

CHATHAM ISLANDS ECONOMIC PROFILE

Final Report

July 2017





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PREFACE

This report has been prepared for Chatham Islands Council by Jason Leung-Wai and Tim Borren from MartinJenkins (Martin, Jenkins & Associates Limited).

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INTRODUCTION

Purpose

The Chatham Islands are an important part of New Zealand's geography, history and community. While a number of reports over the last decade have described the significant potential of the Chatham Islands economy, it currently faces constraints associated with a small population, distance from markets and underdeveloped infrastructure. Significant strategic, coordinated investment by central government, local government and other stakeholders will be required to develop an economy that is sustainable in the long term, and affords the people of the Chatham Islands a comparable standard of living to the rest of New Zealand

This report is a repository of information that can inform policy or investment decisions that impact on the Chatham Islands. It provides an evidence base, characterising the Chatham Islands economy and its people. It is an update, where new data is available, of the economic profile MartinJenkins presented in its 2014 report.

Scope

The report is a desk-based exercise and draws on publicly available information as well as the Infometrics Regional Database. As it is an update, information that hasn't changed, or is not publicly available has not changed. However, we have left this information in for completeness as it is the latest available.

Structure of this report

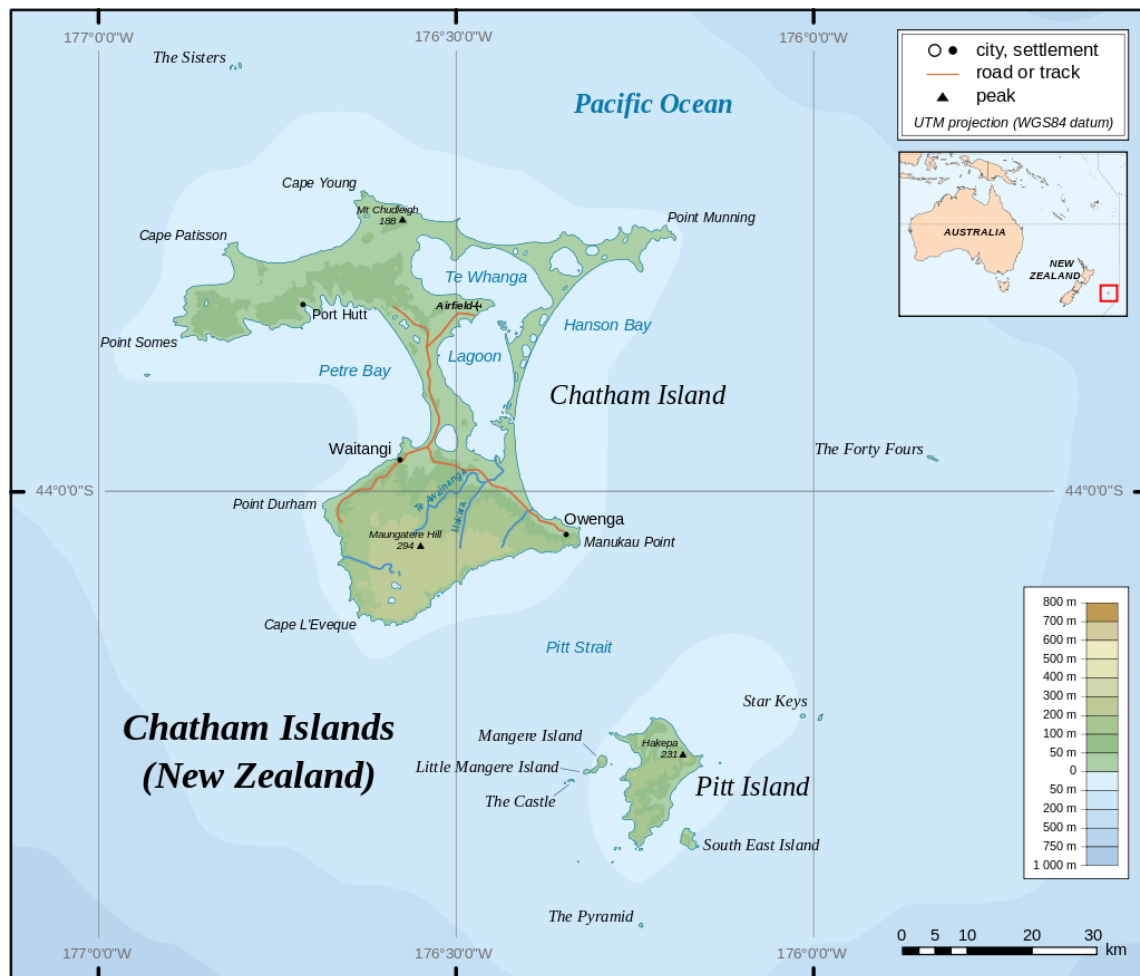
This report is split into four sections: geography, people, economy and sectors.



GEOGRAPHY

The Chatham Islands – *Rekohu* in Moriori and *Wharekauri* in Māori – are an archipelago located 800 kilometres east of New Zealand’s South Island. They consist of two main inhabited islands, and a number of smaller islands within a radius of approximately 50 kilometres. The largest island, Chatham, has an area of 90,000 hectares. Pitt Island has an area of 6,300 hectares, and lies 23 kilometres south-east of Chatham Island.¹

Figure 1: Map of the Chatham Islands



Source: Alexander Karnstedt (Alexrk) [CC BY-SA 2.5 (<http://creativecommons.org/licenses/by-sa/2.5>)], via Wikimedia Commons.

¹ (Chatham Islands Council, 2013)



The islands sit on the Chatham Rise, a submerged peninsula which stretches approximately 1,000 kilometres east from the Canterbury coastline. Formed by a volcanic up-thrust that occurred sometime within the last four million years, the islands' land surface is predominantly flat with a number of peaks, and a highest elevation of 294 metres. The northeastern part of Chatham Island is dominated by Te Whānga, a large lagoon that covers 20,000 hectares, or about one-fifth of the island.

Only the Chatham and Pitt Islands are populated. There are five main settlement areas on Chatham Island. Waitangi and Te One are relatively close together near the island's centre, with Waitangi being the main settlement and location of the port, council, bank, shops and hotel. The other settlements are located around the island's main fishing ports – Owenga in the southeast, Port Hutt in the northwest, and Kaingaroa in the northeast.

There is no single settlement on Pitt Island, although most activity is centred on the wharf at the northern end (Flower Pot).

The Chatham Islands is home to several of the world's most threatened bird and plant species. Māngere and Rangatira Islands are nature reserves managed by the Department of Conservation (DOC). They are managed to protect threatened endemic fauna and flora and to restore the indigenous habitats for those animals and plants. Visits are generally for management purposes and authorised by permit only.



PEOPLE

Population

Long-term decline has been arrested and the population is estimated to have increased slightly between 2013 and 2016

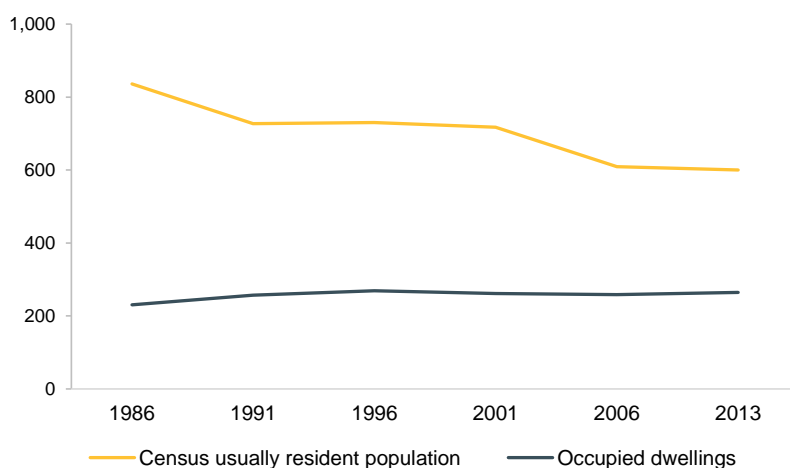
Population and dwelling counts

The estimated usually resident population of the Chatham Islands at June 2016 was 610², similar to the 600 counted at the 2013 Census. Population is down from 836 people in 1986.

Historical census data show the islands' population has been declining at an average rate of 1.2 percent each year between 1986 and 2013.

Over the same period, the number of occupied dwellings³ on the islands has remained relatively constant, increasing slightly from 230 in 1986, to 264 in 2013.⁴

Figure 2: Usually resident population and occupied dwellings (1986-2013) – Chatham Islands



Source: Statistic NZ, 2013 Census

² (Statistics New Zealand, 2016)

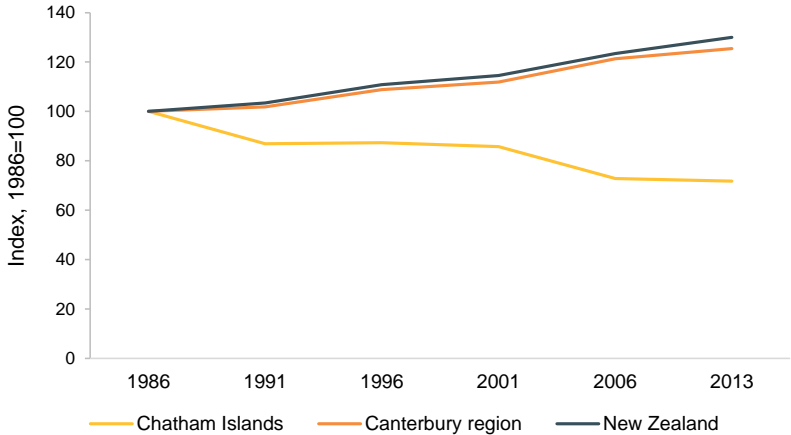
³ A dwelling means any building or structure, or part thereof, that is used (or intended to be used) for the purpose of human habitation. It can be of a permanent or temporary nature and includes structures such as houses, motels, hotels, prisons, motor homes, huts, and tents.

⁴ Divergence between population and occupied dwelling growth is driven by changes in household composition over time – in particular, the current trend toward smaller family sizes, which has been seen across most Western developed countries. In the Chatham Islands, the average number of usual residents per household decreased from 2.6 in 2001, to 2.4 in 2013 (Statistics New Zealand, 2013)



In contrast with the Chatham Islands, the populations of the Canterbury region and New Zealand as a whole increased at an average rate of 0.7 percent and 0.8 percent each year, respectively, between 1986 and 2013. Figure 3 compares the change in each population over this period.

Figure 3: Population change (1986–2013) – Chatham Islands, Canterbury region and New Zealand (indexed)



Source: Statistics NZ, 2013 Census

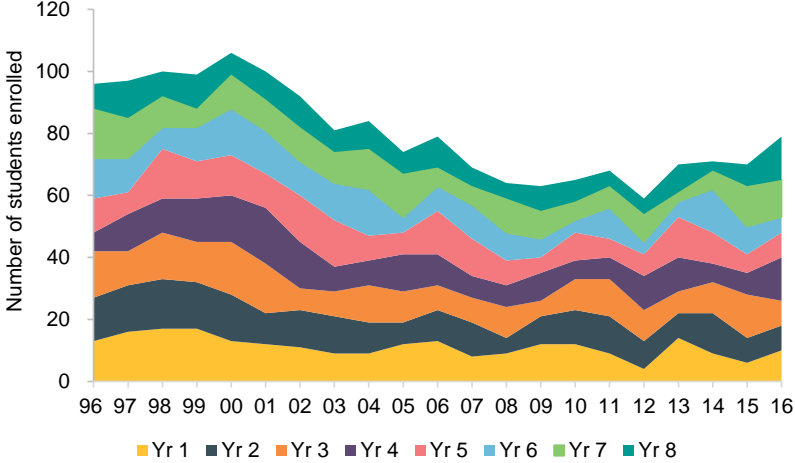
New Zealand’s population increase over the last 3 decades has been focused mainly in urban areas, with Auckland accounting for more than half of the country’s population growth since 1986. The Chatham Islands are among 20 territorial authority areas (out of 67) to have experienced a decline in population between 2006 and 2013.

Primary school rolls

Primary school rolls are a useful indicator of population change. While the ratio of primary school aged children to the rest of the population does change over time, a growing primary school roll is generally a good indicator of population growth, while a falling roll tends to reflect a population in decline.



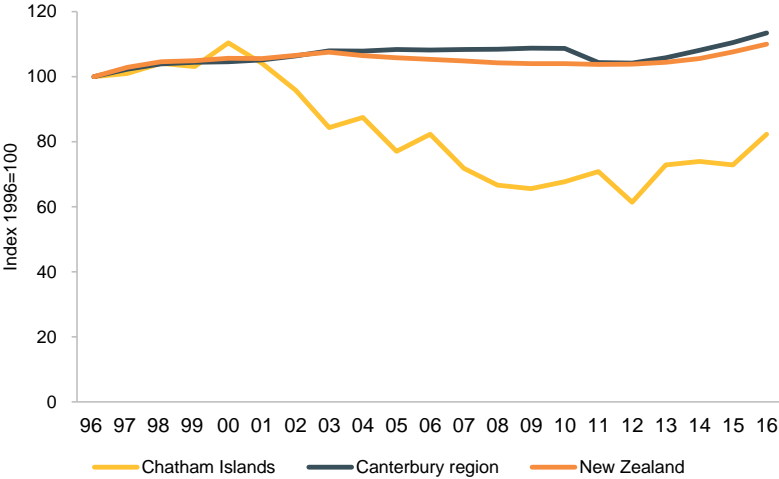
Figure 4: Primary school roll (1996-2016) – Chatham Islands



Source: (Ministry of Education, 2016)

Figure 4 shows the Chatham Islands’ combined roll for students in years 1–8, between 1996 and 2016. The primary school roll grew by nine children in 2016. Between 1996 and 2016 the school roll declined at an average rate of 1 percent each year. This contrasts with an average growth in the primary school rolls of 0.6 percent each year in the Canterbury region and 0.5 percent each year in New Zealand, as shown in Figure 5.

Figure 5: Primary school roll (1996-2016) – Chatham Islands, Canterbury region and New Zealand (indexed)



Source: (Ministry of Education, 2016)

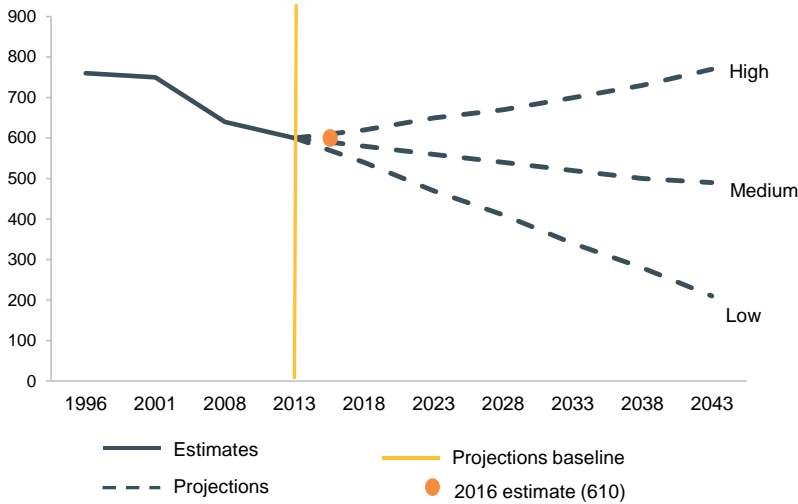


Population projections

The inherent volatility of smaller populations, combined with the highly interdependent relationship between the Chatham Islands’ population and its economy, limit the relevance of population projections based on fertility, mortality and migration trends. The arrival or departure of a single employer (or even a large family) can result in a significant percentage change in a population of 600, and government decisions on infrastructure investment are likely to have a more pronounced impact on the potential for population growth.

With these limitations in mind, Figure 6 shows Statistics New Zealand’s high, medium and low subnational population projections for the Chatham Islands out to 2043.

Figure 6: Chatham Islands population estimate and projections – Chatham Islands



Source: (Statistics New Zealand, 2016)

The estimated usually resident population of the Chatham Islands at June 2016 was 610⁵, similar to the 600 counted at the 2013 Census. The 2016 estimate is slightly above the medium-level population projection developed by Statistics New Zealand.

The population declined by 1.4 percent each year (160 people in total) between 1996 and 2013.

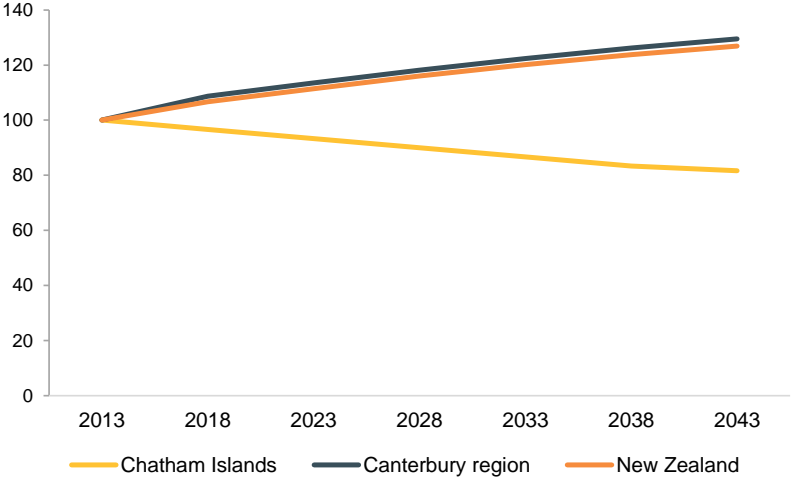
Figure 7 compares medium-level population projections for the Chatham Islands, Canterbury region, and New Zealand.⁶

⁵ (Statistics New Zealand, 2016)

⁶ As with the projections shown in Figure 6, these figures have been produced by Statistics New Zealand, which advises that medium projections are a suitable indication of population change in the short and long term for the Canterbury region and for New Zealand as a whole.



Figure 7: Medium population projections (2013-2043) – Chatham Islands, Canterbury region and New Zealand (indexed)



Source: Statistics New Zealand subnational population projections (medium, 2013 base)

Assuming medium levels of fertility, mortality and migration, the populations of Canterbury region and New Zealand are expected to grow at an average annual rate of 0.9 percent and 0.8 percent respectively, between 2013 and 2043. This compares with an average decline of 0.7 percent each year for the Chatham Islands.

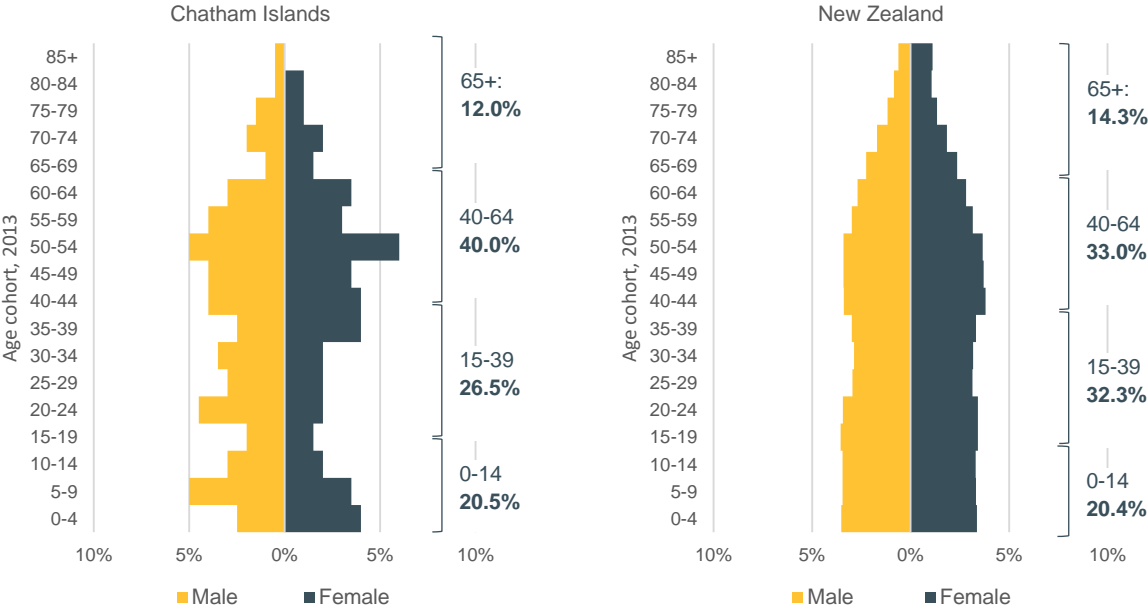
Population structure

According to census data, the Chatham Islands population is slightly older than that of the Canterbury region and New Zealand, with a median age of 43 (compared with 40 for the Canterbury region, and 38 for New Zealand). The Chatham Islands population is also ageing faster. Since 2001, the median age increased by 10 years (up from 33), while over the same period the median age of the total New Zealand population increased by 3 years (up from 35).

Figure 8 shows the age and sex structure of the Chatham Islands and New Zealand populations at the 2013 Census.



Figure 8: Age and sex of people (2013) – Chatham Islands and New Zealand



Source: Statistics NZ, 2013 Census

Source: Statistics NZ, 2013 Census

A large bulk (40 percent) of the Chatham Islands population falls within the older working age group of 40-64 years, while the proportions of its population aged 15-39 and 65+ are lower than for New Zealand as a whole. These factors give Chatham Islands a relatively lower 65+ dependency ratio⁷ of 18 per 100 people – though this is growing more quickly than the national rate, having increased from 8 per 100 people in 2001. Dependency ratios are shown in Table 1.

Table 1: Dependency ratios, Chatham Islands, Canterbury region and New Zealand, 2001 and 2013

	Chatham Islands		Canterbury region		New Zealand	
	2001	2013	2001	2013	2001	2013
65+ dependency ratio (per 100 people)	8	18	21	24	18	22
Under 15 dependency ratio (per 100 people)	35	31	31	28	35	31
Total dependency ratio (per 100 people)	44	49	52	52	53	53

Source: Statistics NZ, Census 2013

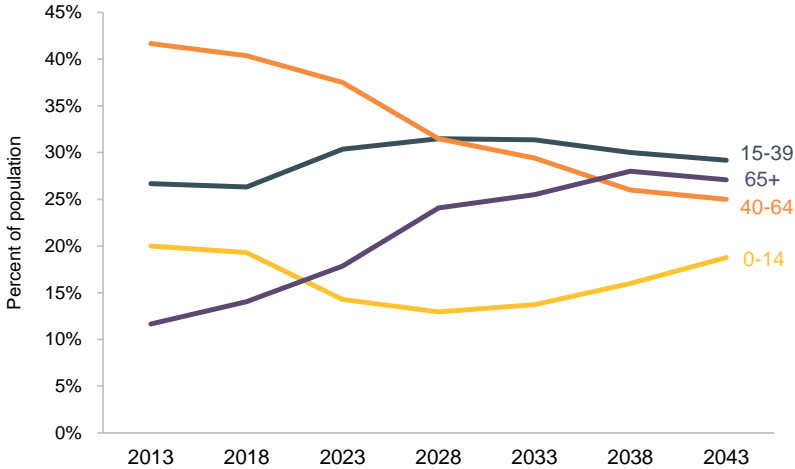
Note: these dependency ratios are calculated on the basis of age only – neither actual employment status, nor measures of financial or economic dependency, are taken into account.

⁷ Defined as the number of people aged 65 or over per 100 people between the 'working ages' of 15 and 64.



Over the next 32 years, the proportion of Chatham Islands residents aged 65 or over is expected to increase, while younger age groups are expected to decline. These trends are in line with projected changes at the national level. According to Statistics New Zealand’s medium population projection (shown in Figure 6), the number of Chatham Islands residents aged 65 or over is expected to equal the number of people aged 14 years and under by around 2021.

Figure 9: Population projections by age group (medium level, 2013-2043) – Chatham Islands



Source: Statistics New Zealand projected population age structure (2013 base)

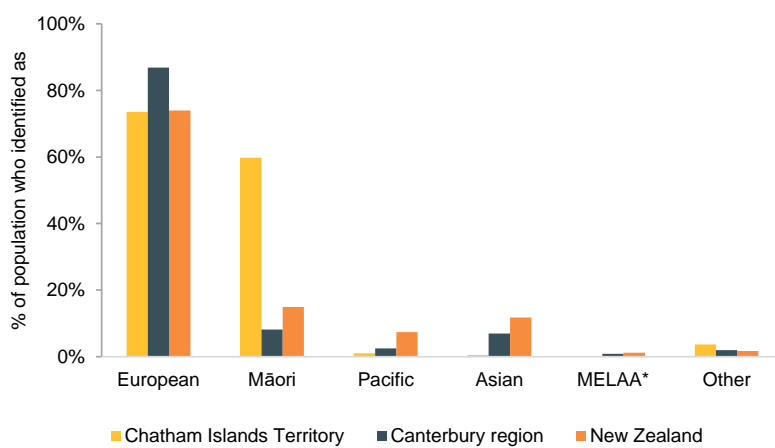
Under these projections, the 65+ dependency ratio for the Chatham Islands increases from its current level of 19 per 100 working age people, to 38 per 100 people in 2028, and 50 per 100 people by 2043.



Māori

In the 2013 Census, 59.8 percent of Chatham Islands residents identified with the Māori ethnic group, giving Chatham Islands Territorial Authority the fourth highest proportion of Māori residents – behind Wairoa (63.0 percent), Kawerau (61.7 percent), and Ōpōtiki (60.6 percent). Nationally, 14.9 percent of people identified as Māori while in Canterbury only 8.1 percent of people identified as Maori.

Figure 10: Major ethnic groups (2013) – Chatham Islands, Canterbury region and New Zealand



Source: Statistics NZ, 2013 Census

*MELAA: Middle Eastern, Latin American and African

Of the 333 Chatham Islands Māori who answered the iwi affiliation question in the 2013 Census, the majority (198 people, or 65.3 percent) affiliated with Ngāti Mutunga (Wharekauri/Chatham Islands). The second most commonly reported iwi was Ngāi Tāhū/Kai Tāhū (81 people, or 26.7 percent), followed by Mōriori (36 people, or 11.9 percent).⁸

12.1 percent of all people who identified as Ngāti Mutunga (Wharekauri/Chatham Islands) in the 2013 Census live on the Chatham Islands, as do 4.9 percent of those who identified as Mōriori.

⁸ Respondents could report more than one iwi. The census considers Mōriori as an iwi grouping for categorisation purposes.



Migration

Census data show that between 2008 and 2013, 78 people arrived to live in the Chatham Islands, and 45 people left to live elsewhere in New Zealand, giving a total net migration of 33 people.

Table 2 shows the origins and destinations of migrants to and from the islands over this five-year period.

Table 2: Migration to and from Chatham Islands, 2008–2013

Origins of people who arrived to live in Chatham Islands		Destinations of people who left Chatham Islands	
Christchurch City	21	Christchurch City	18
Auckland	15	Hauraki District	9
Grey District	9	Hastings District	6
NZ (not further defined)	21	Selwyn District	6
Overseas	12	Queenstown-Lakes District	6
Total immigrants	78	Total domestic emigrants	45

Source: Statistics NZ, 2013 Census

Note: These data are based on 2013 Census respondents' usual residence five years prior to census day. It is unknown how many people left the Chatham Islands to live overseas over this period. All census counts are randomly rounded to base 3 to protect confidentiality.

Christchurch City is the main source of migrants as well as the main destination of people who have left the Chatham Islands.

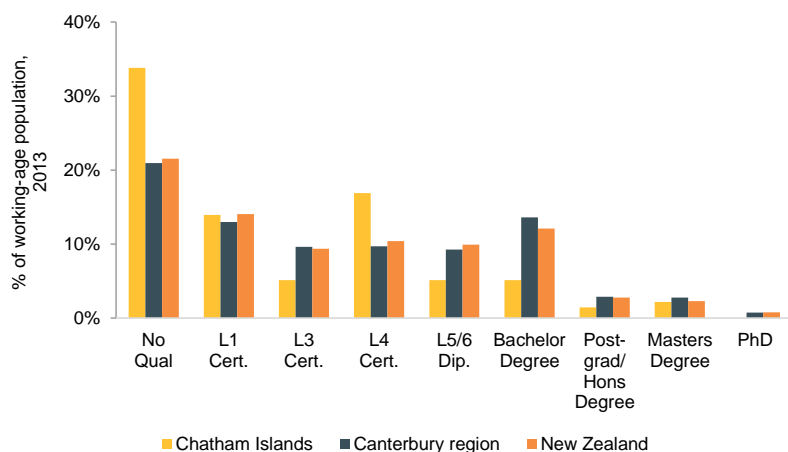


Skills

Highest qualification

Compared with the mainland population, Chatham Islands residents have lower levels of formal education overall, with just over a third (33.8 percent) of the adult population reporting no formal qualification in the 2013 Census. Highest qualification, compared to Canterbury and New Zealand is shown in Figure 11.

Figure 11: Highest qualification (2013) – Chatham Islands, Canterbury region and New Zealand



Source: Statistics NZ, 2013 Census

Among those who have a post-school qualification, the majority hold a Level 4 Certificate – generally speaking a trade or vocational qualification – as their highest. Just 8.8 percent of Chatham Island residents have a Bachelor’s Degree or higher qualification. This compares with 20.0 percent of the total New Zealand population.

Qualification levels are consistent with the industry and activity that occurs on the Chatham Islands.

Educational attainment of school leavers

Due to there being no high schools on the Chatham Islands (high school students attend school by correspondence or on the mainland), there are no data available from the Ministry of Education on the number of Chatham Islands residents attending secondary school, or the qualification level of recent school leavers.

The 2013 Census counted 21 people between the ages of 15 and 19 usually living on the Chatham Islands, but it is possible that those attending high school on the mainland were counted in the census as living there.

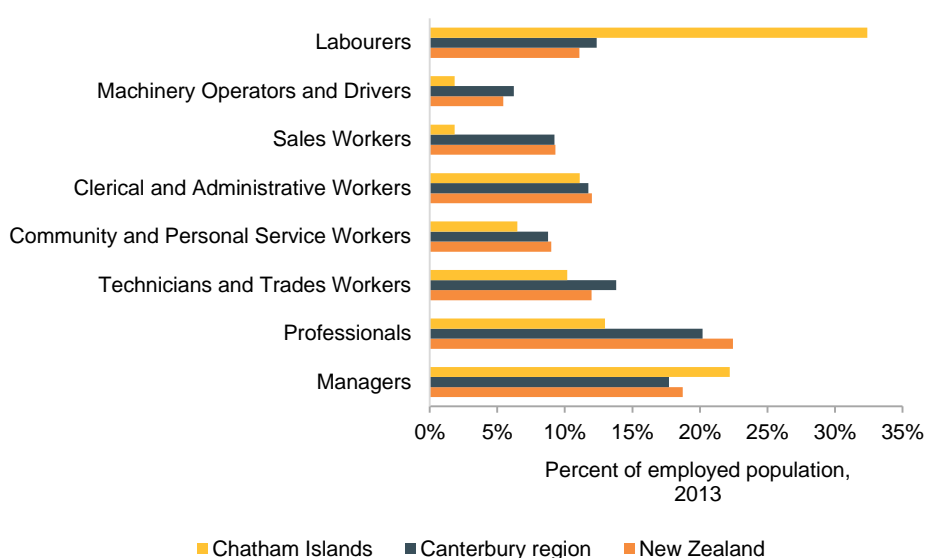


Occupation

According to 2013 Census data, labourers make up the largest occupational group in the Chatham Islands, accounting for 32.4 percent of the employed population. This compares with 12.3 percent of employed people nationwide.

The Chatham Islands also has a comparatively high proportion of managers, at 22.2 percent of the working population, versus 17.7 percent nationally. This is likely a reflection of the relatively high proportions of employers and self-employed people, as shown in Table 3 below.

Figure 12: Occupation (ANZSCO major group, 2013) – Chatham Islands, Canterbury region and New Zealand



Source: Statistics NZ, 2013 Census

Labour market

Because Household Labour Force Survey (HLFS) results are only published down to the regional level (and the Chatham Islands fall outside the area surveyed), the census is the only official publicly available source of labour market data available for the Chatham Islands.

Of the Chatham Islands' 600 residents at the 2013 Census, 471 were of working age (15 years or older). The islands had a labour force size of 357, and a labour force participation rate of 76.8 percent. The unemployment rate was 2.5 percent. A discussion with the Heartland office in early 2017 identified only 2 people receiving an unemployment benefit.

Compared with the Canterbury region and New Zealand, the Chatham Islands have a higher labour force participation rate, lower unemployment, and higher proportions of employers, self-employed



people, and unpaid family workers. Three quarters (76.5 percent) of the labour force is employed full-time.

Table 3: Labour force (2013) – Chatham Islands, Canterbury region and New Zealand

	Chatham Islands	Canterbury region	New Zealand
Working age population	471	438,744	3,376,422
Labour force size	357	290,589	2,154,216
Labour force participation rate	76.8%	68.9%	67.1%
Percent (of labour force) employed full-time	76.5%	73.1%	71.5%
Percent (of labour force) employed part-time	21.0%	22.4%	21.4%
Percent (of labour force) unemployed	2.5%	4.4%	7.1%
Employed population	348	277,659	2,001,006
Percent (of employed population) paid employees	65.5%	80.8%	79.4%
Percent (of employed population) employers	14.2%	6.9%	6.6%
Percent (of employed population) self-employed	15.0%	10.6%	12.1%
Percent (of employed population) unpaid family workers	6.2%	1.7%	1.9%

Source: Statistics NZ, 2013 Census

The Chatham Islands' labour force participation rate has consistently sat between 10 and 15 percentage points higher than the national rate since 1996. Each of the last four censuses has also recorded a lower unemployment rate in the Chatham Islands than the rest of New Zealand (4.6 percentage points lower in 2013).

Material standard of living

Inland Revenue data on tax paid by individuals and businesses, which is available at regional and territorial authority level, does not include the Chatham Islands. Ministry of Social Development data on benefit recipients in the Chatham Islands is available, but most is suppressed due to confidentiality issues arising from such low numbers. Census is therefore the only source of information available on income for the Chatham Islands.

Personal income

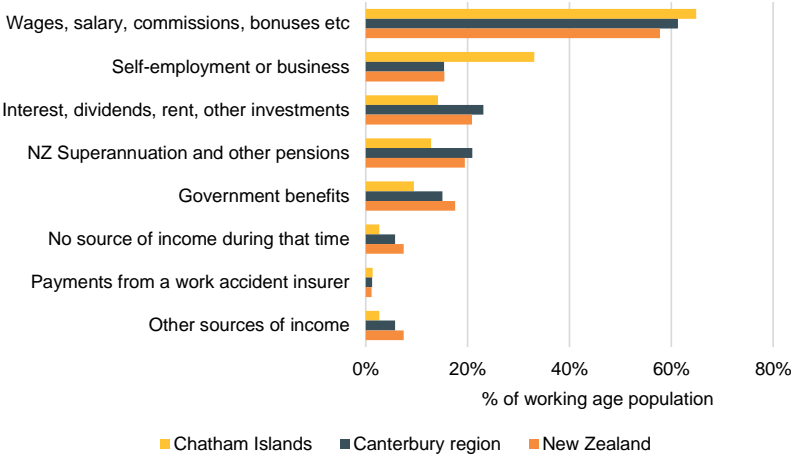
2013 Census data show that income sources for Chatham Islands residents are more heavily weighted towards wages/salary and self-employment income than for the rest of the country. Almost two-thirds of residents (64.9 percent) received income from salary or wages, and one third (33.1 percent) reported receiving self-employment income in the 2013 Census.⁹

⁹ Respondents could indicate more than one income source



Compared with the national population, relatively fewer Chatham Islands residents received income from investments (14.2 percent), superannuation (12.8 percent), government benefits (9.5 percent), or other sources.

Figure 13: Sources of personal income (2013) – Chatham Islands, Canterbury region and New Zealand



Source: Statistics NZ, 2013 Census

The median personal income for Chatham Islands residents in the 2013 Census was \$30,100. Nationally, the median personal income was \$28,500. Males reported higher incomes than females, with medians of \$40,600 and \$24,300, respectively.

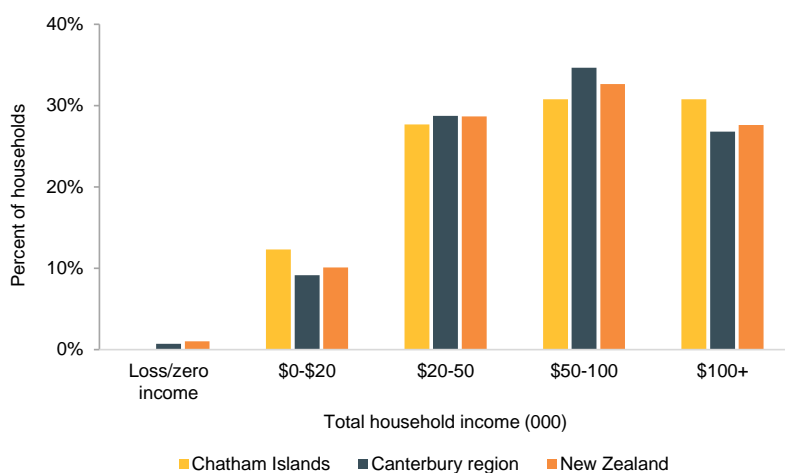


Household income

Chatham Islands households have slightly higher income than New Zealand households on the whole, with a median household income of \$66,000, compared with \$63,800 nationally. Between 2006 and 2013, the median household income in the Chatham Islands increased by 50 percent – more than double the rate of increase reported across the rest of the country (24.1 percent).¹⁰

Figure 14 compares the distribution of household income levels for the Chatham Islands with the Canterbury region and New Zealand.

Figure 14: Household income (2013) - Chatham Islands, Canterbury region and New Zealand



Source: Statistics NZ, 2013 Census

The pattern of household income distribution for the Chatham Islands fairly closely mirrors that for the Canterbury region and the rest of New Zealand, with approximately 40 percent of households receiving up to \$50,000, 30 percent receiving between \$50,001 and \$100,000, and 30 percent receiving \$100,001 or more in the year to 31 March 2013.

Home ownership

2013 Census data shows that 53.9 percent of Chatham Islands households own their dwelling or hold it in a family trust, compared with 64.8 percent of households nationwide.

Of those dwellings that were rented, 73.7 percent were owned by a private person, trust or business, 5.3 percent were owned by a local authority or city council, and 21.1 percent were owned by another state-owned corporation, or government department. No dwellings in the Chatham Islands are owned by Housing New Zealand.

¹⁰ Figures not adjusted for inflation.



Deprivation

The New Zealand Deprivation Index (NZDep) is a measurement developed by researchers at the University of Otago of relative socioeconomic deprivation. NZDep combines a range of census variables – income, employment, qualifications, home ownership, family composition, household crowding, and access to telecommunications and transport – for small areas, to produce deciles of socioeconomic deprivation on a geographic basis.

In 2013, Chatham Islands territory had an average NZDep score of seven (where 1 is the least deprived and 10 is the most deprived).

Cost of living

The Chathams' extreme isolation and small population result in a higher cost of living overall compared with the rest of New Zealand. Freight and council dues¹¹ inflate the cost of all goods imported from the mainland, and the small, remote consumer base drives up the cost of utilities and services like electricity, telecommunications and air transport.

While the islands themselves provide cheap local sources of protein (farmers, hunters and fishermen enjoy an abundance of fresh meat and seafood), most other food must be imported at high cost. The climate is generally unsuitable for large-scale horticultural production, though small private greenhouses are fairly common.

Council rates are on par with the rest of New Zealand and rent is substantially cheaper, but the need to import materials and specialist labour substantially drives up the cost of building and renovating houses.

There is no official calculation of the different living cost in the Chatham Islands. Taylor Baines in 2008 estimated that the cost of living on the islands was 1.4 times that in Christchurch,¹² and in their 2014 report on the health and social needs of Chatham Islanders, Litmus found that a basket of standard grocery items purchased in June 2013 was 84 percent more expensive on the Chatham Islands than in Wellington.¹³ In the following sections we break down the price differences of various goods and services between the islands and the mainland, and note some of the major additional living costs incurred.

¹¹ The CIC collects a levy on all goods imported and exported from the Chatham Islands.

¹² (Taylor Baines & Associates, 2008)The report does not describe the method used for calculating the cost of living difference cited.

¹³ (Litmus, 2014)



Cost of living differences

This section was researched and written for MartinJenkins' 2014 report. We have updated certain costs including electricity. Fuel and telecommunications. We have not updated the housing, food and household supplies section.

Energy

Energy costs are a significant component of household expenditure on the Chatham Islands, and are markedly more expensive than in the rest of New Zealand.

Electricity is supplied by Chatham Islands Electricity Ltd (a subsidiary of the Chatham Islands Enterprise Trust (CIET)) at a retail price of \$0.58 per kWh.¹⁴ This is twice the average cost per kWh for households across the rest of New Zealand (see Table 4). There is no public electricity supply available on Pitt Island. Residents there generate their own power through diesel generators and/or solar panels, both of which are fairly common on Chatham Island also.

Petrol and diesel are shipped to the island. In July 2017, petrol retailed at \$2.85 per litre, 1.6 times the average cost across the rest of New Zealand. Diesel retailed at \$1.40, 1.25 times the mainland cost (see Table 4).

Telecommunications

Chatham Islands customers pay standard New Zealand line rental and calling fees for landline telephone and fax access through Spark.

Dial-up Internet is available at a cost of \$25 per month. Until recently, the only broadband Internet available was an expensive satellite service. An alternative ADSL broadband service is currently being rolled out at more competitive prices, but these are still significantly higher than those available in urban New Zealand areas (see Table 4).

Housing

Of the 66 Chatham Islands households that reported paying rent in the 2013 Census, the median rent paid was \$110 per week. This compares with \$280 for New Zealand, making the Chathams 60 percent cheaper on average. A third (34.3 percent) of households that do not own their dwelling do not pay any rent to the owner.

The average council rates paid by Chatham Islands households in 2013 were \$2,096. This is slightly lower than the national average of \$2,165 (see Table 4).

While rent and rates are cheaper than mainland prices, the cost of building on the islands is significantly greater. In addition to the costs associated with shipping in materials, professionals such as builders, plumbers and electricians must usually be flown in from the mainland at the owners' expense. Finance and insurance for new builds are also much more difficult to secure.

¹⁴ This rate applies to usage of up to 10,000 kWh per year (which no residential customers exceed).



Food and household supplies

There are two small grocery stores on Chatham Island, and one hardware store. In September 2014, local retail prices for food and household goods were 2.2 times more expensive overall than the national average (see Table 4).¹⁵

Due to the high cost of buying locally, some residents import goods directly from New Zealand (mainly through the internet). In addition to the cost of getting goods to a mainland port, air freight to the islands costs \$3.50 per kilogram, while non-perishable items can be shipped by sea for around \$25 per banana box. The Warehouse online store provides the only known exception to these additional freight costs. Its nationwide \$6.99 flat delivery fee, unlike those of other large retailers, includes the Chatham Islands. Many residents now take advantage of this service, which significantly reduces the cost of many household items.

¹⁵ The price difference ratios for food and household goods were calculated by comparing the average Chatham Island retail price of selected items listed in the Food and Consumer Price Indexes (FPI and CPI), with the weighted average retail prices of those items in the September 2014 quarter FPI and CPI. The same method was used to determine the difference in cost of petrol and diesel. While for our purposes the FPI and CPI give a reasonable indication of the average price of items across the country in the given quarter, it should be noted that their primary function is to provide an accurate measurement of price changes from quarter to quarter, and they do not provide a statistically accurate measure of actual transaction price levels.



Table 4: Household costs: Chatham Islands vs New Zealand comparison

Household cost	Unit(s) measured	Period	Chatham Islands	NZ average	CI : NZ ratio
Energy and fuel					
Electricity	Cost per kWh (GST excl.)	July 2017	\$0.58	\$0.29	2.0
Petrol	Cost per litre (GST incl.)	July 2017	\$2.85	\$1.80	1.58
Diesel	Cost per litre (GST incl.)	July 2017	\$1.40	\$1.12	1.25
Telecommunications					
Internet, phone line and national calling	Cost per month for ADSL Internet, 80GB of data, landline rental, and national calling package (GST incl.)	July 2017	\$217.35	\$100.00 ¹⁶	2.17
Housing					
Rent	Median weekly rent paid by households	As at March 2013	\$110.00	\$280.00	0.39
Rates	Average annual rates paid by households	YE June 2013	\$2,096.00	\$2,165.78 ¹⁷	0.97
Food and household goods					
Fruit and vegetables			N/A	N/A	2.62
Meat, Poultry, and fish			N/A	N/A	1.36
Grocery food			N/A	N/A	2.55
Non-alcoholic beverages			N/A	N/A	2.11
Household goods			N/A	N/A	1.73
Total food and household goods			N/A	N/A	2.20

Sources: Electricity prices: Chatham Islands Enterprise Trust (Chatham Islands); MBIE (New Zealand). Telecommunications prices: Farmside 80GB plan (Chatham Islands), Spark, Vodafone, rural wireless broadband 120GB plan). Petrol and diesel prices: Waitangi Hardware, Dough n Go (Chatham Islands); Statistics New Zealand Consumer Price Index, (New Zealand). Rent: Statistics New Zealand 2013 Census (Chatham Islands and New Zealand). Rates: NZ Taxpayers Union (Chatham Islands and New Zealand). Food and household goods: Waitangi Store, Dough n Go (Chatham Islands); Statistics New Zealand Food Price Index and Consumer Price Index (New Zealand).

¹⁶ Prices sourced from the three largest ISPs in New Zealand – Spark, Vodafone and Slingshot – who together account for 81 percent of market share (World Internet Project New Zealand, 2013). Specific national calling packages vary from provider to provider.

¹⁷ Weighted average across all 67 local council areas.



Island-specific costs

Air transport

Air travel to and from the Chatham Islands adds further to the cost of living for residents. Periodic trips to the mainland are required to access services such as secondary and tertiary healthcare and education, as well as to visit friends and family.

Privately owned and operated airline Air Chathams operates regular weekly flights to and from Auckland and Christchurch, and twice-weekly flights to and from Wellington (with additional services offered in summer). The lowest return fares are \$770 for adults, and \$562 for children (as at July 2017). The airline also services Pitt Island on a demand-driven basis. A seat is \$102 each way or a flight can be chartered for \$540 each way.

Freight

The islands are serviced by one air freight and one shipping freight operator. Sea freight prices for selected items from Chatham Islands Shipping Co. are shown in Table 5.

Table 5: Chatham Islands Shipping Co. rates

Item	Unit	Cost (GST excl.)	Council dues
Banana box	Dry, chilled, frozen	\$21.00	\$1
Container	10 foot, full	\$2,415	\$50
Container	20 foot, full	\$4,305	\$50
General hold stow	Cubic metres / metric tonne	\$376	\$18
Deck stow	Cubic metres / metric tonne	\$271	\$18
Household furniture	Cubic metres / metric tonne	\$235	\$5
Vehicles, 4x4 and utes	each	\$2,587	\$50
Vehicles, cars	each	\$2,100	\$50

Source: Chatham Islands Shipping Company website, as at May 2017

Air Chathams charges \$3.50 per kg of freight with a minimum 5kg charge (\$17.50).

Council dues

The Chatham Islands Council Act 1995 authorises the council to levy dues on all goods imported and exported from the Chatham Islands. As well as driving up the cost of doing business for exporters, these dues add to the cost of all goods imported to the islands by sea or air.¹⁸ The exact amount payable varies from item to item. Table 5 (above) includes the import/export dues for selected items shipped to and from the islands.

¹⁸ Air Chathams' \$3.50/kg freight rate includes council dues.



ECONOMY

This section looks at economic activity in terms of employment, Gross Domestic Product (GDP) and exports.

Background

There is no consistent measure of GDP for the Chatham Islands. In 2002, Taylor Baines estimated the Chatham Islands GDP at \$33.1 million, which was based on 2001 Census and county dues records.¹⁹ The NZTA, in its 2009–2012 National Land Transport Programme for the Chatham Islands, estimated 2008 GDP at \$20 million, but acknowledged this as an unofficial estimate and did not name the source, noting “indicative only – No statistics available for Chatham Islands”.²⁰ Statistics New Zealand only calculates regional GDP at the regional council administrative boundaries. None of the private sector providers of regional GDP (BERL or Infometrics) calculate GDP for the Chatham Islands.

The most accurate estimates of employment are from census data. However, these only include the main or first job, and it is acknowledged that many Chatham Islanders hold several jobs. The census counted 348 employed people in 2013, down from 363 in 2006 and 369 in 1996.

Other sources of job numbers are Statistics New Zealand’s Linked Employer Employee Database (LEED), and Business Demography statistics, which provide annual data on employment. However, a review of these data for the Chatham Islands turned up some unexplainable numbers and trends.

GDP and employment

Economic activity is presented in the form of employment and GDP. Infometrics²¹ provides a regional series²² for employment (filled jobs) and GDP, using modelling techniques applied to published national and regional data to the local authority level. However, the analysis had not been done for the Chatham Islands.

When the same approach was applied to the Chatham Islands, the results were inconsistent with our understanding of the Chathams’ local economy. For example, employment and GDP activity derived from LEED data suggested that employment was greater than total population, and that it had halved over the last few years. Statistics New Zealand was unable to explain the level or the change in LEED data for the Chatham Islands.

¹⁹ (Taylor Baines & Associates, 2002)

²⁰ (New Zealand Transport Agency, 2009)

²¹ Infometrics specialises in providing economic and employment data from both an industry and regional perspective via a web-based system. Infometrics is a privately owned and operated company, based in Wellington and was founded in 1983.

²² (Infometrics, 2016)



As a result of the problems encountered with existing data sources, MartinJenkins has worked with Infometrics to provide a more reliable estimate for filled jobs and GDP in the Chatham Islands. Employment for the Chatham Islands has been calculated using a combination of employee and geographic unit data from the Statistics New Zealand Business Frame to identify the number of filled jobs²³. For the fishing and farming industries, the number of filled jobs was derived from a combination of employee and geographic unit counts; this was to account for the relatively high proportion of owner operators in these sectors. For all other industries, only employee counts were used.

Local GDP was calculated based on the Chatham Islands' share of employment activity in each industry, the national GDP for that industry, and labour productivity rates for the Canterbury region. This initial estimate of employment and GDP was then revised based on learnings from a visit to the Chatham Islands, discussions with resident businesses, and a review of industry activity.

As a result, GDP in the fishing sector was scaled up by 1.4 to account for the relatively higher value of the Chatham Islands' main catch – lobster, pāua and blue cod. Farming productivity was set at 0.75 times the Canterbury productivity level to account for lower stocking rates / fertilised land, and transportation costs. Electricity and gas supply was scaled down to 0.5 times the Canterbury productivity level to account for the significantly higher ratio of labour to capital in the electricity generation and distribution network in the Chatham Islands.

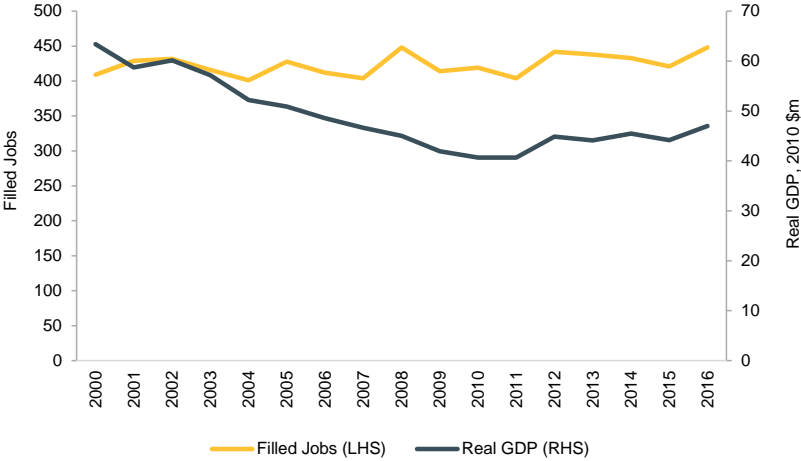
This revised approach suggests that there are currently 448 filled jobs on the Chatham Islands generating \$47 million in GDP.

Filled jobs and GDP for the Chatham Islands between 2000 and 2016 is presented in Figure 15.

²³ Filled jobs differs from the number of employed people identified in the 2013 Census (which was 348). Census counts each individual only once, taking their main activity of work. Filled jobs looks at the number of jobs filled. In the case of the Chatham Islands a number of people have several different jobs (for example, many farmers are also fishermen). As a result the number of filled jobs is higher than the number of people employed.



Figure 15: Real GDP and filled jobs, Chatham Islands (2000-2016)



Source: Infometrics Regional Database, MartinJenkins

GDP has declined slightly over the last 10 years by 0.3 percent per year, in contrast to filled jobs which have increased by 0.8 percent per year over the same period.

Over the last 5 years, growth has been stronger, with yearly growth of 2.1 percent for employment and 2.9 percent for GDP

Both GDP and filled jobs increased by 6.4 percent in the year to March 2016.



INDUSTRY ANALYSIS

This section explores employment and GDP by the main industry sectors on the Chatham Islands. Industry data is generally broken down by ANZSIC²⁴ description. Infometrics regional data is available at the ANZSIC 2-digit level (54 industries). These have been aggregated to the 1-digit level due to the small numbers in the Chatham Islands (which results in many industries even at the 2-digit code that have no economic activity).

Even at the 1-digit level, there are industries where there is no economic activity, for example Mining, Wholesale Trade, and Information, Media and Technology.

Employment and GDP by ANZSIC 1-digit are shown in Figure 16 and Figure 17. From these graphs it is apparent that activity is dominated by Agriculture (which includes forestry and fishing). Manufacturing, which is the second largest employer industry, is related to Agriculture as it is largely made up of seafood processing.

Figure 16: Employment by industry, Chatham Islands, 2016



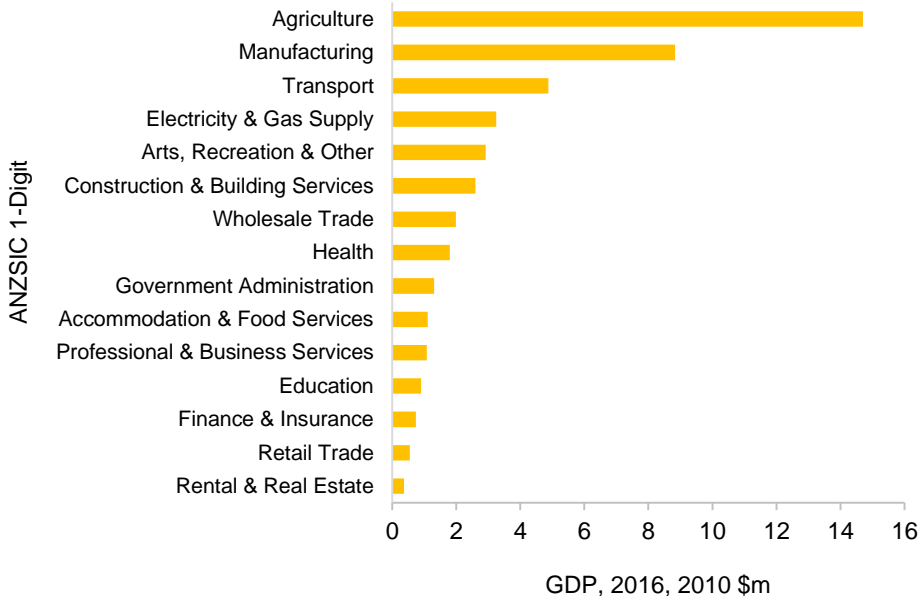
Source: Infometrics regional database, MartinJenkins

Agriculture, manufacturing and transport are also the three largest contributors to GDP, while electricity and gas supply is the fourth largest industry in terms of GDP.

²⁴ ANZSIC stands for Australia New Zealand Standard Industrial Classification. It is a consistent means of categorising industries agreed between New Zealand and Australia and is used for collecting and collating information on business activity.



Figure 17: Real GDP by industry, Chatham Islands, 2016



Source: Infometrics regional database, MartinJenkins

ANZSIC does not allow for the examination of value chains. For the analysis of key sectors, industries at the 54 industry level (ANZSIC 2-digit) have been grouped into sectors relevant to the Chatham Islands. For example, the fishing sector includes: fishing; seafood processing; agriculture, forestry, and fishing support services and hunting (part of).

For the Chatham Islands, there is a logical split across six main sectors. These are the three main export sectors – farming, fishing and tourism –as well as transportation, government and public services. Remaining sectors are included in ‘other’. Employment and GDP in these sectors for 2016, and the change over 10 years, 5 years and the latest year, is shown in Table 6.



Table 6: Employment and GDP by key sector, Chatham Islands, 2016, %pa change

	Employment				GDP			
	2016	10 yr	5 yr	1 yr	2016	10 yr	5 yr	1 yr
	Filled jobs	%pa			2010, \$m	%pa		
Farming	62	-4.3%	2.1%	-13.9%	4.77	-3.6%	8.6%	-9.0%
Fishing	135	0.5%	-1.4%	10.7%	18.56	-2.4%	0.9%	11.1%
Tourism	38	5.2%	3.7%	23.5%	2.03	3.6%	5.4%	20.5%
Transportation	40	0.4%	4.7%	33.8%	4.35	2.3%	6.4%	55.9%
Government & Public Services	91	3.7%	3.4%	26.4%	6.90	5.5%	5.6%	49.5%
Other	83	2.7%	5.6%	-12.8%	10.41	1.4%	1.4%	-20.8%
Total*	448	0.8%	2.1%	6.4%	47.01	-0.3%	2.9%	6.4%

Source: Infometrics Regional Database, MartinJenkins

The fishing sector is the major industry on the Chatham Islands, providing 135 jobs and generating \$18.5 million in GDP in 2016. The sector grew significantly in the last year, with both employment and GDP growth of about 11 percent. Over the longer term employment has been steady but GDP has been declining.

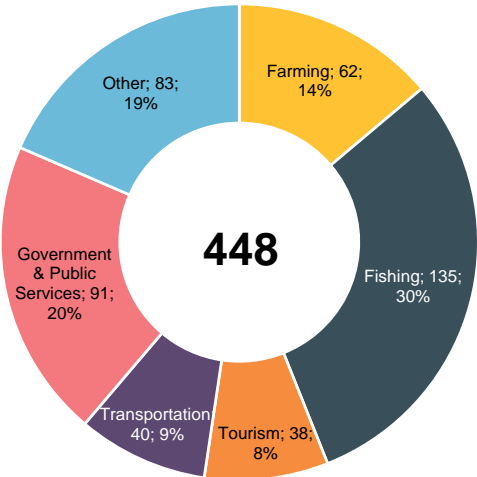
Farming provided 62 jobs and generated \$4.8 million in GDP in 2016. Over the long term both GDP and employment have contracted, although this is largely due to a decline between 2006 and 2011. Both GDP and employment have grown over the medium term, especially GDP.

Tourism employed 38 people and contributed \$2 million to the Chatham Islands economy in 2016. The sector experienced substantial growth over the last year, with GDP and employment growth of over 20 percent. The sector has grown steadily over the last 10 years.

The shares of total employment and GDP for each sector are shown in Figure 18 and Figure 19.

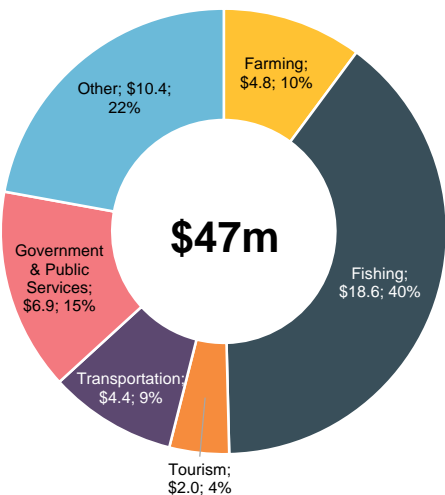


Figure 18: Filled jobs by key sector, Chatham Islands, 2016



Source: Infometrics

Figure 19: Real GDP by key sector, Chatham Islands, 2016



Source: Infometrics

The fishing sector accounts for a third of the employment on the Chatham Islands. Government and public services is the next largest, providing 20 percent of total jobs. 62 people are employed in the farming sector and 38 in tourism.

In terms of GDP, the fishing sector contributed 40 percent of total GDP in 2016, compared with 33 percent in 2013 (Figure 20). Government and public services contributed 15 percent, farming 10 percent and transportation 9 percent. The “other” category, which includes electricity and gas supply, finance, and arts and recreation services contributes 22 percent of GDP in the Chatham Islands.



Fishing

Fishing is the major industry in the Chatham Islands. It includes the fishing and aquaculture, seafood processing, and agriculture, forestry & fishing support services and hunting sub-industries.

The main quota species fished are rock lobster, pāua and blue cod. Other species fished include kina and hāpuka (groper).

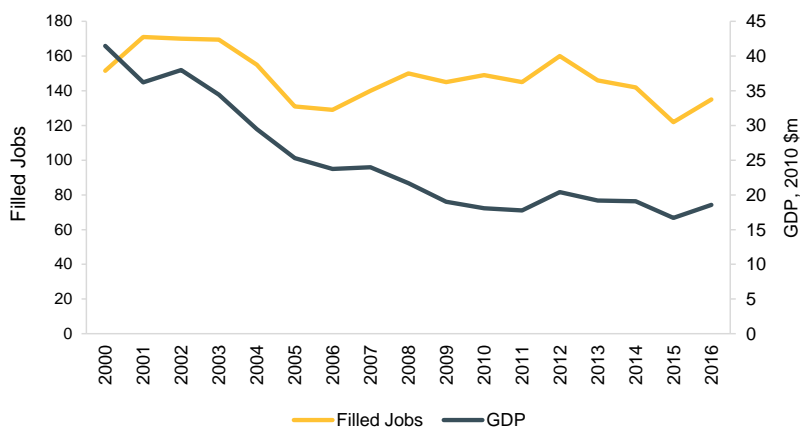
Lobster is exported live, while pāua is shucked and frozen and then exported to Christchurch for canning. Blue cod is either filleted and frozen and sent to the mainland, or gutted and chilled and sent direct to export markets in Australia (Chatham Islands Food Company).

There are seafood processing facilities at Waitangi (Aotearoa Fisheries Limited), Te One and Port Hutt (Waitangi Seafoods), and Owenga (Chatham Islands Food Company).

Employment in the fishing sector declined 1.4 percent each year over the last 5 years reaching a low of 122 jobs, but grew by 11.1 percent in the last year to 135 filled jobs (Figure 20).

While GDP steadily declined between 2000 and 2009, it has since levelled and was \$18.6 million in 2016. The decline in GDP is consistent with the industry nationally, where productivity in the fishing and aquaculture industry has more than halved since 2000 – dropping from close to \$94,000 per FTE, to \$43,000 per FTE.

Figure 20: Fishing sector employment and GDP, Chatham Islands (2000–2016)

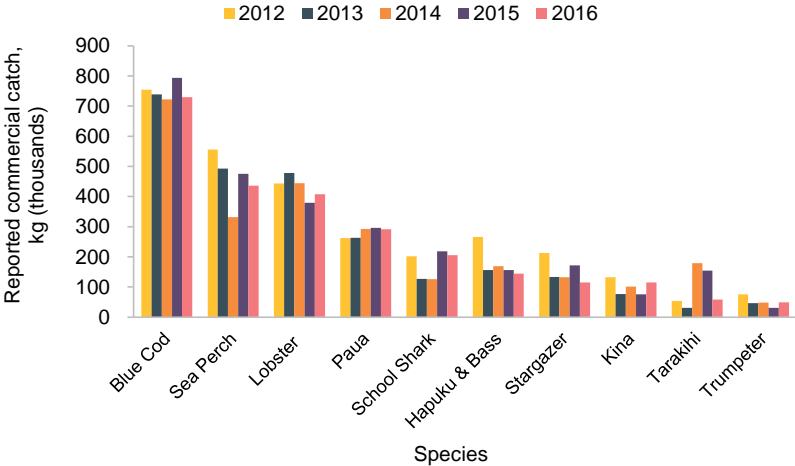


Source: Infometrics

Figure 21 shows fish caught commercially in the Chatham Islands region (FMA 4) over the last five years. In 2016, the blue cod catch was 96 percent of the Total Allowable Commercial Catch (TACC), and the lobster catch was 103 percent. The pāua catch was 89 percent of the TACC limit, while kina harvested was about half of that allowed.



Figure 21: Commercial catch in the FMA 4 region by species



Source: Ministry for Primary Industries

In 2016, fishing accounted for 30 percent of employment and 40 percent of GDP on the Chatham Islands.

Also in 2016, approximately 20% of the Island owned deep sea quota was landed back on the Chatham’s for processing and exporting. Although still in their early stages, there are negotiations between key quota holders and a local processor to land all of the deep sea quota species back on Island for processing. If this is successful it will have a further significant positive impact on both the employment and GDP fishing statistics that will flow through to the overall annualised figures.

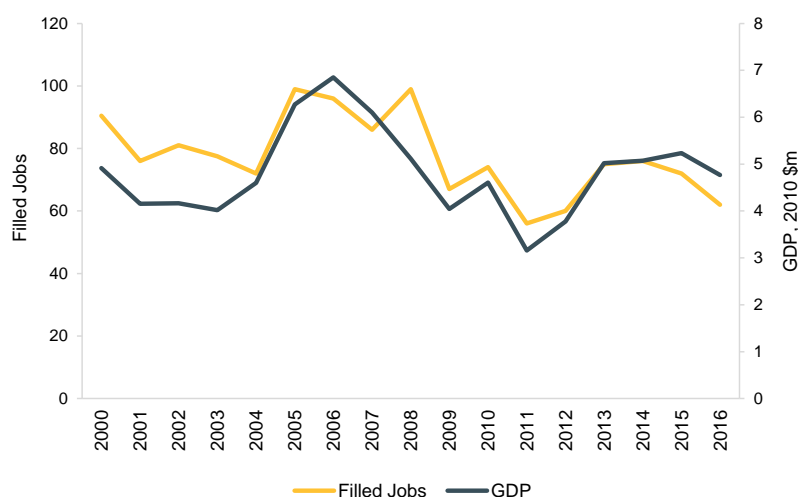


Farming

Employment in the farming sector fell over the last 2 years to 62 filled jobs, however when viewed over the last 5 years it has grown by an average of 2.1 percent per annum. GDP has shown strong growth of 8.6 percent per annum over the last 5 years, but also decreased slightly between 2015 and 2016 to \$4.8 million, as shown in Figure 22. Over the last 10 years employment has declined by 4.3 percent per annum and GDP by 3.6 percent per annum.

Farming has been calculated in the analysis as all of horticulture and fruit growing, sheep, beef cattle and grain farming and half of agriculture, forestry and fishing support services & hunting. In relation to GDP, we have assumed that farming in the Chatham Islands is 0.75 times as productive as farming in Canterbury. This is due to the lower investment in land and stocking rates.

Figure 22: Farming sector employment and GDP, Chatham Islands (2000-2016)



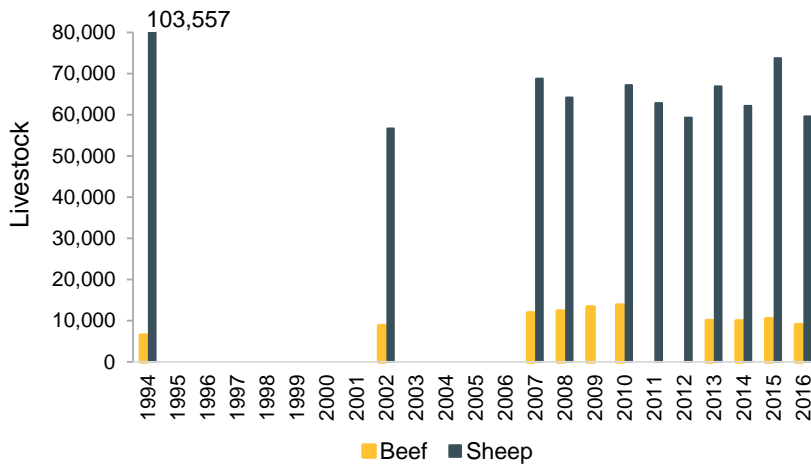
Source: Infometrics

According to the Agriculture Production Survey, the number of sheep farmed on the Chatham Islands has fluctuated, increasing from 67,300 in 2007 to a peak of 73,800 in 2015, before falling 19 percent to 59,600 in 2016. This is well down on the 103,600 sheep farmed in 1994.

The number of beef cattle remained relatively constant around 10,000 over the last 4 years, but fell 14 percent to 9,050 in 2016. Livestock numbers (sheep and beef cattle) between 1994 and 2016 are shown in Figure 23.



Figure 23: Livestock numbers, Chatham Islands (1994-2016)



Source: Statistics New Zealand, Agricultural production surveys

Between 2002 and 2016, sheep numbers in the Chatham Islands increased by 5 percent and the number of beef cattle increased by 2 percent as shown in Figure 24 and Figure 25.

Figure 24: Beef cattle trend, 2002-2016 (Indexed, 2002 = 100)

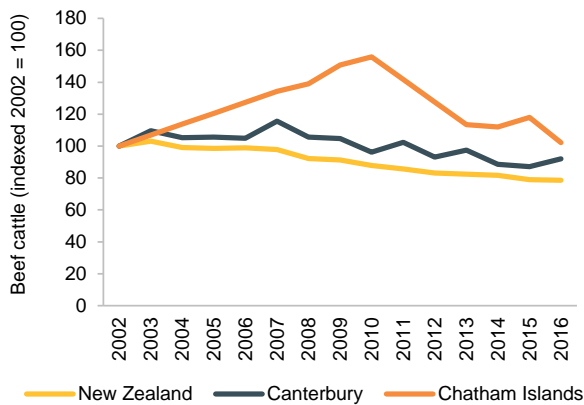
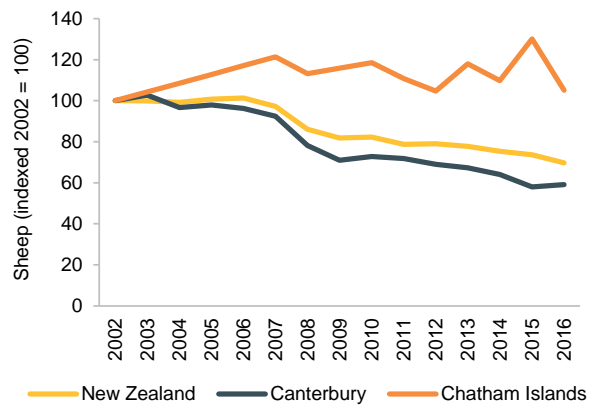


Figure 25: Sheep trend, 2002-2016 (Indexed, 2002 = 100)



Source: Statistics New Zealand, Agricultural production surveys

In 2016, farming accounted for 14 percent of employment and 10 percent of GDP on the Chatham Islands. Export price is a major factor in determining employment and GDP in the livestock sector.

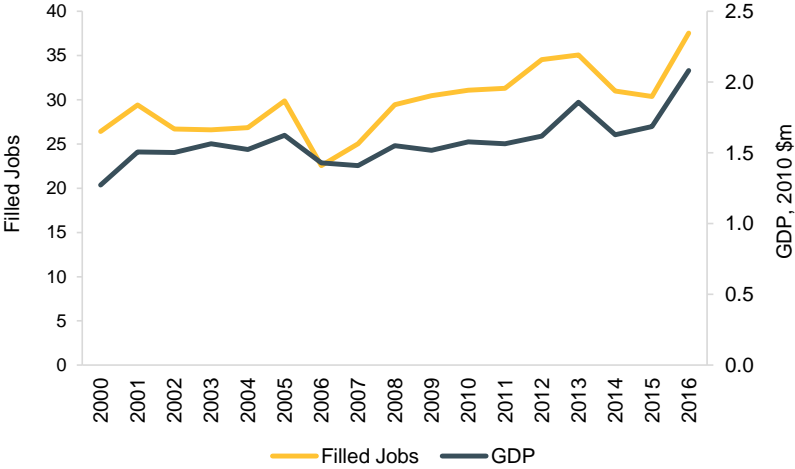
Export price is a major factor in determining employment and GDP in the livestock sector. On the Chatham Islands, the inconsistency and uncertainty of transportation has also impacted the sector's performance.



Visitors

Employment and GDP in the tourism sector have both increased relatively steadily over the last 10 years with filled jobs growing by 5.2 percent per annum and GDP growth of 3.6 percent per annum. Both jobs and GDP increased significantly in the last year, growing by 23 percent to 38 jobs and 20 percent to \$2 million, respectively.

Figure 26: Tourism sector employment and GDP, Chatham Islands (2000-2016)

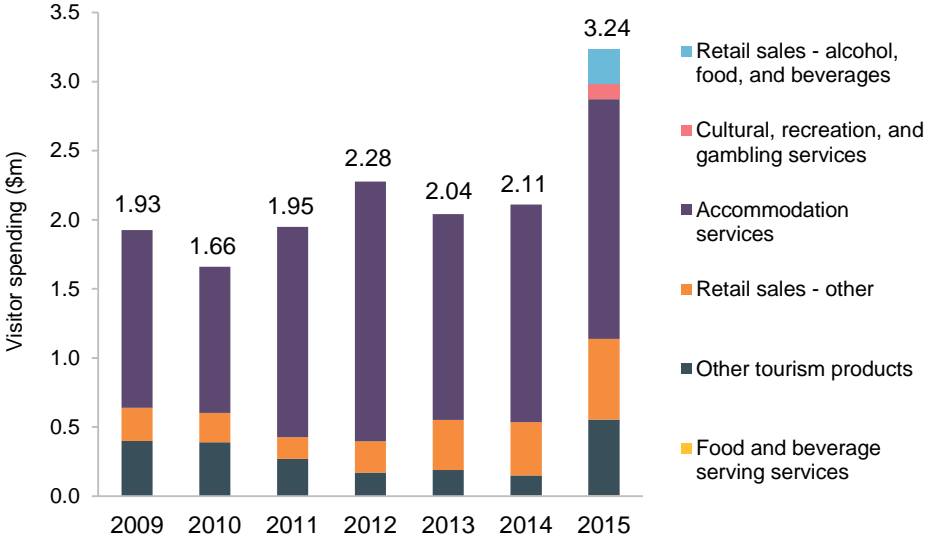


Source: Infometrics

Visitor spending increased by more than 50 percent in 2015 from \$2.11 million to \$3.24 million (Figure 27). 2015 is the first year MBIE’s regional tourism estimate has reported alcohol, food and beverage sales, and cultural, recreation and gambling services spending separately. Total visitor spending has grown 14.3 percent per annum over the last 5 years.



Figure 27: Visitor spending, Chatham Islands (2009–2015)



Source: MBIE Regional Tourism Estimates

In 2016, the tourism sector accounted for 8 percent of employment and 4 percent of GDP on the Chatham Islands.



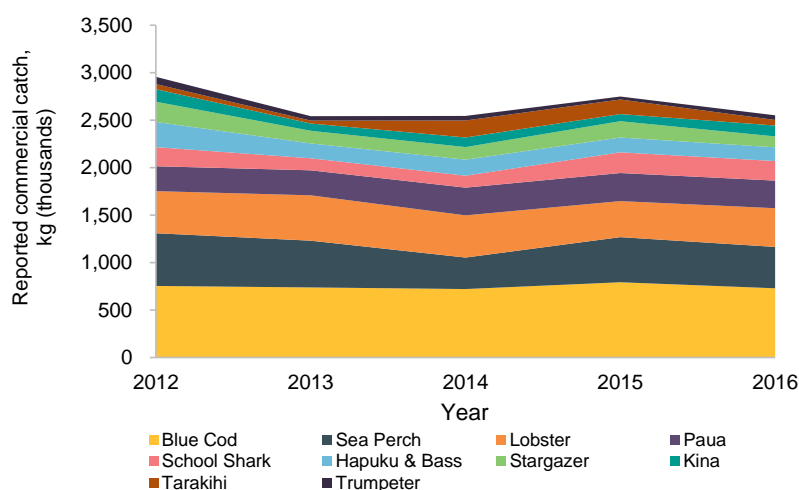
Exports

The majority of production or sales in fishing, farming and tourism²⁵ can be considered exports.

In 2009, the value of fishery exports was \$34.5 million. This was made up of \$17.5 million in lobster and \$15.8 million in pāua. Wet fish species accounted for the remaining \$1.6 million.²⁶

In 2013, we estimated the value of fishery exports was between \$44 and \$62 million²⁷, based on reported catch and export prices. Although we have not calculated the value of fishery exports in 2016, Figure 28 shows commercial catch volumes in the Chatham Islands (FMA 4) region were similar to the volumes caught in 2013.

Figure 28: Commercial catch in the FMA 4 region, 2012-2016



Source: Ministry for Primary Industries

Farming exports are made up of live sheep and beef cattle, as well as wool. It was estimated about 30,000 lambs, 5,000 ewes, 10,000 cattle and 2,000 bales of wool were exported from the Chatham Islands in 2013. Assuming an average price per lamb of \$107, a head of cattle at \$502, and wool at \$700 a bale, farming exports totalled \$9.7 million in 2013. In 2016, it is estimated that export volumes were down, with around 28,000 lambs and 3,500 cattle exported.

²⁵ Although from a national perspective, if the visitors are from New Zealand then it is simply a transfer (unless those visitors would have otherwise gone offshore for a visit).

²⁶ Downloaded from the Ministry for Primary Industries at <http://fs.fish.govt.nz/Page.aspx?pk=41&tk=263&ey=2009> on 26 November 2014.

²⁷ (MartinJenkins, 2014)



Tourism is a small but growing industry. Data on visitor numbers to the Chatham Islands is not officially collected, but estimates range from 1,000 to 2,000 visitors per year. The Taylor Baines 2008 report stated that organised visitor numbers provided by the Chatham Island Hotel were 1,500 in 2007.²⁸ Discussions with Air Chathams suggested that the current visitor numbers arriving by air is around 1,000. However, discussion with accommodation operators suggest that occupancy rates are very high and the number could be closer to 2,000. This is consistent with MBIE data on visitor expenditure, which suggests that visitors to the Island spent around \$3.2 million in 2015²⁹, up from \$2.1 million the previous year.

Table 7 shows the estimated 2013 export value of each of these three main industries.

Table 7: Chatham Islands exports, 2013

Industry	Value, 2013
Fishing	\$57.1 million
Farming	\$ 9.7 million
Tourism (2015 estimate)	\$ 3.2 million
Total exports	\$70.0 million

Source: Fishery, MBIE, Chatham Islands Council Administrative Data

Based on our discussions with the sector we expect that fishing exports are up due to more processing on island, and farming exports are down due to lower volumes, particularly cattle.

It is also important to note that there is extra value added to farming and fishing output once it arrives on the New Zealand mainland. Cattle and sheep are exported live from the Chathams and are further processed, while pāua is processed and canned for export markets.

²⁸ (Taylor Baines & Associates, 2008)

²⁹ MBIE Regional Tourism Estimates.



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