ millions)
Loss	167	-$20,000	-$3.3
Zero income	138	0	$0.0
$1 - $5,000	2,271	$2,500	$5.7
$5,001 - $10,000	1,931	$7,500	$14.5
$10,001 - $15,000	2,048	$12,500	$25.6
$15,001 - $20,000	2,226	$17,500	$39.0
$20,001 - $25,000	2,354	$22,500	$53.0
$25,001 - $30,000	2,486	$27,500	$68.4
$30,001 - $35,000	2,426	$37,500	$91.0
$35,001 - $40,000	2,264	$37,500	$84.9
$40,001 - $50,000	2,793	$45,000	$125.7
$50,001 - $70,000	2,303	$60,000	$138.2
$70,001 - $100,000	750	$85,000	$63.8
$100,001 or more	596	$120,000	$71.5
Not stated	507	Average	$15.1
TOTAL	25,256		$792.6

Notes: The sport and recreation occupations come from Table 3.4. The total number of people in these occupations is slightly greater than in Table 3.4 due to rounding conventions. Assumed average incomes for each band were calculated as the midpoint of the range, except for the loss category, the unbounded upper band and the 'not stated' range (see the text for explanations).

Source: Statistics New Zealand, Census 2006 data, ANZSCO V1.0.

To provide an aggregate estimate of income earned, assumptions must be made about the average income earned in each income band category. For the bands with fixed endpoints it is conventional to assume that the average income is halfway between the two endpoints. The 'loss' range, however, has no minimum value and the highest income range ($100,001 or more) has no maximum value. This last range will include a very small number of sports people who earn substantial amounts in a year (McKay, 2004, for example, suggested that in 2004 professional rugby players could earn in the range from $100,000 to $650,000). Because the numbers of people in the bottom and top categories are relatively small, the assumed average in both cases is not critical; for this exercise the report has assumed an average loss of $20,000 and an average income for the highest band of $120,000. Finally, the average income of those who did not state an income is assumed to be the average income of those who did.

Figure 3.3: Income distribution in sport and recreation occupations, 2006



Source: Table 3.5.

Under these assumptions, the total annual personal income for people in the sport and recreation occupations in 2006 was $792.6 million.

In later parts of this report, calculations will be made using the 2008/09 financial year as a base. The estimate of $792.6 million can be updated from 2006 to 2009 using the Statistics New Zealand Labour Cost Index (all industries: all salary and wage rates: all sectors). The value of this index for the year ending March 2006 was 894 and for the year ending March 2009 was 987. Multiplying $793 million by the ratio 987/894 provides a 2008/09 estimate of $875 million (excluding any changes in employment between 2006 and 2009).

Table 3.6 shows how the income reported in the 2006 Census was distributed among the 42 occupations identified in Table 3.4. The largest contributing occupation is physiotherapists ($108.7 million), followed by boat builders/repairers ($79.1 million) and greenkeepers ($78.2 million).

The final column in Table 3.6 divides the total personal income earned in the occupation by the number of people in the occupation. This shows that the average personal income from all sources of people recorded in the 2006 Census as employed in sport and recreation occupations is estimated to have been $31,391. There is considerable variation in this statistic for different occupations. At the top, footballers are estimated to have earned $66,250 (and probably higher if the true average value of the top income band was known). At the other end of the scale, the average personal income of gymnastic coaches or instructors is estimated to have been $10,656 in 2006.

Table 3.6: Estimated average incomes in sport and recreation occupations, 2006

Category	Occupation	Total ($millions)	Per Person ($)
Sportspersons and Officials	Golfer	$9.2	$40,333
	Footballer	$13.3	$66,250
	Jockey	$5.0	$39,012
	Other Sportspersons	$13.7	$54,938
	Sports Umpire	$2.4	$15,288
	Dog or Horse Racing Official	$3.1	$36,083
	Other Sports Official	$0.5	$22,000
Sports Coaches and Instructors	Fitness Instructor	$62.5	$25,425
	Swimming Coach or Instructor	$18.1	$15,791
	Horse Trainer	$27.3	$31,354
	Tennis Coach	$6.3	$23,920
	Gymnastics Coach or Instructor	$2.7	$10,656
	Horse Riding Coach or Instructor	$5.1	$20,406
	Snowsport Instructor	$2.2	$30,217
	Other Sports Coach or Instructor	$67.8	$36,495
Recreation Guides and Teachers	Lifeguard	$15.6	$13,201
	Dance Teacher (Private Tuition)	$16.2	$21,175
	Outdoor Adventure Instructor	$10.5	$24,858
	Fishing Guide	$4.9	$32,344
	Whitewater Rafting Guide	$3.1	$23,372
	Diving Instructor (Open Water)	$3.9	$30,988
	Mountain or Glacier Guide	$3.4	$33,819
	Trekking Guide	$2.4	$33,750
	Bungy Jump Master	$1.6	$28,382
	Hunting Guide	$1.2	$32,045
	Other Outdoor Adventure Guides	$20.1	$28,816
Administration and Facilities	Greenkeeper	$78.2	$29,704
	Sports Administrator	$41.2	$36,880
	Park Ranger	$20.6	$37,924
	Sports Centre Manager	$16.1	$44,628
	Fitness Centre Manager	$6.9	$44,796
	Turf Grower	$1.2	$37,250
	Sports Development Officer	$1.6	$48,409
Sport and Recreation Support	Physiotherapist	$108.7	$43,512
	Boat Builder and Repairer	$79.1	$39,818
	Conference and Event Organiser (1)	$49.7	$39,802
	Stablehand	$24.2	$21,508
	Massage Therapist (1)	$13.8	$21,627
	Horse Breeder	$15.2	$38,212
	Bicycle Mechanic	$5.2	$23,785
	Recreation Coordinator (1)	$4.1	$27,057
	Sail Maker	$4.8	$36,512
TOTAL		**$792.6**	**$31,391**

Note: (1) Only half the number in this occupation is included as sports and recreation.

Source: Statistics New Zealand, Census 2006 data, ANZSCO V1.0.

3.4 The market value of sport and recreation volunteers

Recognising the importance of volunteered services for the sport and recreation sector, SPARC has undertaken a programme of research on different aspects of volunteering. It commissioned, for example, a telephone survey of sport and recreation volunteers in 2007 (see Research New Zealand, 2008) and it included questions on volunteers in its *2007/08 Active New Zealand* survey (SPARC, 2008b). As described in the introduction to this report, SPARC's analysis of the later survey estimates that volunteers contributed 51.3 million hours to sport and recreation in 2007/08.

This large commitment of time by volunteers has two separate implications:

- The volunteer must obtain some personal benefit from donating their time to help others participate in sport and recreation. These personal benefits will be considered in Section 7.3 later in this report.

- The services of the volunteer bring benefits to those for whom the services are done. A volunteer club secretary, for example, performs work that the club would otherwise have to pay for in the absence of the volunteer. This means that it is possible to estimate the market value of the unpaid work.

In 2007, for example, Statistics New Zealand published a Non-profit Institutions Satellite Account for 2004. Preparation of that satellite account included using Time Use Survey activity data to assign volunteer activities undertaken by New Zealanders to similar paid occupations as explained by Statistics New Zealand (2007, p. 38):

> The technique chosen for estimating the economic value of formal unpaid work was 'replacement cost'. This technique assumes that an activity in unpaid work is worth the same amount as it is in market employment. Using Time Use Survey activity data, it was possible to assign many of the unpaid activities to similar paid occupations. All unpaid activities were then assigned the wage rate of the corresponding paid occupation. Each 'wage rate' was then weighted by the number of unpaid hours worked on that activity, and then aggregated to give an overall average 'volunteer wage rate' of $12.15 an hour as at 31 March 2004.

Allowing for wage increases over six years, $12.15 an hour in March 2004 is equivalent to $13.73 per hour in March 2008 (using the 'LCI: All Industries: All Salaries and Wage Rates: All Sectors' labour cost index provided by Statistics New Zealand). Thus, if each of the 51.3 million hours is valued as $13.73 per hour, then the total value to recipients of these volunteer services is $704.3 million.

In later sections of this report, calculations will be made for the 2008/09 financial year. Again using the 'LCI: All Industries: All Salaries and Wage Rates: All Sectors' labour cost index, $12.15 an hour in March 2004 is equivalent to $14.19 per hour in March 2009. If each of the 51.3 million hours of volunteer services to sport and recreation is valued at $14.19 per hour, then the total value to recipients of these services is $728 million.

Recall from Table 3.6 that the estimated total annual income earned by people employed in the sport and recreation sector in 2005/06 was $793 million, or $875 million in 2008/09 values. Thus the estimate of the value of volunteered services in this section is 83.2 per cent of the estimate of the salaries paid for employed services. This ratio is low by international standards where estimates greater than 150 per cent are typical (see, for example, Leisure Industries Research Centre, 2003, p. 14).

In part this may be explained by being able to use survey data in New Zealand to calculate the value of the volunteer time, whereas other studies may use average wage rates (see Gratton and Taylor, 2000, p. 132). It is also recognised, however, that the amount of time that individuals in New Zealand donate to sport and recreation organisations is relatively low; in the telephone survey of sport and recreation volunteers in 2007, for example, half of the sports volunteers reported that they volunteer for four hours or less per week, leading to a recommendation that "the sports sector should consider strategies and policies that are focused on the retention of existing volunteers (through enhancement of the volunteering experience) rather than on the acquisition of new volunteers, and also identify ways to compete for potential volunteers' available time" (SPARC, 2008c, p. 7).

Chapter 4
Producers of Sport and Recreation Goods and Services

Key Facts and Estimates

- **The value-added contribution of the sport and recreation sector (narrowly defined) to GDP in 2008/09 is estimated to have been $3.8 billion, or 2.1 per cent.**
- Total revenue generated by enterprises in selected sports and recreation categories in 2008 is estimated to have been $4.7 billion, 22.3 per cent of which came from sports and physical recreation venues, grounds and facilities operation.
- Total spending by households on selected sports and recreation categories in 2006/07 is estimated to have been $1.3 billion, or 1.6 per cent of total expenditure.
- Based on six categories of commodity exports and imports clearly related to sport and recreation, in 2010 the sector's exports are estimated to have been $451.4 million and its imports are estimated to have been $446.6 million.

Viewed in purely economic terms, enterprises producing goods and services directly for sport and recreation lie at the heart of the sector. These enterprises include manufacturers and retailers of sports and recreation equipment as well as individuals involved in sports coaching, recreation guiding and related activities. In measuring the size of any economic sector, the standard approach is to use a country's System of National Accounts to measure the sector's 'value-added' to the national economy. Thus this chapter begins in Section 4.1 with an analysis of the value added by the 17 industries identified in Chapter 3 as belonging to the sport and recreation sector.

There are supplementary ways to measure the size of the commercial sector involved in producing sport and recreation goods and services. Statistics New Zealand undertakes an Annual Enterprise Survey (AES), for example, that provides information on the income earned by enterprises selling sport and recreation goods and services. Every three years it undertakes a Household Economic Survey (HES) that has questions on household spending, including categories for spending on sport and recreation goods and services. These sources of information are analysed in Sections 4.2 and 4.3.

It is important to recognise that some sport and recreation goods are imported into New Zealand and that New Zealand in turn exports overseas (notably, horses and yachts). This component of the sector is analysed in Section 4.4.

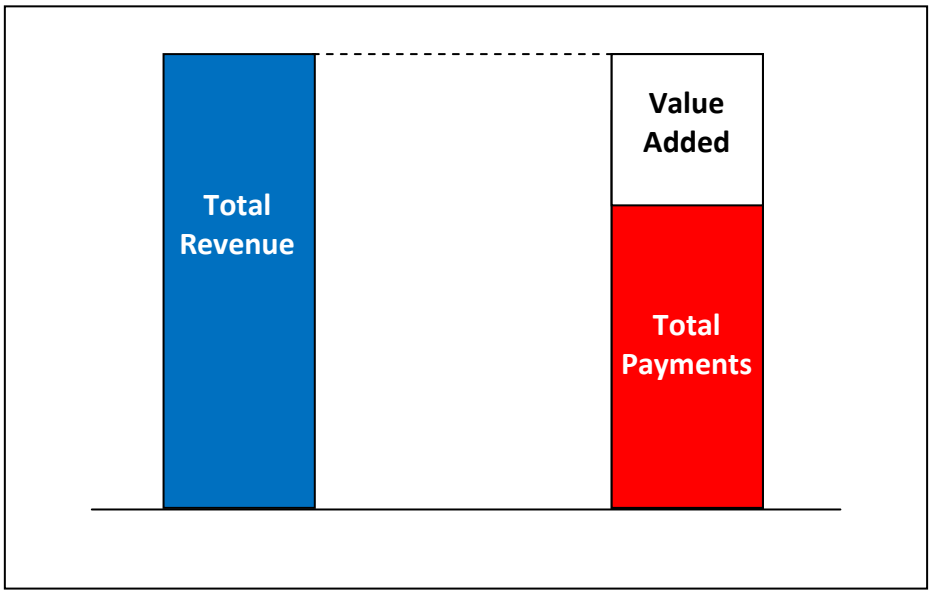
Throughout this chapter, the focus is on what the European Sport Satellite Accounts project terms the 'narrow definition' of the sector, encompassing only those industries that produce goods and services necessary for sport and recreation (see Section 1.3 in Chapter 1). The following two chapters will examine industries that are included in broader definitions.

4.1 Value added by sport and recreation industries

There are different ways to measure the size of an economic activity. Chapter 3 has already presented one common measure; namely the number of people employed in the sector performing the activity. Another approach is to estimate the total revenue (or turnover) generated in the sector; some data on this measure will be presented in the following Section 4.2. The System of National Accounts used by all countries to measure their GDP, however, is based on a measure known as "value added".

Consider a single enterprise, such as a horse farm. During a year, the farm might earn revenue from horse sales of $1,000,000 but might make payments totalling $600,000 to suppliers of the farm's inputs for goods and services such as horse-feed, fencing posts, veterinary services and financial advice. These inputs are provided by other enterprises to the horse farm, and so economists say that the horse farm's "value added" is $400,000. It is the difference between total revenue and total payments, and is the source for the wages and salaries paid to the farm's employees as well as the profits earned by the farm's owners.

Figure 4.1: Calculating a sector's value added



This same approach can be applied to an industry or sector of the economy. Thus the value added by the Horse Farming sector is calculated by adding up the total revenues of all the horse farms in the country and then subtracting all of the total payments made by the horse farms. This is shown in Figure 4.1. If we add up the value added in all the economy's sectors, then this produces the statistic called gross domestic product (better known by its abbreviation, GDP). The most common measure of a sector's size is the amount of its value added expressed as a percentage of GDP, since this is the sector's contribution to the total value added produced in the national economy.

Statistics New Zealand publishes estimates of GDP on a quarterly and annual basis, but it takes time to complete an analysis of contributions to gross domestic product by industry. Thus, the latest available analysis at the time of writing this report was for the financial year ending March 2007. The published data are at a reasonably aggregated level, so that the lowest level for the main sport and recreation industries is termed 'Cultural and Recreational Services'.

Only some of this category belongs in an analysis of sport and recreation, and so the standard approach under these circumstances is to use Census employment data to estimate the share of smaller segments. This is best illustrated by a worked example.

The contribution to gross domestic product (GDP) in 2006/07 of the entire 'Cultural and Recreation Services' sector is estimated to have been $3,673 million. In the 2006 Census, total employment in this sector was recorded at 32,691. Within the sector, the number of people employed in the 'Sport and Physical Recreation Clubs and Sports Professionals' industry was 4,320. Hence the employment ratio for this industry is 4,320/32,691 = 0.1321. Based on this ratio, the contribution to GDP by the 'Sport and Physical Recreation Clubs and Sports Professionals' industry is estimated as 0.1321 times $3,673 million = $485.2 million.

This figure estimates the 'value added' by the industry; that is, it estimates the income (gross of taxes) generated within the industry, excluding the value of goods and services provided by other industries as inputs. The delay in producing the sector analysis of GDP, and the need to use 2006 Census employment figures, mean that these data are not as up-to-date as other analyses in this report. Nevertheless, the contribution to GDP is typically taken as the most important indicator of a sector's size in the national economy.

Recall from Table 3.2 that 17 industries have been identified in the Australian and New Zealand Standard Industrial Classification 2006 as being sport and recreation industries. These are repeated in Table 4.1, showing their relevant industry sector in the GDP analysis and their employment ratio calculated from the 2006 Census data.

Table 4.2 then uses the data in Table 4.1 to estimate the contribution to GDP of each of the 17 sport and recreation industries. Table 4.2 estimates that the total contribution of sport and recreation industries (narrowly defined) in 2006/07 was $3,337 million. That year, total gross domestic product was $160,573 million. Hence the estimated share of these sport and recreation industries in 2006/07 was 2.1 per cent.

Later sections of the report make calculations based on 2008/09 values. Gross domestic product was $160,573 million in 2006/07 and $184,987 million in 2008/09. Multiplying $3,337 million by the ratio 184,987/160,573 provides an updated figure of $3,844 million.

Table 4.1: Sport and recreation industries and their employment ratio, 2006

ANZSCO Industry	'Contribution to GDP' Sector	Employment Ratio
Amusement and Other Recreation Activities (not elsewhere classified)	Cultural and Recreational Services	0.0599
Amusement Parks and Centres Operation	Cultural and Recreational Services	0.0286
Boatbuilding and Repair Services	Transport Equipment Manufacturing	0.3316
Health and Fitness Centres and Gymnasia Operation	Cultural and Recreational Services	0.0934
Horse and Dog Racing Administration and Track Operation	Cultural and Recreational Services	0.0215
Horse Farming	Livestock and Cropping Farming	0.0166
Nature Reserves and Conservation Parks Operation	Cultural and Recreational Services	0.0873
Other Horse and Dog Racing Activities	Cultural and Recreational Services	0.0426
Physiotherapy Services	Health and Community Services	0.0136
Sport and Camping Equipment Retailing	Retail Trade	0.0193
Sport and Physical Recreation Administrative Service	Cultural and Recreational Services	0.0519
Sport and Physical Recreation Clubs and Sports Professionals	Cultural and Recreational Services	0.1321
Sports and Physical Recreation Instruction	Education	0.0150
Sports and Physical Recreation Venues, Grounds and Facilities Operation	Cultural and Recreational Services	0.1339
Toy and Sporting Goods Wholesaling	Wholesale Trade	0.0132
Toy, Sporting and Recreational Product Manufacturing	Furniture and Other Manufacturing	0.0592
Turf Growing	Horticulture and Fruit Growing	0.0020

Source: Statistics New Zealand, National Accounts data and Census 2006 data.

Table 4.2: Contribution to GDP of sport and recreation industries, 2006/07

Industry	Contribution to GDP ($ millions)
Amusement and Other Recreation Activities (not elsewhere classified)	220.0
Amusement Parks and Centres Operation	105.0
Boatbuilding and Repair Services	297.8
Health and Fitness Centres and Gymnasia Operation	343.1
Horse and Dog Racing Administration and Track Operation	79.0
Horse Farming	35.6
Nature Reserves and Conservation Parks Operation	320.7
Other Horse and Dog Racing Activities	156.5
Physiotherapy Services	129.9
Sport and Camping Equipment Retailing	185.0
Sport and Physical Recreation Administrative Service	190.6
Sport and Physical Recreation Clubs and Sports Professionals	485.2
Sports and Physical Recreation Instruction	103.3
Sports and Physical Recreation Venues, Grounds and Facilities Operation	491.8
Toy and Sporting Goods Wholesaling	144.8
Toy, Sporting and Recreational Product Manufacturing	46.6
Turf Growing	2.2
TOTAL (measured in 2006/07 values)	**3,337.0**
TOTAL (measured in 2008/09 values)	**3,844.4**
Contribution to GDP (per cent)	**2.1%**

Source: Statistics New Zealand, National Accounts data and Census 2006 data as explained in the text.

It can be noted that this contribution of the sport and recreation industries was very close to that of the machinery and equipment manufacturing sector ($3,339 million) and larger than the contribution of the accommodation, restaurants and bars sector ($3,085 million) in 2006/07. Further, the analysis in this section has concentrated on the narrow definition of the sport and recreation sector; Chapters 5 and 6 consider contributions from a wider range of industries that are directly connected to sport and recreation in New Zealand.

4.2 Enterprise incomes and the annual enterprise survey

The previous section has presented this report's core measure of the size of the sport and recreation sector in New Zealand, narrowly defined. It is directly comparable to earlier reports in New Zealand for the Hillary Commission (see Section 1.2). For some policy purposes connected to business development, however, it can be useful to have information on the sector's total revenue as a supplement to the core measure of value added (see Figure 4.1 for the difference). This information can be obtained from Statistic New Zealand's Annual Enterprise Survey, which samples about 22,500 businesses out of an estimated population of 450,000 enterprises in the country.

Table 4.3: Enterprise incomes in the sport and recreation sector, 2008

Industries	Weighting of Industry	Total Income from Sport and Recreation	
		$ millions	Per Cent
Amusement and Other Recreation Activities n.e.c.	0.5	111.1	2.4%
Amusement Parks and Centres Operation	0.5	37.1	0.8%
Clothing Retailing	0.05	97.4	2.1%
Footwear Retailing	0.15	75.2	1.6%
Health and Fitness Centres and Gymnasia Operation	1	244.1	5.2%
Horse and Dog Racing Administration and Track Operation	1	128.3	2.7%
Marine Equipment Retailing	1	395.5	8.4%
Other Horse and Dog Racing Activities	1	141.1	3.0%
Sport and Camping Equipment Retailing	1	634.6	13.5%
Sport and Physical Recreation Administrative Service	1	425.5	9.0%
Sport and Physical Recreation Clubs and Sports Professionals	1	575.9	12.2%
Sports and Physical Recreation Instruction	1	79.7	1.7%
Sports and Physical Recreation Venues, Grounds and Facilities Operation	1	1,052.4	22.3%
Supermarket, Grocery and Department Stores	0.001	16.7	0.4%
Toy and Sporting Goods Wholesaling	1	561.3	11.9%
Toy, Sporting and Recreational Product Manufacturing	1	138.4	2.9%
TOTAL		**4,714.3**	**100%**

Source: NZIER using Statistics New Zealand Annual Enterprise Survey data.

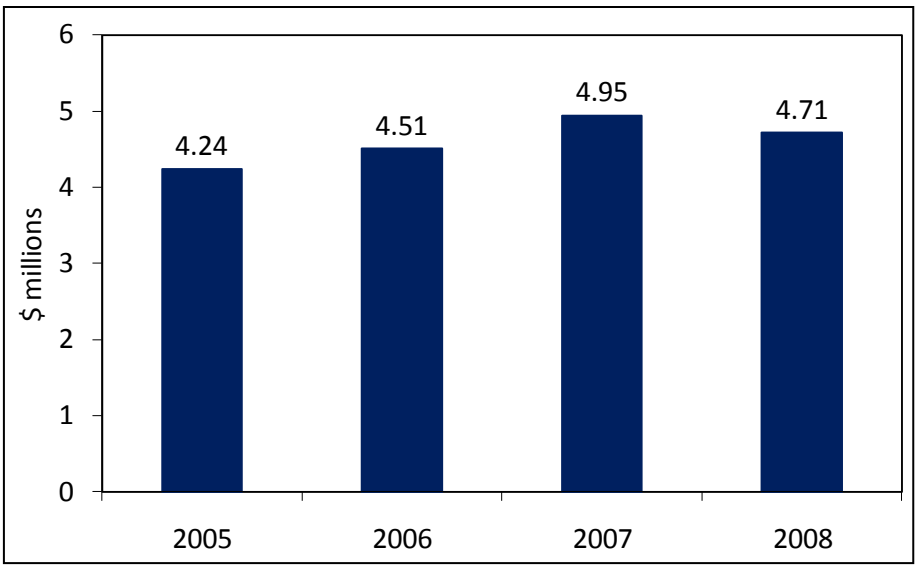
Data from the survey are generally supplied only at the one-digit level of the Australian and New Zealand Standard Industrial Classification 2006 (ANZSIC06). Group R of this classification covers Arts and Recreation Services, which is broader than required for this

report and leaves out some important sectors. Statistics New Zealand was able to provide data at a more disaggregated level with a caveat that the data are of a lower standard than official statistics (so the data are indicative only).

Table 4.3 shows 16 industries included in the definition of the sport and recreation sector. Some of these industries had only a part of their operations within the scope of the study, and so the table gives a weighting for each industry. The remaining columns of the table list the total income from sport and recreation, expressed first in millions of dollars and then as a percentage of total income for the sport and recreation sector. The sum is $4.7 billion, nearly a quarter of which (22.3 per cent) comes from sports and physical recreation venues, grounds and facilities operation.

Figure 4.2 presents a time series for the enterprise incomes data from 2005 to 2008. This shows strong growth between 2005 and 2007 before a decline in the recession of 2008. The last observation is entirely explained by a sharp recorded fall in marine equipment retailing, which fell by 266.1 million from its value in 2007.

Figure 4.2: Sports and recreation industry income, 2005-2008



Note: The data have not been adjusted for inflation.

Source: NZIER using Statistics New Zealand Annual Enterprise Survey data.

4.3 Household spending and the household economic survey

The two previous measures of the importance of the sport and recreation sector have focused on producers. An alternative approach is to consider the importance of sport and recreation expenditure to consumers. This is again supplementary information, since it would be double counting to include sales by producers and purchases by consumers in the same measure. The best source of information on consumer spending is Statistics New Zealand's Household Economic Survey.

Table 4.4: Relevant classifications of NZHEC Group 9 Recreation and Culture

Subgroups	Code	Subsection Name
9.2 Major recreational and cultural equipment	09.2.00.1	Major durables for outdoor recreation[1]
	09.2.00.2	Musical instruments[2]
	09.2.00.3	Major durables for indoor recreation[1, 2]
	09.2.00.4	Maintenance and repair of other major durables for rec'n and culture
9.3 Other recreational equipment and supplies	09.3.00.1	Games, toys and hobbies[2]
	09.3.00.2	Equipment for sport, camping and outdoor recreation
	09.3.00.3	Plants, flowers and gardening supplies[2]
	09.3.00.4	Pets and pet-related products[2]
9.4 Recreational and cultural services	09.4.00.1	Recreational and sporting services
	09.4.00.2	Cultural services[2]
	09.4.00.3	Veterinary and other services for pets and domestic livestock[2]
	09.4.00.4	Games of chance[2]

Note: 1. Major durables for outdoor recreation include recreational vehicles, launches and yachts. Major durable for indoor recreation include Billiard/pool/snooker tables. 2. These subsections are not included in the analysis of this chapter.

Source: Statistics New Zealand, downloaded from: www.stats.govt.nz/browse_for_stats/people_and_communities/Households/household-economic-survey-classifications.aspx.

At the time of preparing this report, aggregate results from the 2009/10 Household Economic Survey had just been published (on 25 November 2010), but the latest detailed data were from the 2006/07 survey. The data are collated using the New Zealand Household Expenditure Classification (NZHEC), which comprises 14 groups further divided into subgroups, classes, sections, subsections and items. Group 9 is devoted to Recreation and Culture, and subgroups 9.2-9.4 are directly related to sport and recreation. Table 4.4 presents all the subsections of these three subgroups, noting which ones are not relevant for this report.

As well as these major sport and recreation subsections, other items in the HES are relevant. Unfortunately, concerns about confidentiality or low expenditure means some of these items do not have accessible data. These items, and a note about whether the associated data are available, are listed in Table 4.5. A key missing item is women's shorts, sweatshirts, leisurewear and sportswear. This is estimated in Table 4.6 by noting from SPARC (2008b), that the female adult population is 7.0 per cent higher than the male adult population, but women participate in a lower average number of sport and recreation activity types over

twelve months, excluding walking and gardening (3.8 versus 2.8; see Table 2.5). Estimates have not been made for children's clothing or for adult or children's sporting footwear (generally imported; see Section 4.4 below).

Table 4.5: Other relevant NZHEC subsections and items

Code	Subsection or Item Name
01.4.02.5.0.00	Sports energy drinks, body building drinks
03.1.02.0.5	Men's shorts, sweatshirts, leisurewear, sportswear
03.1.03.0.6	Women's shorts, sweatshirts, leisurewear, sportswear[1]
03.1.04.1.5	Boys' shorts, sweatshirts, leisurewear, sportswear[2]
03.1.04.2.6	Girls' shorts, sweatshirts, leisurewear, sportswear[2]
03.2.02.0.0.06	Men's sports footwear[2]
03.2.03.0.0.06	Women's sports footwear[2]
03.2.04.0.0.06	Children's and infants' sports footwear[2]
07.1.04.0.0	Purchase of bicycles
07.2.04.0.0.01	Bicycle, all repair services

Note: 1. Data not available; estimated using the men's figure based on *2007/08 Active NZ* survey data for the male and female adult populations and the male and female average participation in number of activities types per year, excluding walking and gardening (3.8 versus 2.8). 2. Data not available.

Source: Statistics New Zealand, downloaded from: www.stats.govt.nz/browse_for_stats/people_and_communities/Households/household-economic-survey-classifications.aspx.

Table 4.6 presents aggregate annual expenditure by all private households on sport and recreation for the year ending June 2007. It estimates that total spending on the selected categories was just over $1.3 billion, which was 1.6 per cent of total expenditure by households that year. To give a point of reference, the total of $1.3 billion lies between total household spending on education ($1.0 billion) and on health ($1.8 billion), which are major groups 06 and 10 respectively in the Household Economic Survey. This value can also be compared with some other important items of household discretionary spending:

- Ready-to-eat food: $1.7 billion
- Alcoholic beverages: $1.6 billion
- Cultural services: $1.4 billion
- Restaurant meals: $1.3 billion
- Newspapers, books and stationery: $0.8 billion

The two big categories of spending are sport and recreation equipment (which combine to $507.2 million, or 38.7 per cent of the total in Table 6.3) and subscription, donations and participation fees (which combine to $488.8 million, or 37.3 per cent).

Table 4.6: Household spending on sport and recreation goods and services, 2006/07

Categories[1]	Aggregate Annual Expenditure by all Private Households	
	$ million	Per Cent
Sports drinks	14.0	1.1%
Sports clothing[2]	41.3	3.2%
Bicycles (purchases and repairs)	72.5	5.5%
Major recreational equipment	199.4	15.2%
Sport and other recreational equipment	307.8	23.5%
Tuition fees for sport and recreation	93.1	7.1%
Subs and donations for sports and recreation	192.9	14.7%
Charges for participation in sports and recreation	295.9	22.6%
Admission charges and hire of S&R goods	92.6	7.1%
TOTAL	1,309.5	100%

Note: 1. Data are not available for sports footwear and for children's clothing. 2. Data for women's clothing have been estimated as explained in the notes for Table 4.5.

Source: Statistics New Zealand, Household Economic Survey, detailed data.

4.4 Sport and recreation imports and exports

Statistics New Zealand maintains a comprehensive record of commodity imports and exports that can be accessed through its Infoshare facility (www.stats.govt.nz/infoshare/). There are six main categories where the subject is clearly related to sport and recreation:

- Horses for racing and sport
- Tracksuits, ski suits and swimwear
- Sports footwear
- Bicycles and other cycles
- Yachts and other vessels; for pleasure or sports, rowing boats and canoes
- Sports and outdoor recreation equipment

Table 4.7 presents exports and import values for these six categories for 2010 (also shown in Figure 4.3). The totals are an understatement as there will be other sport and recreation commodities included under more general headings (especially apparel). Nevertheless, the table suggests that New Zealand's overall trade in sport and recreation commodities is reasonably balanced (the value of exports is close to the value of imports) and emphasises the dominance of horses and yachts in New Zealand exports under this heading.

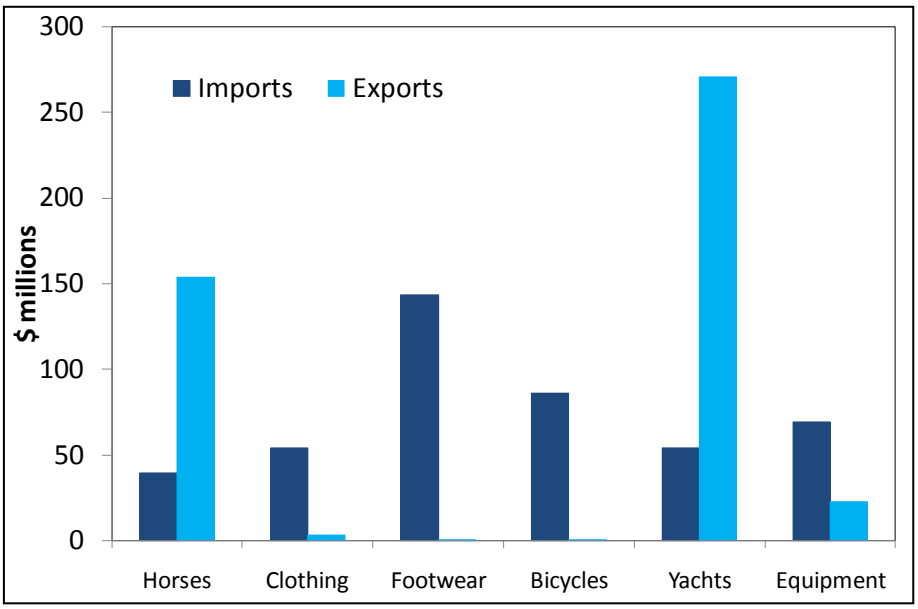
Table 4.7: Exports and imports of sport and recreation commodities, 2010

Industry	Imports (cif) ($ millions)	Exports (fob) ($ millions)
Horses for racing and sport	69.0	153.8
Tracksuits, ski suits and swimwear	54.0	3.2
Sports footwear	39.7	0.4
Bicycles and other cycles	54.1	0.6
Yachts and other vessels	86.2	270.6
Sports and outdoor recreation equipment	143.6	22.7
TOTAL	**446.6**	**451.4**

Note: cif means 'cost including insurance and freight'; fob means 'free on board' (that is, the value of goods loaded at New Zealand ports before export).

Source: Statistics New Zealand Harmonised Trade data accessed through Infoshare.

Figure 4.3: Exports and imports of sport and recreation commodities, 2010



Source: Table 4.7.

Chapter 5
Providers of Sport and Recreation Infrastructure

Key Facts and Estimates

- **The contribution of the sport and recreation sector (broadly defined) to GDP in 2008/09 is estimated to have been $4.5 billion, or 2.4 per cent.**
- **The contribution of sport and recreation to GDP including volunteered services in 2008/09 is estimated to have been $5.2 billion, or 2.8 per cent.**
- Just over five per cent of the topics in New Zealand's *National Curriculum* for schools clearly involve sport and recreation education.
- 35 per cent of secondary school teachers were recorded as being involved with school sport in 2010.
- Central government's spending on sport and recreation in the 2009/10 fiscal year was budgeted to be $483.1 million.
- Local government fixed assets for sport and recreation in the 2008/09 financial year are estimated to have been valued at $7.0 billion.
- Statistics New Zealand recorded 14,910 sports non-profit institutions as at October 2005, only 9.3 per cent of which employed any paid staff.

The ultimate intention of SPARC's 'Value of Sport and Recreation' research programme would be to record the contribution to GDP of all activities clearly related to sport and recreation. Chapter 4 estimated the contributions of the industries that are most easily identified as producing goods and services for sport and recreation, but other industries are also relevant. Internationally, researchers have adopted diverse methods to estimate the value of these other industries, with a notable example being a report prepared for Sport England by the Sport Industry Research Centre at Sheffield Hallam University (SIRC, 2007). That report aimed to measure the economic importance of sport in London, using official statistics data (apart from some primary data collection on volunteer contributions) within a national income accounting framework. The SIRC report identified seven sectors: consumers; commercial sport; commercial non-sport (such as a beer company sponsoring a football club); local government; central government; and sectors outside London.

This present study has not had the resources to replicate the SIRC (2007) level of detail, but it has sought to follow its example in identifying a broader range of activities related to sport and recreation outside the narrow definition adopted in Chapter 4, paying attention to core contributions by central and local government. In identifying these activities, the study was guided by three principles:

- It needed to be possible to use official data sources to identify the value-added contribution to GDP by the selected activity.
- It needed to be clear that the identified value-added contribution had not already been included in the estimates produced in Chapter 4 of this report.
- The identified activity needed to make a material contribution to the sport and recreation sector in New Zealand.

Three items were selected for this analysis: Section 5.1 analyses the income earned in sport and recreation occupations *outside* the sport and recreation industries; Section 5.2 analyses the investment by central government in the sport and recreation components of *The National Curriculum* in primary and secondary schools; and Section 5.3 analyses the investment by local government in constructing new sport and recreation facilities.

The private sector, of course, also provides sport and recreation infrastructure. It hasn't been possible to estimate the value of this investment by the private sector, but the second half of the Chapter recognises its importance: Section 5.4 offers a case study example of a private firm that began with a small gymnasium in 1968 and now delivers fitness programmes around the world; Section 5.5 gives an overview of sport and recreation clubs; and Section 5.6 discusses three other important sources of public and private funding in the sport and recreation sector: lottery funding; gaming funding; and sponsorship.

The chapter finishes in Section 5.7 with a summary of this report's estimate of the measured market value of sport and recreation made up of the value-added by the 17 core industries in Chapter 4 plus the value of the three additional items identified in Sections 5.1, 5.2 and 5.3. The 2008/09 contribution of the sector is estimated to have been $4.5 billion, or 2.4 per cent of GDP. Section 5.7 then incorporates the market value of contributions by volunteers analysed in Chapter 3. Taking into account the contribution of volunteers (including their wider contribution to GDP), the sport and recreation sector in 2008/09 is estimated to have had a measured market value of $5.2 billion, or 2.8 per cent of GDP.

5.1 Sport and recreation incomes outside sport and recreation industries

Chapter 3 calculated the number of people who reported working either in one of 17 sport and recreation industries or in one of 42 sport and recreation occupations. This revealed that 36,831 people worked in sport and recreation industries and that a further 11,532 people worked in sport and recreation occupations outside of these 17 industries (see Figure 3.1). The income earned by the first set of people is included in the value-added calculations of Chapter 4, but to be consistent with the definition of the sector adopted in this study, the income earned by the second set of people should also be included.

Table 3.6 reported this study's estimate that the total income earned by people employed in sport and recreation occupations in 2005/06 was $792.6 million. From Figure 3.1, 13,719 out of 25,251 people in the sport and recreation sector were employed in sport and recreation industries, or 54.3 per cent; this income is already included in the value added calculations of the sector narrowly defined in Chapter 4.

Assuming that average incomes are the same for these occupations inside and outside of the sport and recreation industries, 45.7 per cent of $792.6 million should be included in a broader definition; that is, a further $362.2 million.

This figure is for the year ending March 2006. The can be updated from 2006 to 2009 using the Statistics New Zealand Labour Cost Index (all industries: all salary and wage rates: all sectors). The values of this index for the years ending March 2006 and March 2009 were 894 and 987. Multiplying $362.2million by the ratio 987/894 produces a figure of $400 million.

Thus Section 5.7 of this chapter will included the value-added measure of $400 million in its estimate of the contribution to GDP of the sport and recreations sector (broadly defined).

5.2 Central Government

The New Zealand Government supports sport and recreation activities across a wide range of portfolios, including the specialist sport and recreation portfolio. Table 5.1 presents financial data from *The Estimates of Appropriations 2010/11* on central government funded programmes for the year ending June 2010. This suggests total central government spending of $483.1 million, of which three-quarters (75.1 per cent) is accounted for by Vote: Education (primary education and secondary education) and by Vote: Conservation.

Reports for the former Hillary Commission on the value of sport and recreation all identified the importance of the New Zealand education system as part of the government's support for sport and recreation (Jensen *et al*, 1993, p. 39; Frater *et al*, 1998, p. 28; and Goodchild *et al*, 2000, p. 20). This includes substantial investment in sport and recreation facilities. The School Property Guide, for example, states that public secondary schools (teaching Year 9 to 13+ students) with a roll of more than 200 students are entitled to a gymnasium no smaller than the size of an international basketball court. All public schools are also entitled to a multiple-purpose hall whose size depends on the school roll and level.

Further, New Zealand has 2,143 state schools with 16,981 buildings on more than 19,000 hectares of land, with a total capital value of $10,537 million (Ministry of Education, 2010, p. 20). As well as multi-purpose halls and gymnasiums, this property includes outdoor facilities such as playing fields and swimming pools. To give an idea of the scale of this investment, the 2009 Annual Report stated that the *depreciation* on the value of swimming pools was $11.1 million for that financial year (Ministry of Education, 2009, p. 67).

These figures do not include New Zealand's 331 state integrated schools and 90 private schools (where the properties are owned by the proprietors). Data on sport facilities for these schools are not available. Therefore, to estimate the respective values of the primary and secondary education systems for supporting sport and recreation in New Zealand, a different approach has been taken based on *The National Curriculum*.

Table 5.1: Central Government spending on sport and recreation, 2009/10

Programme	Vote	Estimated Actual ($ millions)
Primary Education[1]	Education	136.7
Management of Recreational Opportunities	Conservation	123.9
Secondary Education[1]	Education	102.2
High Performance Sport	Sport and Recreation	38.3
Negotiation and Completion of Stadium Projects	Economic Development	34.0
Sport and Recreation Programmes[2]	Sport and Recreation	16.7
Major Events Development Fund	Economic Development	7.6
Prime Minister's Sport Scholarships	Sport and Recreation	4.3
Louis Vuitton Trophy Series	Economic Development	3.5
Racing Promotion and Sponsorship Scheme	Racing	3.0
Search and Rescue Activities[3]	Transport	2.5
Management Support of the National Cycleway	Tourism	2.2
Sports Anti-Doping	Sport and Recreation	2.2
New Zealand Walking Access Commission	Agriculture and Forestry	1.8
Grant to Rowing New Zealand	Economic Development	1.0
Racing Safety Development Fund	Racing	1.0
Rugby World Cup Free-to-Air Broadcasting Right	Economic Development	0.6
The National Cycleway Fund	Tourism	0.6
Policy Advice – Racing	Racing	0.3
Recreational Opportunities Review	Conservation	0.3
Support for New Zealand's Campaign for the 2010 FIFA World Cup	Sport and Recreation	0.3
Purchase Advice and Monitoring of Sport and Recreation Crown Entities	Sport and Recreation	0.1
Miscellaneous Sports and Recreation Grants[4]	Sport and Recreation	0.0
TOTAL		**$483.1**

Note: 1. The estimates for Primary Education and Secondary Education are very approximate, based on the observation that 'health and physical education' is one of eight learning areas in *The National Curriculum*, with three of its seven key areas of learning specifically related to sport and recreation. 2. Includes the share of the Kiwisport initiative delivered through SPARC. 3. One-third of government spending on search and rescue has been assumed to be related to sport and recreation activities. 4. The total value of these grants was $44,000.

Source: Treasury (2010a).

The National Curriculum specifies eight learning areas: English, the arts, health and physical education, learning languages, mathematics and statistics, science, social sciences, and technology. The third of the eight learning areas is 'health and physical education' with physical education described as follows (Ministry of Education, 2007, p. 23):

> In physical education, the focus is on movement and its contribution to the development of individuals and communities. By learning in, through, and about movement, students gain an understanding that movement is integral to human expression and that it can contribute to people's pleasure and enhance their lives. They learn to understand, appreciate, and move their bodies, relate positively to others, and demonstrate constructive attitudes and values. This learning takes place as they engage in play, games, sport, exercise, recreation, adventure, and expressive movement in diverse physical and social environments. Physical education encourages students to engage in movement experiences that promote and support the development of physical and social skills. It fosters critical thinking and action and enables students to understand the role and significance of physical activity for individuals and society.

Health and physical education in the *Curriculum* covers seven key areas of learning – mental health, sexuality education, food and nutrition, body care and physical safety, physical activity, sport studies, and outdoor education – all of which must be included in teaching and learning programmes at both primary and secondary levels. Three of these are specifically related to sport and recreation: physical activity, sport studies, and outdoor education. Recall that 'health and physical education' is one of eight learning areas; hence it can be said that three-sevenths of one-eighth, or just over five per cent, of topics in *The National Curriculum* clearly involve sport and recreation education.

This importance attached to sport and recreation activities in *The National Curriculum* is reflected in substantial resources invested in this aspect of young people's development. To provide a guide to the scale involved, the total public spending for curriculum delivery in 2009/10 was estimated to be $2,551.7 million for Year 0 to Year 8 students and $1,907.0 for Year 9 to Year 13 students (Treasury, 2010a, p. 103). *Three-sevenths of one-eighth of the curriculum would account for government spending of $136.7 million in the primary education budget and $102.2 million in the secondary education budget.* These figures are reproduced in the first and third rows of Table 5.1.

To be consistent with the national income accounting framework used in this study, these two expenditure items must be converted to value-added measures. This is achieved by including only the salary component of the expenditure. Treasury (2010b, p. 116) advises that salaries funding in 2009/10 was estimated to be $1,912 million for primary education and $1,382 million for secondary education. Multiplying these salaries by 3/56 for an estimate of the share for delivery of the sport and recreation components of the national curriculum, and using the Statistics New Zealand Labour Cost Index (all industries: all salary and wage rates: central government sector) to scale the figures to 2008/09 values, *this produces value-added estimates of $100 million for primary school education and $72 million for secondary school education in 2008/09, or $172 million in total*. This figure is used in the summary Section 5.7 of this chapter (see Table 5.10).

This level of investment requires a high degree of professional commitment from teachers and coordinators in schools. In 2006, for example, the Education Review Office evaluated the quality of teaching of health and physical education at Year 4 and Year 8 in 151 schools. Its report included the following observations (ERO, 2007, pp. 11-12):

> Almost all (98 percent) teachers stated that they felt confident with and capable of teaching health and physical education. Ninety-eight percent of the teachers also reported that their pre-service training had prepared them well to teach health and physical education.
>
> Half (51 percent) of the teachers had some formal qualification specific to the teaching of health and physical education in addition to their pre-service training. The most common were: sports coaching qualifications, particularly swimming, and university degrees in either physical education or education with a major in physical education.

Another indication of the involvement of teachers in sport and recreation is provided by the New Zealand Secondary Schools Sport Council (NZSSSC), which undertook a census of students who had a meaningful engagement with sport in their secondary school in 2010 along with the involvement of staff (see www.nzsssc.org.nz/secondary_schools_sports_data). Table 5.2 presents the results of the census, analysed by region. It records that nationally, 34.8 per cent of teaching staff have a 'meaningful involvement' with a school sports programme. This does not count those who are involved only in inter-form or inter-house sport; nor does it allow for the fact that some teachers are involved in more than one sports programme in their school. The table also shows that nearly two-thirds of those involved in sport are acting as coaches.

Bringing these two sources together, almost all primary and intermediate school teachers (98 per cent) and just over one-third of secondary school teachers (35 per cent) can be described as having a meaningful involvement in their students' sport and recreation activities. At April 2010 there were 27,823 teaching staff in primary and intermediate schools, and 24,740 teaching staff in higher level schools (based on headcount data available at www.educationcounts.govt.nz/statistics/schooling/ts/teaching_staff). Applying the above ratios to these data, this suggests that 35,876 teachers are responsible for planning, coaching or supervising sport and recreation activities as part of their work commitments.

In August 2009, Prime Minister John Key launched Kiwisport, an initiative to invest $82 million over four years to encourage participation in sport of school-aged children (see www.sparc.org.nz/en-nz/young-people/Kiwisport/About-Kiwisport/). The initiative has two components. The first component is paid directly to schools through the Ministry of Education, equating to approximately $21 per secondary student and $13 per primary student. The second component, the Regional Partnership Fund, is administered by Sport and Recreation New Zealand working in partnership with regional sports trusts. Each trust is required to involve key stakeholders in local communities (including schools, NSOs, RSOs, clubs, private providers, community groups, gaming organisations, and children themselves) in developing plans (which must be approved by SPARC) that will get more young people involved in organised sport.

Table 5.2: Secondary school teachers involved in sport, by region, 2009

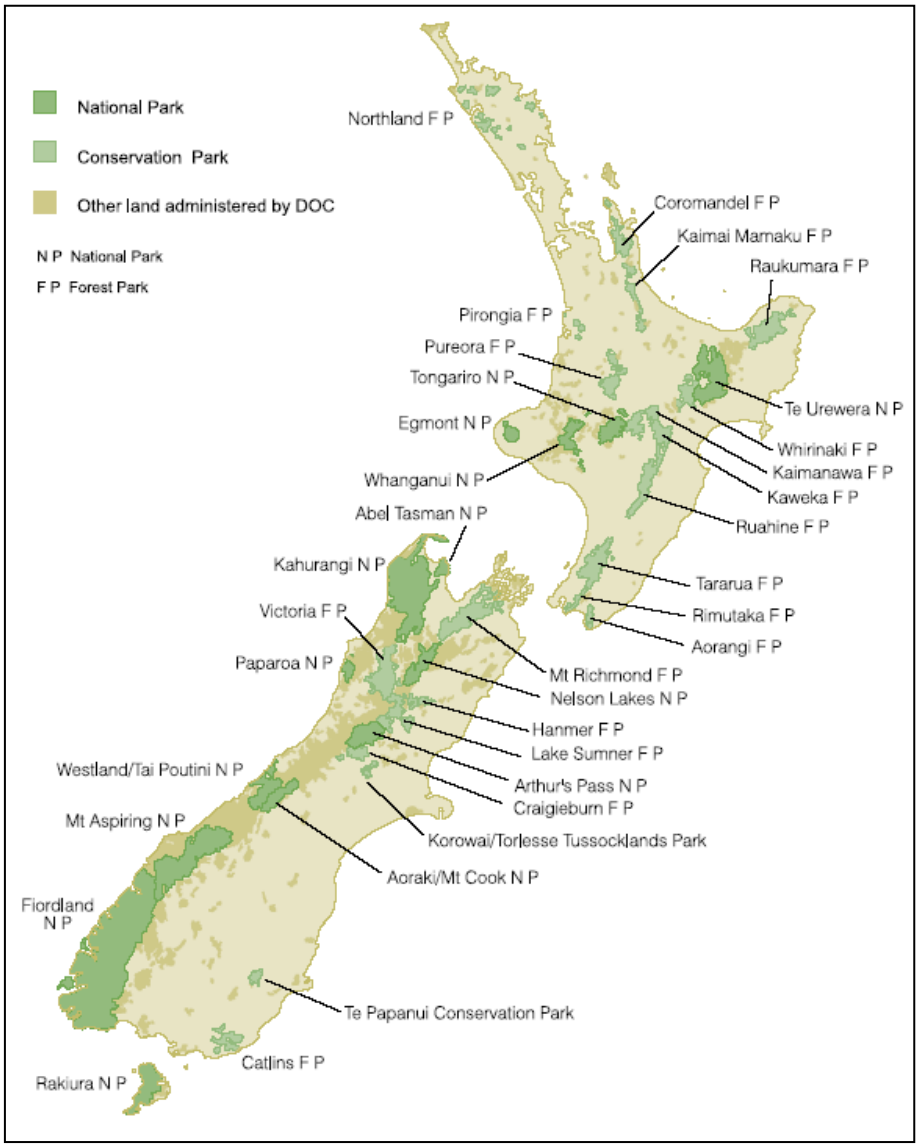
Region	Number of Teachers			Per Cent of Teachers Involved in Sport	Per Cent of Teachers Involved as Coaches
	Total Number	Involved in Sport	Involved as Coaches		
Aoraki	662	298	179	45.0%	27.0%
Auckland (Auckland)	2,518	876	520	34.8%	20.7%
Auckland (Counties)	2,495	703	404	28.2%	16.2%
Auckland (Harbour)	1,831	602	336	32.9%	18.4%
Auckland (Waitakere)	984	352	208	35.8%	21.1%
Bay of Plenty	1,814	534	320	29.4%	17.6%
Canterbury	2,831	1,193	683	42.1%	24.1%
Eastland	299	76	52	25.4%	17.4%
Hawkes Bay	1,018	458	305	45.0%	30.0%
Manawatu	864	380	220	44.0%	25.5%
Northland	1,055	242	160	22.9%	15.2%
Otago	938	430	266	45.8%	28.4%
Southland	682	250	156	36.7%	22.9%
Taranaki	694	257	162	37.0%	23.3%
Tasman	879	184	124	20.9%	14.1%
Waikato	2,090	714	396	34.2%	18.9%
Wairarapa	272	126	66	46.3%	24.3%
Wanganui	465	167	115	35.9%	24.7%
Wellington	2,277	735	413	32.3%	18.1%
National Total	**24,668**	**8,577**	**5,085**	**34.8%**	**20.6%**

Source: NZSSSC census data, downloaded 21 February 2011 at www.nzsssc.org.nz/secondary_schools_sports_data.

Figure 5.1 presents a map of lands administered by the Department of Conservation (DOC). The shaded areas in Figure 5.1 amount to about thirty per cent of New Zealand's total land area where the following activities are possible:

- abseiling
- bird watching
- diving/snorkelling
- flora and fauna
- guided activities
- hunting
- mountain biking
- scenic driving
- trail biking
- activities with children
- caving
- dog walking
- four wheel driving
- historic sites
- kayaking/canoeing
- photography
- sea kayaking
- aerial activities
- climbing
- fishing
- gold fossicking
- horse riding
- motor boating
- rafting
- skiing

Figure 5.1: Public conservation areas administered by the Department of Conservation



Source: DOC (2003), p. 127.

DOC maintains hundreds of tracks and trails to cater for every level of fitness. This includes nine Great Walks, which are the department's premier walking tracks that take trampers through some of the best scenery in the country. Table 5.3 lists the nine Great Walks and presents data on the number of visitors in 2008/09.

The Department of Conservation valued its property, plant and equipment as at 30 June 2010 at $523.2 million, an increase from $494.3 million at 30 June 2009 (DOC, 2010, p. 78). This includes $324.5 million invested in visitor and cultural assets. *The Department's budget for management of recreational opportunities in the 2009/10 financial year was $123.9 million*. This figure is reproduced in the second line of Table 5.1. Note that this spending will already have been counted in Chapter 4 (under 'Nature Reserves and Conservation Parks Operation' in Table 4.2, for example) and so will not be counted again in this chapter's calculations in Section 5.7.

Table 5.3: Visitor numbers to the great walks, 2008/09

	Period Covered	Independent Visitors (IVs)[1]	Proportion of IVs from NZ	Total Visitors (Independent Plus Guided)
Abel Tasman Coast	Jul 08 – Jun 09	30,847	46%	30,847
Heaphy Track	Jul 08 – Jun 09	4,992	65%	4,992
Kepler Track	Oct 08 – Apr 09	8,684	27%	8,684
Milford Track[2]	Oct 08 – Apr 09	7,190	33%	14,400[3]
Rakiura Track	Jul 08 – Jun 09	1,524	28%	1,524
Routeburn Track[2]	Oct 08 – Apr 09	12,503	32%	16,300[3]
Tongariro Northern Circuit	Late Oct 08 – Early Jun 09	5,580[3]	40%	5,580[3]
Waikaremoana	Jul 08 – Jun 09	5,276	76%	5,276
Whanganui Journey	Jul 07 – Jun 08	Data Not Available		

Notes: 1. With the exception of Rakiura (see note 3), 'independent visitors' represents the number of individuals staying at least one night who did not walk with a guided group. With the exception of the Milford it does not imply that they walked the entire length of the Walk. The Rakiura Track includes circuit walkers only. 2. Milford and Routeburn revision: guided walker numbers are no longer available and are estimated from previous years' returns. 3. Estimate.

Source: Department of Conservation website, www.doc.govt.nz/about-doc/role/maps-and-statistics/visitor-statistics-and-research/great-walks-visitor-statistics/.

The lead central government agency for the sector is Sport and Recreation New Zealand (SPARC; see www.sparc.govt.nz). SPARC was established on 1 January 2001 as a Crown entity under the Sport and Recreation New Zealand Act 2002. Section 8 of the Act sets out the agency's statutory objectives:

(a) develop and implement national policies and strategies for physical recreation and sport:
(b) allocate funds to organisations and regional bodies in line with its policies and strategies:
(c) promote and advocate the importance of participation in physical activity by all New Zealanders for their health and well-being:
(d) promote and disseminate research relevant to physical recreation and sport:
(e) provide advice to the Minister on issues relating to physical recreation and sport:
(f) promote and support the development and implementation of physical recreation and sport in a way that is culturally appropriate to Māori:
(g) encourage participation in physical recreation and sport by Pacific peoples, women, older New Zealanders, and people with disabilities:
(h) recognise the role of physical recreation and sport in the rehabilitation of people with disabilities:
(i) facilitate the resolution of disputes between persons or organisations involved in physical recreation and sport:

(j) work with schools, regional, central, and local government, and physical recreation and sports organisations to ensure the maintenance and development of the physical and organisational infrastructure for physical recreation and sport:
(k) work with health, education, and other agencies to promote greater participation in physical recreation and sport through policy development, advocacy, and support, in line with the objectives of the New Zealand health strategy:
(l) provide advice and support for organisations working in physical recreation and sport at national, regional, and local levels:
(m) facilitate co-ordination between national, regional, and local physical recreation and sport organisations:
(n) represent the Government's policy interests in physical recreation and sport internationally.

The Chairman's and Chief Executive's Report for 2010 noted the following funding highlights over the previous twelve months (SPARC, 2010, pp. 3-6):

- The KiwiSport Regional Partnership Fund was established, with more than $6 million being allocated to regional sports trusts for KiwiSport projects over the year.
- SPARC allocated an additional $1 million to retain regional sport directors throughout the country, whose key role is to support a network of over 400 secondary school sport coordinators.
- By the 2012/13 financial year, total funding for high performance sport will increase to over $60 million annually, representing a 43 per cent increase from previous allocations.
- Investment of $30 million has been committed to develop a national network of high performance sports facilities, including a $40 million expansion of the Millennium Institute of Sport and Health in Auckland.
- The release of the Outdoor Recreation Strategy in August 2009 has led to the introduction of a contestable investment process for outdoor recreation. The new process will be implemented in 2010/11 and will be supported by increased annual investment from $620,000 to $1.2 million.
- SPARC invested $17.9 million across more than 65 national sport organisations, 17 regional sports trusts and two disability organisations, primarily to increase participation in sport and recreation.
- During 2009/10 SPARC invested $35 million in community sport and recreation programmes; and $38 million in high performance sport.

In the 2009/10 financial year, SPARC received operating revenue of $106.4 million. This came from four sources (SPARC, 2010, p. 54):

- Crown funding of $59.6 million, comprising $16.7 million for sport and recreation programmes, $38.7 million for high performance sport and $4.3 million for sport education scholarships.
- New Zealand Lottery Grants Board funding of $43.3 million, including various one-off grants amounting to $12.4 million, of which $9.5 million was to be invested into high performance sports facilities.
- Contract revenue of $2.7 million, almost entirely from the Ministry of Education.
- Interest and sundry revenue of $0.8 million.

For the most part, the spending by central government recorded in Table 5.1 will be counted in the industry statistics considered in chapter 4. Department of Conservation spending on 'management of recreational opportunities', for example, will have been recorded under the heading of 'Nature Reserves and Conservation Parks Operation' in Table 4.2. A significant exception, however, is the spending on Vote: Education, since the primary education and the secondary education subsectors were not included in the analysis of Table 4.2.

Thus Section 5.7 of this chapter will include the value-added measure of $172 million in its estimate of the contribution to GDP of the sport and recreations sector (broadly defined).

5.3 Local Government

Local government in New Zealand is made up of 11 regional councils and 67 territorial authorities (city councils, district councils and the Auckland Council, created by a merger of 8 former councils on 1 November 2010). These councils have two statutory objectives defined in the Local Government Act 2002 (section 10):

> The purpose of local government is—
>
> (a) to enable democratic local decision-making and action by, and on behalf of, communities; and
>
> (b) to promote the social, economic, environmental, and cultural well-being of communities, in the present and for the future.

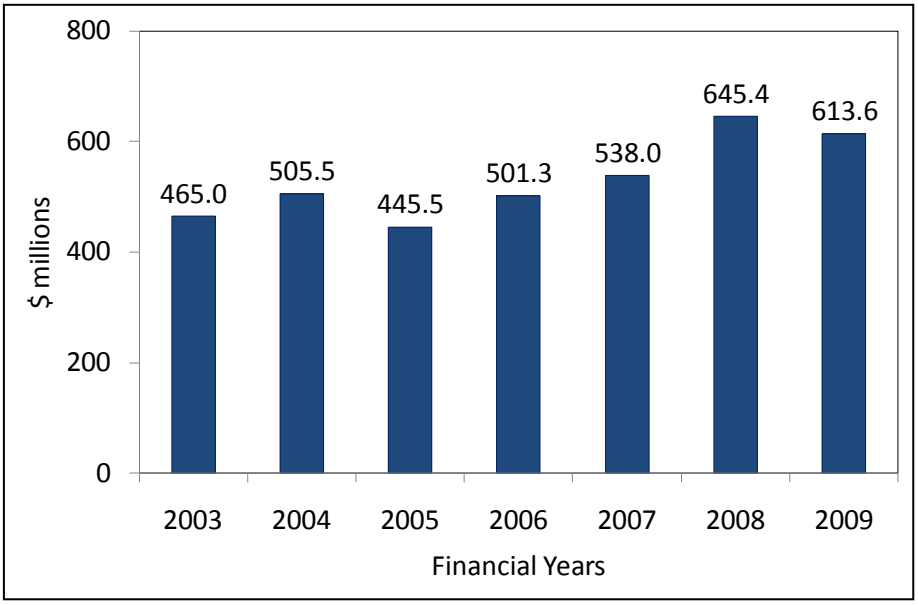
These objectives are potentially very broad ranging, and sanction the involvement of local government in providing facilities for the sport and recreation of their communities. Councils are responsible for caring for and maintaining lakes, rivers, beaches, parks, camping grounds, sports fields, stadiums, swimming pools, recreation centres, gymnasiums, cycle-ways, walkways, playgrounds, picnic areas and botanic gardens. The new Auckland Council, for example, reports that the region has more than 4,219 parks covering 83,164 hectares (16.6 per cent of the Auckland land area).

Statistics New Zealand undertakes an annual Local Authority Census to collect financial information on the activities of all New Zealand's regional councils and territorial authorities (including the Auckland Regional Transport Authority). The latest published data at the time of writing this report were for the 2008/09 financial year (that is, before the creation of the amalgamated Auckland Council). Statistics New Zealand comments that varying organisational structures and accounting systems within local authorities mean that data for some council activities are not available or are estimated.

The published tables from the Local Authority Census include an analysis of total operating income and expenditure by sixteen activities. One of the activities is 'recreation and sport', which includes aquatic and sports facilities, zoological and botanical gardens, parks, reserves and playgrounds (such as bike and walking tracks, and parks and trails), and marine recreational facilities (such as berths, moorings, and access ways to water for sport and recreation activities).

Figure 5.2 shows total local government operating expenditure on recreation and sport for the financial years 2003 to 2009. These data have not been adjusted for inflation, but even allowing for rising prices there was a significant increase after 2007. In the last financial year, the amount was $613.6 million.

Figure 5.2: Local Government operating expenditure on recreation and sport, 2003-2009



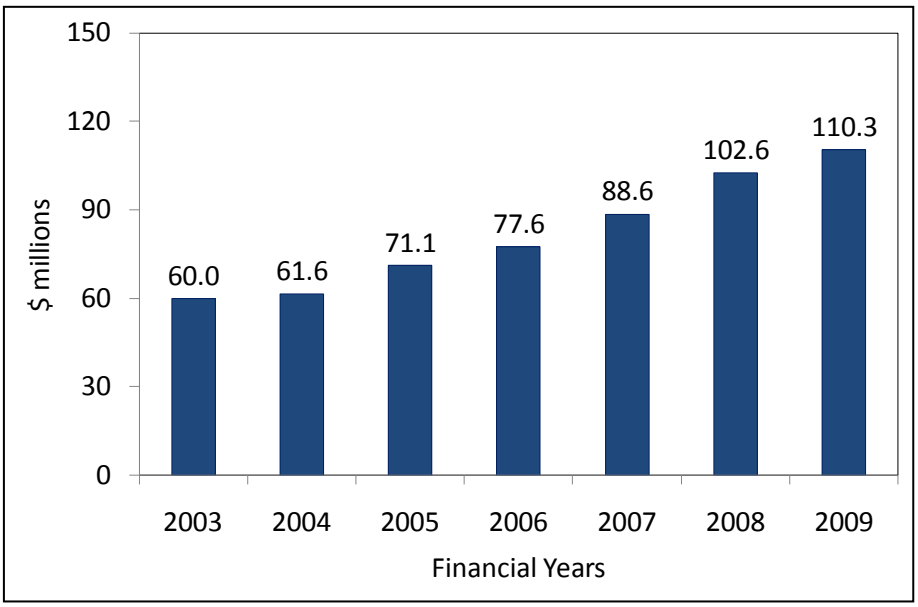
Source: Statistics New Zealand Local Authority Census.

The published data do not provide information on the value of the physical capital devoted to sport and recreation facilities, but there is information on depreciation and amortisation allocated to sport and recreation activities.[4] Figure 5.3 shows the upward trend in this category between 2003 and 2009. These values are around 7 to 8 per cent of the total spending on depreciation and amortisation by the local government sector. Based on this ratio for each year, Figure 5.4 offers estimates of the value of local government fixed assets devoted to sport and recreation. This suggests that the value has grown strongly in recent years, rising to just over $7 billion in 2009.

This observation is confirmed in Figure 5.5, which presents unpublished data obtained for SPARC. It shows the net additions to local government fixed assets for recreation and sport. In the 2009 financial year, this was $345.4 million. This was a substantial increase on previous years as some regions upgraded or developed a range of sport and recreation facilities from pools to multipurpose facilities. The analysis of these financial accounts confirms the substantial scale of investment by local government in sport and recreation infrastructure.

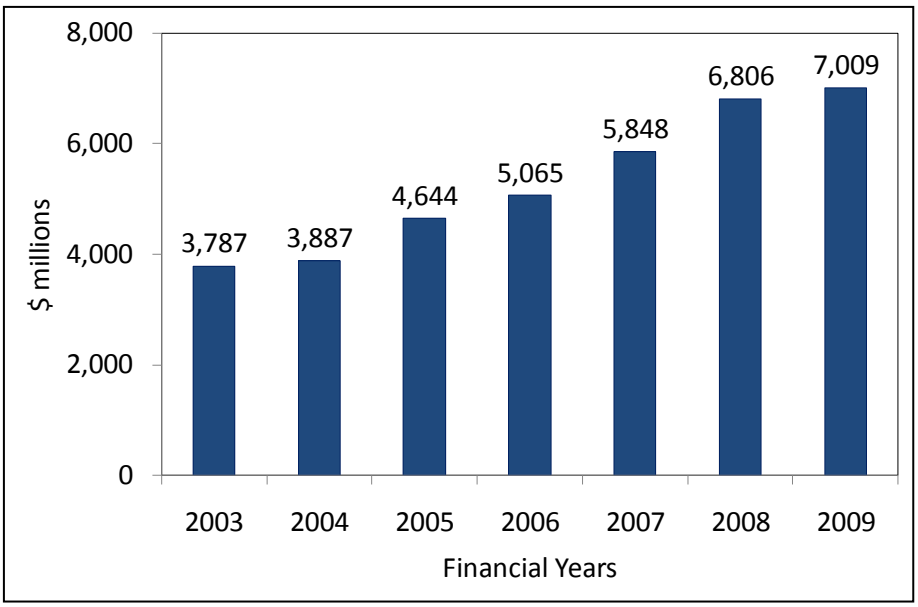
[4] Depreciation on fixed assets (such as sports stadiums) and amortisation of intangible assets (such as computer software) refers to accounting rules for recording in financial accounts the loss of value of these assets over time. This value is therefore proportionate to the total value of the assets and so can be used to provide a guide to the total share of assets in different categories.

Figure 5.3: Local Government operating expenditure on recreation and sport: Depreciation and amortisation, 2003-2009



Source: Statistics New Zealand Local Authority Census.

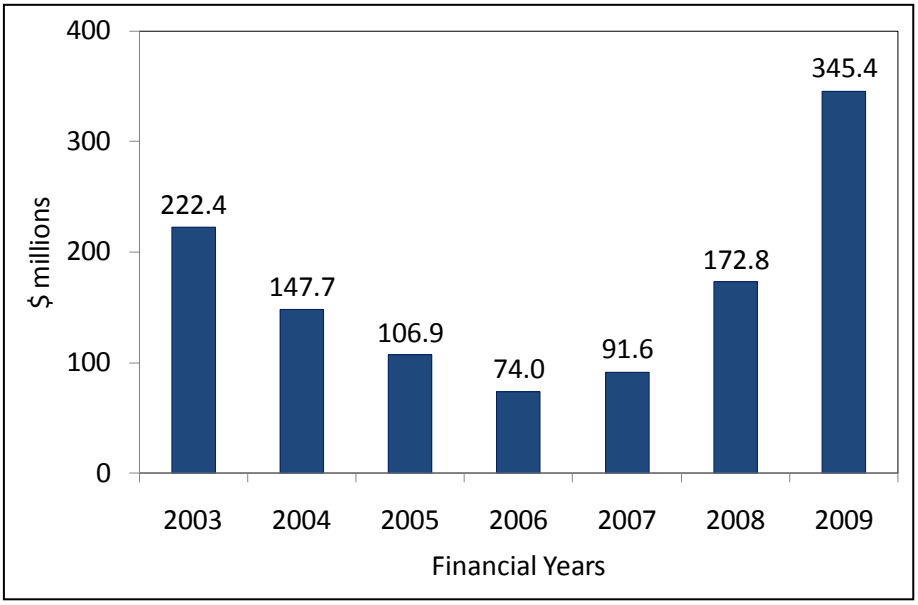
Figure 5.4: Local Government estimated value of fixed assets for recreation and sport, 2003-2009



Note: The estimates are based on total fixed assets multiplied by the recreation and sport share of depreciation and amortisation expenses.

Source: Statistics New Zealand Local Authority Census.

Figure 5.5: Local Government net additions to fixed assets for recreation and sport, 2003-2009



Source: Statistics New Zealand Local Authority Census.

Further, building and construction were not included in the industry analysis of Chapter 4, so the investment in new sports and recreation facilities is another item that should be included in a broad definition of the sector. Again to be consistent with the national income accounting framework used in this study, the gross expenditure on building and construction needs to be converted to 'value-added'.

Geoff Butcher of Butcher Partners Ltd, Christchurch, has used Statistics New Zealand input-output tables to produce ratios at the sector level for this purpose. The conversion ratio for the construction sector is 0.29 (meaning that for every $1 of expenditure on construction, $0.29 is value-added by the sector). Multiplying $345 million by 0.29 produces a value-added estimate of $100 million.

Thus Section 5.7 of this chapter will include the value-added measure of $100 million in its estimate of the contribution to GDP of the sport and recreations sector (broadly defined).

5.4 Private enterprise

The previous two sections have presented official data on the investment by central and local government in sport and recreation infrastructure. There are no official data on similar investments by private enterprise, but these should not be overlooked. This section presents a single example of a well-known private company offering fitness facilities as an illustration of what can be achieved by private enterprise in the sport and recreation sector.

Les Mills, CNZM, MBE, represented New Zealand at Olympic Games and Commonwealth Games winning a gold medal in Discus and a silver medal in the Shot Put at the 1966 British Empire and Commonwealth Games. His wife, Colleen Mills, was also an elite athlete, representing New Zealand in the 400 metres sprint at the 1974 Commonwealth Games, where their daughter Donna (in the high jump) and their son Phillip (in the hurdles) also competed for New Zealand.

In 1968, Les and Colleen Mills entered the fitness industry, taking over a small gymnasium that had been part of a chain that had gone bankrupt. A decade later, the family expanded the business considerably, opening the Les Mills gym in Victoria Street, Auckland, followed by more gyms in Christchurch, Wellington and Dunedin. Their son Phillip returned from an athletics scholarship in California and introduced group exercise-to-music programmes. Jazzercise aerobics had arrived (Goa, 2007).

There are now eleven Les Mills gyms in New Zealand. This includes what it describes as the country's largest gym, Auckland City, comprising a huge main gym, a private women's gym and three levels dedicated to Group Fitness studios, including Studio Cycling. There are three other Les Mills gyms in Auckland, two in Wellington, two in Christchurch, and one each in Hamilton, Hutt City and Dunedin.

Phillip Mills founded Les Mills International to take the exercise-to-music programmes to overseas markets. This has been extraordinarily successful. Goa (2007) reports that the company has a turnover of $100 million per annum, with a stable of more than 55,000 Les Mills instructors worldwide. In 2004, Phillip Mills was announced as Ernst & Young's New Zealand Entrepreneur of the Year, and the following year New Zealand Trade and Enterprise gave its New Zealand Services Exporter of the Year award to Les Mills International.

The fitness industry in New Zealand is now a large sector. According to the industry association for the health and fitness industry, FitnessNZ, there are between 300 and 400 fitness centres in New Zealand (depending on how broadly fitness centres are defined). These employ between 3,000 and 4,000 full-time equivalent staff and have around half a million members (FitnessNZ, 2003). As well as providing physical recreation opportunities directly, these fitness centres provide training facilities that are used by athletes preparing for their participation in sport and outdoor recreation.

5.5 Sport and recreation clubs

There are literally thousands of sport and recreation clubs in New Zealand. The specialist www.sportsground.co.nz website, for example, hosts more than 7,000 websites adopted by sports organisations, clubs, schools and teams (Sportsground, 2011). Each club may own, lease or rent facilities necessary for their activity, and may be managed by professional staff or volunteer members. Sport and Recreation New Zealand has developed specific resources to assist the successful running of sport and recreation clubs, including its Club Kit (see www.sparc.govt.nz/en-nz/communities-and-clubs/Toolkit-for-Clubs/).

A report commissioned by SPARC has used a case study of the Northern United Rugby Football Club (Norths) to explore the multiple contributions of sports and recreation clubs to their members and the wider community, as well as some of its ongoing challenges

(Research New Zealand, 2010). Table 5.4 summarises the nine themes about contributions highlighted in the case study. These focus on the way in which the club fosters values admired within the club, such as teamwork, positive behaviour, having respect, being proud yet humble, striving for excellence and being connected to family and community.

The report also recognised downsides to the experience of being with Norths for people involved and from the perspective of those outside the club. An example is that a singular focus on a professional rugby career can distract some young players from their education and so leave them poorly prepared for life outside rugby. The researchers were also told that early age-group success can leave some players almost worse off, especially if a lack of support leads eventually to loss of confidence.

The report identifies challenges that will be familiar to many people holding leadership roles in New Zealand sports and recreation clubs. The club administration and financial situation of the club is an ongoing challenge. Fund raising and seeking sponsorships are difficult, with costs rising and sponsorship and funding dropping away. The volunteer roles at the club are a substantial commitment, and not all these roles are well understood. New technologies are providing new opportunities such as web-based communication and video coaching.

The 2007/08 Active NZ survey included questions on involvement in a sport or recreation club or centre (SPARC, 2008b, p. 13). Table 5.5 provides data on the percentage of the adult population (18 years and over) enrolled in different types of sport or recreation club, and an analysis of the different membership rates by gender and age. Among the different types of clubs and centres included in the survey question, almost one in six adults was a member of a sport or physical activity club; the second most common club or centre with which adults engage was a gym or fitness centre.

During any month over three out of ten (30 per cent) of all adults were members of clubs or centres. This is a significant percentage, emphasising the importance of sport and recreation clubs or centres for New Zealand society. Younger adults were more likely to be a member than older adults; two out of five adults aged 18 to 24 years (43 per cent) were members of clubs or centres.

Another potential source of data about clubs and centres is the Non-Profit Institutions Satellite Account published by Statistics New Zealand (2007). The satellite account divides non-profit institutions (NPIs) into twelve categories, the first of which is ‘culture and recreation’. This category is further divided into four subgroups as follows:

- culture and arts;
- sports;
- other recreation and social clubs; and
- culture and recreation support and ancillary services.

The third subgroup includes service clubs such as Lions, Zonta International, Rotary Club and Kiwanis, and so is a much wider grouping than covered in this report. The fourth subgroup includes institutions with supporting services for culture and recreation, where actual participation in culture and recreation are not the primary activities.

Table 5.4: Summary of themes in a case study of a New Zealand sports club

Wellbeing and youth development Being a part of Norths contributes to the wellbeing and development of the young people and adults involved in the club. Teamwork, positive behaviour and having respect for themselves and for others' efforts are valued.
Proud yet humble Pride in Norths, based on respect for family, church, coaches and managers is pervasive.
Mentors Norths people give a hand up to others and give back to their sport and their community. They are rugby mentors and community role models.
Dedication and commitment Involvement with Norths means being dedicated to excellence in all aspects of the game: Having a professional attitude to training, nutrition and player development.
Winning and success Being competitive and aiming for success is a passion held by many at Norths.
Career aspirations A career in rugby is a dream that can come true, at Norths. Many young players have rugby career aspirations. The supports in place can take players as far as their talent and commitment allows.
Loyalty to the club legacy There is a strong sense of loyalty and an emotional bond to Norths. The loyalty to their family and their church extends to a staunch loyalty towards their club for the many Pacific people at Norths.
Family time Being with Norths means family time for many members. For others the support of their families is what makes it possible. The club fosters and strengthens family connections.
Norths a community Norths is a community in itself. It is also a community icon and central to City pride and identity.

Source: Research New Zealand (2010), p. 6.

Focusing on the second subgroup (since the third subgroup definition is too wide for valid statements about recreation clubs) confirms the comment made at the beginning of this section that there are literally thousands of sport and recreation clubs in New Zealand. Table 5.6 reports that Statistics New Zealand has recorded 14,910 sports NPIs.

Few of these employ paid staff; only 9.3 per cent. There are about 9,000 people employed by sports NPIs. The small number of these clubs employing paid staff emphasises the importance of volunteers for running these activities in New Zealand.

The final row in Table 5.6 estimates the contribution of the NPIs to New Zealand's gross domestic product for the 2003/04 financial year. This was $261.6 million for the sports NPIs.

Table 5.5: Membership ratios of specific club or centre types, 2007/08

Type of Sport or Recreation Club	Per Cent of Adults 18 Years and Over
Sport/physical activity club	16%
Gym/fitness centre	10%
Social club/work team	5%
Other type of club	5%
TOTAL (membership of any type[1])	**30%**
Gender	
Men	33%
Women	28%
Age	
16-24 years	43%
25-34 years	29%
35-49 years	28%
50-64 years	27%
65+ years	31%

Note: 1. Participants could choose multiple club/centre types and so the sum of the four types is greater than this total percentage.

Source: Active NZ survey.

Table 5.6: Key statistics for sports non-profit institutions

Key Statistics[1]	Sports Non-Profit Institutions (NPIs)
Number of NPIs employing paid staff[2]	1,390
Number of NPIs not employing paid staff[2]	13,510
Total number of NPIs[2]	14,910
Number of employees[2]	9,000
Contribution to GDP ($ millions)[3]	$261.6

Notes: 1. All count data has been randomly rounded to protect confidentiality.
2. As at October 2005. 3. Year ending March 2004.

Source: Statistics New Zealand (2007), p. 45.

Table 5.7: Income and expenditure for sports NPIs, 2003/04

Data for the Financial Year Ending March 2004	Sports Non-Profit Institutions (NPIs)
Income	$(000)
Sales of goods and services	516,496
Interest received	18,779
Dividends received	513
Membership, donations and grants[1]	292,742
Government grants[2]	70,904
Insurance claims	3,525
Total Income	**902,960**
Expenditure	
Purchase of goods and services	581,157
Compensation of employees	163,769
Taxes on production	5,557
Donations paid	28,463
Interest payments	11,067
Net insurance premiums	6,217
Total Expenditure	**796,230**
Surplus	
Income minus expenditure	**106,730**

Notes: 1.This does not include government grants. 2. The government grants category does not include government contracts.

Source: Statistics New Zealand (2007), p. 48.

Table 5.7 shows estimated expenditure and revenue for the sport NPIs for the financial year ending March 2004. The largest revenue item was sales of goods and services, including tickets sales for games and events. Membership fees, donations and non-government grants were the next significant item, being four times the size of government grants for the sports NPIs. Expenditure was dominated by two categories, the purchase of goods and services and the wages and other compensation paid to employees.

5.6 Other sources of funding for sport and recreation

This section covers three other major sources of funding for sport and recreation: the New Zealand Lottery Grants Board; gaming trusts and societies; and sponsorship.

The New Zealand Lottery Grants Board is required by the Gambling Act 2003 to benefit the New Zealand community by distributing the profits from state lotteries run by the New Zealand Lotteries Commission (New Zealand Lottery Grants Board, 2010). It does this through Lottery Grants and direct payments to three statutory bodies, including SPARC

(which received $31.0 million in 2008/09 and $44.6 million in 2009/10). The value of the Lottery Grants (excluding the payments to the three statutory bodies) was $126 million in 2008/09 and $67 million in 2009/10. There is no analysis of what share of these grants went to sport and recreation activities.

The Department of Internal Affairs currently lists 50 trusts or societies that distribute gaming machine funds for authorised purposes under the Gambling Act 2003 (available at http://www.dia.govt.nz/diawebsite.nsf/Files/Society_Websites/$file/Society_Websites.pdf). Authorised purposes include grants made for amateur sport and Manch (2008, p. 1) reported that "a rough estimate, but a reasonably good one, is that $1 billion has made its way from gambling machines to 'sports/physical activity' purposes over the last 10 years". Manch (2008, p. 14) also observed that:

> Grant making by the gambling sector amounts to around one-third of the grant making by trusts and foundations in New Zealand. It needs to be approached strategically, with a clear focus on outcomes derived from the investments made, and based on a strong understanding of community needs.

The Department of Internal Affairs asked all gaming machine societies to provide information about the revenue from their gaming machines for the 2005 calendar year, and about their allocation to authorised purposes of the profits from that revenue (reported in Amey, 2007). The response rate was 76 per cent. This reported that 155 sports clubs were operating 817 gaming machines as at 31 March 2006 (Amey, 2007, p. 10). For the 2005 calendar year, this generated $5.2 million in revenue of which $2.7 million was allocated to authorised purposes.

Public societies generated most of the reported non-casino gaming machine revenue in the survey. Total allocations to sports/physical activities from the public societies in 2005 amounted to $127.3 million, which was 48.9 per cent of all allocations (Amey, 2007, p. 22). The largest share went to rugby ($16.5 million).

In 2011 SPARC published a report on *Gaming Funding into the Sport and Recreation Sector: An update for 2010 and comparison with 2007*. The study focused on the four major gaming societies, the New Zealand Community Trust, the Lion Foundation (which merged with the Perry Foundation in the first half of 2010), Pub Charity, and the Southern Trust. These four societies provide about 80 per cent of public gaming machine funds into the sector. Together these four societies provided $81m for sport and recreation in New Zealand communities in 2010, with $73 million going to sport. These societies provided SPARC with 2010 data from their databases. Grants were categorised by recipient and purpose using the approach developed for the 2007 study.

The report groups the grants into three categories – sport, physical activity and recreation – reported in Table 5.8. Table 5.9 brings the three groups together to present the analysis of grants by purpose. This shows that over one-fifth of the grants in value covered salaries, including the salaries of coaches, coordinators, management, sports development officers and maintenance workers. Around another fifth was devoted to events, tournaments and camps. The third largest item in Table 5.9 is 12.7 per cent spent on sports equipment.

Table 5.8: Gaming funding for sport and recreation according to purpose, by subsector, 2010

	Sport $(000)	Physical Activity $(000)	Recreation $(000)
Administration	1,227.5	2.4	553.5
Advertising	260.5	5.5	0.0
Athlete Development	30.5	0.0	0.0
Coach Development	139.3	0.0	0.0
Coaching	2,580.8	5.5	12.0
Equipment Hire	345.9	6.0	22.1
Event/Tournament/Camp	11,412.2	762.3	1,889.5
Facility – Building/Asset Purchase	2,195.7	17.9	19.5
Facility – Equipment	3,377.6	97.0	151.0
Facility – Vehicle	1,010.6	3.6	57.8
Information Technology	245.7	16.5	17.3
Maintenance – Building	3,356.9	119.7	88.8
Maintenance – Equipment	268.1	4.6	18.0
Maintenance – Grounds	8,335.1	122.8	165.9
Medical	537.3	50.8	7.4
Operating Costs	2,634.4	87.2	398.9
Physical Activity Equipment	0.0	1,975.7	0.0
Race Stake Money	3,049.6	0.0	0.0
Recreational Equipment	0.0	0.0	398.4
Salaries	17,904.9	63.4	242.9
Sports Equipment	10,249.5	0.0	0.0
Training	166.9	10.0	13.9
Vehicle Hire	871.3	10.3	12.3
Venue/Grounds/Facility Hire	3,003.2	109.1	14.1
Unspecified	147.6	78.8	0.0
TOTAL	**73,351.2**	**3,549.1**	**4,083.2**

Source: SPARC (2011), Appendix 6.

Table 5.9: Gaming funding for sport and recreation according to purpose, total, 2010

	$(000)	Per Cent of Total
Administration	1,783.4	2.2
Advertising	266.0	0.3
Athlete Development	30.5	0.0
Coach Development	139.3	0.2
Coaching	2,598.3	3.2
Equipment Hire	374.0	0.5
Event/Tournament/Camp	14,064.0	17.4
Facility – Building/Asset Purchase	2,233.1	2.8
Facility – Equipment	3,625.6	4.5
Facility – Vehicle	1,072.0	1.3
Information Technology	279.5	0.3
Maintenance – Building	3,565.4	4.4
Maintenance – Equipment	290.7	0.4
Maintenance – Grounds	8,623.8	10.6
Medical	595.5	0.7
Operating Costs	3,120.5	3.9
Physical Activity Equipment	1,975.7	2.4
Race Stake Money	3,049.6	3.8
Recreational Equipment	398.4	0.5
Salaries	18,211.2	22.5
Sports Equipment	10,249.5	12.7
Training	190.8	0.2
Vehicle Hire	893.9	1.1
Venue/Grounds/Facility Hire	3,126.4	3.9
Unspecified	226.4	0.3
TOTAL	**80,983.5**	**100%**

Source: SPARC (2011), Appendix 6.

Comparing the total grants to the sector in 2010 and 2007 shows a decline from $98.5 million in 2007 to $81million in 2010, a decrease of 17.7%. This reflects a drop in overall funds available from gaming societies. Funds decreased by 10.6% over the three years 2007 to 2010. Some of the decrease in 2010 is also linked to the Lion-Perry merger. This change resulted in a reduction of $13.2m into the sector when considered against the previous contributions of the two separate entities in 2007.

Sponsorship is important for young people's sport. The Weet-Bix Tryathlon, for example, began from a single event at St Heliers with 500 children participating in 1992 to twelve annual events throughout New Zealand that attracted over 19,000 Kiwi Kids between the ages of 7 and 15 in 2009. This was described as the world's largest sporting event for kids (see http://tryathlon.weetbix.co.nz/Community/). Similarly, MILO Have-A-Go Cricket and MILO Kiwi Cricket are programmes introducing 5 to 10-year-olds to cricket.

At the highest level of elite sport in New Zealand, sponsorship agreements bring substantial benefits to both parties. After the All Blacks were beaten in the quarter-finals of the Rugby World Cup (RWC) in 2007, the New Zealand Rugby Football Union commissioned an independent review, which devoted a chapter to the commercial aspects of the RWC campaign. This chapter included some observations on the relationship between the All Black and its principal sponsor, adidas (Heron and Tricker, 2008, p. 34):

> At the time of signing, the adidas partnership with the All Blacks was one of the adidas brands' biggest financial commitments. There are very strong links between adidas and the All Blacks, such that it is widely viewed by adidas as the most integrated and successful relationship in the business (brand and business-wise). That appears to be a remarkable achievement by NZRU, given adidas's stature in the global sporting market.

Lion Nathan, which is New Zealand's leading brewer with six of the country's top 10 beer brands (http://lion-nathan.com.au/company/our-success/), is involved in core sponsorships tied to particular beer brands. Steinlager, for example, sponsors the All Blacks and the Auckland Marathon, Speight's sponsors the Speight's Coast to Coast and six provincial rugby teams, Lion Red sponsors the New Zealand Warriors and ITM 400 V8 Super Cars, and Stella Artois sponsors the Stella Artois Auckland Racing Cup. An important aim is to reinforce the company's core brand values and product attributes (Lion Nathan, 2011). This illustrates the important point made by SPARC (2006, p. 5) in its guide that: "sponsorship is about two parties creating additional value to each other through their association. Successful sports organisations are able to link sponsor need with an appropriate product."

At the local level, sporting and recreation clubs often look for local businesses to have some sponsorship role in return for advertising or profiling opportunities. The SPARC case study of the Northern United Rugby Football Club found that fund raising and seeking sponsorships is an ongoing challenge, with sponsorship and funding dropping away (Research New Zealand, 2010, p. 46; the italicised insets are quotes from people interviewed for the study):

> It costs about $40,000 to run the Premier team for a season, including trips for pre-season training as well as week to week expenses and a share of the ground fees. Team managers have a role to fundraise for their team.

One roll of tape, I just priced some tape it was 15 bucks and we'll go through between 5 and 6, 7 rolls of that per game. That's only brown tape, not including white tape, you know. So it's finding all that money (Club Volunteer)

It's just increasingly hard to get money to pay subs from players for us to pay the Rugby Union. We've got to pay for the grounds ... up in the thousands (Club Volunteer)

We've got to pay to train on them [grounds] and we've got to find that money (Club Volunteer)

There is a decreasing funding pool and a changing, and challenging, funding environment. The changes to gambling habits and the changes to regulation of gaming machines (pokies) and gaming sites has significantly decreased the income of the Community Trusts that provide grants to clubs like North's.

But the problem is now, that some funding organisations used to meet monthly, now they meet every two months, because the public aren't spending as much money on pokies. We got 60 grand at the end of last year, and 100 grand before last year (Committee/Governance).

5.7 Summary

Table 5.10 summarises the calculations of the measured contribution to GDP of the sport and recreation sector (broadly defined) in 2008/09. It begins with the estimate from chapter 4 that the contribution of the narrowly defined sector that year was $3,844 million. It then adds the estimated incomes from people employed in sport and recreation occupations outside the 17 core sport and recreation industries, analysed in Section 5.1. The next contribution is the salaries of primary and secondary schools, assuming that the sport and recreation component is proportional to its share (just over five per cent) of *The National Curriculum*. This comes from Section 5.2. Finally, the table recognises the value-added in the construction industries by local government spending on new sport and recreation facilities (see Section 5.3).

Table 5.10: Contribution to GDP of the broad sport and recreation sector, 2008/09

Industry	**Contribution to GDP ($ millions)**
Contribution of the Narrow Sport and Recreation Sector	3,844
Sport and Recreation Incomes outside the Sport and Recreation Industries	400
Central Government Investment in Sport and Recreation Education	172
Local Government Construction of New Sport and Recreation Facilities	100
TOTAL ($ millions)	**4,516**
Gross Domestic Production (2008/09)	184,987
TOTAL (percentage of GDP)	**2.4%**

Source: Previous tables and figures as explained in the text.

Including these three additional items, the contribution to GDP in 2008/09 of the broad sport and recreation sector was $4,516 million. Expenditure on gross domestic product that year is estimated to have been $184,987 million. Based on that estimate, the share of the broad sport and recreation sector in 2008/09 was 2.4 per cent of gross domestic product.

Recall from Section 3.4 of Chapter 3 that it is possible to estimate the market value of the services provided to the sport and recreation sector by volunteers ($728 million). Because these services are not marketed, they are not included in a country's standard set of national accounts. Nevertheless, countries are able to create satellite accounts for items such as these, which are complementary tables showing how inclusion of volunteered services would affect core measures such as gross domestic product. This has been done by Statistics New Zealand (2007), which estimated that the market value of unpaid work to the non-profit sector in 2003/04 was $3,312 million.

Table 5.11 presents the implications of including the contribution of volunteers. Starting with the contribution of the broad sport and recreation sector ($4,516 from Table 5.10), the addition of volunteered services brings this value to $5,244 million. To calculate this as a percentage of GDP, the analysis needs to include in GDP the estimated contribution of *all* volunteers. The Labour Cost Index (all industries: all salary and wage rates: all sectors) can be used to converting the Statistics New Zealand (2007) estimate of $3,312 million into 2009 values, producing a value of $3,867 million.

Thus the extended definition of GDP (including volunteered services) was $188,854 million in 2008/09. This implies a share of gross domestic product for the sport and recreation sector (including volunteered services) equal to 2.8 per cent.

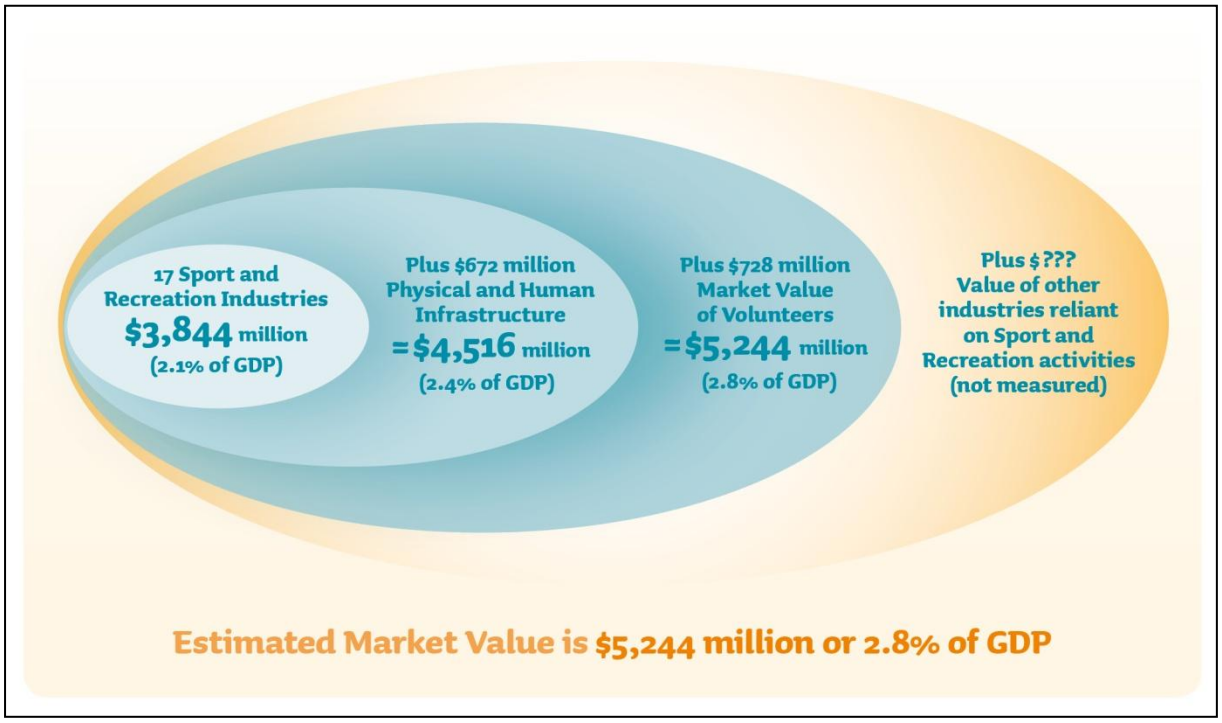
Table 5.11: GDP including the value of volunteered services, 2008/09

	Gross Domestic Product	Volunteered Services	Extended GDP
Sport and Recreation ($m)	4,516	728	5,244
Totals ($m)	184,987	3,867	188,854
Per Cent	2.4%	18.8%	2.8%

Source: Section 3.4, Table 5.10 and Statistics New Zealand (2007).

Figure 5.6 presents the estimated market value of sport and recreation in New Zealand in the 2008/09 financial year. Based on the 17 core industries, the sector is estimated to have contributed 2.1 per cent to GDP that year. If the definition is broadened to include the three items of physical and human infrastructure identified in this chapter, the size expands to 2.4 per cent. If the contribution of volunteers is included, the size increases further to 2.8 per cent.

Figure 5.6: Estimated market value of sport and recreation in New Zealand, 2008/09



Note: This figure is based on a concept developed by Grant McLean at SPARC.

Source: Table 4.2, Table 5.10 and Table 5.11.

A recent study by the New Zealand Institute of Economic Research commissioned by Fonterra and Dairy New Zealand found that "the dairy sector, comprising farmers and dairy processors, directly contributed around $5.0 billion of value added (or GDP) to the New Zealand economy in 2010, around 2.8 per cent of the total GDP figure" (Schilling *et al*, 2010, p. 1). New Zealand's sport and recreation sector, broadly defined and including the market value of volunteered services, is comparable in size to that mainstay of the national economy.

The final oval in Figure 5.6 recognises that the analysis for this report (although an advance on previous New Zealand studies) has not captured all of the economic activity that owes its existence to the sport and recreation sector. Some examples of these economic activities, centred on profiling sport and recreation to spectators and supporters, are discussed in the following Chapter 6.

Chapter 6
Promotion of Sport and Recreation to Spectators and Supporters

Key Facts and Estimates

- Rugby, netball and tennis television broadcast programmes all had an average daily reach of around 200,000 people in 2009/10.
- A recent survey suggests that one in ten New Zealanders attend a sporting event in a week, with rugby union being the most popular spectator sport.
- Another survey estimated that New Zealanders buy almost 2 million tickets for sports events at an average price of $31 per ticket.
- As one example, Westpac Stadium in Wellington hosted 32 sports events involving a total of 482,901 spectators in the 2009/10 financial year; independent analysis estimates that it has provided on average an economic benefit of $48.4 million and 673 full-time equivalent jobs to the Wellington region.
- 85 per cent of international visitors whose main purpose was holiday/vacation in 2009 said that they had gone walking and trekking during their visit; 47 per cent said their visit had included boating.
- A Covec study by Vuletich and Trent (2009) identified 664 sports and recreation events in Auckland in 2008, involving an estimated 1,492,000 people.
- New Zealand's international profile as a great place for sport and recreation is explicitly used by fashion clothing export enterprises to market their products.

Chapter 5 has focused on industries that are directly involved in production for sport and recreation activities. There are other industries, however, that depend on these activities for a substantial part of their business. This chapter focuses on the following examples:

- broadcasting;
- merchandising to spectators and supporters;
- international tourism;
- accommodation and hospitality; and
- designer clothing.

It has generally not been possible to provide robust estimates of the overall size of these activities, reflecting the early stage of research in this area. Nevertheless the data and case studies reported in this chapter illustrate the potential of this aspect of sport and recreation.

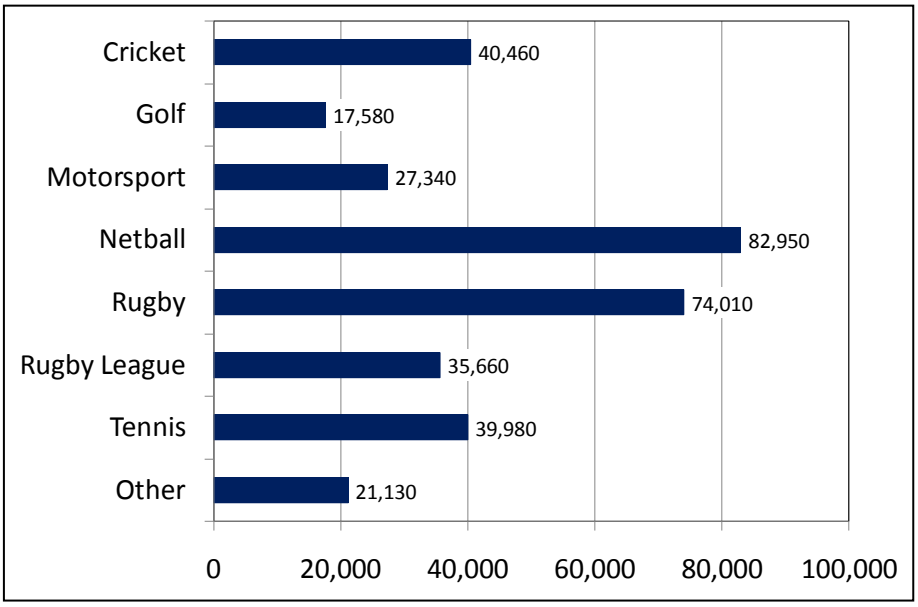
6.1 Broadcasting

Public and private broadcasting, both on radio and television, include a large amount of material devoted to sport and recreation. New Zealand has a radio station fully dedicated to sport, Radio Sport, broadcasting in twenty centres. New Zealand's main pay-television operator, SKY TV, offers four dedicated sports channels plus the Rugby Channel plus the option to subscribe to *SKY Sport The Magazine*.

Data purchased from Nielsen Media Research provide two indicators to measure the audience and reach of sport television broadcast programmes, presented in Figures 6.1 and 6.2 for the year ending June 2010. Figure 6.1 shows the average television audiences for the seven most popular sports plus a residual 'other sports' category. This is the average number of people who were watching the programme per minute over the whole programme. Netball had the highest average audience (82,950) in 2009/10, followed by rugby (74,010).

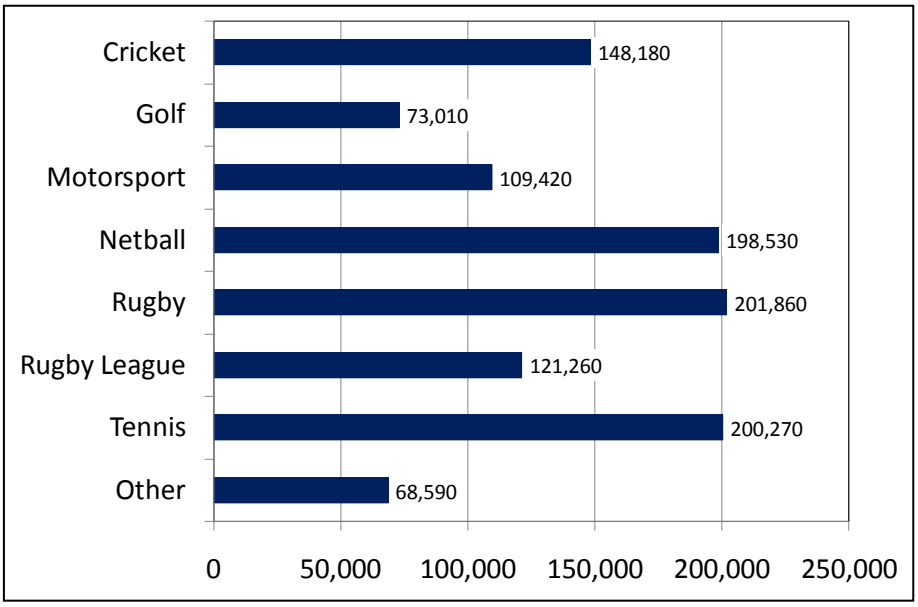
Figure 6.2 shows the average daily 'reach' of each sport, defined as the number of people who tune in for at least one minute of the broadcast. Rugby, netball and tennis all had an average daily reach of around 200,000 people in 2009/10.

Figure 6.1: Average audiences for television sports programmes, 2009/10



Source: Data supplied by Nielsen Media Research.

Figure 6.2: Average daily reach for television sports programmes, 2009/10



Source: Data supplied by Nielsen Media Research.

6.2 Merchandising to spectators and supporters

Information measuring the extent to which New Zealanders watch sport and attend events is limited. However, two small-scale surveys provide some insights into this aspect of sport and recreation.[5] A survey of 1,000 New Zealanders in April 2010 by the gemba Group (www.gemba.com.au/) indicated that one in ten New Zealanders had attended a sporting event in the last week. Rugby union was the most popular spectator sport, followed by rugby league, cricket, netball, football, tennis and golf.

The second study (by BrandAdvantage and Nielsen) estimated that New Zealanders purchased 1,940,000 sports tickets – at an average of $31 per ticket (based on data from Ticketek New Zealand, the NZ Rugby Union and Netball New Zealand). The study also involved a survey of 1,989 New Zealanders living in the five metropolitan centres (Auckland, Hamilton, Wellington, Christchurch and Dunedin; see the press release at www.stoppress.co.nz/news/2009/10/competition-fierce-for-event-producers/). This survey confirmed that rugby was the most popular sport in terms of events attendance. Other events in the top five were cricket, rugby league, motor racing and football (based on attendance/tickets purchased in the last 12 months). As well as buying tickets, four out of ten people attending sports events had bought sports merchandise. The most popular items were a team shirt/uniform, followed by hat/gloves/scarf and other branded items.

Providing hospitality for sport fans at game venues is big business. Vbase Ltd, for example, is a 100 per cent owned subsidiary of the Christchurch City Council that was responsible for managing the four largest sport and culture venues in the city (CBS Canterbury Arena; Christchurch Town Hall for Performing Arts; Christchurch Convention Centre; and AMI

[5] Information in this and the following paragraph was supplied by SPARC.

Stadium). For the last financial year before the two devastating earthquakes, it reported total operating and other expenses of $44.1 million (Christchurch City Council, 2010, p. 267).

Another example is the Westpac Stadium in Wellington, operated by the Wellington Regional Stadium Trust (Inc). In the 2009/10 financial year, the Westpac Stadium hosted 32 sports events involving a total of 482,901 spectators (see Table 6.1). The Trust reported a net surplus of $3.6 million in 2009/10, on a turnover of $17.7 million. The Trust prepares a regular Economic Impact Report on its activities, the most recent of which found that "over its ten years of operation, the Stadium has provided, on average an economic benefit of $48.4 million and 673 full time equivalent jobs to the region" (Westpac Regional Stadium Trust, 2010, p. 11).

An analysis of sport and recreation in the print media for SPARC revealed that, in combination, the New Zealand Herald and the Dominion Post over one week in August 2010 devoted 11.6 per cent of their broadsheet pages to sport, of which 3.5 per cent were for horse racing and 8.1 per cent were for other sports. Indeed each of these papers had one day in which almost one-quarter of their pages were devoted to sport (including up to half of that devoted to horse racing). The analysis also found 27 magazines devoted to New Zealand sports and recreation, although with relatively low circulations (generally less than 25,000 and sometimes under 10,000) with the most popular being fishing magazines.

Table 6.1: Attendance at Westpac Stadium sport events, 2009/10

Sport Event	**Attendance**
Internationals	
Rugby Test: NZ vs. Australia (19 Sep 2009)	33,056
Football International: All Whites vs. Bahrain (14 Nov 2009)	35,179
Rugby Tournament: NZI Sevens Tournament (5-6 Feb 2009)	69,000
Cricket: 20/20 International: NZ vs. Australia (26 Feb 2010)	19,977
Cricket: ODI: NZ vs. Australia 13 Mar 2010)	10,991
Subtotal	*168,203*
Other Competitions	
Football: A League (13 games)	144,317
Rugby: Super 14 (6 games)	89,726
Rugby: Air New Zealand Cup (7 games)	77,295
Wellington Club Rugby Finals (9 Aug 2009)	3,360
Subtotal	*314,698*
TOTAL	**482,901**

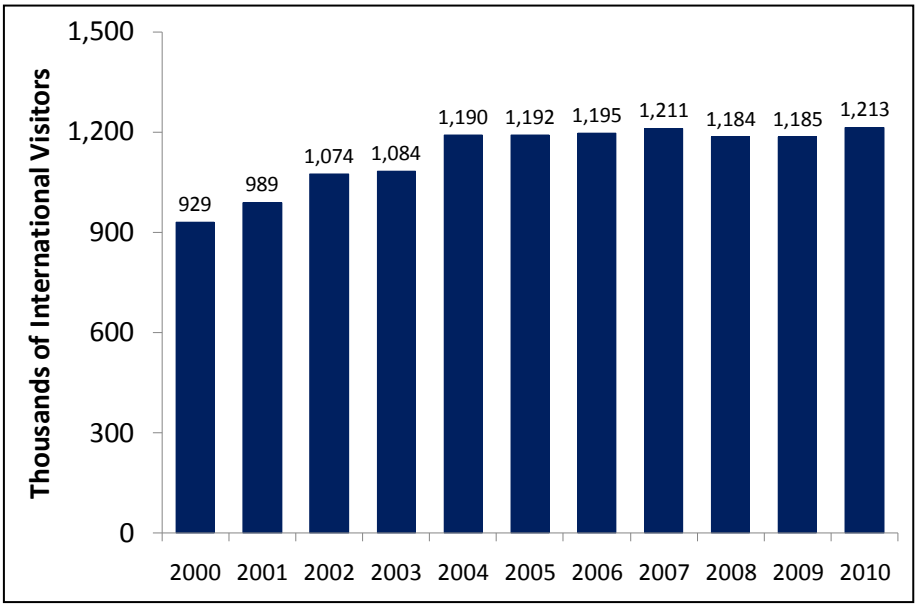
Source: Westpac Regional Stadium Trust (2010), p. 8.

6.3 International tourism

International visitors fill in an arrival card that includes a question on their main reason for coming to New Zealand. The card provides six options: visiting friends/relatives; conference/convention; business; education; holiday/vacation; and other. Approximately half of the responses are for holiday/vacation. Figure 6.3 shows that the number of tourists in this category has stabilised in recent years at around 1.2 million per annum.

The International Visitors Survey (IVS) is an annual sample survey of approximately 5,200 international visitors to New Zealand aged 15 years or older. A question in the survey asks: "For each overnight stop during your visit, what attractions and activities did you see and do?" Table 6.2 lists the sports and recreation activities, with the number of international visitors who said they did each activity, restricting the analysis to visitors whose main purpose was holiday/vacation. The table shows that land-based and water-based sport and recreation activities are an important part of the holiday itineraries of international visitors.

Figure 6.3: International visitors, main purpose is holiday/vacation, 2000-2010



Source: www.tourismresearch.govt.nz/Data--Analysis/International-tourism/International-Visitor-Arrivals/.

This is recognised by official promotion campaigns by Tourism New Zealand, which is always looking for ways to leverage opportunities off the attention generated by other people's marketing of major world events such as the America's Cup, the Rally of New Zealand and endurance races (Tourism New Zealand, 2009, p. 29; see also Figure 6.4 on page 77 below):

> Take the America's Cup: a perfect excuse to highlight images and stories of sky and sea and intense experiences of the outdoors. In 2001, [Tourism New Zealand] accompanied the victorious Team New Zealand when it was invited to display "the Auld Mug" at the 150th year celebrations of the America's Cup at Cowes. The New Zealanders decided to return the cup with a flourish.

Instead of flying the Cup business class and protecting it within the confines of the members' club at Cowes, they delivered it in a Team New Zealand rubber dinghy with a dawn ceremony on the shore and a conch shell to announce its arrival; and then held the Cup in a marquee for all-comers to inspect. The break with tradition symbolised an open society unfettered by club rules and created a huge stir in the press.

Table 6.2: Sport and recreation activities of international visitors on holiday, 2009

Activities	International Visitors	
	Number	Per Cent
Walking and Trekking	915,837	85.4%
Boating	500,586	46.7%
Other Land Activities	176,371	16.4%
Bird Watching	164,901	15.4%
Other Wildlife Encounters	151,343	14.1%
Canoeing, Kayaking, Rafting	136,579	12.7%
Theme And Leisure Parks	106,706	9.9%
Snow Sports	94,492	8.8%
Bungy Jumping	68,380	6.4%
Swimming	62,699	5.8%
Other Water Activities	62,105	5.8%
Sky Diving/Parachuting	51,054	4.8%
Fishing	44,491	4.1%
Other Sports	42,784	4.0%
Cycle Sports	37,191	3.5%
Horse Trekking/Riding	32,486	3.0%
Golf	31,560	2.9%
Motor Sports	27,750	2.6%
Paraponting	19,813	1.8%
Climbing	18,782	1.8%
Caving	15,050	1.4%
Sporting Event	13,843	1.3%
Hunting/Shooting	7,719	0.7%
Ballooning	1,788	0.2%
Gliding	343	0.0%

Note: The percentage is of all international visitors who reported that their main purpose for visit was holiday/vacation.

Source: www.tourismresearch.govt.nz/Data--Analysis/International-tourism/International-Visitors/.

Figure 6.4: Tourism New Zealand poster leveraging off the America's Cup

Source: Tourism New Zealand (2009), p. 29.

6.4 Accommodation and hospitality

International visitors to New Zealand require accommodation and hospitality. For the 2009 calendar year, international tourists on holiday or vacation spent an average of 16.2 nights in New Zealand and purchased goods and services to the value of $3.3 billion in total. Accommodation, food and beverages make up a sizable proportion of this expenditure.

This observation extends to domestic tourism as well as international tourism, with a general recognition that sports events attract people to travel to the location of the event, either as participants, supporters or spectators. An important study by Covec explored ways in which events contributed to the wellbeing of Auckland residents and businesses in 2008 (Vuletich and Trent, 2009). The analysis identified 1,674 events that calendar year, of which 664 were classified as related to sports and recreation (see Table 6.3).

Around 14 per cent of all the attendances at these events came from visitors to Auckland (although not all of the visitors came to the city specifically for that purpose). The study found that 486,000 people were attracted to Auckland specifically by events, included 34,000 international visitors. It was estimated that domestic visitors generated 474,000 visitor nights and 244,000 day visits, while international visitors generated 245,000 visitor nights.

Table 6.3: Number of events and attendance level by type, Auckland, 2008

Event Type	Events		Attendance	
	Number	Per Cent	Number (000s)	Per Cent
Sports and Recreation	664	39.7%	1,492	25.7%
Visual and Performing Arts	465	27.8%	1,289	22.2%
Cultural and Community	384	22.9%	2,387	41.0%
Lifestyle and Social	91	5.4%	462	7.9%
Business	70	4.2%	187	3.2%
TOTAL	**1,674**	**100%**	**5,816**	**100%**

Source: Vuletich and Trent (2009), Table 1, p. v.

The study found that at least $479 million of consumption could be attributed to events held in the Auckland region (that is, including all the event types in Table 6.3). A valuable aspect of the Covec study is that it analysed different components of consumption spending associated with the events (Vuletich and Trent, 2009, pp. i-ii):

- $138 million spent by event organisers on local goods and services required to deliver events in Auckland. The most common expenses for event organisers in Auckland are operational expenses including venue hire, equipment hire, and transport. Wages and salaries are another large cost area, along with marketing and advertising expenses.
- $80 million of discretionary consumption at events in addition to mandatory expenses such as ticket purchases. This includes discretionary expenditure on food & beverage at the event, merchandise, and any other consumption within the confines of the event. It expressly excludes consumption before or after the event such as transport, dining out and entertainment.
- $75 million of pre and post-event consumption by Auckland residents. This includes expenditure on activities for which events are the main catalyst such as transport to/from the event, parking, dining out, and pre/post event entertainment.
- $150 million of consumption by people visiting Auckland specifically to attend an event. This excludes mandatory event expenses (e.g. ticket purchases) and expenditure on discretionary items at events, as these forms of consumption are both captured in the figures above. The expenditure by visitors to Auckland accrued mainly to the accommodation, food & beverage, transport, entertainment and retail sectors.
- $23 million spent by sponsors on event leveraging. The most common forms of leveraging were advertising/promotional activities and corporate hospitality.
- $13 million spent by local agencies that support the organisation and delivery of events in Auckland e.g. territorial local authorities, New Zealand Transport Agency, St John New Zealand, Tourism Auckland and New Zealand Police.

By using standard GDP multipliers, the authors were able to estimate the contribution of these events to Auckland's gross domestic product (that is, measuring the value added to

the local economy by the events, rather than simply recording total spending). This came to $440 million, sustaining at least 7,227 full-time equivalent employees, or about 0.7 per cent of regional gross domestic product (Vuletich and Trent, 2009, p. ii).

The Covec study demonstrates the importance of ongoing, relatively small-scale sports events for economic activity, but it should be noted that a recent review of the wider literature warns that 'there is increasing scepticism in media (and therefore the general public) and academic circles of the ability for *mega-events* to provide economic impacts/benefits', since there are winners and losers from mega events and not all stakeholders share equally in the distribution of an event's costs and benefits (Tourism Research Institute, 2007, p. 31, emphasis added). The review also comments that 'despite the rhetoric about legacy creation, there is generally insufficient long-term, post-event planning conducted in the early stages of the event's development' (idem).

The importance of sport and recreation for the hospitality industry is not restricted to events. Regular team and individual competitions over a season are often associated with socialising over drinks (and indeed the Alcohol Advisory Council of New Zealand (ALAC) was for several years the major sponsor of the national Halberg Sports Awards; see MacAvoy, 2003, p. 1). Some hospitality outlets specialise in catering for sports fans; the Hospitality Association of New Zealand includes the category of best sports bar in its annual Awards for Excellence (won by Four Kings, Wellington, two years in a row in 2008 and 2009).

6.5 Designer clothing

New Zealand's prominent profile as a country with a strong sport and recreation sector creates commercial opportunities, including sales of fashion garments designed with sport or outdoor recreation themes. The list in Table 6.4 gives some prominent examples of New Zealand exporters who are creating and building on these opportunities.

The list in Table 6.4 contains impressive examples of New Zealand enterprise capitalising on the country's sport and recreation heritage. Untouched World, for example, became the first fashion company in the world to be given permission by UNESCO to carry the United Nations Decade of Education for Sustainable Development Education logo on its labelling in 2007 and it was invited by the United Nations in 2009 to be one of 25 global exemplars exhibiting at the United Nations Mid Decade World Conference in Education for Sustainable Development in Bonn, Germany.

It isn't possible to quantify the total value of New Zealand's sport and recreation heritage for private companies such as these, but the examples in Table 6.4 illustrate the wide reach that sport and recreation have into the country's commercial landscape.

Table 6.4: Examples of New Zealand fashion clothing exporters

Name of Company and Website	Example of Marketing Slogans
Canterbury of New Zealand (CCC) www.canterburyofnz.com/	No other apparel company in the world has the same singular focus on rugby as Canterbury of New Zealand. Canterbury has also established itself as a market leader in other sports.
Earth Sea Sky www.earthseasky.co.nz	Performance outdoor clothing. 100% made in New Zealand for adrenaline junkies, multi-sporters, adventure travellers and urban prisoners. Created by experienced outdoor enthusiasts from the world's best high tech fabrics.
Ground Effect www.groundeffect.co.nz	No nonsense cycle clothing for hammering the singletrack, leading the bunch, terrorising the city, or just hangin'. Conceived by cycle nuts, refined by the style police and constructed in New Zealand from hi-performance fabrics.
Icebreaker www.icebreaker.com	Here's our ethos: "It's about our relationship to nature and to each other". Someone once asked me if there was anything more to it, but to me it says everything. It's not just a slogan; it's our way of thinking – it directs us.
Kathmandu www.kathmandu.co.nz	Since its establishment 23 years ago, Kathmandu has become a leading specialist in quality clothing and equipment for travel and adventure in New Zealand and Australia.
Line 7 www.line7.co.nz	Line 7 makes high quality clothing for today's casual lifestyle. Styled in New Zealand, inspired by an authentic nautical heritage.
LM Clothing www.lmclothing.co.nz	100% High Quality New Zealand made fitness apparel delivered anywhere in the world, usually in 2-4 days!
Macpac www.macpac.co.nz	From its beginnings in a Christchurch family garage, Macpac has developed into one of the world's most trusted manufacturers of top quality outdoor equipment and clothing.
Swazi www.swazi.co.nz/	The world's most durable outdoor clothing for use on the farm, out hunting, outdoors or where ever you choose life to take you. Proudly designed and produced in New Zealand
Untouched World www.untouchedworld.com/	Untouched World™ is a sustainable fashion and sportswear brand based on the New Zealand lifestyle. We have spent over two years testing and developing the best natural high performance cycling clothing system.
Wild South www.wildsouthclothing.co.nz	Based in Christchurch, New Zealand, with the Pacific Ocean beside us and the mountainous Southern Alps at our doorstep, it is easy to see why we never lose inspiration. Wild South is not just a clothing company, it's a way of life.

Source: Company websites as listed in the table.

Chapter 7
Personal and Social Net Benefits from Sport and Recreation

Key Facts and Estimates

- Taking into account the number of New Zealand adults who meet physical activity guidelines through participation in sport and recreation, the gross personal benefits as a result of increased work productivity and improved health outcomes are estimated to have been $4.2 billion in 2009.
- Taking into account the economic costs from premature deaths and serious injuries incurred while involved in sport and recreation activities (estimated to have been $3.2 billion), the net personal benefits are estimated to have been $1.0 billion in 2009.
- The total number of hours New Zealand adults spent participating in sport and recreation in 2008/09, including watching young people in organised sport and acting as volunteers, is estimated to have been 544.9 million hours.
- **Using the statutory minimum wage to value conservatively the opportunity cost of time spent in sport and recreation activities, a broader estimate of the net personal benefits to New Zealanders from sport and recreation in 2008/09 is $6.9 billion.**

The core measures produced in the report so far have focused on the contribution of sport and recreation to economic activity recorded each year in the country's GDP. The first core measure adopted a narrow definition of the sport and recreation sector; the second adopted a broader definition; and the third measure included the contribution of volunteers in the sport and recreation sector and in the wider economy.

Participation in sport and recreation activities, however, produces a wider range of personal and social benefits than simply providing economic opportunities for enterprises producing sport and recreation goods and services. To focus on two examples analysed in this chapter, there is international evidence that participants in sport and recreation are on average more productive in employment and enjoy better health outcomes. Some of these benefits are *personal* benefits (increased productivity leads to a higher wage and a healthy person should have a higher quality of life) and some are *social* benefits received by others (increased productivity leads to higher profits and the government makes savings in the health system when the population is more active in sport and recreation).

There are also costs from sport and recreation participation. This chapter will consider, for example, accidental premature deaths and serious injuries requiring more than a week off from employment. Some of the costs are personal, such as suffering from injuries, and some are social costs, such as the payment of medical expenses by ACC. Thus this chapter will focus on the *net* benefits (that is, benefits minus costs) of sport and recreation.

The chapter uses two methods for its analysis. The first method aims to identify and measure major benefits directly. A full list of benefits could be very wide-ranging; an annotated bibliography produced in Australia by the National Centre for Culture and Recreation Statistics (2001), for example, identified eight social impact categories:

- Community pride/identity
- Crime prevention
- Development of life skills
- Mood (mental health)
- Personal well-being (physical health)
- Self-esteem
- Social behaviour
- Social cohesion

Data measuring benefits in these categories are generally not available, and so the standard approach is to choose examples that can be measured to give an indication that the benefits can be substantial. A good illustration is the report prepared by Access Economics (2010) for ACT Sport and Recreation Services, which included estimates of productivity gains and reduced health-spending resulting from participation in sport and recreation. This produced a 'direct health contribution' estimate of $84.5 million, which accounted for one-third of the estimated total direct economic contribution.

Following this approach, Section 7.1 estimates the increased work productivity and the improved health outcomes associated with New Zealanders meeting physical activity guidelines through sport and recreation. Section 7.2 then recognises that these benefits are offset by the costs of accidental premature deaths and of injuries resulting from sport and recreation activities. Table 7.1 records the values produced in these two sections, producing an estimated net benefit of $1.0 billion.

The second method is a new approach developed for this project. Rather than measuring the contribution of each individual category of benefits, this alternative approach recognises that individuals who choose to participate in sport do so because the aggregate personal benefits are perceived to be greater than the aggregate personal costs. Gratton and Taylor (2000, pp. 50-51) categorise the fixed and variable costs of participation into six headings:

1. Membership and subscription fees
2. Cost of equipment, clothing, and footwear
3. Entrance charges to sports facilities
4. Travel costs
5. Costs of participation-related food and drink consumption, equipment hire and so on
6. Time costs

Table 7.1: Direct benefits and costs from participation, 2009

Benefits and Costs	Estimated Value ($ millions)
Increased work productivity	$281
Improved health outcomes	$3,947
Total Personal Benefits	**$4,228**
Accidental premature deaths	– $336
Suffering from injuries	– $1,887
Other costs of injuries	– $967
Total Personal Costs	**– $3,190**
Total Net Benefits	**$1,038**

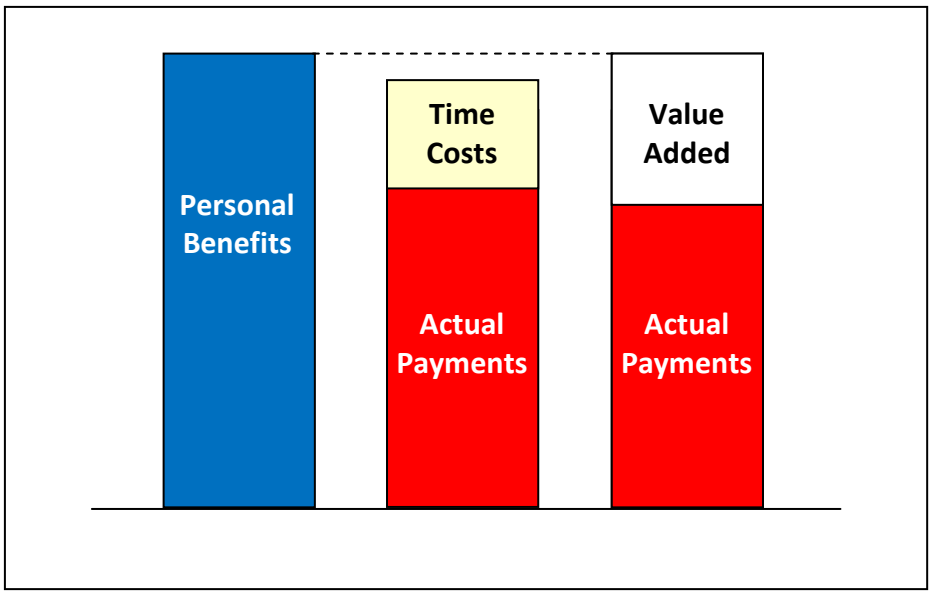
Source: Table 7.5, explained in Sections 7.1 and 7.2 of this chapter.

Categories 1 to 5 in this list represent actual payments by the participant to sectors of the economy already considered in previous chapters of this report. The sixth category (time costs) is an 'opportunity cost', reflecting that the participant could have spent the time in alternative activities that would have also generated personal benefits. This opportunity cost, if it can be measured, is a conservative estimate of the *value added* to the individual by his or her time participating in sport and recreation.

This is illustrated in Figure 7.1, which is based on the explanation of value added in Figure 4.1 of Chapter 4. To justify participation, the personal benefits (column 1) must be greater than total costs comprising actual payments and time costs (column 2). The actual payments are revenue to industries in the economy, so that the value added is personal benefits minus these actual payments (column 3). By construction, the value added must therefore be greater than the time costs.

The next step is to use a credible method for valuing the opportunity cost of time spent in sport and recreation, including the time spent as an active participant, as a volunteer or as an adult watching young people play in organised sport. A useful point of reference is to note that an adult's time spent in a significant amount of non-market activity could have been spent in secondary employment earning income. The fact that the person did not make that choice, but chose instead to participate in sport and recreation, indicates that the person obtains more value from the sport and recreation than would have been obtained from further employment. In order to adopt a conservative approach, the statutory minimum wage is used to value this opportunity cost of time.

Figure 7.1: Personal benefits and costs of participation



Based on this approach, Section 7.3 estimates a total value-added by participation in sport and recreation of $6.9 billion; that is, a further $5.9 billion on top of the net benefits calculated in Section 7.2. This is a substantial figure, which more than doubles the value of sport and recreation estimated in previous chapters.

7.1 Estimates of personal and social benefits

Increased Work Productivity

The AERU research team was not able to identify any New Zealand study on the relationship between labour productivity in the workplace and participation in sport and recreation. It did, however, find a recent and authoritative study in Australia performed by KPMG-Econtech for Medibank Private Limited. This report summarised how physical inactivity lowers employee productivity and indicated the size of this impact (Medibank, 2008, p. 7):

> Like other health risk factors, physical inactivity can have an adverse effect on organisations as well as individuals. Specifically, physical inactivity can impact on employee productivity by causing increased absenteeism and presenteeism, which impose direct economic costs on employers. Presenteeism is defined as the lost productivity that occurs when employees come to work but, as a consequence of illness or other conditions, are not fully functioning. In comparison, absenteeism occurs when employees do not come to work. The direct costs of physical inactivity to the employer are the value of lost labour input.
>
> KPMG-Econtech estimates the overall average labour productivity loss caused by physical inactivity corresponds to a direct loss of 1.8 working days per worker per year for an average Australian worker [assuming 240 working days per annum] or a cost of around $458 per employee per year. It is estimated that in 2007/08, physical inactivity caused GDP to be around $9.3 billion lower than would otherwise be the case.

Based on 1.8 working days out of an average number of 240 working days, this implies that the work productivity of a physically inactive person is three-quarters of one per cent (0.75 per cent) lower than the work productivity of a physically active person. The analysis in this section assumes that the same relationship is true in New Zealand.

New Zealand's physical activity guidelines state that adults should participate in at least 30 minutes of moderate-intensity physical activity on most, if not all, days of the week. The *2007/08 Active NZ* survey adopts the standard of this level of activity being met on five or more days of the survey week. It reports that 49 per cent of the total adult population (aged 18 and above) met this guideline and that 20 per cent of the adult population are counted as physically active *because of* their participation in sport and recreation.

Based on these figures, it is possible to calculate the impact on productivity if this percentage of the labour force gave up sport and recreation and no longer met the guidelines for physical activity. If 20 per cent of the labour force became less productive by 0.75 per cent, then the overall loss is 0.20*0.0075 = 0.15 per cent. Gross domestic product in New Zealand for the year ending March 2009 is estimated to have been $184.1 billion. If 0.15 per cent of this was due to increased productivity through participation in sport and recreation, then the value was 0.0015 times $184.1 billion, which equals $280.8 million.

Improved Health Outcomes

The Medibank (2008) report discussed in the previous section also provided data on the estimated number of premature deaths caused in Australia in 2008 by physical inactivity and used these data to estimate the economic cost of the reduced life expectancy. Based on the Australian data, the premature death rate of the inactive adult population (due to inactivity) is 1,725 deaths per million, or 0.1725 per cent.

Recall that 20 per cent of the adult population are physically active because of their participation in sport and recreation. The adult population of New Zealand (aged 18 and over) for the year ended 31 December 2009 was 3,264,400. These figures imply that 652,880 adults were physically active due to sport and recreation, and that if these adults had not been physically active there would have been an extra 1,126 premature deaths in New Zealand that year.

The Ministry of Transport uses a technique known the Value of Statistical Life (first applied in New Zealand by Millar and Guria, 1991) to provide an economic value for evaluating fatal road accidents. This is based on an estimate of the amount of income New Zealand residents are willing to forego in order to reduce road risk by one more premature death. Using this technique, the current value of a premature death caused by a road accident is $3,504,900 (Ministry of Transport, 2009). Adopting this figure, avoiding an extra 1,126 premature deaths prevents a social cost of $3,947 million.

Note that this is a conservative estimate of the benefits of improved health outcomes. A full study would also account for the spending in the health system on conditions associated with physical inactivity. The Medibank (2008) study estimated that the direct gross health cost of physical inactivity in Australia in 2007/08 was A$1.6 billion, covering items such as falls, coronary heart disease, type 2 diabetes, depression symptoms and strokes. A similar

estimate using New Zealand data has not been possible within the resources for this project, but the Australian study does indicate that this benefit is significant.

7.2 Estimates of net benefits

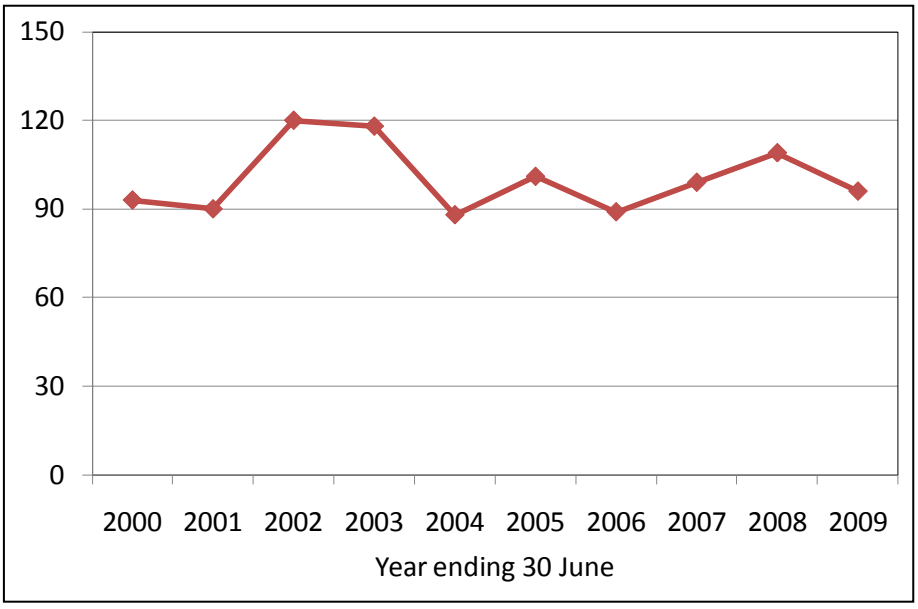
This section estimates *net* personal and social benefits, taking into account the impact of premature deaths and significant injuries from participation in sport and recreation.

Accidental Premature Deaths

The Accident Compensation Corporation publishes data on accepted injury claims, including claims for death benefits (ACC, 2010a, Section 21). Figure 7.2 shows that the number of accepted claims for death benefits from a sporting or recreation accident has oscillated between 90 and 120 per annum. In the year ending June 2009, the number was 96.

As noted in the previous section, the value of a premature death caused by a road accident is currently estimated to be $3,504,900 (Ministry of Transport, 2009). This figure can be applied to the number of premature deaths caused by sport injuries in 2009 to offset the calculation of health benefits in Section 7.1. The 96 fatal accidents recorded that year imply a negative contribution of $336.5 million.

Figure 7.2: Number of fatalities in sport and recreation



Source: ACC (2010a), Section 21.

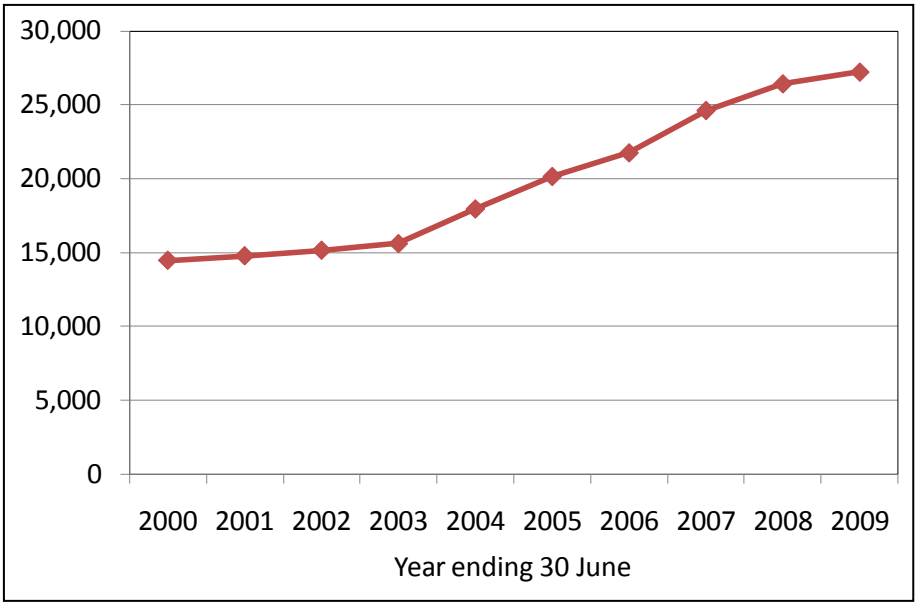
Suffering from Injuries

Anyone participating in sport and recreation activities is exposed to the risk of an injury. Most injuries are of a minor nature and the main impact on quality of life is that the person cannot continue in the activity until the injury heals. But other injuries can have a potentially large impact on the person's quality of life. Following ACC definitions, these include moderate injuries where the person is incapacitated for more than one week (and so

becomes eligible for ACC 'Entitlement Claims' for compensation or rehabilitation) and serious injuries which often require 24-hour care (ACC, 2010b). The loss of quality of life from these non-minor injuries needs to be taken into account.

Figure 7.3 presents data on recent trends in the number of moderate and serious injuries in sport and recreation, using ACC entitlement claims data. There were around 15,000 such injuries from 2000 to 2003 (June years), but then there was a steady increase to over 25,000 new claims in 2008 and 2009. In the year ending 30 June 2009, there were 27,240 new claims accepted, of which 43 were classified as 'serious' (using the ACC definition).

Figure 7.3: Number of ACC entitlement claims for sport and recreation injuries



Source: ACC (2010a), Section 20.

As well as entitlement claims, the ACC also pays out 'Medical Fee Only' claims. The ACC (2010b, p. 5) reports that "about 85 per cent of all claims are in this category and often involve only one or two visits to a health professional". There were 1,663,406 of these claims for sport and recreation in 2007/08. The 'quality of life' costs of these claims are not included in this section's analysis, on the assumption that they are accepted as part of the costs of sport (and so included in a person's calculations when comparing the benefits and costs of sport before choosing to participate) in a way that more serious injuries are not.

To estimate the life quality costs of these sport and recreation injuries this section uses the methodology adopted in a recent study commissioned as part of the New Zealand Injury Prevention Strategy (NZIPS). In this study, O'Dea and Wren (2010) provide estimates of the total current burden of injuries in New Zealand, paying particular attention to six priority areas in NZIPS: assaults; falls; drownings; motor vehicle injuries; suicide/self-harm; and workplace injuries. A summary of their estimates are presented in Table 7.2.

The third data column estimates the human cost of all injuries, which is equivalent to loss of quality of life discussed in this chapter. The total estimate is $6.2 billion. Injuries due to sport and recreation are not one of the six priority areas in NZIPS, but the data in Table 7.2

can be used to provide an upper-bound on the contribution of sport and recreation. This is done by recognising that drownings are likely to be sport and recreation accidents and that a significant number of falls are likely to be sport and recreation accidents (although note that approximately two-thirds of serious injuries and fatalities from falls are incurred by people aged 75 and over; see Gulliver *et al*, 2010). Table 7.3 therefore includes in its estimate the total contribution of non-priority areas, the total contribution of drownings and 50 per cent of the contribution of falls.

Table 7.2: NZIPS estimate of the total cost of all injuries ($millions), 2007/08

Cost Categories	Treatment and Rehabilitation	Lost Economic Contribution	Human Cost (Quality of Life)	Total Social and Economic Cost
Assault	$2.5	$49.5	$327.5	$379.6
Falls	$535.7	$270.8	$928.7	$1,735.2
Drowning	$0.8	$48.2	$246.4	$295.5
Motor Vehicle	$253.5	$464.5	$1,477.0	$2,195.0
Suicide / Self-harm	$1.6	$380.1	$1,787.4	$2,169.1
Workplace	$349.5	$640.3	$357.8	$1,347.5
Non-priority areas	$252	$217	$1,087	$1,555
All Injuries ($m)	**$1,395**	**$2,070**	**$6,212**	**$9,677**

Source: O'Dea and Wren (2010), Table 11, p. 22.

Table 7.3: Estimate of the quality of life loss from injuries ($millions), 2007/08

Cost Categories	Human Cost (Quality of Life)	Assumed Weighting	Contribution
Non-priority areas	$1,087	100%	$1,087
Drowning	$246	100%	$246
Falls	$929	50%	$465
Total ($m)			**$1,798**

Source: Based on Table 7.2.

The data in Tables 7.2 and 7.3 are based on 2007/08 figures. To update these estimates to 2008/09 an adjustment needs to be made for annual trends in accident rates and in prices. Between 2007/08 and 2008/09 the number of new ACC entitlement claims for sports and recreation injuries rose from 26,443 to 27,240 (ACC, 2010a, Section 20), an increase of 3.0 per cent. Between June 2008 and June 2009, the consumer price index increased by 1.9 per cent. Taken together, this implies an adjustment figure of 4.96 per cent. This produces an overall cost for 2008/09 of $1,887 million.

It should be noted that the method used to calculate this figure overstates the share of sport and recreation injuries in Table 7.2. Further, it implies a degree of double-counting, since the data in Table 7.2 include the impact of fatal injuries, which have already been covered earlier in this section. It is not possible to simply subtract this earlier estimate because the O'Dea and Wren (2010) method makes an allowance for quality-adjusted life-years that depends on the age of the person suffering the injury (see the discussion in O'Dea and Wren, 2010, pp. 13-16). These features of the estimate produced here are consistent with the conservative approach adopted through the chapter.

Other Costs of Injuries

Table 7.2 of the previous section presented data on other costs of injuries sustained in accidents. Treatment and rehabilitation costs refer to all the monetary payments made in relation to diagnosis, treatment and rehabilitation of injuries (including transport, home modifications and ongoing assistance with impairment). Output and productivity costs refer to loss of income (to employees and their employers, but also to those who work voluntarily) resulting from an individual not being able to work as a consequence of an injury.

Table 7.4 repeats the analysis of Table 7.3 for these other losses from injuries, resulting in an upper limit estimate of $921 million. Applying the adjustment figure of 4.96 per cent to allow for changes between 2007/08 and 2008/09, this produces an overall estimate of these costs for 2008/09 of $967 million.

Table 7.4: Estimate of other losses from injuries ($millions), 2007/08

Cost Categories	Cost Type	Total Cost ($ millions)	Assumed Weighting	Contribution ($ millions)
Non-priority areas	Medical	$252	100%	$252
	Economic	$217	100%	$217
Drowning	Medical	$1	100%	$1
	Economic	$48	100%	$48
Falls	Medical	$536	50%	$268
	Economic	$271	50%	$135
Total ($m)				**$921**

Source: Based on Table 7.2.

Summary of Net Personal and Social Benefits

Table 7.1 collects the estimates produced in this section. It estimates a total net benefit of just over $1.0 billion for 2009.

Table 7.5: Direct benefits and costs from participation, 2009

Benefits and Costs ($ millions)	**Total**
Increased work productivity	$281
Improved health outcomes	$3,947
Total Personal Benefits	**$4,228**
Accidental premature deaths	– $336
Suffering from injuries	– $1,887
Other costs of injuries	– $967
Total Personal Costs	**– $3,190**
Total Net Benefits	**$1,038**

Source: Explained in the text.

7.3 The opportunity cost of time in sport and recreation activities

Economists use a variety of techniques for estimating the benefit or *willingness-to-pay* of people for activities for which there is no market price. In New Zealand, for example, there have been several studies estimating the value of outdoor recreation activities. These studies have been surveyed by Booth and Lynch (2010); typical recent studies include estimates of the benefits accruing to freshwater anglers (Beville and Kerr, 2008), to marine anglers (Schischka and Marsh, 2008) and to recreational hunting (Kerr and Woods, 2010).

The benefits found in these studies are very large. A study at the University of Waikato, for example, performed a meta-analysis of nineteen non-market valuations of outdoor recreation in New Zealand and report that these benefits are over $5 billion annually (Kaval and Yao, 2007). Table 7.6 lists the top six activities, ranked by the estimate of their non-market benefits per person per day, measured in New Zealand dollars at 2007 values.

The AERU research team was not able to find any similar studies of the value of participation in sport, or the value to parents of their children's participation in sport. The final chapter of this report comments further on this gap in our knowledge. For the purposes of this section, the analysis adopts a simpler and more conservative method for estimating the direct benefits of participation in sport and recreation, known as *'revealed preference'*, based on measuring the opportunity cost of the time spent in participation.

Table 7.6: Non-market benefits of outdoor recreation by activity

Activity	Non-Market Benefits Per Person Per Day
Backpacking / Tramping	$243.55
Mountain Climbing / Rock Climbing	$110.12
Fishing	$81.77
General Recreation	$33.86
Camping	$14.74
Picnicking	$7.00

Note: Measured in New Zealand dollars at 2007 values.

Source: Kaval and Yao (2007), Table 2, p. 10.

The idea behind this method is that an adult's time spent in a non-market activity could have been spent in the marketplace earning income. An average adult aged 25 to 34, for example, spends about 146 hours per year engaged in sport and recreation (see Table 7.8 later in this section). Assuming 8 hours per working day, this is equivalent to just over 18 working days.

At the beginning of the year, the person *could* have chosen to spend this time in a secondary job (or in a primary job if not currently employed). The fact that the person did not make that choice, but chose instead to participate in sport and recreation for the equivalent of 18 working days, indicates that the person obtains more value from the sport and recreation than would have been obtained from the secondary job. Economists say there is a revealed preference for the time spent in sport, which can be valued by estimating the benefit that would have been gained in employment.

It seems reasonable to assume that items such as transport costs, clothing costs and equipment costs are likely, on average, to be not significantly greater participating in sport than participating in employment. This means that it is reasonable to take the income earned in employment as the benefit of employment. To be conservative, the analysis in this section uses the statutory minimum wage ($12.75) to measure this income earning potential, even though most people are able to earn a higher hourly rate than this figure.

This approach is suitable for adults, but is not readily applicable for young people. Ideally, the analysis would want to estimate the wide range of educational and socialisation benefits that have been identified in the literature as produced by young people's participation in sport, but the necessary data are not available.

Consequently, the analysis adopts an approach based on the idea in the Conference Board of Canada's Sport Participation Impact Analysis Household Survey (Bloom *et al*, 2005) that children's participation in sport produced benefits enjoyed by their parents (see the discussion in Chapter 1 above) especially by "bringing families together". To quantify this effect, the analysis makes the assumption that for every two children participating in organised sport, there is on average one adult watching that participation. This assumption means that the opportunity cost of the *adult spectator's time* can be used as an indicator of the benefit of the children playing sport.

Chapter 2 described the two data sources for the amount of time spent participating in sport and recreation by young people and adults respectively. The relevant data are reproduced in Tables 7.7 and 7.7 (note that the adult data do not include walking and gardening).

Table 7.7: Average time spent in organised sport by young people

Age Group	Minutes per Week	Hours per Year
5-9 years	161	140
10-14 years	296	257
15-19 years	202	175

Source: Clinical Trials Research Unit and Synovate (2010), Table 17, p. 56.

Table 7.8: Average time spent in sport and recreation by adults

Age Group	Minutes per Week	Hours per Year
18-24 years	222	192
25-34 years	169	146
35-49 years	149	129
50-64 years	121	105
65+ years	112	97

Source: Data provided to SPARC drawing on the Active NZ Survey (SPARC, 2008).

A further consideration is the important role played by volunteers in sport and recreation. As reported in Section 2.6, analysis for SPARC of the *2007/08 Active NZ* Survey calculated that over the course of a year, adults volunteered 51.3 million hours in roles such as coach, trainer, teacher, instructor, parent helper, referee, judge, official and umpire. As already noted in Section 3.4 of this report, this large commitment of time by volunteers has two separate implications:

- The services of the volunteer bring benefits to those for whom the services are done. A volunteer club secretary, for example, performs work that the club would otherwise have to pay for in the absence of the volunteer. The market value of the unpaid work was calculated in Section 3.4.
- The same idea applied to the active participants also applies to volunteers; the personal value they themselves obtain from their activity must cover the opportunity cost of their time, which they could have spent on other activities such as secondary employment.

Consequently, Table 7.9 summarises the total number of hours per person in three groups: young people (divided into three age bands); adults (divided into five age bands); and volunteers. The hours for young people are halved from their values in Table 7.7 on the assumption that on average one adult is a spectator for every two young people participating. The second data column of Table 7.9 records the number of New Zealanders in each age band in order to calculate the total hours in the third column. This sums to 544.9 million hours.

The final column uses the statutory minimum wage value of $12.75 to calculate the value of time associated with active and volunteer participation in sport and recreation. The largest value is the active participation of adults, calculated at $5.3 billion, followed by the watching of young people's active participation at $1.0 billion. The total value is $6.9 billion.

It should be again emphasised that the method used to calculate this value is conservative. It records only the time spent in organised sport by young people and it uses the statutory minimum wage to value time. Even with these caveats in mind, the total value of $6.9 billion is a substantial figure, reflecting the importance of sport and recreation in contributing to the well-being of New Zealanders.

Sections 7.1 and 7.2 estimated net benefits of $1,038 million. If those net benefits are all incorporated into the personal decision to participate in sport and recreation, then the calculations of this section imply that the total net benefits must be at least a further $5,910 million to give the total figure in Table 7.9 of $6,948 million; see Table 7.10. This is a conservative assumption, since it is generally agreed that sport and recreation participation produces net *social* benefits that are not included in private decision-making. In the language of economists, these are termed "externalities"; see, for example, Frontier Economics (2009). Table 7.10 has not made any allowance for positive externalities (such as improved general health due to reduced inactivity) or negative externalities (such as ACC payments for sports and recreation injuries).

Table 7.9: Value of time spent in sport participation and volunteering for adults

Group	Total Hours (per person)	Population	Total Hours (millions)	Total Value ($ millions)
5-9 years	70	287,990	20.1	$256
10-14 years	128	297,520	38.2	$487
15-17 years	87	191,000	16.7	$213
Young people (5-17 years)			**75.0**	**$956**
18-24 years	192	437,320	84.1	$1,072
25-34 years	146	550,390	80.5	$1,026
35-49 years	129	942,600	121.8	$1,553
50-64 years	105	752,890	79.0	$1,007
65+ years	97	552,560	53.3	$680
Adults (18 years and over)			**418.7**	**$5,338**
Volunteers (18 years and over)			**51.3**	**$654**
TOTAL			**544.9**	**$6,948**

Note: Only half of the total hours of young people (5-17 years) from Table 7.6 are included on the assumption that on average one adult is a spectator for every two young people participating.

Source: Total hours are from Tables 7.6 and 7.7. Population data are for the mean population for the year ended December 2009, obtained from Statistics New Zealand.

Table 7.10: Estimate of personal net benefits

Group	Values ($ millions)
Total Net Benefits from Table 7.9	**6,948**
LESS: Net Benefits from Table 7.5	**1,038**
Additional Personal Net Benefits	**5,910**

Note: This calculation does not allow for positive or negative externalities from participation in sport and recreation.

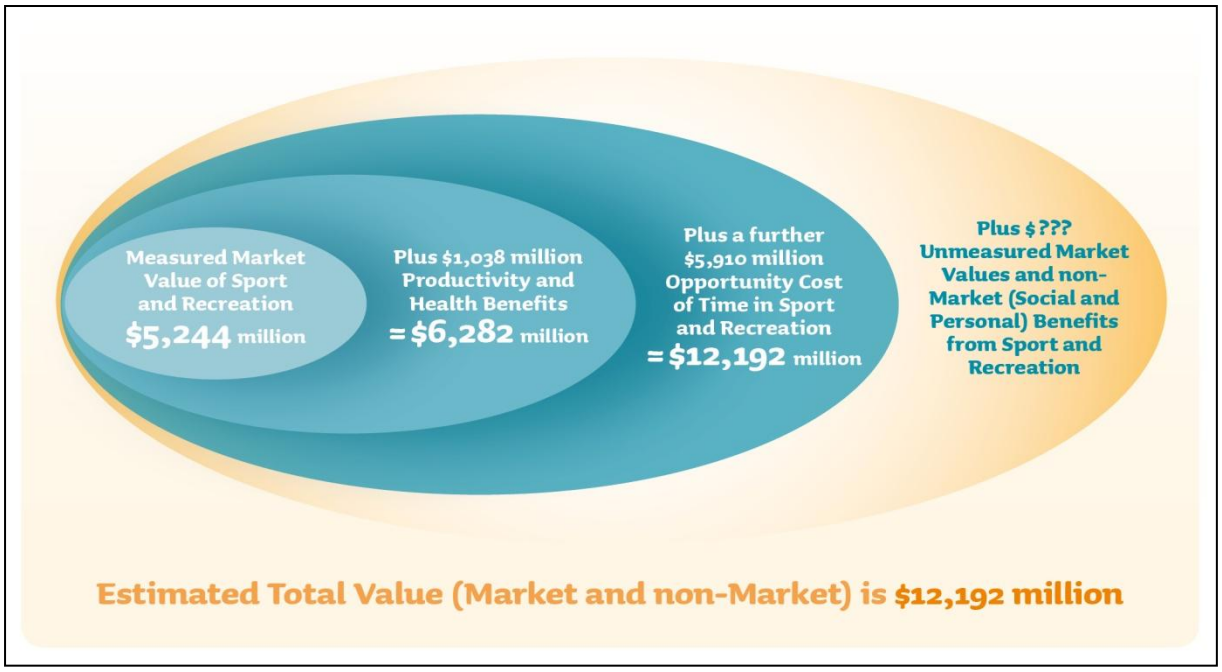
Source: Table 7.5 and Table 7.9.

Summary of Net Benefits

Figure 7.4 summarises the study's two estimates of the measured value of sport and recreation in New Zealand in 2008/09. It begins with the measured market value of the broad sector (including volunteered services), estimated at the end of Chapter 5 as $5,244 million. It allows for the estimate of net benefits of $1,038 million, taken from Table 7.5. It then includes the *extra* benefits identified in this section of $5,910 million. Adding together these three items, this produces a total benefit of $12,192 million.

As in Figure 5.6, the outer oval recognises that this study has not been able to measure all of the benefits from sport and recreation in 2008/09.

Figure 7.4: Estimated total value of sport and recreation in New Zealand, 2008/09



Note: This figure is based on a concept developed by Grant McLean at SPARC.

Source: Figure 5.6, Table 7.5 and Table 7.9.

Note that the study does not express these totals as a percentage of GDP. This is because these benefits are produced by people directly for themselves, and so are not included in the scope of gross domestic product estimates. In the same way, for example, work related to family care within the household is also defined out of scope; see Waring's (1988) influential critique of this practice. Consequently it is not possible to extend the standard measure of GDP to include all non-market activities in the way it was possible to extend it in Chapter 5 to include the market value of volunteered services.

Nevertheless, the calculation in this section suggests that the direct personal benefits of participation in sport and recreation provides value to the participants that more than doubles the measure of value-added generated in the sport and recreation sector (broadly defined, including the market value of volunteered services in the economy). This reinforces the observation made at the beginning of this report that "it is clear that sport and recreation are highly valued in New Zealand, indicated by the time and financial resources that individuals and communities devote to activities related to sport and recreation" (p. 2). Figure 7.4 indicates that the value of the time resources is in the order of $6.9 billion while the value of the financial resources is in the order of $5.2 billion. Given the conservative approach taken to producing these values, and given the significant items that this report has not been able to include in its analysis, future research is likely to show that both these values are underestimates.

Chapter 8
Conclusion

This study has built on previous New Zealand and international studies to present a comprehensive framework for measuring the net benefits produced from sport and recreation in New Zealand and to offer estimates of the value of these benefits where the relevant data have been available. The research has produced four major results, all of which have been conservatively estimated:

- The contribution of the sport and recreation sector (narrowly defined) to GDP in 2008/09 is estimated to have been $3.8 billion, or 2.1 per cent.
- The contribution of the sport and recreation sector (broadly defined) to GDP in 2008/09 is estimated to have been $4.5 billion, or 2.4 per cent.
- The contribution of sport and recreation to GDP including volunteered services in 2008/09 is estimated to have been $5.2 billion, or 2.8 per cent.
- The total value of sport and recreation to New Zealanders in 2008/09 is estimated to have been at least $12.2 billion when the opportunity cost of time is included.

The data sources for each of these results are presented in an appendix to this report. Section 8.1 of the chapter uses these figures to calculate the tax revenue generated by the sport and recreation section. The chapter then considers how the health of the sector can be monitored and data sources improved. Section 8.2 proposes that Sport and Recreation New Zealand adopts an 'indicator dashboard' approach for tracking progress in the sector. Section 8.3 proposes aspects revealed in this report where further research would be valuable for improving data measuring the sector's development.

8.1 An estimate of tax revenue

The report by Frater *et al*. (1998) for the Hillary Commission included an appendix on tax revenue generated by the sport and recreation sector, prepared by Infometrics Consulting based on the earlier report by Jensen *et al*. (1993). This provided information on types of taxation (income tax, company tax and GST) plus a table showing which sectors contributed these taxes. For the current report, a more aggregate approach is taken, based on the calculations in the second major headline bullet point above and the share of tax revenue as a per cent of gross domestic product.

For the year ending June 2009, the government's taxation revenue was $54,145 million and expenditure on nominal gross domestic product (GDP) was $185,349 million. This implies a tax to gross domestic product ratio of 29.2 per cent. The contribution of sport and recreation to GDP in 2008/09 was $4.5 billion. Assuming that the sector generates the same average tax rates as other sectors, this implies tax revenue equal to 29.2 per cent of $4.5 billion; that is, $1.3 billion.

Recall that $0.5 billion of government expenditure was identified in Table 5.1 as being specifically directed at sport and recreation. Given that tax revenue from the sector is more than two and a half times that level of expenditure, this represents an excellent return on the government's investment.

8.2 An indicator dashboard to track progress

An 'indicator dashboard' aims to identify a limited number of statistical indicators that can be monitored to track progress in an area of important policy interest. The most developed example in New Zealand is the sustainable development indicators framework created by Statistics New Zealand (2009) to monitor aspects of the country's social, economic, environmental and cultural development. In preparing that report, Statistics New Zealand (2009, p. 145) identified a number of characteristics of good indicators:

- adequately and consistently reflects the phenomenon that it is intended to measure
- responds rapidly and reflects changes in the phenomenon
- is unambiguous with regard to evaluation
- is derived from high-quality, methodologically sound data
- is relevant to the New Zealand context
- can be directly related to at least one of the defining principles
- is easily understood and provides information useful for decision-making.

The list reveals some of the difficulties in creating an effective indicator dashboard. Census data, for example, are available only every five years and so an indicator that relies on the Census does not respond rapidly to changes. Indicators that rely on a series of technical assumptions are often not easily understood. Consequently, constructing an indicator dashboard often involves a trade-off between what data are available and what information would ideally be most useful to stakeholders in the sector.

Table 8.1: Five principles for monitoring the sport and recreation sector

Principle 1:	**Participation** – Ensuring that New Zealanders of all ages are able to enjoy participation in sport and recreation activities.
Principle 2:	**Professions** – Ensuring the sport and recreation sector can create employment opportunities for New Zealanders (including elite athletes) to earn a living.
Principle 3:	**Production of Goods and Services** – Ensuring that the New Zealand sport and recreation production industries thrive and grow.
Principle 4:	**Provision of Infrastructure** – Ensuring that New Zealanders can access high quality sport and recreation facilities and core services.
Principle 5:	**Promotion and Profile** – Ensuring that opportunities created by New Zealand's sport and recreation profile are used to promote other industries.

The approach recommended by Statistics New Zealand and adopted here is to begin by defining principles that the indicators will be used to monitor (see the second-to-last bullet point in the list above). In this report, the analysis has implicitly recognised five principles based on the chapter headings in Chapters 2 to 6. These principles are listed in Table 8.1.

Drawing on the data sources used in this report, the following 18 examples illustrate how an indicators dashboard could be developed to reflect the principles in Table 8.1. The example defines an indicator and then states the data source.

Principle 1: **Participation**

- Indicator 1-A Participation by young people in sport and recreation
  - SPARC Young People's Survey, every four years
- Indicator 1-B Time spent per week by young people in sport and recreation
  - SPARC Young People's Survey, every four years
- Indicator 1-C Participation by young people in secondary school sport
  - New Zealand Secondary School Sports Council survey, annual
- Indicator 1-D Participation by adults in sport and recreation
  - Active NZ survey, every six years
- Indicator 1-E Average minutes per week spent by adults in sport and recreation
  - Active NZ survey, every six years
- Indicator 1-F Total number of hours spent by adults as volunteers for sport and recreation activities
  - Active NZ survey, every six years

(Note: SPARC has recently commissioned a Sports Market survey which will be an annual survey, resources permitting. This source may provide more frequent indicators for adult participation in sport and recreation, and possibly for young people's participation.)

Principle 2: **Professions**

- Indicator 2-A Total employment in the sport and recreation sector
  - Census data, every five years
- Indicator 2-B Average income in sport and recreation occupations
  - Census data, every five years
- Indicator 2-C Number of carded athletes supported through SPARC
  - SPARC, annual

Principle 3: **Production of Goods and Services**

- Indicator 3-A Total household spending on sport and recreation
  - Statistics New Zealand Household Economic Survey
- Indicator 3-B Revenue of sport and recreation enterprises
  - Statistics New Zealand Annual Enterprise Survey
- Indicator 3-C Contribution to GDP of sport and recreation industries
  - Statistics New Zealand National Accounts data

Principle 4: **Provision of Infrastructure**

- Indicator 4-A Participation by teachers in secondary school sport
  - New Zealand Secondary School Sports Council survey
- Indicator 4-B Central government spending on sport and recreation
  - *The Estimates of Appropriations*
- Indicator 4-C Local government operating expenditure on sport and recreation
  - Statistics New Zealand Local Government Census
- Indicator 4-D Membership of a sport or recreation club
  - Adults – Active NZ survey
  - Young people – Young People's Survey

Principle 5: **Promotion and Profile**

- Indicator 5-A Average audiences for television sports programmes
  - Nielsen Media Research
- Indicator 5-B Number of international visitors who include walking and trekking
  - International Visitor Survey

These eighteen potential indicators are intended to be illustrative of what is possible rather than a definite list. The preparation of an indicators dashboard is a substantial exercise requiring extensive consultation within the sector to ensure the details of the indicator framework meet the sector's information requirements.

8.3 An agenda for further research

Although this report has gone much further than previous New Zealand reports evaluating the benefits of sport and recreation, the report has also uncovered areas where further research would be valuable. This section highlights some of these areas.

Non-market Benefits of Sport

Table 7.5 in Chapter 7 recorded the results of a meta-analysis of studies of non-market benefits arising from outdoor recreation. This report has not uncovered any similar studies of non-market benefits from participation in sport. This could be significant; the meta-analysis of outdoor recreation activities produced an aggregate benefit of over $5 billion annual (Kaval and Yao, 2007), suggesting that even this report's larger estimate of total net personal benefits of recreation *and sport* ($6.9 billion annually) is very conservative.

Schools

The large scale of sport and recreation investment in schools (including the recent KiwiSport initiatives) plus very high participation rates of young people demonstrate the value that New Zealand families place on sport and recreation for young people. Nevertheless, this report was not able to find any New Zealand studies of the value of participation in sport, or the value to parents of their children's participation in sport.

Nor is there any data on the extent to which parents and other adults support their children as spectators. The report has assumed one adult spectator for every two children, but it should be relatively straightforward to obtain some evidence on the validity of this assumption. It should also be possible to obtain more direct evidence on the value to families of young person's sport.

The estimate of resources in primary and secondary education devoted to the sport and recreation areas of *The National Curriculum* was obtained in a very simple manner; it should be possible to implement a more sophisticated study of this question, perhaps in partnership with a research agency such as the New Zealand Council for Educational Research.

New Zealand Data

There is some discussion in New Zealand about how to evaluate the loss of quality of life arising from minor injuries not requiring hospitalisation (see Wren and Barrell, 2010). This report has followed the approach recommended by O'Dea and Wren (2010), but it would be valuable to have this issue settled by further evidence that is specific to sporting injuries (much previous research relies on the initial study by Guria, 1993, for road accident injuries).

Data on employment in this report has relied on Census data, which is collected only every five years. More frequent data may be available through annual returns from national sports organisations and recreation associations. This might not cover the full range obtained in the Census, but might reveal trends in a more timely fashion. Similarly, it may be possible to collect information on average salaries through these sources.

The estimated value of fixed assets owned by local government for recreation and sport (Figure 5.4) was based on depreciation and amortisation data. It may be possible to obtain a more accurate analysis from the balance sheets of regional, city and district councils.

Some of the data used in deriving the estimate of total net benefits of recreation and sport (Table 7.1) came from Australian studies. It would be valuable to undertake similar studies in New Zealand.

This study has given a case study of how private enterprise contributes to sport and recreation infrastructure. It would be valuable to undertake a detailed survey of this aspect of the sector.

Satellite Account for Sport and Recreation

Sport and recreation involves a significant share of New Zealand's economic resources, so that robust information is required to aid in the efficient use of these resources. Consequently, the European Union is working towards creating satellite accounts (attached to their official national accounts) to provide a comprehensive measure of the contribution of the sport sector. Gratton (2009) has recommended that Australia and New Zealand should also work towards this goal.

This report has estimated that the sport and recreation sector is 2.4 per cent of gross domestic product (excluding the contribution of volunteers). This is comparable to the size of the non-profit sector (2.6 per cent of GDP in 2003/04) for which Statistics New Zealand (2007) has already produced a satellite account. This comparison adds weight to Gratton's recommendation.

If a sport and recreation satellite account is to be produced, this will require more detailed knowledge of how the narrowly defined sector (in Chapter 4) contributes to the industries in the broadly defined sector (including those covered in Chapters 5 and 6). Chapter 6, in particular, was not able to quantify the importance of sport and recreation for economic activities in sectors such as broadcasting; supporter merchandising; international tourism; accommodation and hospitality; and designer clothing. This is a notable gap in Figures 5.6 and 7.4. One of the issues that need to be addressed is the diversity involved in this broad sector; it may require a series of studies covering different aspects (broadcasting, international tourism, and so on) before this gap can be filled with confidence.

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Appendix: Data Sources for the Core Estimates

This report has produced four major headline results; this appendix describes the official data sources used for each result.

1. *The contribution of the sport and recreation sector (narrowly defined) to GDP in 2008/09 is estimated to have been $3.8 billion, or 2.1 per cent.*

The primary data source is Table 5 of Statistics New Zealand's Excel spreadsheet entitled "na-mar09yr-all-tables(1)". This table shows Contribution to Gross Domestic Product by Industry (reference SNCA). To produce estimates for industries at a narrower level than shown in this table, Census employment data were used. These data come from Table 17 for the 2006 Census, showing the Census usually resident population count for industries based on the ANZSIC06 V1.0 classification system.

2. *The contribution of the sport and recreation sector (broadly defined) to GDP in 2008/09 is estimated to have been $4.5 billion, or 2.4 per cent.*

The estimate begins with the first major headline result and then adds three items. The first item is an estimate of the total income earned by people employed in sport and recreation occupations outside the sport and recreation industries. The count of people in the 2006 Census who fit this description was provided on request by Statistics New Zealand (Reference Number: JOB-01185). The income data come from Table 6.11 for the 2006 Census, which analyses the Census returns by occupation (ANZSCO V1.0) and age group (5-year groups), urban/rural area, total personal income and sex.

The second item is central government value-added spending on sport and recreation education in primary and secondary schools. Total central government spending on salaries in primary and secondary education comes from the New Zealand Treasury's *Performance Information for Appropriations 2010/11* (Doc. B.5A). The proportion of total salary spending on primary and secondary education is based on the number of topics related to sport and recreation in *The National Curriculum*.

The third item is local government value-added spending on net additions to fixed assets for recreation and sport. The data for total spending on this category comes from Statistic New Zealand's Local Authority Census, supplied on request to SPARC for this project. To convert this total expenditure item into a value-added item, the value-added to expenditure ratio for the construction sector was used, supplied by Geoff Butcher of Butcher Partners Ltd.

3. *The contribution of sport and recreation to GDP including volunteer services in 2008/09 is estimated to have been $5.2 billion, or 2.8 per cent.*

The estimate begins with the second major headline result and then adds the value of volunteered services. The base data source is the *Non-profit Institutions Satellite Account: 2004*, published by Statistics New Zealand (2007). This provides an estimate of the market value of an hour of volunteer work in March 2004 and an estimate of the market value of all hours of unpaid work to the non-profit sector in the 2003/04 financial year.

Based on data from the *2007/08 Active New Zealand* survey, SPARC provided the estimate of the total number of volunteer hours contributed to the sport and recreation sector.

4. *The total value of sport and recreation to New Zealanders in 2008/09 is estimated to have been at least $12.2 billion if the opportunity cost of time is included.*

The estimate begins with the third major headline result and then adds an estimate of the value of the opportunity cost of time spent in sport and recreation activities. The data on number of hours spent per person per week on these activities come from the *2007/08 Active New Zealand* survey (for adults) and from the *National Survey of Children and Young People's Physical Activity and Dietary Behaviours in New Zealand: 2008/09* (for children). These data were scaled up to national aggregates using total estimated resident population data, analysed by age, contained in Table 1.06 of Statistics New Zealand's population tables. The opportunity cost values of these totals were estimated using the value of New Zealand's statutory minimum wage.

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