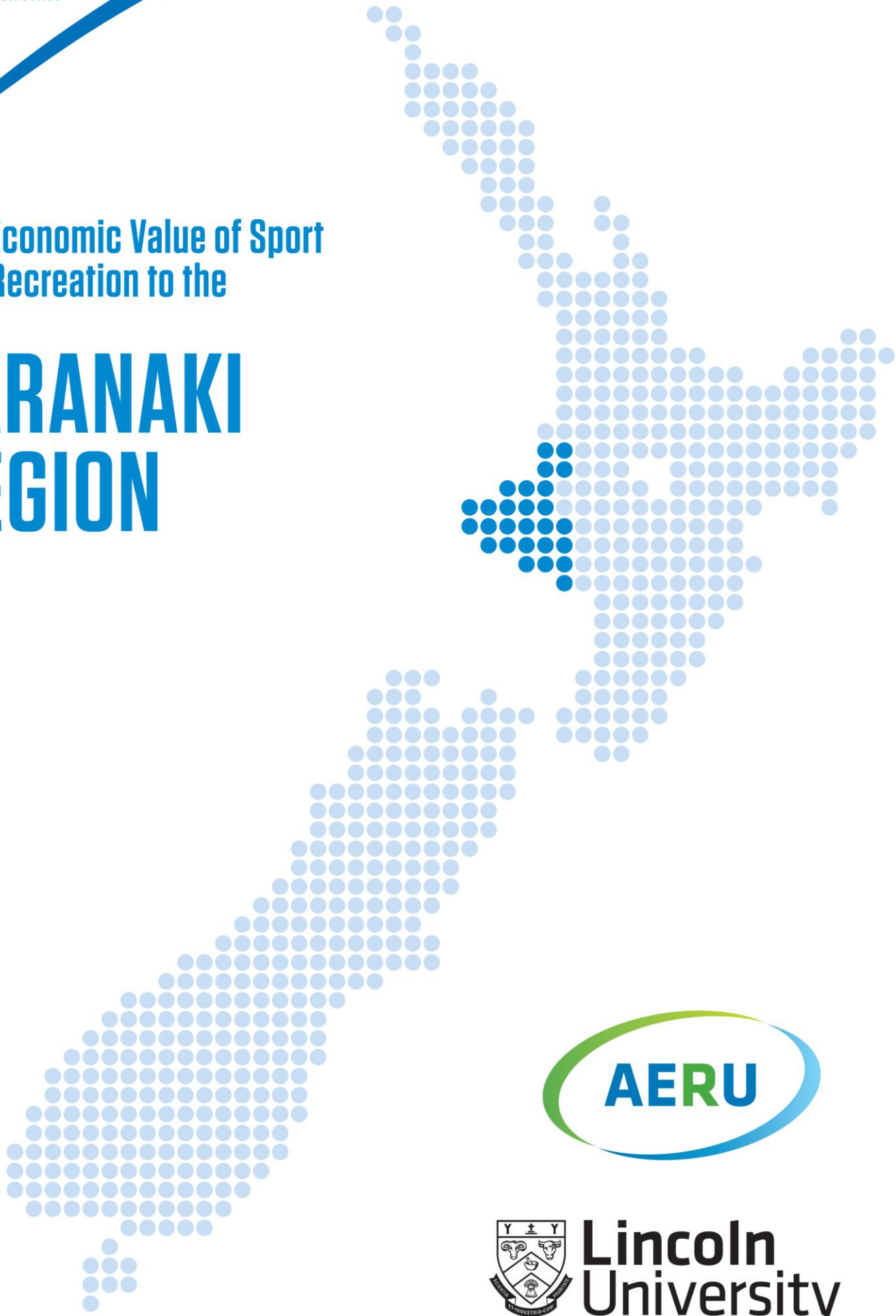


NEW ZEALAND VALUE
of Sport & Recreation Series

SEPTEMBER 2015

The Economic Value of Sport
and Recreation to the

TARANAKI REGION



**Lincoln
University**
Te Whare Wānaka o Aoraki

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Authors

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Contents

Acknowledgements	ii
List of Tables	v
List of Figures	vi
Summary	vii
1. Introduction	1
The importance of valuing the benefits of sport and recreation	1
People in Taranaki value sport and recreation	1
Valuing the benefits of sport and recreation at the national level	3
Valuing the benefits of sport and recreation at the regional level	3
Defining the sport and recreation sector	4
Estimating the contribution to regional GDP	4
Report content	5
2. Value of Sport and Recreation in Taranaki	6
How is economic activity valued?	6
The market value of sport and recreation to the regional economy	7
The contribution of New Plymouth	8
3. The Sport and Recreation Sector – Narrowly Defined	9
The contribution to regional GDP of the narrowly defined sector	9
4. The Sport and Recreation Sector – Broadly Defined	11
Employment in sport and recreation	11
The contribution of the wider employment sector	13
The contribution of spending on sport and recreation education	14
The contribution of local government	15
The contribution to regional GDP from the sport and recreation sector – broadly defined	17
The contribution of volunteers	18
5. Conclusion	19

Appendix 1: Regions in the Sport New Zealand Study	20
Appendix 2: Details of the Report's Calculations	22
Calculating share of regional GDP	22
Calculating occupation incomes	23
Appendix 3: Sport and Recreation Data Tables	25
References	31

List of Tables

Table 1: Contribution of Sport and Recreation Sector, New Plymouth District, 2012/13	8
Table 2: Contribution to GDP of Sport and Recreation Industries, Taranaki, 2012/13	10
Table 3: Contribution to GDP of Sport and Recreation Industries, New Plymouth District, 2012/13	10
Table 4: Income Earned Outside the Sport and Recreation Industries, Taranaki and New Plymouth District, 2013	13
Table 5: Investment in School Sport and Recreation Investment, Taranaki, 2012/13	14
Table 6: Value Added in the Construction Sector from Local Authority Net Additions to Recreation and Sport Fixed Assets, Taranaki, 2012/13	16
Table 7: Contribution to the Taranaki Economy of the Sport and Recreation Sector – Broadly Defined, 2012/13	17
Table 8: Contribution of the Broad Sport and Recreation Sector – Broadly Defined, New Plymouth District, 2012/13	17
Table 9: GDP Including the Value of Volunteered Services, Taranaki, 2012/13	18
Appendix	
Table A1: Regions and Urban Areas Analysed in the Sport New Zealand Reports	20
Table A2: Distribution of Employment in the Sport and Recreation Sector, 2013	21
Table A3: Distribution of Regional GDP at 2012/03 Prices, 2012/03	23
Table A4: Employment in Sport and Recreation Industries, Taranaki, 2013	25
Table A5: Employment in Sport and Recreation Occupations, Taranaki, 2013	26
Table A6: Contribution to GDP of Sport and Recreation Industries, New Plymouth District, 2012/13	27
Table A7: Estimated Incomes in Sport and Recreation Occupations, Taranaki, 2013	28
Table A8: Sport Participation by Male and Female Students and by Teachers at Secondary Schools, 2013	29
Table A9: Local Authority Spending on Recreation and Sport, Taranaki, 2012/13	30
Table A10: Local Authority Net Additions to Recreation and Sport Fixed Assets, Taranaki, 2012/13	30

List of Figures

Figure 1: Calculating a Sector's Value Added	6
Figure 2: Estimated Value of Sport and Recreation, Taranaki, 2012/13	7
Figure 3: Employment in Sport and Recreation Occupations, Taranaki, 2013	11
Figure 4: Employment in the Sport and Recreation Sector, Taranaki, 2013	12
Figure 5: Employment in the Sport and Recreation Sector, New Plymouth District, 2013	13
Figure 6: Local Government Operating Expenditure on Recreation and Sport, Taranaki, 2003/04-2012/13	15
Figure 7: Local Authority Net Additions to Recreation and Sport Fixed Assets, Taranaki, 2003/04-2012/13	16
Appendix	
Figure A1: Distribution of Employment in the Sport and Recreation Sector, 2013	21

Summary

Sport and recreation activities are highly valued by people in Taranaki

- Nearly 9 out of 10 (89.7 per cent) young people (5-17 years) in the region spend at least three hours per week in organised or informal sport and recreation activity.
- Over 8 out of 10 (83.2 per cent) adults (18 years or older) take part in at least one sport or recreation activity (excluding walking and gardening) over a year.
- These are supported by 27,500 volunteers.

Sport and recreation industries provide employment for people in Taranaki

- More than 900 people (915) work in sport and recreation industries (based on the 2013 Census).
- Including people working in sport and recreation occupations outside these sport and recreation industries, the total increases to more than 1,200 people (1,206); this is 2.3 per cent of all those in employment.

Sport and recreation industries contribute to the Taranaki economy

- The sport and recreation sector (narrowly defined) is estimated to have contributed \$113.4 million to regional GDP in 2012/13, or 1.3 per cent.

Sport and recreation occupations provide income to people in Taranaki

- Over 600 (651) people work in sport and recreations occupations.
- The total annual personal income for people in sport and recreation occupations in Taranaki is estimated to have been \$22.6 million (measured in 2013 values).

Sport and recreation education is important in Taranaki schools

- Just over five per cent of *The National Curriculum* is related to sport and recreation.
- This same share of teacher salaries in 2012/13 adds up to \$4.9 million.

Sport and recreation parks and facilities are a large investment by Taranaki local governments

- Councils in the Taranaki region spent \$5.7 million on new sport and recreation facilities in 2012/13.
- This contributed \$2.0 million to the value of the construction sector that year.

Sport and recreation volunteers contribute valuable services to Taranaki

- Volunteers contributed 2.4 million hours to sport and recreation in 2013/14.
- The estimated market value of these volunteered services is \$36.2 million at 2013 values.

Sport and recreation are an important economic sector in Taranaki

- The contribution of sport and recreation to GDP (including volunteered services) in 2012/13 is estimated to have been \$166.6 million, or 1.9 per cent.

1. Introduction

The importance of valuing the benefits of sport and recreation

Sport and recreation are highly valued in New Zealand. Individuals and communities invest considerable time and money in sport and recreation. Recognising this, Sport New Zealand commissioned Professor Paul Dalziel in 2011 to prepare a comprehensive framework to value the benefits of sport and recreation for New Zealand as a whole and for thirteen regions. There have been several important developments in data collection since that work, including the following:

- In November 2012, Statistics New Zealand published its first data release from its new National Accounts (Industry Benchmarks) series, which replaced its previous National Accounts series (discontinued in 2011). This is a significant improvement on the previous series.
- In 2012, Sport New Zealand published results from its 2011 Young People's Survey; see for example, Sport New Zealand (2012) and Ipsos and Sport New Zealand (2014).
- On 5 March 2013, the delayed New Zealand Census of Population and Dwellings took place.
- In March 2014, Statistics New Zealand released a new series that gives estimates of *regional* gross domestic product.
- In 2013/14, Sport New Zealand undertook its latest *Active New Zealand Survey*; see especially Sport New Zealand (2015).

Consequently, Sport New Zealand has commissioned Paul Dalziel to update the 2011 reports with these new data sources. This report presents results for the **Taranaki** region. This introduction begins by summarising what is known about participation and volunteering in sport and recreation in the region. The rest of this section explains in more detail the reasons for valuing sport and recreation, how the sport and recreation sector is defined for this work, how the contribution to regional gross domestic product (GDP) is estimated, and the content of the report.

People in Taranaki value sport and recreation

Like people throughout New Zealand, people in the region enjoy sport and recreation 24/7. Key facts from a survey¹ of **young people** show that:

¹ This information is from Sport New Zealand's Young People's Survey, which took place in 2011. The survey collected information about participation in sport and recreation by 5 to 18-year-olds. Information was collected from parents of 5 to 6-year-olds, from students 7 to 18 years old, and from teachers (see Sport New Zealand, 2012, for further details).



- nearly 9 out of 10 (89.7%) young people (5-17 years) spend at least three hours per week in organised or informal sport and recreation activity;
- around 6 out of 10 (59.5%) young people (5-17 years) take part at least three hours per week in organised sport and recreation activities;
- nearly 5 out of 10 (46.3%) young people (10-18 years) give time outside classes in a volunteer role in sport and recreation activities;
- more than one-half (56.6%) belong to a sports club (outside of school);
- two-thirds (65.0%) belong to a school sports team;
- three-quarters (73.0%) receive some coaching or instruction; and
- almost all (94.6%) young people in the region say they like playing sport, either a lot (67.2%) or a little (27.4%).

The New Zealand Secondary School Sports Council (NZSSSC) takes a census each year about secondary school students' engagement in sport. The data for Taranaki suggest that participation rates by secondary school students (64.6% in total) and teachers (34.4%) in the region are above the national averages of 53.3% and 33.5%, respectively (see Table A8 in Appendix 3).

The key facts from a survey² of **adults** (18+ years) show that in the region:

- almost all (95.0%) adults take part in at least one sport or recreation activity over a year – this provides a measure of total participation;
- over 8 out of 10 (83.2%) adults take part in at least one sport or recreation activity (excluding walking and gardening) over a year;
- around half (45.9%) of adults take part in sport or recreation activity (excluding walking and gardening) during a particular week;
- on average, adults take part in around four activities per year (4.0) or three (2.9) activities if walking and gardening are excluded;
- almost 1 out of 6 (15.7%) adults participate in at least one organised sport or physical recreation event in a year;
- almost half (46.0%) of sport and recreation participants belong to a club, gym or recreation centre in order to take part in sport and recreation activities, including more than 3 out of 10 (36.1%) that belong to a sport or physical activity club;
- among sport and recreation participants, 3 out of 10 (33.5%) receive some instruction or coaching from a coach, instructor, teacher or trainer for one or more of the activities they take part in; and
- just over 1 out of 3 (33.7%) adults volunteer for sport and recreation.

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 viewing, listening to and reading about sport and recreation in the media. The extent of this engagement in Taranaki is not known.

² This information is from Sport New Zealand's 2013/14 Active NZ Survey (see Sport New Zealand, 2015). The figures reported from this survey and the Young People's Survey in footnote 1 are national data. Regional data have larger sampling errors, of course, and previous analyses have revealed no notable differences among regions for participation.



Valuing the benefits of sport and recreation at the national level

The previous page illustrates the high value that people in Taranaki place on sport and recreation activities. This love of sport and recreation is shared by people throughout New Zealand and is made possible by a high level of public and private investment in a sport and recreation sector that delivers facilities, products and services to allow people to participate in sport and recreation. This sector, in turn, contributes a significant sum to the New Zealand economy.

A recently completed national study of the value of sport and recreation³ found that in 2012/13 the contribution of sport and recreation to gross domestic product (GDP), including volunteered services, was **\$5.0 billion, or 2.3 per cent**.

Valuing the benefits of sport and recreation at the regional level

The analysis in the national report confirmed the well-known belief that sport and recreation are important for all regions in New Zealand. Local councils invest substantial resources in providing facilities, programmes and services for sport and recreation activities in their communities.⁴ Councils are responsible for caring for and maintaining maunga, lakes, rivers, beaches, parks, camping grounds, sports fields, stadiums, swimming pools, recreation centres, gymnasiums, cycle-ways, walkways, playgrounds, picnic areas and botanic gardens.

Given this high level of investment, it is important to have some shared understanding of the net benefits of participation in sport and recreation at the regional level. This is recognised internationally, where it is now commonplace for provinces and regions around the world to commission studies on the contribution of sport and recreation to their local economies.

Consequently, Sport New Zealand commissioned thirteen reports from the AERU, extending the national analysis down to the regional level, along with some supplementary analysis of major urban areas (see Table A1 in Appendix 1). These reports concentrate on the market value of sport and recreation in each region, since data on the social and personal benefits are not available at the regional level.

This report covers the Taranaki region, which includes all of the territories of New Plymouth District and South Taranaki District and most of the territory of the Stratford District. The report also provides information on the main urban territory in the region – New Plymouth District.⁵

³ See Dalziel (2015).

⁴ Section 10 of the Local Government Act 2002, for example, requires regional, district and city councils “to meet the current and future needs of communities for good-quality local infrastructure”. Under this general statutory duty, local councils play a key role in providing sport and recreation facilities for their communities.

⁵ Note that the participation and volunteer figures are based on regional sports trust boundaries, which may differ slightly from the territorial authority boundaries.

Defining the sport and recreation sector

The sector narrowly defined

Statistics New Zealand distinguishes 508 industry categories in the industry classification system (known as ANZSIC06) it has developed with the Australian Bureau of Statistics. The research team and Sport New Zealand has identified 17 of these categories that depend *significantly* on sport and recreation activities in New Zealand. These categories are listed in Table A4 in Appendix 3, along with the number of people in Taranaki recorded in the 2013 Census as employed in the 17 industries.

The selection of the 17 categories acknowledges that some of these industries are not involved exclusively with sport and recreation. Physiotherapists, for example, provide a range of health services, but the physiotherapy services category was included because of the significance to this industry of ACC-funded treatments for sport and recreation injuries. To balance this approach, the selection process excluded some industries that have a large sport and recreation component. A good example is the exclusion of journalism and broadcasting despite the importance of sport in the media. This sector is excluded because the data to identify the sport and recreation component of journalism and broadcasting are not available.

The 17 industries make up what the study calls the *narrow* definition of the sport and recreation sector. It covers industries providing goods and services directly to people so that they can participate in sport and recreation, including facilities, equipment, racing animals and physiotherapy services.

The sector broadly defined

The study also adopts a *broader* definition of the sector to include three economic activities that are a core part of New Zealand's sport and recreation institutional landscape:

1. Employment of people in sport and recreation *occupations* outside the 17 sport and recreation industries (section 4 explains how these occupations were selected).
2. Time spent by teachers in schools delivering sport and recreation components of *The National Curriculum* (and so a proportion of teachers' salaries).
3. Construction of new sport and recreation facilities by local government.

This definition of the sector allows the *market* benefits of sport and recreation to be calculated. Additionally, the economic value of volunteered services can be calculated and added to give a total figure for the Taranaki region.

Estimating the contribution to regional GDP

The market value (including volunteer services) of sport and recreation in Taranaki is shown in the next section as a percentage of the region's GDP. Statistics New Zealand now publishes official regional GDP data; these data have been used in this report (which was not possible in the previous study). More details about the calculation of GDP and regional GDP are provided in Appendix 2.

There have been two main impacts of the new data from Statistics New Zealand. First the quality of the estimates published in 2015 is considerably improved on the quality achieved in 2011. As a result, the estimate of the contribution of sport and recreation to the country's national and regional economies is much more accurate than in the reports of four years ago. Second, the size of that contribution remains significant (as this report will show), but is not as large as was suggested by the estimates presented in the previous reports. This is true at the national level (see Dalziel, 2015) as well as at the regional level.

Report content

Following this introduction are four sections:

- Section 2 presents the study's main results for the Taranaki region.
- Section 3 explains how the sport and recreation sector's contribution to the region's GDP in 2012/13 is calculated when the sector is *narrowly* defined.
- Section 4 explains how the sport and recreation sector's contribution to the region's GDP in 2012/13 is calculated when the sector is *broadly* defined. It also explains how volunteer services are valued and shows the result of adding this sum to give a total value for sport and recreation in the Taranaki region.
- Section 5 summarises the key findings and discusses further steps that would enhance our knowledge of the value of the sport and recreation sector to Taranaki.

The report finishes with three appendices that provide additional information and further explanation about the approaches used:

- Appendix 1 lists the thirteen regions analysed in this study and shows the distribution of sport and recreation employment in these thirteen regions (using 2013 Census data).
- Appendix 2 explains how regional GDP contributions were calculated.
- Appendix 3 provides tables of regional data for the sport and recreation sector in Taranaki.

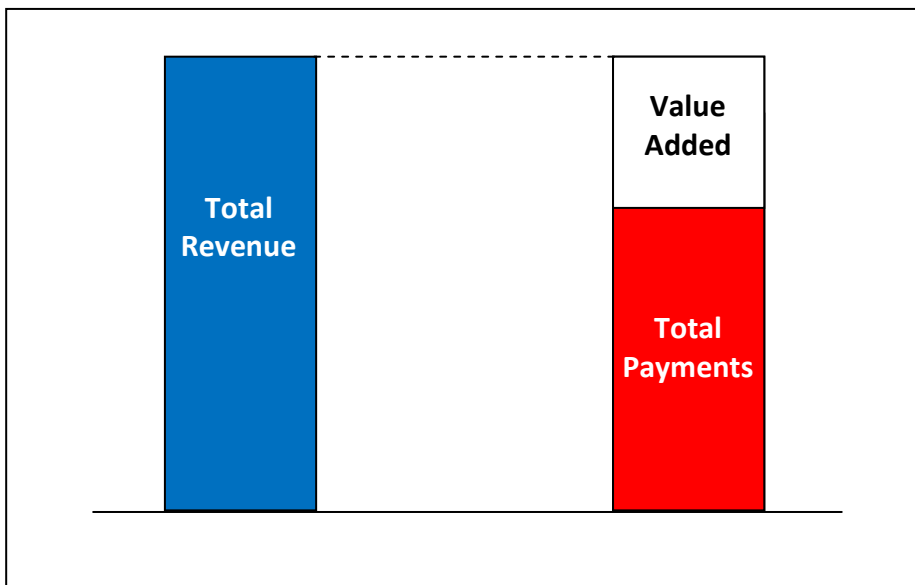
2. Value of Sport and Recreation in Taranaki

How is economic activity valued?

When national statisticians estimate the value of an economic activity, they use a technique known as *value added*. Consider a single enterprise, such as a farm. During a year, the farm might earn revenue from sales of livestock of \$1,000,000 but might make payments totalling \$600,000 to suppliers of goods and services used by the farm, such as feed, fencing posts, veterinary services and financial advice. These “inputs” are provided by other enterprises, and so the farm’s “value added” is \$400,000. It is the difference between total revenue and total payments, and is the source of the wages and salaries paid to the farm’s employees, as well as the profits earned by the farm’s owners.

This same approach can be applied to an industry or sector of the economy (see Figure 1). The value added by the farming sector is calculated by adding up the total revenues of all the farms in the country and then subtracting all the total payments made by the farms. If we add up the *value added* in all the economy’s sectors, this produces the statistic called gross domestic product (better known as 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 share of the total *value added* in the national economy. The same method is used here to estimate the regional GDP for Taranaki and the sport and recreation sector’s contribution to regional GDP.

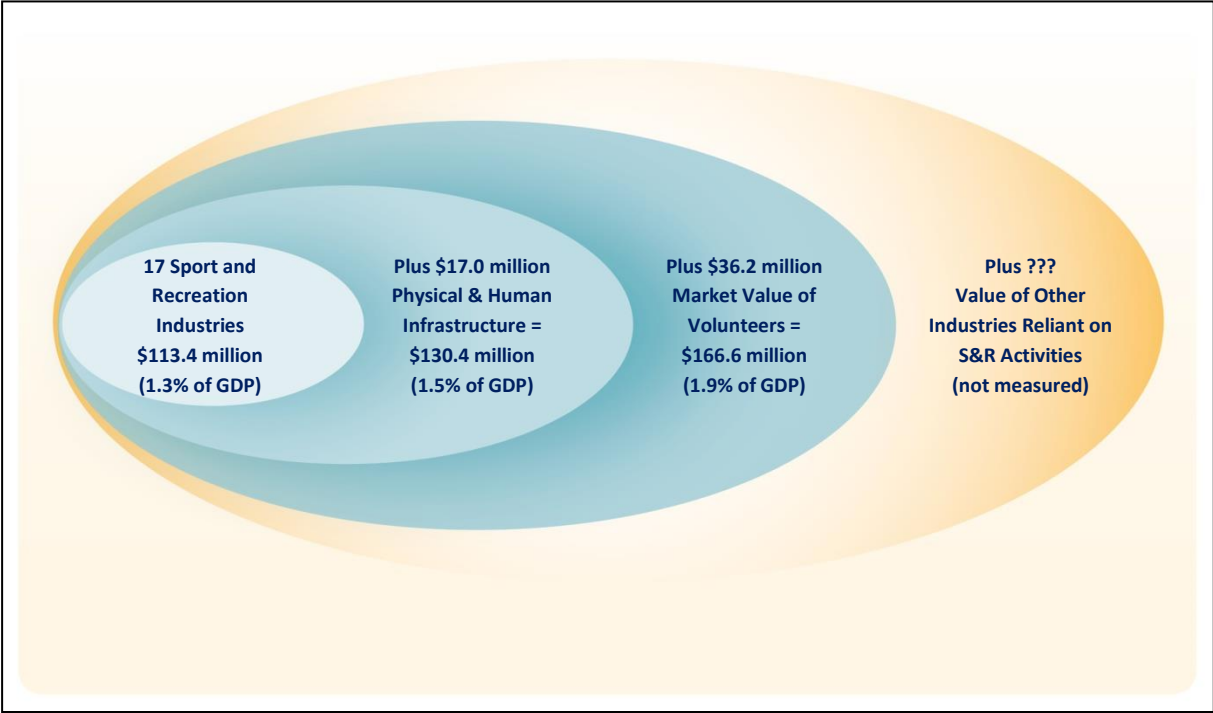
Figure 1: Calculating a Sector’s Value Added



The market value of sport and recreation to the regional economy

The sport and recreation sector accounts for **\$166.6 million or 1.9% of the region’s GDP** (including an estimate of the market value of volunteers). How this estimate is calculated is explained below and illustrated in Figure 2.

Figure 2: Estimated Value of Sport and Recreation, Taranaki, 2012/13



Note: The value of regional GDP in the third oval has been expanded to include an estimate of the market value of all volunteered services (that is, inside and outside the sport and recreation sector) in the region.

The inner oval in Figure 2 shows the value added by 17 industries that produce goods and services necessary for sport and recreation (see Table 2 in Section 3). This is the narrowest definition of the sport and recreation sector. In 2012/13, these industries contributed **\$113.4 million or 1.3 per cent to the Taranaki regional GDP**.

The second oval includes an additional \$17.0 million from:

- (i) incomes of people working in sport and recreation occupations outside of the 17 industries (for example, a recreation guide employed by a hotel (hospitality industry);
- (ii) investment by central government in sport and recreation education in schools; and
- (iii) local councils’ expenditure on new sport and recreation facilities.

This begins to broaden the definition of the sector and takes the contribution to **\$130.4 million or 1.5 per cent of regional GDP**.

The third oval takes into account volunteered services, which are particularly important in the sport and recreation sector. The additional \$36.2 million comes from assigning a volunteer wage rate of \$15.23 per hour to the 2.4 million hours volunteers in the region spend supporting sport and recreation over a year. This takes the contribution of the sport and recreation sector to **\$166.6 million or 1.9 per cent of regional GDP (including volunteered services)**.

These are conservative estimates because the study was not able to find data to measure everything that the sport and recreation sector contributes to the economy (for example, from economic activities such as: sports broadcasting; merchandising to sports spectators and supporters; and sport and recreation activities associated with international tourism). This feature of the study is reflected in the figure’s final oval, for which there are no measured values at present.

The contribution of New Plymouth

Table 1 repeats the analysis for the major urban territory of New Plymouth District, although the final element is missing because data are not available at the District or City Council level to estimate the contribution of volunteers. The total of \$105.5 million represented 80.9 per cent of the region’s sport and recreation contribution to national GDP (excluding the estimated market value of volunteers) in 2012/13.

Table 1: Contribution of Sport and Recreation Sector, New Plymouth District, 2012/13

Industry	Contribution to GDP (\$ millions)
Contribution of the sport and recreation sector – narrowly defined	93.2
Sport and recreation incomes outside the sport and recreation industries	8.0
Central government investment in sport and recreation education	3.4
Local government construction of new sport and recreation facilities	0.8
TOTAL (\$ millions)	105.5

Source: See Table 3 in Section 3 and Table 8 in Section 4.

Sections 3 and 4 explain in more detail how the estimates for Taranaki and New Plymouth District have been calculated.

3. The Sport and Recreation Sector – Narrowly Defined

Viewed in economic terms, businesses producing goods and services directly for sport and recreation are at the heart of the sector. These businesses include manufacturers and retailers of sports and recreation equipment, as well as individuals involved in sports coaching, recreation guiding and related activities. Taking this economic view of the sector, we have identified 17 industries that cater in some way for sport and recreation. This is a narrow definition of the sector and we begin by estimating the *value added* by these 17 industries.

The contribution to regional GDP of the narrowly defined sector

The national study estimated that the 17 sport and recreation industries contributed \$3.2 billion to New Zealand's GDP in 2012/13, or 1.5 per cent.

Using the same method as the national study, the contribution of these 17 industries to the economy of Taranaki has been estimated (Table 2).

Table 2 shows the contribution to GDP in 2012/13 was **\$113.4 million**, or **1.3 per cent** of regional GDP. This is lower than the national figure for the narrowly defined sector (1.5 per cent), reflecting the relative importance of sport and recreation in the Taranaki region compared with other sectors of the economy.

The national study estimates that the contribution to GDP of the country's narrowly defined sport and recreation sector in 2012/13 was \$3,166.3 million. Thus the Taranaki region's share of the sector (\$113.4 million) is 3.6 per cent.

The figures for New Plymouth District are shown in Table 3. Table A6 in Appendix 3 shows how these estimates are calculated.

Table 2: Contribution to GDP of Sport and Recreation Industries, Taranaki, 2012/13

Industry	Contribution to GDP (\$ millions)
Amusement and Other Recreation Activities (not elsewhere classified)	2.3
Amusement Parks and Centres Operation	1.2
Boatbuilding and Repair Services	23.5
Health and Fitness Centres and Gymnasia Operation	18.2
Horse and Dog Racing Administration and Track Operation	3.9
Horse Farming	1.9
Nature Reserves and Conservation Parks Operation	6.6
Other Horse and Dog Racing Activities	4.3
Physiotherapy Services	4.8
Sport and Camping Equipment Retailing	6.1
Sport and Physical Recreation Administrative Service	5.4
Sport and Physical Recreation Clubs and Sports Professionals	14.0
Sports and Physical Recreation Instruction	4.3
Sports and Physical Recreation Venues, Grounds and Facilities Operation	14.0
Toy and Sporting Goods Wholesaling	1.0
Toy, Sporting and Recreational Product Manufacturing	2.0
Turf Growing	0.0
TOTAL	113.4
Share of the National Sport and Recreation Sector (per cent)	3.6%
Contribution to Regional GDP (per cent)	1.3%

Source: Statistics New Zealand, National Accounts (Industry Benchmarks) data and Census 2013 data.

Table 3: Contribution to GDP of Sport and Recreation Industries, New Plymouth District, 2012/13

	Contribution to GDP
Estimated Total Contribution (\$ millions)	\$93.2m
Share of the Regional Sport and Recreation Sector (per cent)	82.2%
Contribution to Regional GDP (per cent)	1.1%

Source: Statistics New Zealand, National Accounts (Industry Benchmarks) data and Census 2013 data.

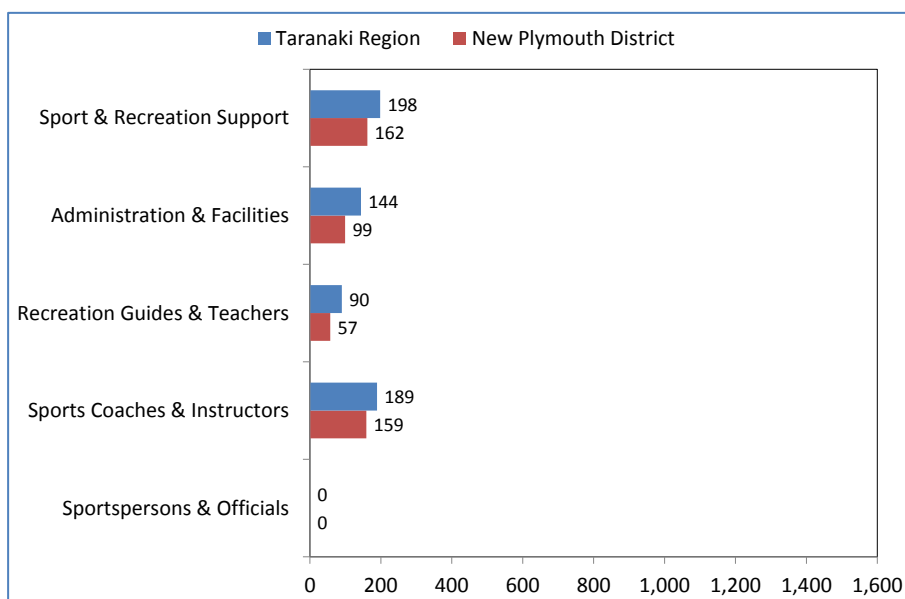
4. The Sport and Recreation Sector – Broadly Defined

The sport and recreation sector can be defined more broadly than the 17 industries considered in the previous section. First, the 2013 Census recorded that, for the Taranaki region, 47.3 per cent of people employed in sport and recreation *occupations* were employed outside the 17 sport and recreation *industries* considered in the previous section. Second, previous studies have emphasised the importance of central government spending on sport and recreation education in schools. Third, local councils spend millions of dollars constructing new sport and recreation facilities. Fourth, consideration must also be given to the market value of the substantial contributions made by volunteers in the sport and recreation sector. This section explains how these four contributions were valued.

Employment in sport and recreation

Data on sport 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 their occupation in the job where they worked the most hours. For this study, 42 occupations were identified that depend *significantly* on sport and recreation activities in New Zealand. Figure 3 shows the number of people in Taranaki recorded in the 2013 Census as employed in these 42 occupations, classified into five groups (see Table A5 in Appendix 3 for the underlying data). The overall number of people in Taranaki engaged in sport and recreation occupations is significant. The total of 651 represents 1.2 per cent of all people employed in the region.

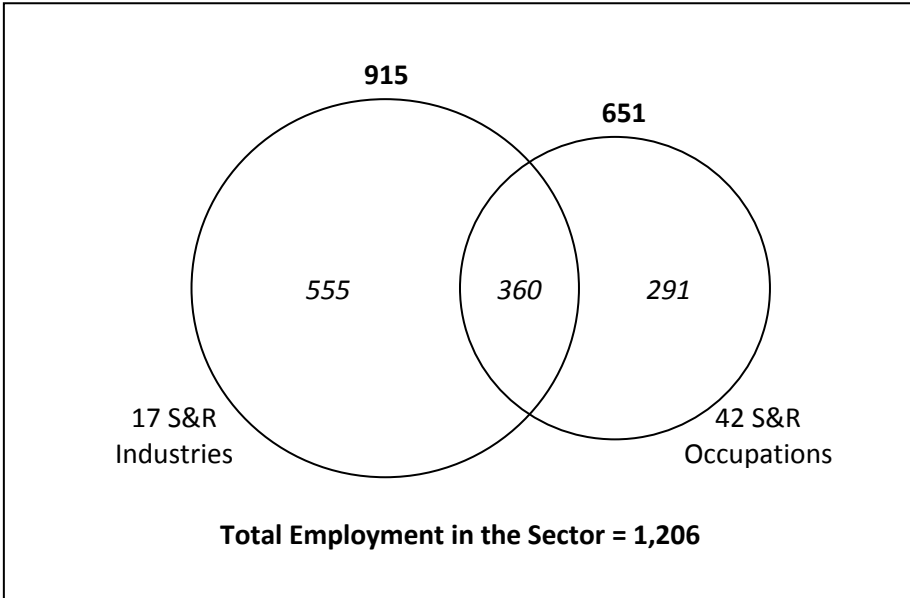
Figure 3: Employment in Sport and Recreation Occupations, Taranaki, 2013



Source: Table A5 in Appendix 3.

The people employed in sport and recreation occupations were not necessarily employed in one of the 17 sport and recreation industries identified in the study. This is shown in Figure 4 (for the Taranaki region) and in Figure 5 (for New Plymouth District). As well as the 651 people employed in sport and recreation *occupations*, the 2013 Census analysis counted 915 people employed in sport and recreation *industries* in the Taranaki region. This number of 915 represents 1.7 per cent of all people employed in the region.

Figure 4: Employment in the Sport and Recreation Sector, Taranaki, 2013

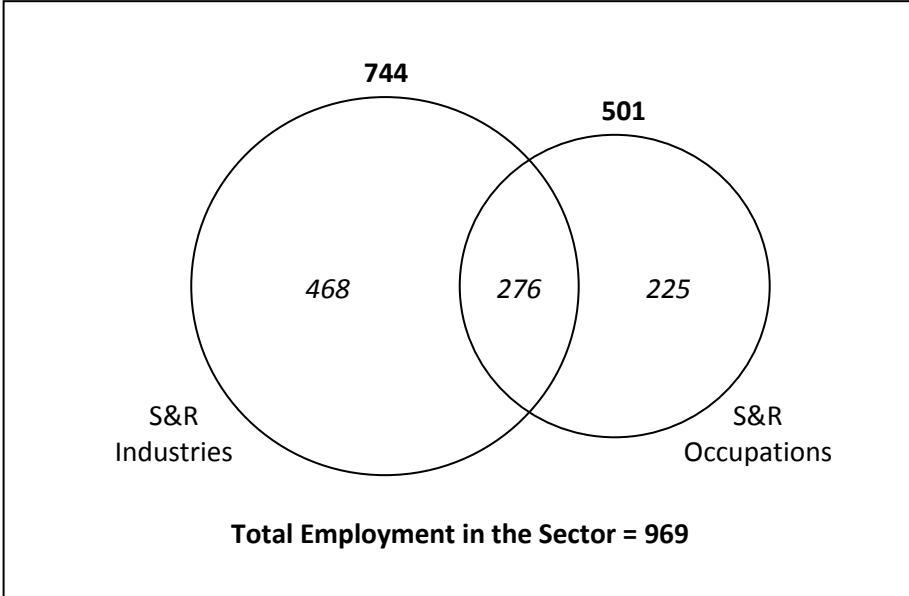


Source: Statistics New Zealand, Census 2013 data.

Statistics New Zealand advises that 360 people in Taranaki in these sport and recreation occupations were employed in sport and recreation industries. As shown in Figure 4, this means that 555 people were employed in sport and recreation industries but not in sport and recreation occupations and 291 people were employed in sport and recreation occupations outside the sport and recreation industries. Summing the three italicised statistics in Figure 4, the total count of employment in the sport and recreation sector in 2013 in Taranaki was 1,206. This represents 2.3 per cent of all people employed in the region.

Figure 5 presents a similar analysis for New Plymouth District. The city’s total employment in the sport and recreation sector recorded in the 2013 Census was 969, which was 2.7 per cent of the city’s total employment. Table A4 in Appendix 3 shows the distribution of the industry employment data for the region and the major urban area. This suggests that New Plymouth has a significant number of people employed in boatbuilding and repair services, health and fitness centres and gymnasias operation, sport and camping equipment retailing, and sport and physical recreation clubs and sports professionals. These four categories accounted for 423 people, which is more than half of the 744 New Plymouth people employed in sport and recreation industries.

Figure 5: Employment in the Sport and Recreation Sector, New Plymouth District, 2013



Source: Statistics New Zealand, Census 2013 data.

The contribution of the wider employment sector

Census data record the personal income earned by people employed in sport and recreation occupations. Using these data, the study estimated that the total annual personal income for people in the sport and recreation occupations in Taranaki was \$22.6 million, which is 2.1 per cent of the income earned nationally in the 42 occupations (2013 values). For those employed in sport and recreation industries, these incomes are already counted in section 3. However, 44.7 per cent of people were employed outside the 17 industries, and so their income share, **\$10.1 million**, must be added in a broader definition of the sector. This calculation is shown in Table 4.

Table 4: Income Earned Outside the Sport and Recreation Industries, Taranaki and New Plymouth District, 2013

	Taranaki (\$000s)	New Plymouth District (\$000s)
Estimated Incomes from Census 2013	22,597.9	17,860.9
LESS Incomes earned in S&R Industries	12,496.5	9,839.6
Incomes earned outside S&R Industries (2013)	10,101.4	8,021.4

Source: Explained in Appendix 2.

The contribution of spending on sport and recreation education

The New Zealand Government makes a substantial investment in sport and recreation education in schools. *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 these areas, 'health and physical education', includes seven items of which the last three are physical activity, sport studies and outdoor education. Hence, based on a count of these items, just over five per cent (i.e., three-sevenths of one-eighth) of *The National Curriculum* is related to sport and recreation.

Using Ministry of Education roll returns it is possible to estimate the share of this investment that occurs within the Taranaki region, shown in Table 5. In 2013, 2.6 per cent of the country's students below Year 9 were in the region and 2.5 per cent of the country's students in Year 9 and above. Based on these ratios, the 2012/13 share of salaries for the sport and recreation components of *The National Curriculum* in Taranaki was **\$4.9 million**. Similarly, the share in the New Plymouth District was \$3.4 million.

Table 5: Investment in School Sport and Recreation Investment, Taranaki, 2012/13

	Taranaki	New Plymouth
Year 8 and below students (number)	12,563	8,350
Year 9 and above students (number)	7,046	5,175
Year 8 and below students (per cent of national)	2.6%	1.8%
Year 9 and above students (per cent of national)	2.5%	1.8%
Year 8 and below students (investment, \$000)	\$2,898	\$1,926
Year 9 and above students (investment, \$000)	\$1,965	\$1,443
Total investment (\$000)	\$4,863	\$3,370

Source: Ministry of Education roll returns and authors' calculations.

The contribution of local government

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 (see the national report for more details). Its tables include an analysis of total operating income and expenditure by sixteen activities, one of which is ‘recreation and sport’. Figure 6 shows total local government operating expenditure on recreation and sport within the Taranaki region (including Stratford District) for the financial years 2004 to 2013. These data have not been adjusted for inflation. Table A9 in Appendix 3 shows that the spending on recreation and sport within the region in 2012/13 was 10.9 per cent of total operating spending by the local authorities. This was greater than the national average that year of 9.6 per cent.

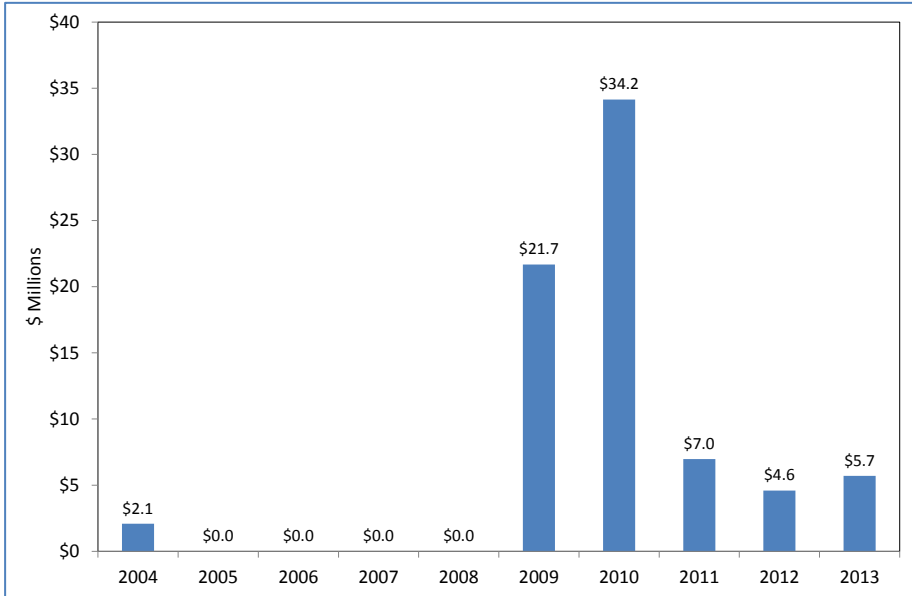
Figure 6: Local Government Operating Expenditure on Recreation and Sport, Taranaki, 2003/04-2012/13



Source: Statistics New Zealand Local Authority Census.

The Local Authority Census also collects information on net additions to local government fixed assets for recreation and sport. In the 2012/13 financial year for the country as a whole, this net investment was \$133.8 million. It should be noted that the figures between 2008/09 and 2010/11 were considerably higher at the national level than before or since, driven in part by facility upgrades for the Rugby World Cup. A similar trend can be seen for the Taranaki region; see Figure 7. The value was \$5.7 million in 2012/13. Table A10 in Appendix 3 shows that this spending was largely divided evenly between the New Plymouth District (\$2.4 million) and the South Taranaki District (\$2.3 million).

Figure 7: Local Authority Net Additions to Recreation and Sport Fixed Assets, Taranaki, 2003/04-2012/13



Source: Statistics New Zealand Local Authority Census.

This level of spending has implications for the construction sector. Using national input-output data tables, spending of \$5.7 million on new facilities implies value added in the construction sector of **\$2.0 million**. Table 6 records the value-added in the construction sector by this activity for the Taranaki region and for New Plymouth District.

Table 6: Value Added in the Construction Sector from Local Authority Net Additions to Recreation and Sport Fixed Assets, Taranaki, 2012/13

	Taranaki (\$000s)	New Plymouth (\$000s)
Net Expenditure on New Facilities	\$5,701	\$2,428
Value Added in the Construction Sector	\$1,995	\$850

Source: Explained in the text.

The contribution to regional GDP from the sport and recreation sector – broadly defined

Table 7 shows that including these three additional amounts increases the contribution to GDP in 2012/13 of the sport and recreation sector (broadly defined) in the Taranaki region to **\$130.4 million**. Thus, the share of the sector broadly defined is **1.5 per cent of GDP**, as shown in the bottom half of Table 7.

Table 7: Contribution to the Taranaki Economy of the Sport and Recreation Sector – Broadly Defined, 2012/13

Industry	Contribution to GDP (\$ millions)
Contribution of the sport and recreation sector – narrowly defined (see section 3)	113.4
Sport and recreation incomes outside the sport and recreation industries	10.1
Central government investment in sport and recreation education	4.9
Local government construction of new sport and recreation facilities	2.0
TOTAL (\$ millions)	130.4
Regional Gross Domestic Product (2012/13)	8,558.0
TOTAL (percentage of regional GDP)	1.5%

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

Table 8 repeats the analysis for New Plymouth District, producing an estimate of \$105.5 million. This provides the major share of the region's contribution to GDP from sport and recreation (80.9 per cent).

Table 8: Contribution of the Broad Sport and Recreation Sector – Broadly Defined, New Plymouth District, 2012/13

Industry	Contribution to GDP (\$ millions)
Contribution of the narrow sport and recreation sector	93.2
Sport and recreation incomes outside the sport and recreation industries	8.0
Central government investment in sport and recreation education	3.4
Local government construction of new sport and recreation facilities	0.8
TOTAL (\$ millions)	105.5

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

The contribution of volunteers

Analysis of Sport New Zealand's 2013/14 *Active New Zealand* Survey estimates that at the national level volunteers contributed 67.7 million hours to sport and recreation that year. The services produced by these volunteers are valuable to participants in sport and recreation and so it is possible to estimate the market cost if these services had been provided by employees instead of volunteers (see the national report for more details).

Estimates of volunteers in regions are also available from this source, *but readers are advised that small sample numbers mean that these figures must be used with caution*. They are reproduced here as indicative only.

The survey data suggest that the total amount of volunteered time contributed to sport and recreation in 2013/14 in the Taranaki region was 2.4 million hours, or 3.5 per cent of the national total. Based on the same methodology used in the national report, the estimated market value of these regional services in 2013 values was **\$36.2 million**.

Including the market value of volunteer services in the calculations increases sport and recreation's contribution to GDP to **\$166.6 million**. If it is assumed that the region's amount of time spent on *all* volunteered activities was the same percentage share of the national level, then Table 9 shows that the sport and recreation sector's share of regional GDP (including volunteered services) was **1.9 per cent**.

Table 9: GDP Including the Value of Volunteered Services, Taranaki, 2012/13

	Regional Gross Domestic Product	Volunteered Services	Extended Regional GDP
Sport and recreation (\$m)	130.4	36.2	166.6
Totals (\$m)	8,558.0	173.1	8,731.1
Per cent	1.5%	20.9%	1.9%

Source: Statistics New Zealand and Sport New Zealand data.

5. Conclusion

This report has estimated the contribution of the sport and recreation sector to the regional economy of Taranaki. Three major results have been estimated:

- The contribution of the sport and recreation sector (narrowly defined) to regional GDP in 2012/13 is estimated to have been **\$113.4 million, or 1.3 per cent.**
- The contribution of the sport and recreation sector (broadly defined) to regional GDP in 2012/13 is estimated to have been **\$130.4 million, or 1.5 per cent.**
- The contribution of sport and recreation to GDP including volunteered services in 2012/13 is estimated to have been **\$166.6 million, or 1.9 per cent.**

Estimates also are provided for the New Plymouth District and show that:

- The contribution of the sport and recreation sector (broadly defined) in New Plymouth to the Taranaki economy in 2012/13 is estimated to have been **\$105.5 million.**
- Four-fifths of the sport and recreation sector (excluding volunteers) in the region is located in the New Plymouth District (**80.9 per cent**).

All of these estimates are **conservative** because information is not available for all the industries that provide products and services for sport and recreation and regional information is not available to allow the direct personal and social benefits (such as increased work productivity and health benefits that result from active lifestyles) from participation in sport and recreation to be estimated. In addition, at the district/city level, it is not possible to estimate the value of volunteer services.

Future work to allow more comprehensive estimates will require more detailed survey information on participation and volunteer rates at the regional level, as well as information linking sport and recreation participation with labour productivity and improved health outcomes.

Given the conservative approach taken to produce the estimates in this report, and given the significant items that have not been included in the analysis, future work is likely to show that the value of sport and recreation to the Taranaki region is considerably higher than estimated here.

Appendix 1:

Regions in the Sport New Zealand Study

The reports commissioned by Sport New Zealand for this study cover the 13 regions listed in Table A1. Where appropriate, each regional report includes an analysis of the main urban territorial authority within its boundaries. The exceptions are Auckland (which has been one unitary council since 1 November 2010; in this case estimates are provided for the four areas that approximate to the boundaries of the four regional sports trusts), Gisborne (one unitary council) and the Bay of Plenty (which includes two urban territorial authorities in its analysis).

Table A1: Regions and Urban Areas Analysed in the Sport New Zealand Reports

	Regions	Smaller Urban Areas
1	Northland	Whangarei District
2	Auckland	Harbour Sport, Sport Waitakere, Sport Auckland and Counties Manukau Sport
3	Waikato	Hamilton City
4	Bay of Plenty	Tauranga City
		Rotorua District
5	Gisborne	
6	Hawke's Bay	Napier City plus Hastings District
7	Taranaki	New Plymouth District
8	Manawatu-Wanganui	Palmerston North City
9	Wellington	Wellington City
10	Tasman/Nelson/Marlborough	Nelson City
11	Canterbury/West Coast	Christchurch City
12	Otago	Dunedin City
13	Southland	Invercargill City

The New Zealand Census of Population and Dwellings collects information on the primary occupation of New Zealand adults, as well as the industry of that primary occupation. For the purposes of this study, 42 occupations and 17 industries were identified as part of the sport and recreation sector. Table A2 shows the number of people employed in the sport and recreation sector in the thirteen regions used in the study, drawn from the 2013 Census. Figure A1 shows the distribution of employment in Auckland, other urban areas (defined as the smaller urban areas in Table A1 excluding the Auckland region) and the rest of New Zealand.

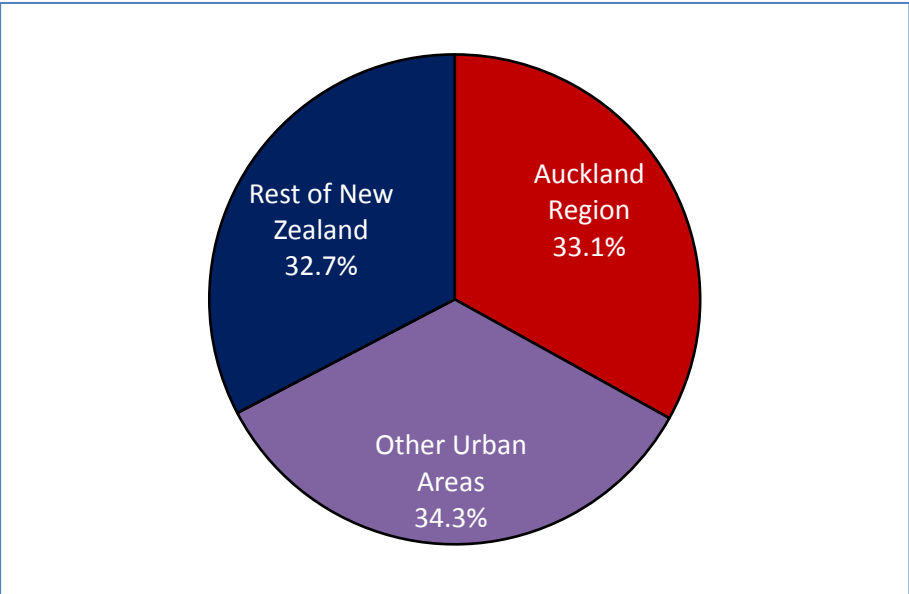
Table A2: Distribution of Employment in the Sport and Recreation Sector, 2013

Region	Number	Per Cent
Northland	1,767	3.3%
Auckland	17,822	33.1%
Waikato	5,697	10.6%
Bay of Plenty	3,438	6.4%
Gisborne	416	0.8%
Hawke's Bay	1,593	3.0%
Taranaki	1,206	2.2%
Manawatu-Wanganui	2,342	4.3%
Wellington	5,748	10.7%
Tasman/Nelson/Marlborough	2,028	3.8%
Canterbury/West Coast	7,314	13.6%
Otago	3,281	6.1%
Southland	1,256	2.3%
TOTAL	53,906	100%

Note: Data based on 42 occupations (including three occupations give a weighting of 0.5 – see note on Table A5) and 17 industries after allowing for the overlap between the two counts.

Source: Statistics New Zealand, Census 2013 data.

Figure A1: Distribution of Employment in the Sport and Recreation Sector, 2013



Source: Statistics New Zealand, Census 2013 data.

Appendix 2: Details of the Report's Calculations

Calculating share of regional GDP

Statistics New Zealand publishes estimates of GDP on a quarterly 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 the national report was for the year ending March 2012. The published data are at a reasonably aggregated level, so that the lowest level for the main sport and recreation industries is termed 'Arts and Recreation Services'. Only some of this category belongs in an analysis of sport and recreation, and so the standard approach (which was used for the national report) 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 2011/12 of the entire 'Arts and Recreation Services' sector is estimated to have been \$3,030 million. In the 2013 Census, total employment in this sector was recorded at 36,279. Within the sector, the number of people employed in the 'Sport and Physical Recreation Clubs and Sports Professionals' industry was 2,055. Hence the employment ratio for this industry is $2,055/32,691 = 0.0629$. Based on this ratio, the contribution to GDP by the 'Sport and Physical Recreation Clubs and Sports Professionals' industry is estimated as 0.0629 times \$3,030 million = \$190.5 million.

Similarly, it is possible to produce regional estimates by calculating the region's employment ratio for each industry included in a sector. The number of people employed in the 'Sport and Physical Recreation Clubs and Sports Professionals' industry in Auckland in 2013, for example, was 1,521. Hence the Auckland employment ratio for this industry is $1,521/32,691 = 0.0419$ and an initial estimate of its contribution to GDP in 2012/13 is 0.0419 times \$3,030 million equals \$125.5 million. Adjustments can then be made for regional variations in average productivity and to update the value for 2012 values to 2013 values. Thus the estimated regional contribution to the Auckland economy of this industry in 2012/13 is \$143.4 million. Similar calculations have been made for every industry in each region for this study.

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 2013 Census employment figures, mean that these data are not as up-to-date as some 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.

New Zealand now has official regional GDP data estimated by Statistics New Zealand. Table A3 shows the share of each region's contribution to national GDP for 2012/13, measured in that year's prices.

Table A3: Distribution of Regional GDP at 2012/03 Prices, 2012/03

Region	\$millions	Per Cent
Northland	5,346	2.5%
Auckland	77,214	35.9%
Waikato	18,686	8.7%
Bay of Plenty	11,249	5.2%
Gisborne	1,536	0.7%
Hawke's Bay	5,973	2.8%
Taranaki	8,558	4.0%
Manawatu-Wanganui	8,662	4.0%
Wellington	29,045	13.5%
Tasman/Nelson/Marlborough	5,945	2.8%
Canterbury/West Coast	28,917	13.4%
Otago	9,230	4.3%
Southland	4,955	2.3%
TOTAL	215,315	100%

Source: Statistics New Zealand, Regional Gross Domestic Product data.

Calculating occupation incomes

The New Zealand census form asks people to state their total personal income from all sources, before tax, for the 12 months ending 31 March 2013. This study used the average salary for each occupation estimated in the national study to estimate the income earned by people in sport and recreation occupations in each region. Regional income data could not be used because of confidentiality concerns (the number of people earning within a certain income band in a certain occupation in a certain region can be very small). It is likely that this will tend to understate the incomes earned in Auckland and overstate the incomes earned in other parts of the country.

Table A7 in Appendix 3 shows how the income reported in the 2013 Census was distributed among the 42 occupations in Taranaki. The largest contributing occupation was physiotherapist (\$3.5 million), followed by greenkeeper (\$3.1 million) and fitness instructor (\$2.0 million) and. The total income earned in the 42 occupations is estimated to have been \$22.6 million, which is 2.1 per cent of the income earned nationally in these occupations.

Table A7 repeats the analysis for the New Plymouth District. The total income in the 42 occupations for the city is estimated to have been \$17.9 million, which was 79.0 per cent of the estimated income in these occupations in the Taranaki region.

It is important to note that there is some overlap between the incomes recorded in Table A7 and the contributions to GDP recorded in Table 2 of Section 3. In particular, the incomes earned in the sport and recreation industries of Table 2 by people employed in the sport and recreation occupations of Table A7 are included in both tables. Thus to provide an estimate of the contribution of the sport and recreation sector broadly defined that includes the incomes of people in sport and recreation occupations outside the sport and recreation industries (narrowly defined), the proportion of income earned by people in the sport and recreation occupations within the sport and recreation industries must be removed to avoid double-counting. This is achieved using the data in Figures 4 and 5.

Appendix 3: Sport and Recreation Data Tables

Table A4: Employment in Sport and Recreation Industries, Taranaki, 2013

Industry	Taranaki	New Plymouth District
Amusement and Other Recreation Activities (n.e.c.)	18	15
Amusement Parks and Centres Operation	9	9
Boatbuilding and Repair Services	141	135
Health and Fitness Centres and Gymnasias Operation	141	132
Horse and Dog Racing Administration and Track Operation	30	21
Horse Farming	30	18
Nature Reserves and Conservation Parks Operation	51	39
Other Horse and Dog Racing Activities	33	18
Physiotherapy Services	48	45
Sport and Camping Equipment Retailing	90	78
Sport and Physical Recreation Administrative Service	42	36
Sport and Physical Recreation Clubs and Sports Professionals	108	78
Sports and Physical Recreation Instruction	45	42
Sports and Physical Recreation Venues, Grounds and Facilities Operation	108	63
Toy and Sporting Goods Wholesaling	6	9
Toy, Sporting and Recreational Product Manufacturing	21	12
Turf Growing	..C	..C
TOTAL	915	744

Notes: (1) “..C” is confidential; n.e.c. is not elsewhere classified. (2) The list in Table A4 is conservative. Although some industries include activities that are not within the scope of this study (for example, some people employed in some amusement parks), this is balanced by the exclusion of other industries that have a large sport and recreation component (such as sports journalists or people employed in the broadcasting industry that broadcast and present sport events and commentary on free-to-air or subscription television). (3) The confidential data cells mean that the TOTAL figures are greater than the sum of each column.

Source: Statistics New Zealand, Census 2013 data, ANZSIC06 V1.0.

Table A5: Employment in Sport and Recreation Occupations, Taranaki, 2013

Category	Occupation	Taranaki	New Plymouth
Sportspersons and Officials	Golfer	..C	..C
	Footballer	..C	..C
	Jockey	..C	..C
	Other Sportspersons	..C	..C
	Sports Umpire	..C	..C
	Dog or Horse Racing Official	..C	..C
	Other Sports Official	..C	..C
Sports Coaches and Instructors	Fitness Instructor	69	66
	Swimming Coach or Instructor	54	45
	Horse Trainer	24	15
	Tennis Coach	..C	..C
	Gymnastics Coach or Instructor	..C	..C
	Horse Riding Coach or Instructor	6	6
	Snowsport Instructor	..C	..C
	Other Sports Coach or Instructor	36	27
Recreation Guides and Teachers	Lifeguard	57	24
	Dance Teacher (Private Tuition)	21	21
	Outdoor Adventure Instructor	12	12
	Fishing Guide	..C	..C
	Whitewater Rafting Guide	..C	..C
	Diving Instructor (Open Water)	..C	..C
	Mountain or Glacier Guide	..C	..C
	Trekking Guide	..C	..C
	Bungy Jump Master	..C	..C
	Hunting Guide	..C	..C
	Other Outdoor Adventure Guides	..C	..C
Administration and Facilities	Greenkeeper	84	51
	Sports Administrator	36	27
	Park Ranger	15	15
	Sports Centre Manager	9	6
	Fitness Centre Manager	..C	..C
	Turf Grower	..C	..C
	Sports Development Officer	..C	..C
Sport and Recreation Support	Physiotherapist	69	66
	Boat Builder and Repairer	33	33
	Conference and Event Organiser (1)	26	22.5
	Stablehand	33	18
	Massage Therapist (1)	18	13.5
	Horse Breeder	9	..C
	Bicycle Mechanic	6	6
	Recreation Coordinator (1)	5	3
Sail Maker	..C	..C	
TOTAL		651	501

Notes: (1) Only half the number in this occupation is included as sports and recreation because some of this employment is not sport and recreation related and/or is linked to inactive leisure pursuits. (2) “..C” is confidential. (3) The confidential data cells mean that the TOTAL figures are greater than the sum of each column.

Source: Statistics New Zealand, Census 2013 data, ANZSCO V1.0.

Table A6: Contribution to GDP of Sport and Recreation Industries, New Plymouth District, 2012/13

Industry	Contribution to GDP (\$ millions)
Amusement and Other Recreation Activities (not elsewhere classified)	1.9
Amusement Parks and Centres Operation	1.2
Boatbuilding and Repair Services	22.5
Health and Fitness Centres and Gymnasias Operation	17.1
Horse and Dog Racing Administration and Track Operation	2.7
Horse Farming	1.1
Nature Reserves and Conservation Parks Operation	5.0
Other Horse and Dog Racing Activities	2.3
Physiotherapy Services	4.5
Sport and Camping Equipment Retailing	5.3
Sport and Physical Recreation Administrative Service	4.7
Sport and Physical Recreation Clubs and Sports Professionals	10.1
Sports and Physical Recreation Instruction	4.0
Sports and Physical Recreation Venues, Grounds and Facilities Operation	8.1
Toy and Sporting Goods Wholesaling	1.5
Toy, Sporting and Recreational Product Manufacturing	1.1
Turf Growing	0.0
TOTAL	93.2
Share of the Regional Sport and Recreation Sector (per cent)	82.2%
Contribution to Regional GDP (per cent)	1.1%

Source: Statistics New Zealand, National Accounts (Industry Benchmarks) data and Census 2013 data.

Table A7: Estimated Incomes in Sport and Recreation Occupations, Taranaki, 2013

Category	Occupation	Taranaki (\$000)	New Plymouth (\$000)
Sportspersons and Officials	Golfer	..C	..C
	Footballer	..C	..C
	Jockey	..C	..C
	Other Sportspersons	..C	..C
	Sports Umpire	..C	..C
	Dog or Horse Racing Official	..C	..C
	Other Sports Official	..C	..C
Sports Coaches and Instructors	Fitness Instructor	2,013.0	1,925.5
	Swimming Coach or Instructor	949.0	790.9
	Horse Trainer	831.2	519.5
	Tennis Coach	..C	..C
	Gymnastics Coach or Instructor	..C	..C
	Horse Riding Coach or Instructor	150.6	150.6
	Snowsport Instructor	..C	..C
	Other Sports Coach or Instructor	1,446.5	1,084.9
Recreation Guides and Teachers	Lifeguard	1,022.8	430.6
	Dance Teacher (Private Tuition)	475.7	475.7
	Outdoor Adventure Instructor	361.6	361.6
	Fishing Guide	..C	..C
	Whitewater Rafting Guide	..C	..C
	Diving Instructor (Open Water)	..C	..C
	Mountain or Glacier Guide	..C	..C
	Trekking Guide	..C	..C
	Bungy Jump Master	..C	..C
	Hunting Guide	..C	..C
	Other Outdoor Adventure Guides	..C	..C
Administration and Facilities	Greenkeeper	3,107.8	1,886.9
	Sports Administrator	1,566.0	1,174.5
	Park Ranger	702.1	702.1
	Sports Centre Manager	502.6	335.1
	Fitness Centre Manager	..C	..C
	Turf Grower	..C	..C
	Sports Development Officer	..C	..C
Sport and Recreation Support	Physiotherapist	3,506.9	3,354.5
	Boat Builder and Repairer	1,644.1	1,644.1
	Conference and Event Organiser (1)	1,214.5	1,071.6
	Stablehand	883.3	481.8
	Massage Therapist (1)	432.1	324.1
	Horse Breeder	370.4	..C
	Bicycle Mechanic	177.1	177.1
	Recreation Coordinator (1)	168.8	112.5
	Sail Maker	..C	..C
TOTAL		22,597.9	17,860.9

Notes: (1) Only half the number in this occupation is included as sports and recreation. (2) The confidential data cells mean that the TOTAL figures are greater than the sum of each column.

Source: Statistics New Zealand, Census 2013 data, ANZSCO V1.0.

Table A8: Sport Participation by Male and Female Students and by Teachers at Secondary Schools, 2013

Region	Roll	Per Cent Participating in Sport			
		Males	Females	Total	Teachers
Northland	10,441	45.1%	42.7%	43.9%	26.7%
Auckland	96,388	52.9%	44.3%	48.6%	32.3%
Harbour Sport	22,344	51.0%	46.3%	48.7%	28.7%
Sport Waitakere	12,951	46.3%	39.3%	42.9%	37.8%
Sport Auckland	26,923	59.9%	49.0%	54.4%	33.6%
Counties Manukau Sport	34,170	51.2%	40.8%	46.3%	31.9%
Waikato	24,019	58.7%	51.5%	55.1%	35.1%
Bay of Plenty	20,006	52.5%	43.3%	48.0%	28.0%
Eastland	3,022	58.8%	53.5%	56.2%	46.9%
Hawkes Bay	10,686	63.4%	57.2%	60.3%	46.1%
Taranaki	7,074	70.1%	59.2%	64.6%	34.4%
Manawatu	10,056	57.8%	48.7%	53.4%	39.4%
Wanganui	4,166	56.2%	60.6%	58.5%	39.3%
Wellington	26,453	61.9%	55.6%	58.8%	28.9%
Wairarapa	2,773	71.8%	70.4%	71.1%	32.9%
Tasman	8,699	48.9%	48.1%	48.5%	23.0%
Canterbury	29,075	56.1%	50.1%	53.1%	35.7%
Aoraki	6,527	67.2%	66.3%	66.7%	37.6%
Otago	9,550	65.3%	67.7%	66.5%	40.1%
Southland	6,377	62.9%	60.0%	61.4%	35.8%
NATIONAL TOTAL	275,312	56.5%	50.0%	53.3%	33.5%

Source: NZSSSC census data, downloaded 19 February 2015 at www.nzsssc.org.nz/.

Table A9: Local Authority Spending on Recreation and Sport, Taranaki, 2012/13

	Recreation and Sport (\$000s)	Total Operating Expenditure (\$000s)	Ratio of Column 1 to Column 2 (Per Cent)
Taranaki Regional Council	2,190	21,415	10.2%
New Plymouth District Council	13,901	122,547	11.3%
South Taranaki District Council	5,964	53,295	11.2%
Stratford District Council	930	13,356	7.0%
Taranaki Total	22,985	210,613	10.9%
<i>New Zealand Total</i>	<i>704,774</i>	<i>7,326,997</i>	<i>9.6%</i>

Source: Statistics New Zealand Local Authority Census.

Table A10: Local Authority Net Additions to Recreation and Sport Fixed Assets, Taranaki, 2012/13

	Net Additions to Recreation and Sport Fixed Assets (\$000s)
Taranaki Regional Council	870
New Plymouth District Council	2,428
South Taranaki District Council	2,339
Stratford District Council	64
Taranaki Total	5,701

Source: Statistics New Zealand Local Authority Census.

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