Time and tide: moving towards an understanding of temporal population changes in coastal Australia

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Introduction

This Report is about measuring temporary populations, in contrast to the permanent population measured by the Census undertaken by the Australian Bureau of Statistics (ABS) every five years. In particular, its main aim is to quantify the temporary populations associated with holiday homes along the Australian coastline, situated in so called sea change localities, defined generally as those areas becoming increasingly popular as retirement centres for baby boomers in particular. As well, the Report undertakes an extensive analysis of data collected by the regular Survey of Tourist Accommodation (STA) also undertaken by the ABS to determine the impact of tourist accommodation in sea change local government areas on their temporary population. Temporary populations are on the rise worldwide. They have both spatial (they have different dimensions in different locations) and temporal (they vary from time to time) components.

Holiday homes are a powerful source of temporary populations because of their occasional use, and the size of this population is largely unmeasured because a large proportion of them are unoccupied at the time of the Australian Census.

In the Local Government Authorities (LGAs) on which this report is based[1], the proportion of unoccupied dwellings in 2006 was 9.8 percent, but this level rose to 10.2 percent at the 2011 Census. There is wide variation between LGAs, generally depending on their winter climate. So, in Cairns the proportion of unoccupied dwellings in 2011 was 10.1 percent, while for the Surf Coast in Victoria it was 42.0 percent.

The survey

The survey results are based on responses from some 2,130 questionnaire returns from 9,000 sampled non resident owners in the following sea change LGAs:

- City of Busselton, WA (Busselton)
- Byron Shire Council NSW (Byron)
- Cairns Regional Council, QLD (Cairns)
- East Gippsland Shire Council VIC (East Gippsland)
- Eurobodalla Shire Council NSW (Eurobodalla)
- City of Mandurah WA (Mandurah)
- Mornington Peninsula Shire VIC (Mornington Peninsula)
- Shoalhaven City Council NSW (Shoalhaven)
- Surf Coast Shire Council VIC (Surf Coast).

[1] Twelve Local Government Authorities (LGAs) were included in the overall research project: Augusta Margaret River Shire Council WA (Augusta Margaret River); City of Busselton, WA (Busselton); Byron Shire Council NSW (Byron); Cairns Regional Council, QLD (Cairns); East Gippsland Shire Council VIC (East Gippsland); Eurobodalla Shire Council, NSW (Eurobodalla); Glenelg Shire Council ,VIC (Glenelg); City of Mandurah WA (Mandurah); Mornington Peninsula Shire, VIC (Mornington Peninsula); Shoalhaven City Council, NSW (Shoalhaven); Sunshine Coast Regional Council, QLD (Sunshine Coast); and Surf Coast Shire Council, VIC (Surf Coast).

The questionnaire provided information on respondents' backgrounds and reasons for buying their property, as well as more critical questions related to their use of it, either for recreation and family use or rental return.

Baby boomers in non resident populations

The age structure of the non resident owners of property in the sea change LGAs surveyed is dominated by baby boomers, aged between 45 and 64 years at the time the survey was conducted in April 2012. It is irrefutable that the baby boomer group has a clear interest in sea change locations. The survey has found that, at the aggregate level, around 30 percent of households intend moving permanently to the coastal property that is currently not their place of residence. This is therefore a significant determinant of internal migration in Australia.

Based on owners usage of their non-resident property, as reported in the survey responses, it is reasonable to assume that many of these properties can be referred to as holiday homes

Baby boomers are the standout dominant group of non resident property owners who intend to move permanently to their holiday home. Mobility among these owners in sea change LGAs will be all about the baby boomers. For example, of those who intend to move permanently to their property within two years, 60 percent are baby boomers. In the group expecting to move between two and five years from now, the baby boomer group is 67.1 percent, while among those expecting to move between five and ten years from the present, the proportion of baby boomers is 59.6 percent. Most of these are planning to move between two and five years from now, that is between 2012 and 2017. Based on this, it is expected that the movement of baby boomers to coastal locations, in significant numbers, is a process that will continue for the next 20 years.

The baby boomer group will have a significant impact on the age structure of sea change LGAs, creating significant challenges for local government to provide for both the new demands the group will make on service provision and to harness the talent that increased numbers of baby boomers will bring to these areas. As a corollary of this, the impact on educational infrastructure of children moving into sea change LGAs with parents will be minuscule. Most people surveyed who stated they will be moving to these areas will be "empty nesters", whose children have completed schooling, left home and become independent.

In terms of talent, the non resident owner population surveyed has significantly higher levels of employment in managerial and professional occupations than occur in the total population of the sample - the proportion of non resident owner population in managerial occupations is just over twice the level prevailing in the total population, while for professional occupations, the level in the non resident population is around 1.7 times greater than the level in the total population. Further, the proportion of non resident owners earning more than $104,000 per annum is between two and four times greater than for the total population in the participating LGAs. Importantly, this applies to all family groups, with the exception of lone person households. Should these people move permanently to sea change locations, they are likely to bring with them significant spending power.

Estimating the size of temporary populations

One of the key tasks of the Report was to make some estimation of the numbers of additional non residents who may be in the locality from time to time during the year, in the course of them using their property, either personally or through rental to third parties.

At the aggregate level, 95.7 percent of non resident holiday home owners were not at their sea change LGA on the night of the 2011 Census. The Report developed a methodology to identify non resident properties that would have been rented out on Census night, and whose tenants should therefore have been counted in the Census. Allowing for this, the survey indicated that at the aggregate level two thirds of non resident properties would have been unoccupied on the night of the Census. At the individual LGA level, the proportion of unoccupied non resident owned dwellings was between 10 (Cairns) and 86 percent (Surf Coast).

The survey results revealed that, at the aggregate level, every 1,000 properties owned by non-resident respondents generated a temporary population of 1,555 persons. In Shoalhaven and Surf Coast, every 1,000 holiday homes generated a temporary population of more than 2,000 persons. If these levels are applied to all LGAs along the Australian coast, the size of the temporary population becomes substantial.

These levels of absenteeism on Census night underscores a substantial temporal population that comes to the LGA and uses its services on a regular basis throughout the year. On this issue, the survey computed that if all properties had been occupied on the night of the Census then individual LGAs' population would have increased by nearly 26,000 in Mornington Peninsula, 15,000 in Cairns, nearly 12,000 in Shoalhaven and 10,200 in Mandurah. These are estimates of the "missing" population, missed on Census night because they were not in residence at their property.

When these numbers are expressed as a percentage of the actual Census count for each LGA, the results are instructive. For example, the "missing" population in Surf Coast was 23.1 percent of the population resident on Census night and in Eurobodalla is was 20.1 percent. High levels also prevailed in Mornington Peninsula (17.9 percent), Busselton (17.5) and Mandurah (14.6).

Usage patterns of non resident properties by owners and their family and friends are generally similar in all sea change LGAs. The main features are high usage between November and April. Byron is, however, tri-modal, with peaks in April, July and January each year, while Cairns is the opposite to the southern sea change localities. On the other hand, rental usage has several distinctive patterns - constant in the warmer LGAs, while the colder LGAs have flat rental use in the winter, and peaks in the summer holiday period.

The report undertook a comprehensive analysis of data collected by the ABS's STA. It provides information on tourist use of hotels, motels, apartments, caravan parks and rental holiday houses in the selected sea change LGAs.

The analysis of STA data was able to compute the combined impact of the three discrete tourist accommodation types on population in each of the selected LGAs. The main conclusion is that tourist accommodation generates large numbers of additional population in most of the LGAs under review. The largest levels of 13,378 and more than 9,000 were reported for Cairns and Shoalhaven respectively, while temporal populations greater than 3,000 were produced in Eurobodalla, East Gippsland and Mornington Peninsula, and nearly 3,000 in Busselton.

These temporary populations, generated by tourism in each of the sea change LGAs, represent significant additional numbers to the population counted at the Census. At the aggregate level, tourist numbers were 7.5 percent of the 2011 population in the selected LGAs. Highest levels were greater than 11 percent in Eurobodalla, Shoalhaven and Surf Coast, and 10.3 percent in Busselton.

These levels of temporary population need to be added to the "missing" population not in their holiday homes on Census night. Together, the estimates indicate the magnitude of persons who use the services and facilities made available by sea change LGAs, in addition to the resident population counted on census night. These numbers are estimates of how much the resident population would have increased were all of the temporary population resident on the night of the Census (as indicated below) and do not include day trippers and people who stay with relatives and friends when in coastal communities.

LGA	Combined Estimated Population of unoccupied dwelling and tourists	Combined Estimated Population as a percentage of population at 2011 Census
Busselton	8,429	27.8
Byron	5,254	18.0
Cairns	28,655	18.3
East Gippsland	8,595	20.4
Eurobodalla	11,296	31.6
Mandurah	11,971	17.1
Mornington Peninsula	30,391	21.0
Shoalhaven	22,721	24.5
Surf Coast	8,848	34.2

Hotel, motel and apartment accommodation generate the largest additional populations in Cairns, Sunshine Coast and Busselton. Additional populations generated by caravan parks are largest in Shoalhaven, which recorded levels nearly 2.5 times greater than the next ranked Sunshine Coast.

In Eurobodalla, Shoalhaven, East Gippsland, Surf Coast, Mornington Peninsula and Mandurah, caravan parks had a greater impact on additional population than did the other types of tourist accommodation. Clearly, caravan parks are a substantial form of tourist accommodation for tourists and therefore have a powerful influence in generating additional population in areas where they are located along Australia's coastline

Alternative approaches to measuring temporary populations

While reiterating that Census counts must remain the "gold standard" in defining population, some alternatives methodologies for estimating temporary populations that change according to time of day, time of week and time of year are considered. Populations defined in the Report, and by other alternative population measures, are needed to better inform policy related to provision of services such as health, education, infrastructure, policing, rubbish collection and housing.

There are two approaches available - *direct* estimates which seek to obtain a measure of the numbers of people temporarily in an area at a particular time, and *indirect* which uses the population at the census as a base and obtains information on some variable which is influenced by population size. Then, by calculating an algorithm between the size of population and size of the variable, changes in the variable can be used to estimate the size of the total population including temporary residents. The findings in this Report are an example of the direct approach.

The Report has examined a number of "symptomatic" data sources which reflect seasonal variations in population in sea change localities. The ubiquity of mobile phones and the geographical specificity of the data on origins and destinations of calls open up the opportunity of obtaining very detailed information on day to day and week to week variations in the number of calls originating and coming in to sea change localities. While this

information was not made available to the project, it is argued that this source has more potential than any other indirect method for measuring seasonal variations in population.

That said, waste water treatment data provides the next best indirect alternative for measuring temporary populations. Applying an algorithm to Australian coastal communities is becoming increasingly possible as local government takes control of waste water treatment and regular monitoring and data collection is increased. Rubbish collection and recycling is another activity generally undertaken by local government, which is symptomatically related to population, and for which increasingly detailed data are collected. These data could be used with success at some future point to provide estimates of temporary populations.

Electricity consumption is also influenced by population, and its daily use has considerable potential to be incorporated into a methodology designed to estimate daily population levels.

Summary and recommendations

Sea change areas arguably experience the largest seasonal fluctuations in population of any areas in Australia. In southern Australia, especially, the Census is taken at a time which is the extreme trough of those variations. Accordingly, in the interests of equity it is important to have a measure of the size of temporary residents in order to better plan the provision of utilities, infrastructure and services in those areas.

The Report is not in a position to recommend any single methodology. While again reiterating that Census counts must remain the "gold standard" in defining population, the principal conclusion is that the ABS should undertake a study to develop a robust, meaningful and nationally applicable measure of temporary populations, at least at the LGA level. Specifically, the Report recommends:

- The establishment of an investigation of the potential for adding to the Census question on usual residence. There should be a question which asks whether a family member owns, or is purchasing, a dwelling or dwellings other than that which is the usual place of residence, and in which they spent a significant period during the last year. The location of that place needs also to be identified. This would allow a clear indication of not only temporary migration to sea change areas for leisure but other important temporary moves for work and other reasons. This would be a clear recognition that many Australians now have multiple places of residence and there is a need to supplement the usual place of residence concept which is basic to our Census enumeration.
- The ABS should develop the concept of there being multiple population geographies in Australia. In assigning population to various ASGS spatial units we need to recognise that there are criteria, other than the currently used 'usual place of residence', which need to be considered. These include:
    - Day time/night time populations. The Journey to Work question currently used in the Census can be used to derive this.
    - Temporary resident populations comprising people permanently resident elsewhere who spend a significant time at another location.
- The ABS should build on the work presented here to develop a robust mathematical measure using telephone traffic data to provide census based estimates of seasonal variations in population at the LGA level.

CHAPTER 1. THE INCREASING SIGNIFICANCE OF TEMPORARY POPULATIONS

1.1 INTRODUCTION

This report has its roots in a presentation by Professor Graeme Hugo to the Australian Coastal Councils Conference in March 2011[2]. Following this presentation, Professor Hugo prepared a proposal for the National Sea Change Taskforce to investigate some new concepts which might define and anticipate change in coastal areas in Australia[3]. By November 2011 a proposal for research had been finalised between the National Sea Change Taskforce and the Australian Population and Migration Research Centre (APMRC) to undertake the following:

- Analyse different concepts of population in countries around the world especially those which seek to include temporary populations.
- Develop and assess a number of potential methodologies for measuring non-standard populations other than usual resident populations, especially in coastal areas.
- Conduct a survey of selected coastal local government areas to ascertain the scale and nature of "temporary" populations, as well as to investigate their characteristics, intentions, behaviour and use of local services.
- Investigate the extent to which existing data collections (e.g. tourism, traffic counts, second homes) can be utilised to gain an estimate of temporary populations.

The National Sea Change Taskforce acted on behalf of 12 Local Government Authorities (LGAs) included in the overall research project:

- Augusta Margaret River Shire Council, WA (Augusta Margaret River)
- City of Busselton, WA (Busselton);
- Byron Shire Council, NSW (Byron)
- Cairns Regional Council, QLD (Cairns)
- East Gippsland Shire Council, VIC (East Gippsland)
- Eurobodalla Shire Council, NSW (Eurobodalla)
- Glenelg Shire Council, VIC (Glenelg)
- City of Mandurah, WA (Mandurah)
- Mornington Peninsula Shire, VIC (Mornington Peninsula)
- Shoalhaven City Council, NSW (Shoalhaven)
- Sunshine Coast Regional Council, QLD (Sunshine Coast)
- Surf Coast Shire Council, VIC (Surf Coast).

1.2 CHALLENGING THE CONCEPTUAL BASIS OF CENSUS COUNTS

Essentially, this Report is one into measuring temporary populations, caused by temporary mobility, in contrast to the population measured by the *Census of Population and Housing*

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[2] Graeme Hugo, "Population Change in Non-Metropolitan Coastal Areas: Challenges and Opportunities", presented to Australian Coastal Councils Conference on Speaking Out for Coastal Regions, Torquay, Victoria, 28-31 March 2011

[3] Graeme Hugo, "An investigation into new concepts of defining and anticipating changes in area populations in Australia: a proposal", April 2011.

(Census) conducted nationally by the Australian Bureau of Statistics (ABS) every five years. One of the most basic characteristics of Censuses is that they assign people to a particular point on the Earth's surface – their usual place of residence. However, in the contemporary world of high personal mobility people spend considerable amounts of time at locations other than their usual residence. It is important, then, to be able to relate population counts to a range of places and to raise the question of whether a range of population geographies can be used in Censuses.

One obvious distinction that can be drawn is between daytime and night-time populations. These can be presently distinguished using standard Census journey-to-work questions, but apart from this virtually all data from censuses are made available only for night-time populations. But we need to ask why shouldn't the Census also provide insights into other important journeys such as journeys to school, to shops, and for recreation? Additional data such as this from the Census would allow for an assessment of the ***actual*** populations of cities, regions and countries, not just the more or less permanent residents of those spaces – the traditional basis on which censuses have been conducted and analysed. In an increasingly mobile world it is essential that we recognise that the populations of many places vary between day and night, between seasons and between workdays and weekends and for us to be able to identify and analyse those different populations.

The key issue is that the population of many parts of Australia varies substantially according to the time of day, time of week and time of year so the question needs to be asked whether we can take a snapshot of these different populations as well as the "permanent" population captured in Census. For many parts of Australia there is a difference between the "permanent" residents who are captured on the night of the Census in August (that is, mid week and in winter) every five years and "temporary" residents who are in the area at other times. One of the key aims of this Report is to provide some insights into the temporary populations in a number of coastal LGAs scattered along the Australian coastline, with an emphasis on the magnitude of temporary mobility in these areas caused by ownership of second, or holiday, homes by non residents.

1.3 DEFINING TEMPORARY MOBILITY IN AUSTRALIA

Temporary mobility in Australia, and in many parts of the world, is on the rise. It is increasing because of a reduction in the time and money costs of travelling as well as structural changes in the way economic activity is organised. This has allowed a reduction in the traditional bond restricting one's place of residence to be close to one's place of work and allowed people to range more widely in their work, social and recreational activity. One clear indication of this in Australia is in the population Census. In 2006, nearly one million Australians (925,743) were away from their home on the night of the Census. By 2011, however, this number had increased by 10.8 percent to 1,026,986. In Table 1.1, data from the 2006 Census are presented to show the number of persons in selected LGAs who were away from their usual place of residence on the night of the Census. These are temporary migrants, absent from home for a range of reasons associated with work or pleasure.

We can identify the following patterns in these 20 LGAs which underlie their large temporary populations in 2006.

- Alpine resort areas which have an influx of holiday makers during the winter season.
- Dominant are mining locations where the phenomenon of fly in fly out work was well established in 2006.

- Locations with defence force installations which also have substantial mobility in their populations.
- Some coastal resort areas which experience an influx of holiday makers from the south during winter. This includes several localities which have a significant influx of "grey nomads" from the south during winter.

Table 1.1: Persons away from home, Census 2006, selected LGAs

Local Government Area	At home	Elsewhere in Australia	Overseas visitor	Total	At home	Elsewhere in Australia	Overseas visitor	Total
	Top 20 in Australia							
	Number				Percent			
Snowy River	6762	12135	494	19391	34.9	62.6	2.5	100.0
Wiluna	599	1014	20	1633	36.7	62.1	1.2	100.0
Laverton	661	1068	9	1738	38.0	61.4	0.5	100.0
Burke	433	715	21	1169	37.0	61.2	1.8	100.0
Mataranka	230	370	23	623	36.9	59.4	3.7	100.0
Yalgoo	196	263	8	467	42.0	56.3	1.7	100.0
Shark Bay	755	1093	193	2041	37.0	53.6	9.5	100.0
Exmouth	1893	2185	144	4222	44.8	51.8	3.4	100.0
Timber Creek	184	201	20	405	45.4	49.6	4.9	100.0
Nebo	2266	2082	17	4365	51.9	47.7	0.4	100.0
Bulloo	322	279	0	601	53.6	46.4	0.0	100.0
Leonora	1267	1063	15	2345	54.0	45.3	0.6	100.0
Upper Gascoyne	267	229	11	507	52.7	45.2	2.2	100.0
Etheridge	752	675	72	1499	50.2	45.0	4.8	100.0
Murchison	103	82	0	185	55.7	44.3	0.0	100.0
East Pilbara	5940	4696	79	10715	55.4	43.8	0.7	100.0
Carpentaria	1805	1343	41	3189	56.6	42.1	1.3	100.0
Sandstone	105	74	0	179	58.7	41.3	0.0	100.0
Meekatharra	1006	708	21	1735	58.0	40.8	1.2	100.0
Dundas	957	674	27	1658	57.7	40.7	1.6	100.0
	Sea change local government areas							
	Number				Percent			
Cairns Regional Council	130406	20082	14526	165014	79.0	12.2	8.8	100.0
Augusta-Margaret River	9301	1091	283	10675	87.1	10.2	2.7	100.0
Sunshine Coast Regional Council	262197	25009	6696	293902	89.2	8.5	2.3	100.0
Byron	26891	2529	905	30325	88.7	8.3	3.0	100.0
Busselton	23205	1567	297	25069	92.6	6.3	1.2	100.0
Eurobodalla	32382	2161	119	34662	93.4	6.2	0.3	100.0
East Gippsland	36934	2288	103	39325	93.9	5.8	0.3	100.0
Surf Coast	20025	956	136	21117	94.8	4.5	0.6	100.0
Glenelg	18463	833	65	19361	95.4	4.3	0.3	100.0
Shoalhaven	82943	3704	236	86883	95.5	4.3	0.3	100.0
Mandurah	51639	1916	224	53779	96.0	3.6	0.4	100.0
Mornington Peninsula	127494	4137	430	132061	96.5	3.1	0.3	100.0

Table 1.1 also provides the same information for the sea change communities investigated in the present study. In these the proportions of persons who were away from home on Census night was relatively low, compared with the top twenty. Only Cairns and Augusta-Margaret River had more than ten percent of all persons in the LGA being away from home. Less than five percent of the population were away from home on the night of the Census in Surf Coast, Glenelg, Shoalhaven, Mandurah and Mornington Peninsula. In these areas, located in the south of the continent which typically experiences cold and wet weather in August, at the time the Census is taken, why would people be there for leisure reasons? Had the Census been taken in January, and other holiday periods, it is expected these LGAs would report a

much greater temporary population, away from home enjoying holiday time at the particular coastal location.

The same data for the 2011 Census are shown in Table 1.2.

Table 1.2: Persons away from home, Census 2011, selected LGAs

Local Government Area	At home	Elsewhere in Australia	Overseas visitor 2011	Total	At home	Elsewhere in Australia	Overseas visitor 2011	Total
	Top 20 in Australia							
	Number				Percent			
Burke	466	911	12	1389	33.5	65.6	0.9	100.0
Snowy River	6967	11579	464	19010	36.6	60.9	2.4	100.0
Shark Bay	759	1205	185	2149	35.3	56.1	8.6	100.0
Exmouth	2148	2455	139	4742	45.3	51.8	2.9	100.0
Diamantina	245	275	14	534	45.9	51.5	2.6	100.0
Bulloo	354	349	11	714	49.6	48.9	1.5	100.0
Etheridge	786	763	65	1614	48.7	47.3	4.0	100.0
Wiluna	1090	907	20	2017	54.0	45.0	1.0	100.0
Leonora	2397	1928	21	4346	55.2	44.4	0.5	100.0
Yalgoo	381	308	10	699	54.5	44.1	1.4	100.0
Laverton	1151	919	19	2089	55.1	44.0	0.9	100.0
McKinlay	933	744	30	1707	54.7	43.6	1.8	100.0
Cue	247	182	5	434	56.9	41.9	1.2	100.0
Sandstone	94	70	4	168	56.0	41.7	2.4	100.0
Carpentaria	1835	1280	29	3144	58.4	40.7	0.9	100.0
Barcoo	305	195	7	507	60.2	38.5	1.4	100.0
Ashburton	9133	5749	174	15056	60.7	38.2	1.2	100.0
Wyndham-East Kimberley	6966	4548	402	11916	58.5	38.2	3.4	100.0
Isaac	21011	12834	195	34040	61.7	37.7	0.6	100.0
Carnarvon	5311	3320	226	8857	60.0	37.5	2.6	100.0
	Sea change local government areas							
	Number				Percent			
Cairns	147795	21669	11105	180569	81.8	12.0	6.2	100.0
Augusta-Margaret River	10527	1060	262	11849	88.8	8.9	2.2	100.0
Byron	27310	2683	971	30964	88.2	8.7	3.1	100.0
Sunshine Coast	289638	23152	6304	319094	90.8	7.3	2.0	100.0
East Gippsland	38848	2748	149	41745	93.1	6.6	0.4	100.0
Busselton	27649	1911	271	29831	92.7	6.4	0.9	100.0
Eurobodalla	33088	2249	138	35475	93.3	6.3	0.4	100.0
Surf Coast	23773	1429	160	25362	93.7	5.6	0.6	100.0
Shoalhaven	86788	4072	257	91117	95.2	4.5	0.3	100.0
Glenelg	18205	771	54	19030	95.7	4.1	0.3	100.0
Mandurah	64460	2427	340	67227	95.9	3.6	0.5	100.0
Mornington Peninsula	135422	4690	536	140648	96.3	3.3	0.4	100.0

Data Source: 2011 Census of Population and Housing

Table generated using ABS TableBuilder

In 2011 eleven of the top 20 LGAs from 2006 remain in the top 20. The highest proportion of persons whose residence was elsewhere was in Burke (65.6 percent). Snowy River was the only other top 20 LGAs with more than 60 percent of its population usually resident elsewhere. A further three LGAs had more than 50 percent of their populations comprised of persons who usually lived elsewhere. One noticeable trend is the increased number of temporary residents in places like Diamantina and Barcoo which reflects the flooding which occurred in Central Australia and attracted a considerable tourist population. For the sea change LGAs, the range of proportions of persons in the population whose usual residence was elsewhere was similar to that based on the 2006 Census. Within the group there were minor changes in the ranking, but the same LGAs – Cairns, Augusta-Margaret River, Byron and Sunshine Coast – filled the top four positions in 2006 and 2011.

Temporary migrants are people whose move away from their home is not part of a permanent move to a new residence. These moves may be for leisure, recreation or holiday purposes, but can be production oriented around work and business, or consumption oriented, such as short term moves associated with hospitalisation (Bell, 2004, Charles-Edwards, 2011).

Temporary mobility are non permanent moves, which have been defined as moves involving more than one night away from a person's usual residence (Bell, 2004: 1), thus separating this mobility from diurnal mobility associated, for example, with the journey to work, or to school. This type of temporary mobility also needs to be separated from permanent mobility – hence the need for an upper limit. It has been suggested that temporary migration is mobility that is for more than one night, but less than one year (Bell and Ward, 2000; Charles-Edwards, Bell and Brown, 2008). With these provisos, temporary mobility can be seen as the complement of permanent migration (Charles-Edwards, 2011, Zelinsky, 1971)).

There is a long history of development of the concept of temporary migration, especially circular migration which involves people moving away from their usual place of residence for more than a day but keeping their usual place of residence as the base around which they circulate (Hugo, 1975, 1978, 1984).

1.4 SIGNIFICANCE OF TEMPORARY POPULATIONS

Temporary populations have a spatial and temporal component. The impact of temporary populations is not uniformly distributed within Australia. As Table 1.1 has indicated, temporary populations have larger impacts in some areas than in others. Presently in Australia, the preference by mining companies for a fly in fly out workforce has huge implications for the size of temporary populations in certain areas. Further, temporary populations can be seasonal, especially in areas which are holiday destinations at selected times of the year – such as Christmas, Easter, school holidays and the snow season. In 2005, Australians aged 15 years and over took some 69.9 million overnight trips (Charles-Edwards et al, 2008: 22). Further, in any given month at least 23 percent of Australians took an overnight trip. This level rose to 35 percent in January. Temporary populations result in significant fluctuations in local populations over the course of any year. In a press release[4] issued by the National Sea Change Taskforce in February 2012, it was indicated that the permanent population of 30,000 in Bass Shire in Victoria increased to nearly 80,000 in holiday periods and exceeded 100,000 when major events were held at Phillip Island. Similarly, in Shoalhaven on the NSW south coast, the permanent population of 97,000 is estimated to be closer to 300,000 during holiday periods[5]. Many other coastal areas experience similar population increases at weekends and in holiday periods, and these fluctuations can have profound implications for demand for water, energy, sewerage, parking, police, and health services. If these are not provided to accommodate peak populations, then stresses and strains are likely to occur when capacity is stretched. Population increases at certain times, caused by holiday makers, festival participants, "schoolies" can affect the health and character of communities. Where a component of the temporary population is comprised of second home owners it can contribute to house price increases and generate affordability issues for the incumbent population. Most critically, because the non-resident populations are not counted at the Census, councils with a substantial temporary population

[4] Media Release, "New Research Project to Collect Data on Mobile Populations", The National Sea Change Taskforce, 15 February 2012:

[5] In Robinvale, in Victoria, it has been estimated that the LGAs base population of 4,000 permanent residents in 2006 can swell to around 10,000 during peak harvest season. McKenzie, Martin and Paris (2008:58).

receive a smaller share of Financial Assistance Grants than are necessary to meet the infrastructure and services needs of peak holiday and weekend populations.

For a single area there is considerable variation over a year in the population due to:

- Changes in the permanent residents due to people dying, being born, moving in or moving out.
- However, there are also fluctuations due to people moving in and moving out on a temporary basis.

Individual areas vary considerably with respect to both the former and the latter. The former is detailed in standard data collections, but the latter is not. Over a twelve month period there will be considerable variations in the number of people actually in an area using its services because of the diurnal, weekly and seasonal fluctuations in its temporary population. Moreover, areas vary greatly in the extent to which they are subject to these fluctuations so that the extent to which there are diurnal, weekly and seasonal variations in the demand for services in these varies also. However, since most government funding models are linked to the resident population of areas, as counted at the Census, and ignore the size of non-resident populations that are present for extended periods in their areas imposing strains on infrastructure and other services, there has been a call for the size of the non-resident population to be quantified.

1.5 MEASURING TEMPORARY POPULATIONS

Various forms of temporary migration in Australia have been recognised for some time, along with their connections to a range of social and economic activities (Hugo 1986: 116-118). However, to this point the difficulty has been to establish a clearly defined and commonly agreed set of measures to quantify the spatial and temporal dynamics of temporary migration (Bell, 2004:1). The Australian Census throws little light on the space-time aspects of temporary migration. One of the most basic characteristics of censuses is that they assign people to a particular point on the Earth's surface – their usual place of residence. However, the reality is that in the contemporary world of high personal mobility people spend considerable time in several places. It is increasingly important then to recognise that assigning people to their "usual place of residence" on the night of the Census enumeration represents only one of several geographies of population distribution. In this Report we raise the question as to whether we can measure some of these other geographies so that population distributions which reflect the actual number of people in areas at different times can be derived. We need to be able to assess the actual populations of cities, regions and countries, not just the more or less permanent residents of those spaces – the traditional basis on which censuses have been conducted and analysed.

Presently, levels of temporary migration can be gauged partially from a number of data sources. Bell and Ward (1998) have shown how Census data cross tabulating place of enumeration and usual residence can create a unique picture of movement patterns of characteristics of people who were away from home on the night of the Census. While these data provide insights into the spatial dimension of temporary migration at a specific time such as the 2006 Census or the 2011 Census, they add nothing to the temporal dimension which considers movement characteristics of people from one time to another, such as between 2006 and 2011, or 2010 and 2011.

The Census, however, is not only a Census of population but also of housing and data are collected on whether or not a housing unit is occupied or unoccupied on Census night. Of

course, the reasons for being unoccupied are multiple but one such reason is where the house is a second, usually, holiday home. In earlier Census enumerations the probable reasons why a dwelling was unoccupied were designated, but this has been discontinued. Nevertheless, the level of unoccupied private dwellings in any area is potentially an indicator of residences that are used on a temporary basis, possibly as holiday homes. This is especially the case in locations which are well known as resort areas in which there are a large number of holiday homes. Clearly, most such areas are coastal and in these locations holiday homes bring a temporary population into an area on a number of occasions each year. Holiday homes are likely to be used during school holidays, the Christmas holiday season, Easter and for other periods during the year. Because the Census is conducted during winter, in August and mid week, it is likely that the people who use these unoccupied dwellings as holiday homes will not be counted in these dwellings. As a result, there is no statistical indication of the size of the temporary population that lives in these dwellings from time to time during any year. Nevertheless, the number of unoccupied private dwellings on the night of the Census in coastal localities can give an indication of the likely significance of the temporary population that they add to an area's population at various times during the year.

At the 2011 Census, 10.2 percent of Australia's private dwellings were classified as unoccupied, compared with 9.9 percent at the 2006 Census. There was considerable variation between the states, as shown in Table 1.3. Rates above the national average occurred in Victoria, South Australia, Western Australia, Tasmania and the Northern Territory.

Table 1.3: Unoccupied dwellings, States based on SLAs, 2011

State	Occupied private dwellings	Unoccupied private dwellings	Non-private dwellings	Total	Unoccupied private dwellings as percent all private dwellings
NSW	2599218	265304	6984	2871506	9.3
Victoria	2031214	246774	4765	2282753	10.8
Queensland	1648577	177898	5352	1831827	9.7
South Australia	643890	83794	1513	729197	11.5
Western Australia	851401	109325	2459	963185	11.4
Tasmania	199874	32491	754	233119	14.0
NT	72571	8582	705	81858	10.6
ACT	135817	10302	296	146415	7.1
Total	8182562	934470	22828	9139860	10.2

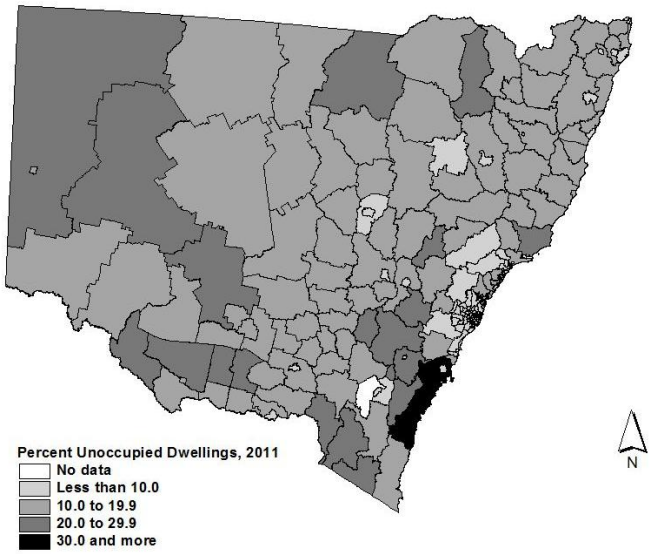
Source: ABS, Census 2011
Table from TableBuilder

Figure 1.1 shows the pattern of unoccupied private dwellings for New South Wales.

The highest rates of unoccupied housing occurred in the Shoalhaven and Eurobodalla. Rates above 25 percent occurred in a number of inland areas, including Jerilderie, Goulburn, Urana, Central Darling, Snowy River and the Upper Lachlan areas.

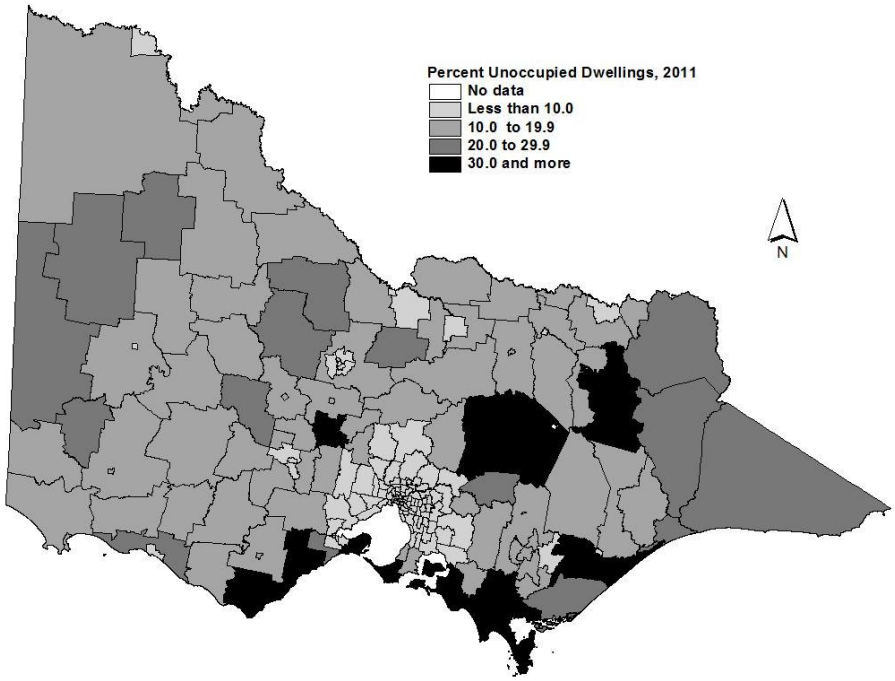
Figure 1.2 shows the situation in Victoria and there is a strong pattern of concentration of unoccupied dwellings evident in coastal areas like the Mornington Peninsula, Queenscliff, Surf Coast, Colac-Otway, South Gippsland and French Island. It is also noticeable that other areas with significant resort functions, such as Mount Buller, Mount Hotham and Falls Creek have a high proportion of houses unoccupied on Census night.

Figure 1.1: New South Wales, percent of dwellings unoccupied by SLA, 2011



Source: ABS, 2011 Census

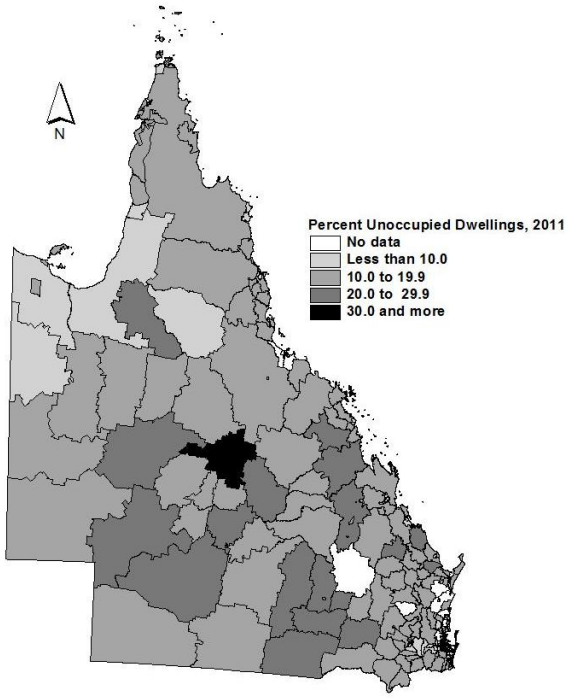
Figure 1.2: Victoria, percent of dwellings unoccupied by SLA, 2011



Source: ABS, 2011 Census

In Queensland the coastal concentration is not nearly so marked, as shown in Figure 1.3. This is in part due to the fact that the Census is taken in winter and there is a longstanding pattern of people from southern Australia spending often extended periods in Queensland during the cold winter months.

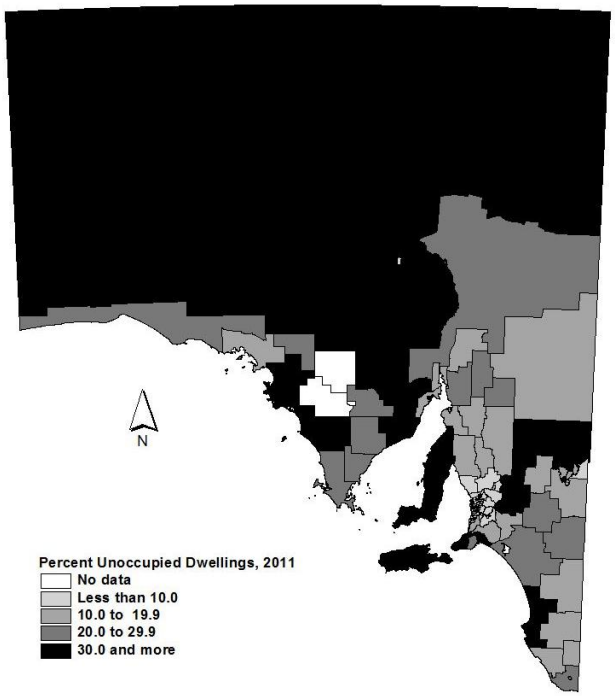
Figure 1.3: Queensland, percent of dwellings unoccupied by SLA, 2011



Source: ABS, 2011 Census

In the case of South Australia, a much more defined spatial pattern is evident, as shown in Figure 1.4, although distorted somewhat by the large unincorporated area in the north of the state.

Figure 1.4: South Australia, percent of dwellings unoccupied by SLA, 2011



Source: ABS, 2011 Census

There is a distinctive pattern of high levels in coastal areas on Eyre Peninsula (Elliston), Yorke Peninsula (Copper Coast and Yorke Peninsula), Kangaroo Island, Fleurieu Peninsula (Victor Harbor, Yankalilla, and Alexandrina) and the South East (Robe, Kingston). Moreover, the "shack" development of holiday homes is evident along the River Murray and the Statistical Local Areas (SLAs) of Renmark and Mid Murray. Some extra work has been done in South Australia which examined the population of local government rate payers whose rate notices were sent to addresses outside the local government area for a number of coastal areas. Table 1.4 compares these numbers for some South Australian non-metropolitan coastal areas with the proportion of dwellings classified as unoccupied at the Census.

Table 1.4: Spencer Gulf LGAs, percentage of dwellings unoccupied, 2006 and 2011.

Local Government Area	Percent unoccupied		Percent assessment notices sent outside LGA
	2006	2011	
Barunga West	38.5	41.2	
Copper Coast	29.0	29.2	35.7
Cleve	15.3	30.9	
Elliston	41.2	40.8	
Franklin Harbour	25.6	33.2	26.5
Lower Eyre Peninsula	23.1	26.7	
Mount Remarkable	20.8	21.0	25.5
Port Augusta	12.6	14.3	
Port Lincoln	11.2	12.2	
Port Pirie and Districts	9.0	11.3	8.0
Tumby Bay	26.2	28.8	32.9
Whyalla	10.8	10.7	11.9
Yorke Peninsula	44.9	47.5	48.4
Total	21.4	23.3	

Source: ABS 2006 and 2011 Censuses

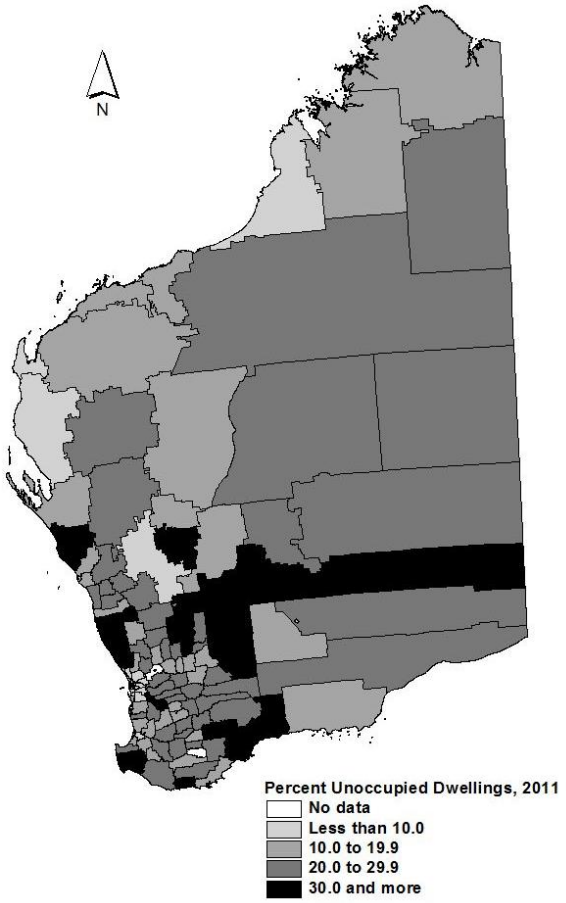
The large proportion of unoccupied houses in these communities is striking and has a number of implications, including:

- Although unoccupied on Census night, these dwellings are in fact occupied for much of the year especially on weekends, holidays and during the summer. Hence, they are a reflection of a significant increase in the population of these communities at the time.
- The extent to which these second homes will, at some time in the future, become the "first" home of their owners. The extent to which this occurs will potentially have a significant impact on the "permanent" population of these communities. Moreover, that change could occur quite suddenly.

In a recent study of the Copper Coast in South Australia (Hugo and Harris, 2012), a third of owners of second homes intended to retire to their holiday home. Of these, two thirds intended moving in the next decade, and one third within the next five years.

The situation in Western Australia is shown in Figure 1.5. A number of SLAs with more than 30 percent of their private dwellings are located along the coastline including Ravensthorpe and Jerramungup, Denmark, Augusta-Margaret River, Gingin, Dandaragan and Northampton. There are also a number of SLAs with high concentrations of unoccupied private dwellings in the interior of Western Australia.

Figure 1.5: Western Australia, percent of dwellings unoccupied by SLA, 2011



Source: ABS, 2011 Census

In the case of the sea change LGAs being examined in the present study, Table 1.5 gives an indication of the scale of second home ownership in these areas and of the impact that these dwellings have on temporary population at certain times of the year, assuming that these dwellings are, in the main, owned and used by second home owners.

One observation from Table 1.5 is that the proportion of unoccupied dwellings at the 2006 and 2011 Censuses has remained stable for each of the LGAs – only Byron recorded a sizeable increase between 2006 and 2011. A second key point is that in both 2006 and 2011 more than 40 percent of Surf Coast's private dwellings were unoccupied on the night of the Census. At the height of winter, when the Census is taken, Surf Coast's second home owners would in all probability be at their usual place of residence. It could be argued, however, that at other times of the year, owners of these dwellings could boost the temporary population of Surf Coast by up to 43 percent. There were only four LGAs – Byron, Glenelg, Cairns and Sunshine Coast which reported less than 20 percent of all dwellings being unoccupied on the nights of the 2006 and 2011 Censuses.

In more northerly LGAs, the proportion of private dwellings unoccupied at the Census is much lower. The implication here is that in LGAs such as Sunshine Coast, Byron and Cairns, second home ownership may be as prevalent as in the more southerly LGAs but on the night of the Census a larger proportion of owners were using them, than was the case in the southern LGAs.

Table 1.5: Unoccupied private dwellings, selected LGAs, 2006 and 2011

Local Government Area	Occupied private dwelling	Unoccupied private dwelling	Non-private dwelling	Total	Occupied private dwelling	Unoccupied private dwelling	Non-private dwelling	Total
	2006 Census							
	Number				Percent			
Byron	11941	1622	94	13657	87.4	11.9	0.7	100.0
Eurobodalla	14535	6716	78	21329	68.1	31.5	0.4	100.0
Shoalhaven	35507	13008	101	48616	73.0	26.8	0.2	100.0
East Gippsland	16360	4544	93	20997	77.9	21.6	0.4	100.0
Glenelg	7817	1420	33	9270	84.3	15.3	0.4	100.0
Mornington Peninsula	52809	25042	89	77940	67.8	32.1	0.1	100.0
Surf Coast	8161	6328	36	14525	56.2	43.6	0.2	100.0
Cairns, including Douglas	58520	6219	266	65005	90.0	9.6	0.4	100.0
Sunshine Coast	116065	17845	221	134131	86.5	13.3	0.2	100.0
Augusta-Margaret River	4129	1779	61	5969	69.2	29.8	1.0	100.0
Busselton	9549	3313	69	12931	73.8	25.6	0.5	100.0
Mandurah	22202	5801	29	28032	79.2	20.7	0.1	100.0
Total	7595387	830177	19808	8445710	89.9	9.8	0.2	100.0
	2011 Census							
	Number				Percent			
Byron	12404	2050	116	14570	85.1	14.1	0.8	100.0
Eurobodalla	15338	7013	72	22423	68.4	31.3	0.3	100.0
Shoalhaven	37754	13634	103	51491	73.3	26.5	0.2	100.0
East Gippsland	17671	4954	121	22746	77.7	21.8	0.5	100.0
Glenelg	8036	1475	36	9547	84.2	15.4	0.4	100.0
Mornington Peninsula	56502	27022	101	83625	67.6	32.3	0.1	100.0
Surf Coast	9627	7000	45	16672	57.7	42.0	0.3	100.0
Cairns	63556	7151	426	71133	89.3	10.1	0.6	100.0
Sunshine Coast	123796	18158	500	142454	86.9	12.7	0.4	100.0
Augusta-Margaret River	4715	2090	48	6853	68.8	30.5	0.7	100.0
Busselton	11596	4252	58	15906	72.9	26.7	0.4	100.0
Mandurah	27814	7555	27	35396	78.6	21.3	0.1	100.0
Total	8181747	934387	22784	9139287	89.5	10.2	0.2	100.0

The National Visitor Survey (NVS) can be used to estimate temporary populations generated by tourism. The survey, conducted by the Australian Department of Resources, Energy and Tourism (RET) collects data with an annual target of 120,000 responses from persons aged 15 years and over. Essentially, the survey asks about respondents' travel during the preceding four weeks, related to day trips, trips involving overnight stays and international travel. Undertaken for the tourism industry, it is a source of information on the characteristics and travel patterns of tourists within Australia. From a tourism perspective, the NVS provides substantial data on the spatial and temporal characteristics of non permanent movers in Australia. However, it does have a number of limitations, principally the high level of sampling variability in the data. This has critical implications if the data are used for the estimation of temporary populations. More significant in the context of the present project is that the data are not available at a spatial level below the Tourist Region (TR), and hence the data are unable to estimate population generated by tourism at the local government area level.

The ABS also conducts a quarterly Survey of Tourist Accommodation (STA). The survey covers establishments which provide short term non-residential accommodation. The most important quality of this data source is that it provides temporal, spatial and discrete data at the SLA level. The most significant shortcoming of the data source is that its sampling frame excludes tourists, and other temporary movers, who stay in private accommodation. In this respect, therefore, a critical component of non resident population in any area is missing, resulting in an underestimation of temporary population created by tourism. This is an advantage of the NVS, but its advantage is offset by the fact that it does not report for SLAs or LGAs. Data on visitors staying with friends and relatives from the NVS could be used as a factor by which numbers generated by the STA could be adjusted. The role of the STA in estimating temporary populations in selected coastal LGAs is assessed in detail in CHAPTER 8 of this Report.

There are two methods by which temporary populations can be measured. The first, the direct method, involves censuses and surveys. Both the NVS and the STA are forms of censuses which estimate temporary populations in specific areas and at specific times. They may focus on destinations of temporary migrants, as is the case with the STA, or on their origin areas, as is the case with the NVS. Those that focus on the destination of movers provide more substantial information on the impact of this mobility on temporary populations, but little data on the spatial characteristics of that movement. On the other hand, the strength of origin data is in what it offers in terms of the spatial dimensions of temporary migration, while its contribution to measuring the actual impact on local populations is limited by the high level of sampling variability associated with these censuses and surveys.

Part of the current project has involved the development of a survey of non resident ratepayers in nine coastal LGAs located along the Australian coastline in four mainland states. The detail of this survey and its target population is fully presented in CHAPTER 2 of this Report.

A second means of estimating temporary population is the indirect approach, which uses a range of data that are linked to fluctuation in population. For example, levels of electricity and water consumption, sewerage production and rubbish collected can fluctuate according to the population using them. Similarly, occupancy levels in tourist accommodation, retail sales levels, and visitor numbers can be positively linked to prevailing, or temporal, population numbers. Charles-Edwards (2011) refers to these data types as “symptomatic variables”. As part of this project, participating LGAs were asked to provide local data of this type, and a number of LGAs were able to provide data for kerbside rubbish collection, electricity usage, and inflows into sewerage treatment plants. These data are considered in some detail in CHAPTER 9. For this project, efforts were made to obtain data relating to roaming mobile phones, which would show for various points in time how many phones were in a specific area and how many of these phones had a “home” outside the specific area. At this point these data are unavailable, but their suitability for estimating temporary populations is so powerful that efforts will continue to make this dataset available for these purposes.

1.6 SUMMARY

One of the motivating factors for this research project, and a factor that has been highlighted above, is that temporary populations in a large number of areas in Australia is increasing and a series of implications are becoming issues requiring resolution. While the ebb and flow nature of temporary migration has long been appreciated, as well as its spatial and temporal features, the means by which the phenomenon can be measured has not been much

progressed. As mentioned earlier, the Census could assist this measurement task by giving more attention to a range of de facto measures of population. Comprehensive measurement of temporary populations, spatially and temporally, is probably unlikely. It is more likely that the extent of temporary populations will be gauged from regular sampling, refined in the light of temporary population mobility theory. Any sampling approach will need to recognise the separate roles of business migration, holiday and leisure mobility, grey nomads, and fly in fly out migration. The next chapter presents the results of a sampling approach in which the main aim is to estimate the impact of non-resident owned properties, used typically as a holiday home or as a rental property, on the real population of a selected number of coastal LGAs.

CHAPTER 2. SURVEYING NON-RESIDENT POPULATIONS IN SEA CHANGE LOCAL GOVERNMENT AREAS IN AUSTRALIA

2.1 INTRODUCTION

This chapter provides some background on the population in "sea change" LGAs in non metropolitan Australia, the LGAs selected for the survey reported later in this Report and the methodology employed to carry out the survey. Almost two decades ago, Holmes (1994) argued that there was a growing divergence between coastal and inland areas in regional Australia. In fact, he suggested that there were increasingly two regional Australia's – the inland areas experiencing population stability or decline, and the coastal areas experiencing population growth. To some extent this characterisation still applies, although the growth of some regional centres, mining communities and Aboriginal settlements in the inland areas belies this picture.

2.2 THE POPULATION OF COASTAL NON-METROPOLITAN AUSTRALIA

It is not possible here to provide a comprehensive demographic profile of non-metropolitan coastal areas, but a few aspects need to be pointed out, especially with respect to the dynamics of population change in those areas. It is impossible to generalise about the whole coastal belt because there is considerable diversity in the pattern of population change and characteristics in those areas. Nevertheless, we have combined together all of the LGAs along the coast which are outside of the capital cities, and these are listed in Appendix 1.

Taken as a whole, coastal statistical division[6] populations are growing faster than those located inland. Table 2.1 shows that in 2001-06 coastal statistical divisions grew at three times the rate of inland statistical divisions, while in the 2006-11 period it was almost 20 percent faster.

They grew faster than capital cities in 2001-06, but slower in the 2006-11 period. The recent slowing is understandable given the commonly recognised trend that when levels of immigration are very high, as they were in the 2006-11 period, the growth of gateway cities is faster (Massey, 2010). The table shows that the overseas born population is growing somewhat faster than the Australian born. However, this is coming off a low base and the overseas born are underrepresented in the non-metropolitan coastal communities.

Internal migration is the main reason why non-metropolitan coastal communities are growing faster than their inland counterparts. An ABS (2004) analysis of internal migration trends to sea change areas focussed on the high growth communities. It found that only one third of new residents to those communities came from capital cities, while the rest were from other non-metropolitan areas. Hence, the growth of coastal areas has, to some extent, been at the expense of inland areas. The ABS report explodes some of the myths about migration to such areas by showing that young adults predominate, they had higher labour force participation rates than the long standing residents but they were culturally similar to the existing residents who have less diversity than Australia as a whole.

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[6] These are large units and tend to mask coastal:inland differences.

Table 2.1: Australia: Statistical Division region by Year of Arrival and Australian born, 2001, 2006 and 2011.

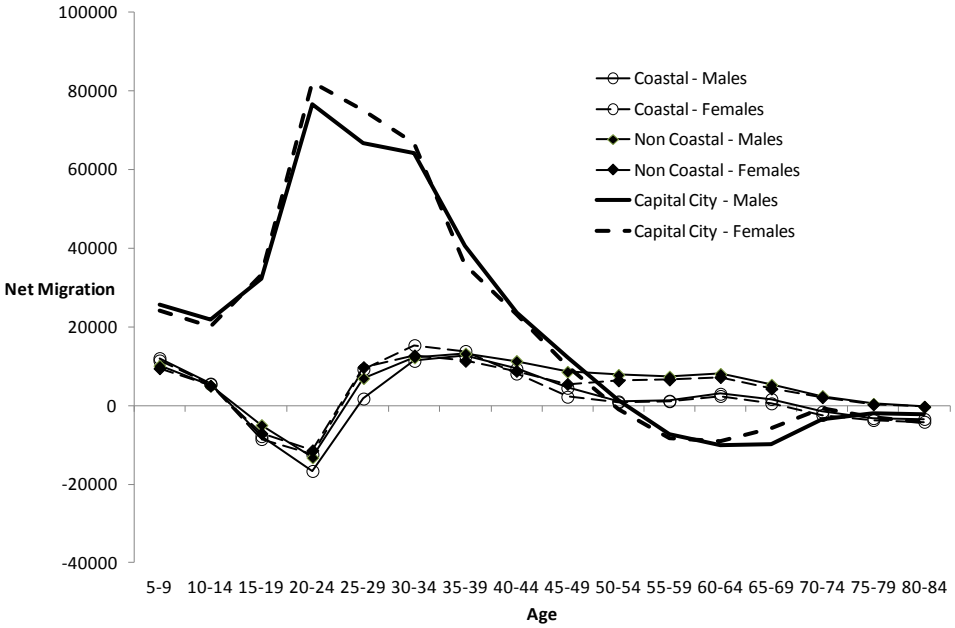
Region	5 years or Less	More than 5 years	Total	Australia-born	Total Population
			2001		
Coastal	61841	432711	494552	3128653	3848920
Non Coastal	28192	231777	259969	2496657	2921477
Capital Cities	535964	2617029	3152993	7969521	11948881
Total	625997	3281517	3907514	13594831	18719278
			2006		
Coastal	79731	455180	534911	3317745	4161976
Non Coastal	37405	230077	267482	2518868	2993401
Capital Cities	635091	2756121	3391212	8208036	12655408
Total	752227	3441378	4193605	14044649	19810785
			Av An Growth Rate 2001-06		
Coastal	5.21	1.02	1.58	1.18	1.58
Non Coastal	5.82	-0.15	0.57	0.18	0.49
Capital Cities	3.45	1.04	1.47	0.59	1.16
Total	3.74	0.96	1.42	0.65	1.14
			2011		
Coastal	122349	482352	604701	3467772	4452781
Non Coastal	71962	270489	342451	2707851	3166413
Capital Cities	990849	3104378	4095226	8809936	13836529.9
Total	1185160	3857218	5042378	14985559	21455725
			Av An Growth Rate 2006-11		
Coastal	8.94	1.17	2.48	0.89	1.36
Non Coastal	13.98	3.29	5.07	1.46	1.13
Capital Cities	9.3	2.41	3.84	1.43	1.8
Total	9.52	2.31	3.76	1.31	1.61

Note: In 2001 five years or less includes 1996 to 2001 and more than 5 years includes less than 1996 and in 2006 five years or less includes 2001 to 2006 and more than 5 years includes less than 2001.
In 2011 five year or less includes Arrived 2006 to 2011 and more than five years includes before 2006.
Source: ABS 2001, 2006 and 2011 Censuses

An important insight into differences in the population dynamics between inland and coastal areas in non-metropolitan Australia is provided in Figure 2.1, which shows the net migration age-sex profile for both areas, and compares them with those in the capital cities.

It can be seen that both inland and coastal areas experience net loss of teenagers and young adults. This is characteristic for all non-metropolitan areas, with young people moving to capital cities to further their education, access a larger job market or seek the "bright lights" of big city life. Accordingly, there is an equivalent net gain in those ages for the capitals. However, there is net loss in the capitals in the ages from around 30 to 70 years. While there are small net gains in these age groups in inland non-metropolitan areas, the highest gains are in coastal areas. There is some evidence of a peaking of net growth in the 30s and around the late 50s and early 60s. The latter is indicative of retirement migration to non-metropolitan coastal areas.

Figure 2.1: Australia: Coastal, Non-Coastal and Capital Cities Age Specific net migration, 2001-2006



Source: ABS, 2006 Census, TableBuilder

One of the key issues investigated in this Report is the role of second homes in coastal locations. Table 2.2 shows that the proportion of unoccupied dwellings in coastal statistical divisions increased from 16.5 to 16.9 percent between 2006 and 2011.

Table 2.2: Australia: Dwelling Type by Type of Area

Type of Area	Occupied private dwelling	Unoccupied private dwelling	Percent Unoccupied	Population
		2006 Census		
Coastal SLA	1,191,060	235,043	16.5	2,920,106
Rural inland (U Res <10,000)	601,934	108,204	15.2	1,558,792
Regional Cities inland (U Res 10,000 or more)	1,017,568	100,246	9	2,675,753
Capital Cities	4,784,486	386,582	7.5	12,655,395
Total	7,595,048	830,075	9.9	19,810,778
		2011 Census		
Coastal SLA	1,317,189	268,111	16.9	3,260,185
Rural Inland (U Res <10,000)	614,847	118,831	16.2	1,572,235
Regional Cities Inland (U Res 10,000 or more)	1,162,761	118,645	9.3	3,062,404
Capital Cities	5,086,059	428,576	7.8	13,557,036
Total	8,180,856	934,163	10.2	21,451,860
		Percent change, 2006-2011		
Coastal SLA	10.6	14.1		11.6
Rural Inland (U Res <10,000)	2.1	9.8		0.9
Regional Cities Inland (U Res 10,000 or more)	14.3	18.4		14.5
Capital Cities	6.3	10.9		7.1
Total	7.7	12.5		8.3

Note: Migratory and No usual Address are not included.
Source: ABS, Census 2006 and 2011.

While all unoccupied dwellings are not holiday homes, it is an indication of the significance of holiday homes in these areas. The high proportion of unoccupied dwellings in rural inland areas with less than 10,000 people likely reflects the large numbers of empty houses in these areas due to depopulation.

2.3 THE SELECTED STUDY AREAS

From the coastal non-metropolitan LGAs nine of those who are members of the National Sea Change Taskforce agreed to undertake a survey of their non resident population. These LGAs were Cairns in Queensland, Byron, Eurobodalla and Shoalhaven in New South Wales, East Gippsland, Surf Coast and Mornington Peninsula in Victoria, and Busselton and Mandurah in Western Australia, and their distribution along the Australian coast is shown in Figure 2.2.

Figure 2.2: Location of participating LGAs

They are a diverse group of coastal areas representing much of the variation which occurs across the coastal zone. Table 2.3 presents a number of key statistics regarding their populations as measured in the 2011 Census.

Table 2.3: Australia: Selected coastal LGAs by Characteristics, 2011

Local Government Area	Population 2006	Population 2011	Average Annual Growth Rate 2006-2011	% Aged 60+	% Unoccupied Private Dwellings	% Overseas-born	% Indivual Income Less $16,000 pa	% Individual Income $78,000 or more pa	% Overseas-born arrived 2007-2011
Byron	28764	29208	0.31	20.3	14.2	18.2	28.5	8.2	12.3
Eurobodalla	35013	35740	0.41	35.2	31.4	13.7	31.7	5.6	4.3
Shoalhaven	88406	92813	0.98	31.1	26.5	12.7	31.9	7.0	5.1
East Gippsland	40038	42195	1.05	31.9	21.9	10.8	31.2	5.7	6.2
Glenelg	19760	19576	-0.19	24.8	15.5	7.8	30.8	9.6	11.3
Mornington Peninsula	136482	144609	1.16	28.6	32.4	18.2	27.0	11.5	9.5
Surf Coast	21766	25869	3.51	21.1	42.1	11.4	26.1	14.5	14.9
Cairns	137626	156172	2.56	15.4	10.1	20.2	24.5	10.9	19.6
Sunshine Coast	276263	306910	2.13	25.0	12.8	19.8	28.0	9.4	16.4
Augusta-Margaret River	10350	11762	2.59	18.6	30.7	19.9	24.1	11.4	17.9
Busselton	25358	30332	3.65	22.3	26.8	17.4	26.5	12.5	15.3
Mandurah	55817	69905	4.60	27.2	21.4	25.2	30.8	14.9	21.6

Source: ABS Census 2006, 2011

It must be remembered, in the context of the present Report, that the Census only captures that population who were residing in the areas on a permanent basis. The table shows that the survey LGAs vary in size of their permanent resident populations from large councils like Sunshine Coast (306,910), Cairns (156,172), Mornington Peninsula (144,609) and Shoalhaven (92,813) to smaller councils like Augusta-Margaret River (11,762) and Glenelg

(19,956). There is also a wide variation in the tempo of population change in the resident populations with some growing very rapidly, especially in Mandurah, Cairns, Busselton, and Surf Coast. On the other hand, the population of Glenelg declined slightly between 2006 and 2011, while Byron, Eurobodalla, Shoalhaven, East Gippsland and Mornington Peninsula grew more slowly than the national average.

One of the indicators of the extent to which the population of coastal areas swells during weekends and holiday periods is the number of houses in an area which were unoccupied on the night of the Census. Although not all such houses are second homes, in coastal areas it is a reasonable assumption that most are. It will be noted in the table that the percentage of dwellings that were unoccupied in all nine LGAs was higher than the national average of 12.5 percent. Indeed, in all but one (Sunshine Coast) the percentage was higher than the average in all coastal areas (14.1 percent). In four areas, Eurobodalla, Mornington Peninsula, Surf Coast and Augusta-Margaret River, more than 30 percent of dwellings were unoccupied on the night of the Census. Second homes are clearly a major feature of the selected areas.

Turning to some of the characteristics of the population of the areas, it is evident that all have a relatively aged population. The proportion of the population aged 60 years and older is more than a fifth in every area except Cairns and Augusta-Margaret River. The low level of ethnic diversity compared to the nation as a whole is evident in the fact that all areas, except Mandurah, had a smaller proportion of their population born outside of Australia than the nation as a whole. There are also relatively high proportions with annual income of less than $16,000, which may reflect the large number of retirees in those areas. However, a number of the larger LGAs have relatively high proportions of high income earners.

The main focus of this present study, however, is to find about the non-resident population who spend time in the LGAs at weekends and during holiday periods. The next section describes how a sample of non-residents in each of the participating LGAs was selected.

2.4 THE SURVEY QUESTIONNAIRE

In consultation with the participating LGAs, a generic survey was developed comprising 23 questions – see Appendix 2. The questionnaire sought responses related to:

- Location of usual residence.
- Number of properties owned in the LGA.
- Location (suburb) of non permanent dwelling in the LGA.
- Reasons for purchasing the dwelling.
- Plans, if any, for moving permanently to the dwelling, along with prospective timeframes and number of persons who would make the move.
- Type, size, tenure and year of purchase of non permanent dwelling.
- A range of demographic questions relating to age, sex, employment, occupation, marital status and income for persons in the household.
- Number of days the non permanent residence was used by family and friends during the preceding year.
- Number of days, if any, that the dwelling was rented out in the previous year.
- The favourable, and least favourable, aspects of the local government area.

2.5 SELECTING THE SAMPLE

Each LGA was asked to identify its non resident ratepayer base. The first criterion for this was based on properties whose rate notice was sent to an address outside the local government area. This list was further reduced by eliminating properties that were clearly not dwellings, and then where possible taking out those addresses which were companies, trust funds, or some other entity where the persons receiving the questionnaire was not likely to be the head of household which owned the non permanent dwelling within the LGA.

From this list of properties which were most likely dwellings used on a temporary basis by their owners, each LGA randomly selected 1,000. All of the participating LGAs had a population size such that a sample of 1,000 would yield a sampling error of ±3 percent with a 95 percent confidence level (Dillman, 2007).

2.6 DESPATCH AND RETURN OF SURVEYS

The survey questionnaires were despatched to recipients in early April 2012. Table 2.4 shows the numbers returned for each of the participating LGAs.

Table 2.4: Returned questionnaires for each LGA

Local Government Area	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Mornington Peninsula	Surf Coast	Busselton	Mandurah	Total
Questionnaire returns	220	221	253	295	205	225	316	249	199	2183
Response rate	22.0	22.1	25.3	29.5	20.5	22.5	31.6	24.9	19.9	24.3

2.7 CODING RESPONSES

The survey returns were coded in the offices of the National Sea Change Taskforce. A number of responses were removed from analysis, mainly because they appeared to be from households living permanently at the dwelling, and who had indicated that they were at the dwelling on the night of the Census, Tuesday 9 August 2011. Therefore, in terms of one of the important tasks of the survey, namely to estimate the size of the "uncounted", or temporary, population, it would have been unreasonable to include them in the survey analysis. On the other hand, there were a number of respondents who spent many days at the dwelling but who indicated that they were not present on the night of the Census. These responses have been retained for analysis, as they must be seen as part of the "uncounted" population.

In total, 54 records were removed from the analysis. Of these, 14 were removed from Byron, nine from Cairns, six from Surf Coast, five from each of Eurobodalla, Busselton and Mandurah, four from Mornington Peninsula and Shoalhaven and two from East Gippsland. There remained, therefore, 2,129 records on which the analysis of temporary populations in sea change LGAs is based.

The next chapter begins the analysis of responses from non resident owners in the participating sea change local government areas. It will cover questions relating to their usual residence, and dwelling and tenure characteristics of their property.

CHAPTER 3. USUAL RESIDENCE, DWELLING AND TENURE CHARACTERISTICS OF NON RESIDENT OWNERS

3.1 INTRODUCTION

In assessing the current and potential future impact of non-residents on the nine survey communities it is important to have some understanding of their background and of their motivations in purchasing a property which is most probably a holiday house in a sea change area. Most importantly, it cannot be assumed that they are similar to the resident population

3.2 WHY BUY A HOLIDAY HOUSE IN A SEA CHANGE LOCATION?

The reasons for purchasing a holiday house provide insights which are valuable to local government since it indicates the attributes of their areas which are attractive to people coming to the area and investing in it. The reasons also give some indication of the nature of their commitment to the area. Respondents were asked to state the main reasons for choosing to purchase in their LGA, but most provided only a single response. These are summarised in Table 3.1, and some interesting patterns are in evidence.

Table 3.1: Reasons for purchasing property, all participating LGAs

Reason	Number	Percent
Holidays/recreation	664	21.2
Investment/Future	620	19.8
Location/accessibility/climate	529	16.9
Family/friends	311	9.9
Lifestyle/quality of life	404	12.9
Beach	240	7.7
Retirement	220	7.0
Inheritance	62	2.0
Other	83	2.6
Total	3133	100.0

The most common single response, not surprisingly, was that the dwelling was purchased as a place to spend their holidays, and the significance of the recreation motive and the importance of the local communities maintaining their resort-recreation focus is apparent. This dimension is also evident in some of the other frequently mentioned reasons – lifestyle, quality of life and beaches. Another cluster of important reasons is accessibility and location. For many holiday home owners, it is crucial for the distance between their holiday home and their main place of residence to be within driving distance, so that people can spend weekends at their holiday home. This is especially important in the category of sea change communities located within three hours drive of major metropolitan areas. For example, accessibility was most frequently stated as a reason for buying in Surf Coast and Mornington Peninsula, each in close proximity to Melbourne (Table 3.2).

The importance of the particular relationship between capital cities and sea change localities within three hours drive is clearly an important one. A detailed study of the District Council of the Copper Coast in South Australia – a sea change locality some 150 kilometres from Adelaide demonstrates this factor clearly (Hugo and Harris, 2012). Within the non resident sample, 73.9 percent had their usual residence in the Adelaide Statistical Division.

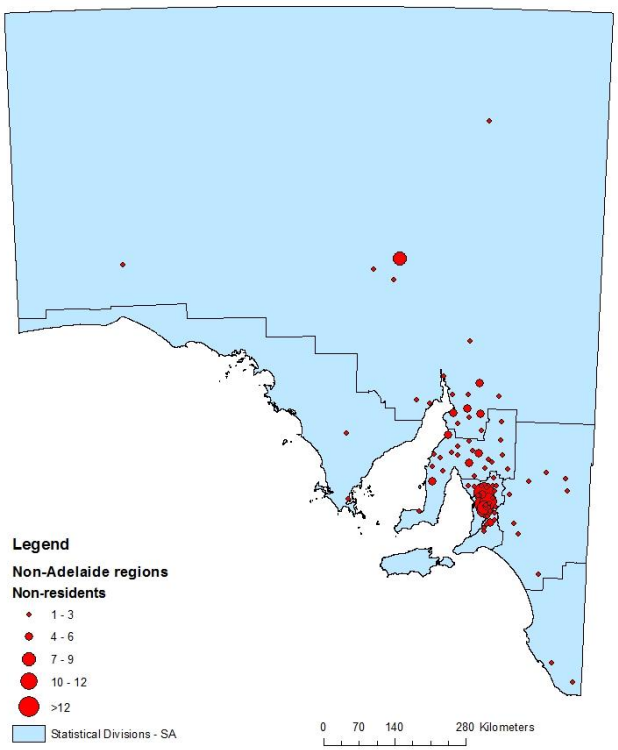
Table 3.2: Reasons for purchasing property, survey LGAs

Why property bought	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Holidays	9	28	78	91	38	112	74	65	54	549
Investment	150	44	41	47	41	33	32	83	62	533
Location	12	50	46	57	36	60	36	28	18	343
Family	24	34	25	33	28	63	29	23	11	270
Lifestyle	2	36	30	24	25	52	31	31	25	256
Beach	0	21	20	40	15	76	30	19	19	240
Retirement	9	24	34	35	24	22	8	51	13	220
Quality of life	1	17	19	23	34	43	10	12	5	164
Accessibility	2	14	17	26	5	38	33	5	19	159
Recreation	0	7	10	11	25	18	19	11	14	115
Future	11	13	9	12	11	4	4	13	10	87
Inheritance	0	7	5	11	12	11	8	1	7	62
Affordability	3	6	7	11	4	5	5	1	7	49
Friends	1	5	2	5	4	9	8	3	4	41
Climate/weather	0	8	2	6	6	2	1	2	0	27
Work/business	1	6	1	2	2	0	1	2	0	15
Other	4	1	2	1	2	7	0	2	0	19
Total	229	321	348	435	312	555	329	352	268	3149
	Percent									
Holidays	3.9	8.7	22.4	20.9	12.2	20.2	22.5	18.5	20.1	17.4
Investment	65.5	13.7	11.8	10.8	13.1	5.9	9.7	23.6	23.1	16.9
Location	5.2	15.6	13.2	13.1	11.5	10.8	10.9	8.0	6.7	10.9
Family	10.5	10.6	7.2	7.6	9.0	11.4	8.8	6.5	4.1	8.6
Lifestyle	0.9	11.2	8.6	5.5	8.0	9.4	9.4	8.8	9.3	8.1
Beach	0.0	6.5	5.7	9.2	4.8	13.7	9.1	5.4	7.1	7.6
Retirement	3.9	7.5	9.8	8.0	7.7	4.0	2.4	14.5	4.9	7.0
Quality of life	0.4	5.3	5.5	5.3	10.9	7.7	3.0	3.4	1.9	5.2
Accessibility	0.9	4.4	4.9	6.0	1.6	6.8	10.0	1.4	7.1	5.0
Recreation	0.0	2.2	2.9	2.5	8.0	3.2	5.8	3.1	5.2	3.7
Future	4.8	4.0	2.6	2.8	3.5	0.7	1.2	3.7	3.7	2.8
Inheritance	0.0	2.2	1.4	2.5	3.8	2.0	2.4	0.3	2.6	2.0
Affordability	1.3	1.9	2.0	2.5	1.3	0.9	1.5	0.3	2.6	1.6
Friends	0.4	1.6	0.6	1.1	1.3	1.6	2.4	0.9	1.5	1.3
Climate/weather	0.0	2.5	0.6	1.4	1.9	0.4	0.3	0.6	0.0	0.9
Work/business	0.4	1.9	0.3	0.5	0.6	0.0	0.3	0.6	0.0	0.5
Other	1.7	0.3	0.6	0.2	0.6	1.3	0.0	0.6	0.0	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Figure 3.1 shows the location of the usual place of residence of non residents and the dominance of Adelaide and the area within three hours drive is readily apparent.

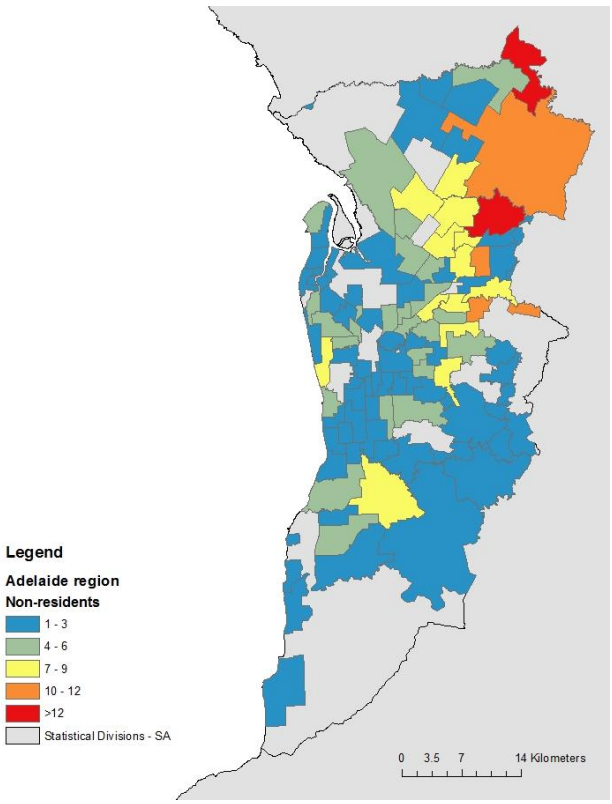
Moreover, when the distribution of those usual places of residence within Adelaide is examined in Figure 3.2, it can be seen that the majority live in Adelaide's northern suburbs which are an hours' drive closer to the Copper Coast than the southern suburbs. This proximity factor is an important one in the dynamics of population change in sea change communities.

Figure 3.1: Copper Coast non resident owners outside Adelaide



Source: Hugo and Harris, 2012

Figure 3.2: Distribution of Copper Coast non resident owners living in Adelaide



Source: Hugo and Harris, 2012

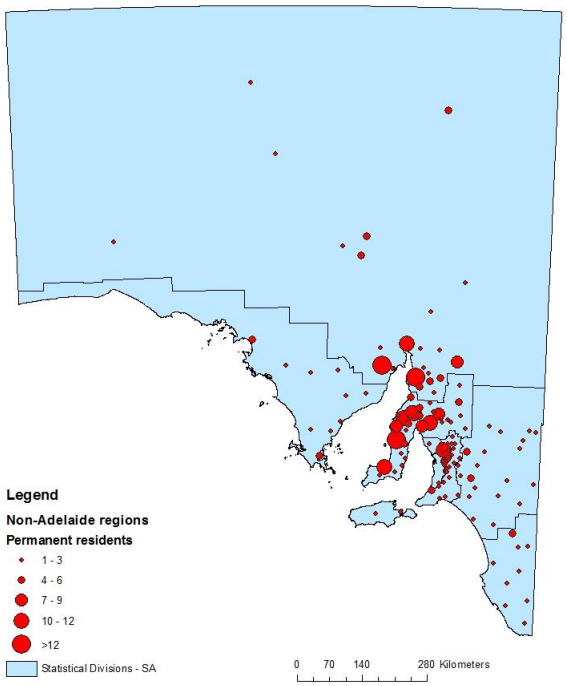
Not only does proximity influence from where these LGAs draw their temporary populations, but it also influences the permanent population as well. Again, the Copper Coast exemplifies this, with Table 3.3 showing that 71.0 percent of the sample of residents had moved into the area since 2000. Moreover, when the areas from which they had moved are examined – see Figure 3.3 and Figure 3.4 – it is clear that the bulk of them moved into the Copper Coast from areas located with three hours drive. There is a clear nexus between second home ownership and eventual permanent residence in sea change localities. This is an issue which is pursued in relation to the nine sea survey LGAs later in this Report.

Table 3.3: Copper Coast residents, migration status 2012

Migration status	Number	Percent
Always lived there	295	25.1
Moved in:		
Pre 1960	45	3.8
1960 - 1979	66	5.6
1980 - 1989	125	10.7
1990 - 1999	175	14.9
2000 to present	467	39.8
Total	1173	100.0

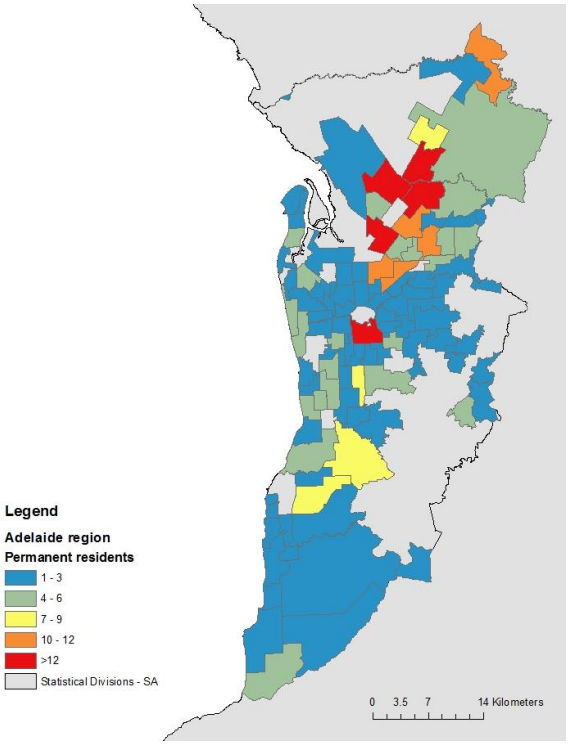
Source: Hugo and Harris, 2012

Figure 3.3: Copper Coast residents' previous location within South Australia, excluding the Adelaide Statistical Division



Source: Hugo and Harris, 2012

Figure 3.4: Copper Coast residents' previous location within the Adelaide Statistical Division



Source: Hugo and Harris, 2012

Returning to the reasons given for purchasing a holiday home by the respondents surveyed in the nine participating LGAs, it is interesting that one in ten indicated that they bought the property with the express purpose of retiring to it at some point in the future. This again points to the nexus between temporary migration to a holiday home as an initial stage of eventually moving permanently to a sea change location.

The dominance of environment, proximity and lifestyle in the motivation to buy is very clear in Table 3.1. A significant proportion saw the purchase as an investment, indicating that economic motives are not entirely absent and that the housing market for second homes is not just about recreation.

It is interesting to observe in Table 3.2 that there are some significant differences between the nine LGAs in the mix of motivations which were given for purchasing a holiday home in sea change areas. In Cairns, for example, more than 65 percent of respondents indicated that they bought their property for investment purposes, and only four percent bought for holiday reasons. Buying for investment was the reason why 23.6 and 23.1 percent of buyers in Busselton and Mandurah respectively bought their sea change property. In Byron, larger proportions of owners bought for investment purposes than for holidays. Clearly, in these localities there is a substantial investment factor in the second home market.

3.3 MOST AND LEAST FAVOURABLE ASPECTS OF SEA CHANGE LOCATION

Insights into the motivations of second home owners were also provided from questions which asked respondents to indicate the aspects of the location of their holiday house which

were most favourable. The results are summarised in Table 3.4 [7], and show that over 64 percent of responses cite environment, beaches and leisure as the most favourable aspects of their sea change locality.

Table 3.4: Most favourable aspects of sea change localities

Favourable aspects	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Environment	60	127	170	197	129	246	91	72	22	1114
Beaches	17	101	134	142	71	199	122	111	96	993
Leisure	89	52	85	99	63	106	121	168	103	886
Lifestyle	37	42	53	40	25	55	31	74	52	409
Community	21	71	40	45	29	28	38	42	11	325
Accessibility	15	8	32	46	15	64	56	18	50	304
Climate/weather	60	47	18	64	49	8	5	29	12	292
Location	16	11	11	17	4	7	6	28	14	114
Heritage	3	10	8	6	3	16	3	8	1	58
Investment	16	0	4	5	5	2	2	3	7	44
Council	10	4	6	7	0	5	2	7	3	44
Other	11	5	8	2	2	1	0	5	2	36
Retirement	0	0	3	2	1	1	0	6	4	17
Affordability	2	0	3	2	0	1	1	0	1	10
Work/employment	0	0	0	0	0	0	2	2	2	6
Family	0	0	1	0	0	0	0	1	2	4
Total	357	478	576	674	396	739	480	574	382	4656
	Percent									
Environment	16.8	26.6	29.5	29.2	32.6	33.3	19.0	12.5	5.8	23.9
Beaches	4.8	21.1	23.3	21.1	17.9	26.9	25.4	19.3	25.1	21.3
Leisure	24.9	10.9	14.8	14.7	15.9	14.3	25.2	29.3	27.0	19.0
Lifestyle	10.4	8.8	9.2	5.9	6.3	7.4	6.5	12.9	13.6	8.8
Community	5.9	14.9	6.9	6.7	7.3	3.8	7.9	7.3	2.9	7.0
Accessibility	4.2	1.7	5.6	6.8	3.8	8.7	11.7	3.1	13.1	6.5
Climate/weather	16.8	9.8	3.1	9.5	12.4	1.1	1.0	5.1	3.1	6.3
Location	4.5	2.3	1.9	2.5	1.0	0.9	1.3	4.9	3.7	2.4
Heritage	0.8	2.1	1.4	0.9	0.8	2.2	0.6	1.4	0.3	1.2
Investment	4.5	0.0	0.7	0.7	1.3	0.3	0.4	0.5	1.8	0.9
Council	2.8	0.8	1.0	1.0	0.0	0.7	0.4	1.2	0.8	0.9
Other	3.1	1.0	1.4	0.3	0.5	0.1	0.0	0.9	0.5	0.8
Retirement	0.0	0.0	0.5	0.3	0.3	0.1	0.0	1.0	1.0	0.4
Affordability	0.6	0.0	0.5	0.3	0.0	0.1	0.2	0.0	0.3	0.2
Work/employment	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.5	0.1
Family	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.5	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Within the LGAs:

- Environment is a dominant reason for choosing the location, although this reason is not evident in Mandurah, Busselton, Cairns and Mornington Peninsula.
- Beaches are significant in most LGAs, with the exception of Cairns.
- Leisure is the dominant reason for purchase in Busselton, Mandurah, Mornington Peninsula and Cairns.
- After environment, beaches and leisure reasons for buying into sea changes LGAs, the other main reasons are less significant. They include lifestyle, community, accessibility and climate and weather.

It is also useful to consider the obverse situation – that is, those aspects of sea change localities that are considered to be least favourable by holiday home owners. This can provide policy makers with information on things which could prevent outsiders from making an investment locally. In this respect, it is interesting that the number of negative aspects

[7] For an indication of the variety of reasons provided to the Question from which this table is derived, and the broad reason descriptors into which the responses were aggregated see Appendix 3.

nominated by respondents (2,569) was considerably less than the number of positive aspects (4,656). The negative responses are listed in Table 3.5

Table 3.5: Most unfavourable aspects of sea change locations.

Least favourable aspect	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
					Number					
Traffic	18	73	61	62	19	85	65	38	25	446
Council	54	54	43	71	20	84	23	58	28	435
Crowds	26	77	38	32	10	99	65	43	31	421
Nuisances	44	10	20	29	41	34	12	55	32	277
Crime	19	38	30	13	11	9	13	15	61	209
Facilities	7	7	33	35	11	29	7	24	24	177
None	11	2	26	33	15	19	19	26	15	166
Accessibility	14	4	28	25	52	6	14	7	5	155
Housing	56	8	3	13	11	9	3	12	6	121
Infrastructure and services	2	0	19	26	18	8	4	2	1	80
Employment	16	7	10	15	10	1	3	5	8	75
Other	0	1	0	1	1	1	1	2	0	7
Total	267	281	311	355	219	384	229	287	236	2569
					Percent					
Traffic	6.7	26.0	19.6	17.5	8.7	22.1	28.4	13.2	10.6	17.4
Council	20.2	19.2	13.8	20.0	9.1	21.9	10.0	20.2	11.9	16.9
Crowds	9.7	27.4	12.2	9.0	4.6	25.8	28.4	15.0	13.1	16.4
Nuisances	16.5	3.6	6.4	8.2	18.7	8.9	5.2	19.2	13.6	10.8
Crime	7.1	13.5	9.6	3.7	5.0	2.3	5.7	5.2	25.8	8.1
Facilities	2.6	2.5	10.6	9.9	5.0	7.6	3.1	8.4	10.2	6.9
None	4.1	0.7	8.4	9.3	6.8	4.9	8.3	9.1	6.4	6.5
Accessibility	5.2	1.4	9.0	7.0	23.7	1.6	6.1	2.4	2.1	6.0
Housing	21.0	2.8	1.0	3.7	5.0	2.3	1.3	4.2	2.5	4.7
Infrastructure and services	0.7	0.0	6.1	7.3	8.2	2.1	1.7	0.7	0.4	3.1
Employment	6.0	2.5	3.2	4.2	4.6	0.3	1.3	1.7	3.4	2.9
Other	0.0	0.4	0.0	0.3	0.5	0.3	0.4	0.7	0.0	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

A first point is that 6.5 percent of respondents had no complaints with their sea change LGA. Within the LGAs the most satisfied owners, defined as those who indicated their LGA had no unfavourable aspects, were in Eurobodalla, Busselton, Shoalhaven and Mornington Peninsula.

The main grievances that non resident owners had with their LGA were associated with traffic, the local Council, crowds and nuisances. Above average levels of grievance for traffic conditions[8] occurred in Mornington Peninsula, Byron, Surf Coast, and Shoalhaven LGAs. Non resident owners expressed above average levels of grievance with their local Council[9] in Surf Coast, Busselton, Cairns and Eurobodalla. Crowds, associated with key times during the year, ranked highly as a grievance in Mornington Peninsula, Byron and Surf Coast. Nuisances[10]were an issue with non resident owners in Busselton, East Gippsland and Cairns.

[8] Responses relating to traffic included traffic congestion/parking at shopping centres/foreshore/traffic lights/roads/highways/freeways

[9] Grievances with local Council centred around Planning and development issues (inconsistent decisions, onerous development restrictions, inadequate park maintenance)/poor planning/boring architecture/too commercialised/too many canal homes/high rise/McMansions/bureaucracy (general) governance/sewerage and septic tanks.

[10] Respondents referred to nuisances as including mosquitoes/insects/flies/critters/sharks/ big bugs/midgies/weather/wind/humidity/heat/seagrass/dogs/cats/pines/loss of habitat

It is interesting that the most concerns were with issues which compromised the recreational amenity of the locations. On the other hand, services and infrastructure were mentioned only by a relatively small group.

3.4 USUAL RESIDENCE OF NON RESIDENT OWNERS

Respondents were asked to provide the post code of their permanent address. The purpose of this question was to determine the relationship of owners' usual residence to their sea change LGA property. Table 3.6 shows this relationship in terms of whether owners of sea change properties lived within the state or outside of the state.

Table 3.6: Usual residence of non resident owners

Permanent address	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah
	Number								
Northern Territory	7	1							
New South Wales	58	86	218	154	10	4			4
Australian Capital Territory		4	19	104	4				
Victoria	45	28	5	8	169	296	208	1	2
Queensland	62	68	2	10	7	3	1	1	
South Australia	10	5			2		1	1	1
Western Australia	18	3	1	3	2		2	238	182
Tasmania	5	1		1	2			1	
Total	205	196	245	280	196	303	212	242	189
	Percentage								
Northern Territory	3.4	0.5							
New South Wales	28.3	43.9	89.0	55.0	5.1	1.3			2.1
Australian Capital Territory		2.0	7.8	37.1	2.0				
Victoria	22.0	14.3	2.0	2.9	86.2	97.7	98.1	0.4	1.1
Oueensland	30.2	34.7	0.8	3.6	3.6	1.0	0.5	0.4	0.0
South Australia	4.9	2.6			1.0		0.5	0.4	0.5
Western Australia	8.8	1.5	0.4	1.1	1.0		0.9	98.3	96.3
Tasmania	2.4	0.5		0.4	1.0			0.4	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The most significant point emerging from Table 3.6 is a winter temperature divide between sea change LGAs which defines the extent to which properties in Cairns and Byron attract interstate owners. In the case of these two LGAs, the highest proportions of owners come from their host state, but each has significantly high proportions of owners whose usual residence is located in New South Wales and Victoria. In the other LGAs, generally characterised by colder winter temperatures than those prevailing in Cairns and Byron, the situation is that very high proportions of owners' usual residence are in the host state, and very low proportions live interstate.

One additional point in the case of Byron is that more than one third of its owners live in Queensland. However, with only a couple of exceptions, these owners all live in the Brisbane, Gold Coast, Sunshine Coast and Ipswich areas. Hence, it is unlikely that these owners are moving south to escape from the heat of the north, in the same way as many people from the south move north to escape the cold of the south. Rather, their choice to buy into Byron is more likely to be influenced by its proximity – around 165 kilometres from the Brisbane region. Byron, Shoalhaven, Eurobodalla and East Gippsland also have non resident owners living in the ACT. In these cases, Eurobodalla is the most noteworthy, in that 37 percent of its non resident owners live permanently in the ACT.

3.5 INVESTMENT IN SEA CHANGE LOCATIONS

In Table 3.7 the dominant housing types owned, or being purchased, by respondents who are non resident owners in each of the sea change LGAs is shown. Nearly 73 percent of non resident owners in sea change LGAs own a house. Houses represent more than 50 percent of

the dwelling stock of non resident in all LGAs except Cairns. The highest proportions of houses owned by non resident owners occur in Mornington Peninsula (90.3 percent), Surf Coast (86.4), Shoalhaven (83.1), Busselton (80.7), East Gippsland (71.9) and Mandurah (70.5).

Table 3.7: Housing preference of non resident owners

Dwelling type	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
House	75	119	206	196	141	266	196	196	134	1529
Flat/apartment/unit	128	58	5	49	20	30	17	26	30	363
Shack	0	5	3	3	5	4	2	8	18	48
Other	7	22	34	38	30	8	2	13	8	162
Total	210	204	248	286	196	308	217	243	190	2102
	Percentage									
House	35.7	58.3	83.1	68.5	71.9	86.4	90.3	80.7	70.5	72.7
Flat/apartment/unit	61.0	28.4	2.0	17.1	10.2	9.7	7.8	10.7	15.8	17.3
Shack	0.0	2.5	1.2	1.0	2.6	1.3	0.9	3.3	9.5	2.3
Other	3.3	10.8	13.7	13.3	15.3	2.6	0.9	5.3	4.2	7.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

On the other hand, highest proportions of flats, units and apartments occur in Cairns (61 percent) and Byron (28.4). This relationship between houses and units in Cairns and Byron is most likely a response to demand, which in turn has implications for density, with more units being constructed, within the constraints established by current planning guidelines, to absorb the demand for sea change properties in these locations.

An indication of the size of dwellings in sea change LGAs is provided in Table 3.8. For sea change LGAs, dwelling size presents a slightly positively skewed distribution, where nearly 46 percent of dwellings comprise three bedrooms, with a further 26 percent having four bedrooms. This is indicative of a tendency in sea change LGAs for dwellings to be reasonably large if they are to accommodate family and friends during the various holiday periods in the year.

Table 3.8: Dwelling size of non resident owners

Number of rooms	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
None	0	0	1	4	4	0	0	0	0	9
One bedroom	25	8	5	7	8	3	1	1	3	61
Two bedrooms	93	39	47	74	35	28	23	17	21	377
Three bedrooms	49	98	105	108	83	152	117	100	95	907
Four bedrooms	30	26	49	52	37	102	60	107	56	519
Five bedrooms	3	4	10	10	5	15	13	12	12	84
More than five bedrooms	2	2	5	4	1	7	1	1	2	25
Total	202	177	222	259	173	307	215	238	189	1982
	Percentage									
None	0.0	0.0	0.5	1.5	2.3	0.0	0.0	0.0	0.0	0.5
One bedroom	12.4	4.5	2.3	2.7	4.6	1.0	0.5	0.4	1.6	3.1
Two bedrooms	46.0	22.0	21.2	28.6	20.2	9.1	10.7	7.1	11.1	19.0
Three bedrooms	24.3	55.4	47.3	41.7	48.0	49.5	54.4	42.0	50.3	45.8
Four bedrooms	14.9	14.7	22.1	20.1	21.4	33.2	27.9	45.0	29.6	26.2
Five bedrooms	1.5	2.3	4.5	3.9	2.9	4.9	6.0	5.0	6.3	4.2
More than five bedrooms	1.0	1.1	2.3	1.5	0.6	2.3	0.5	0.4	1.1	1.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Within the specific LGAs, in all except Cairns three bedroom dwellings predominate, while the proportion of four bedroom dwellings is relatively high in all LGAs except Byron and Cairns. In Cairns, two bedroom dwellings represent 46 percent of the stock, a tendency which is linked to the dominance of units, apartments and flats in Cairns, compared with the

other LGAs. These are more likely to cater for the holiday demand of non residents who are single, couples without family or retired, or for owners who let the property either long term or short term to tenants who only want a small holiday apartment.

Non resident owners were also asked to indicate whether their sea change property was mortgage free or being purchased with a mortgage. The tenure situation for non resident properties in each of the sea change LGAs is shown in Table 3.9.

Table 3.9: Tenure of dwellings owned by non residents

Tenure	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
					Number					
Fully owned	51	83	155	179	119	222	151	116	93	1169
Being purchased	154	113	85	97	64	81	65	120	94	873
Other	3	4	2	1	2	2	0	5	1	20
Total	208	200	242	277	185	305	216	241	188	2062
					Percentage					
Fully owned	24.5	41.5	64.0	64.6	64.3	72.8	69.9	48.1	49.5	56.7
Being purchased	74.0	56.5	35.1	35.0	34.6	26.6	30.1	49.8	50.0	42.3
Other	1.4	2.0	0.8	0.4	1.1	0.7	0.0	2.1	0.5	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Nationally in sea change LGAs, about 42 percent of dwellings owned by non residents are currently being purchased, with nearly 57 percent being fully owned. Within the individual LGAs, however, there are some interesting divergences from the average situation prevailing in all the sea change LGAs which participated in the survey. In Cairns, the proportion of dwellings that are being purchased is nearly three quarters of the total, while proportions of nearly 50 percent up to 56.5 percent prevail in Busselton, Mandurah and Byron. This suggests heavy recent buying in these areas, high demand, and indicates that these are perhaps the "hotspots" along the sea change coast of Australia, and this possibility is examined in the next section.

Table 3.10 shows that a significant number of respondents owned more than one property in the sea change areas.

Table 3.10: Non residents owning more than one property in sea change LGAs

Own more than one property in LGA?	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
					Number					
Yes	55	21	19	22	38	23	17	43	35	273
No	155	182	228	265	156	282	199	199	156	1822
Total	210	203	247	287	194	305	216	242	191	2095
					Percentage					
Yes	26.2	10.3	7.7	7.7	19.6	7.5	7.9	17.8	18.3	13.0
No	73.8	89.7	92.3	92.3	80.4	92.5	92.1	82.2	81.7	87.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Some 13 percent of non resident owners in sea change LGAs own more than one property in a specific LGA. LGAs where the proportion of multiple owners is above the national average are Cairns (26.2 percent), East Gippsland (19.6), Mandurah (18.3) and Busselton (17.8). Among the other sea change LGAs, only Byron has a level of multiple owners greater than ten percent, while the level in the remaining LGAs is above seven percent. It is likely that these levels of multiple ownerships are a response to the investment potential properties in these LGAs possess. Table 3.11 below shows the spatial distribution within states of multiple owners.

Table 3.11: Distribution of respondents owning multiple properties in sea change LGAs

Permanent address	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
					Number					
New South Wales	13	8	17	12	4					60
Australian Capital Territory				6						
Victoria	11	4	1	1	32	23	17			89
Queensland	18	4		3						25
South Australia	3	1			1					5
Western Australia		1			1			43	35	80
Northern Territory	3	1								4
Tasmania	3									3
Total	51	19	18	22	38	23	17	43	35	266
					Percent					
New South Wales	25.5	42.1	94.4	54.5	10.5					22.6
Australian Capital Territory				27.3						
Victoria	21.6	21.1	5.6	4.5	84.2	100.0	100.0			33.5
Queensland	35.3	21.1		13.6						9.4
South Australia	5.9	5.3			2.6					1.9
Western Australia		5.3			2.6			100.0	100.0	30.1
Northern Territory	5.9	5.3								1.5
Tasmania	5.9									1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Firstly, in Cairns there are 51 instances of non resident owners who own multiple properties in the LGA. Relatively high numbers also prevail in Busselton (43), East Gippsland (38) and Mandurah (35). In Cairns, multiple owners reside principally in Queensland, New South Wales, and Victoria, but there are also multiple owners from South Australia, Northern Territory and Tasmania. Byron also has a widespread distribution of multiple owners, while Eurobodalla is the only LGA with non resident owners of multiple properties living in the ACT. Indeed, over a quarter of this group in Eurobodalla live in the ACT. In the other states, however, the distribution is more restricted, so that owners of multiple properties in East Gippsland come from New South Wales, Victoria, SA and WA, and Eurobodalla such owners are located in the three eastern states. Surf Coast, Mornington Peninsula, Busselton and Mandurah draw the owners of multiple properties in the LGA exclusively from their host state.

3.6 YEAR OF PURCHASE OF SEA CHANGE DWELLING BY NON RESIDENTS

Table 3.12 shows how long non resident owners have held their sea change property. Nationally, less than ten percent of non resident owners surveyed have owned their property for more than thirty years. On the other hand, slightly over 30 percent have bought in since 2006, with another 28 percent purchasing in the 2001-2006 period.

Within the LGAs, the highest proportion of recent buyers occurred in Cairns, where 42.7 percent of non residents bought into the area in the post 2006 period, with a further 42.2 percent entering the local market during the 2001-2006 period. These levels are substantially higher than the levels prevailing in any of the other sea change LGAs. Here, the highest proportions of buying in the post 2006 period occurred in Eurobodalla (34.7 percent), Byron (34.2), Busselton (33.5), and East Gippsland (30.3). These areas also had high levels of purchases in the period between 2001 and 2006. A further interesting point is that in Cairns more than 96 percent of present owners have bought in since 1991, while in Byron the comparable percentage is 89 percent. These levels do not occur in any of the remaining LGAs. It indicates the huge long term demand that has existed in these two LGAs. In terms of more recent demand – sea change properties bought since 2006, Cairns, Byron, Eurobodalla and East Gippsland could be defined as current sea change "hotspots".

Table 3.12: Length of ownership of sea change property

Year of Purchase	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Pre 1960	1	0	8	5	4	9	3	3	0	33
1961-1970	0	0	5	10	4	10	7	4	3	43
1971-1980	0	5	16	13	11	24	14	2	5	90
1981-1990	6	15	42	34	20	54	40	25	22	258
1991-2000	23	53	51	47	33	66	49	51	40	413
2001-2006	84	48	59	72	52	68	37	74	67	561
Since 2006	85	63	58	96	54	67	58	80	43	604
Total	199	184	239	277	178	298	208	239	180	2002
	Percentage									
Pre 1960	0.5	0.0	3.3	1.8	2.2	3.0	1.4	1.3	0.0	1.6
1961-1970	0.0	0.0	2.1	3.6	2.2	3.4	3.4	1.7	1.7	2.1
1971-1980	0.0	2.7	6.7	4.7	6.2	8.1	6.7	0.8	2.8	4.5
1981-1990	3.0	8.2	17.6	12.3	11.2	18.1	19.2	10.5	12.2	12.9
1991-2000	11.6	28.8	21.3	17.0	18.5	22.1	23.6	21.3	22.2	20.6
2001-2006	42.2	26.1	24.7	26.0	29.2	22.8	17.8	31.0	37.2	28.0
Since 2006	42.7	34.2	24.3	34.7	30.3	22.5	27.9	33.5	23.9	30.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

On this evidence, huge interest has developed in sea change localities since the turn of this century. Clearly, this is a response by large numbers of baby boomers entering or nearing retirement age, and by increasing numbers of non baby boomers using relatively high incomes to satisfy a developing preference for spending leisure time at coastal locations. Table 3.13 compares the year of purchase of sea change properties with the current age of Persons 1 and 2 in each surveyed household. It is expected that persons 1 and 2 are most likely to be the owners of these properties.

Table 3.13: Year of Purchase by current age of Persons 1 and 2

Year of Purchase	0-4 years	5-14 years	15-24 years	25-44 years	45-64 years	65-74 years	75 years and older	Total
	Number							
Pre 1950	0	0	0	0	6	3	2	11
1950-1959	0	0	0	0	13	14	9	36
1960-1969	0	0	0	1	21	18	21	61
1970-1979	0	0	1	0	37	45	58	141
1980-1989	0	0	2	7	191	144	68	412
1990-1999	1	2	6	27	361	196	70	663
Post 2000	3	11	28	427	1510	282	41	2302
Total	4	13	37	462	2139	702	269	3626
	Percent							
Pre 1950	0.0	0.0	0.0	0.0	0.3	0.4	0.7	0.3
1950-1959	0.0	0.0	0.0	0.0	0.6	2.0	3.3	1.0
1960-1969	0.0	0.0	0.0	0.2	1.0	2.6	7.8	1.7
1970-1979	0.0	0.0	2.7	0.0	1.7	6.4	21.6	3.9
1980-1989	0.0	0.0	5.4	1.5	8.9	20.5	25.3	11.4
1990-1999	25.0	15.4	16.2	5.8	16.9	27.9	26.0	18.3
Post 2000	75.0	84.6	75.7	92.4	70.6	40.2	15.2	63.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Without explaining ownership levels of very young persons in the table, there are a number of points that can be made:

- In the younger age groups, most properties have been bought in the post 2000 period. In the case of persons aged 15-24, the proportion buying since 2000 is 75.7 percent, while in the older 25-44 years group the proportion is 92.4 percent. These are most likely high income earners seeking ownership in a sea change locality in order to

engage in particular leisure time activities associated with these areas. Indeed, within this age group, 75 percent had annual household incomes greater than $104,000, 57 percent had annual household incomes greater than $150,000 and 33 percent had household incomes greater than $200,000.

- The 45-64 years age group has been approaching retirement for a number of years, and are not yet at a retirement age. In their case, buying sea change property began tentatively in the eighties, increased quite significantly in the nineties and has increased by more than five times in the post 2000 period. It is highly likely that this group is anticipating retirement in a coastal location.
- In the case of the "young old" buyers, aged 65-74 years, their first entry into the coastal market was in the seventies, tripling during the eighties and increasing on those levels in the nineties. Since 2000, however, there has been a 44 percent increase in interest in coastal ownership by this group, as retirement has set in.
- In terms of the "old old" group, aged 75 years and older, and who are entering their second decade of retirement, serious interest in coastal location began during the seventies and was maintained through to the end of the century. Since then, the level of buying by this group has reduced by nearly a half.

It seems, therefore, that approaching retirement and retirement are significant factors influencing the property market along the Australian coastline. For the younger groups, while retirement may be a long term consideration in the decision to buy into coastal locations, the predominant factor is likely to be the leisure or investment opportunities that ownership provides.

3.7 SUMMARY

This chapter has provided a comparison at the national level, and within the participating sea change LGAs, of a number of characteristics of non resident owners. The analysis has shown that Cairns and Byron have a number of distinct differences when compared with other sea change LGAs. These two LGAs have high concentrations of interstate owners – in the case of Cairns from New South Wales and Victoria, and for Byron from Victoria and Queensland – in addition to a large proportion of owners from their host state. The tendencies in these two LGAs point to a temperature divide between sea change LGAs along the Australian coastline. The analysis has indicated that Cairns and Byron are presently the "hotspot" sea change locations, characterised by high demand as measured by large proportions of properties which have been purchased by non residents in recent times. In the case of Cairns, in particular, demand has generated density implications, so that unlike any other LGA the proportion of flats, apartments and units in Cairns is substantially higher than in any other LGA, and the proportion of smaller dwellings, defined by number of bedrooms, is also higher than in the other LGAs. Away from Cairns and Byron, the tendency in the other LGAs is for dwellings to be larger than average, rather than smaller than average.

CHAPTER 4. CHARACTERISTICS OF NON RESIDENT OWNERS

4.1 INTRODUCTION

Whereas the previous chapter analysed aspects of non residents' usual residence and the characteristics of their sea change dwelling, the focus in this chapter is on the characteristics of non residents. This is of particular importance in the context of the present Report because these influence the present and future demand for services in the sea change localities. Clearly, second home ownership will be selective of particular groups. The age distribution of non residents is of relevance if there is a pattern of significant numbers who anticipate retiring to their holiday home. These characteristics are examined in the next section.

4.2 AGE AND SEX CHARACTERISTICS

Table 4.1 shows the age and sex breakdown of non resident households for each of the sea change LGAs. This shows that the dominant group are in the 45-64 years and 65-74 years age cohorts. The next most dominant groups are 15-24 years and 25-44 years group. The former group is most likely to represent younger family members of non resident owners, while the 25-44 years group should include a number of younger non resident owners. Young children represent a very small proportion of the non resident group in sea change locations.

Table 4.1: Age and sex of non resident households

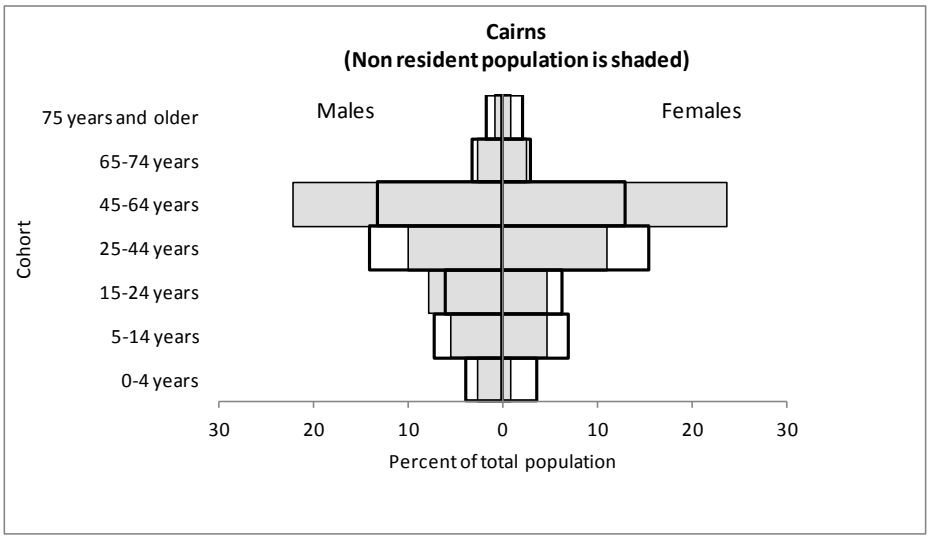
Cohort	Cairns		Byron		Shoalhaven		Eurobodalla		East Gippsland		Surf Coast		Mornington Peninsula		Busselton		Mandurah		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	Number																			
0-4 years	12	4	6	6	12	5	4	6	4	3	9	5	7	6	10	9	1	2	65	46
5-14 years	25	21	15	23	26	26	28	23	15	7	25	26	20	32	30	25	11	22	195	205
15-24 years	35	21	27	31	34	31	40	33	20	20	46	54	33	24	22	20	28	26	285	260
25-44 years	45	50	18	27	29	34	26	32	18	20	30	41	31	34	35	44	18	16	250	298
45-64 years	100	107	113	117	119	123	133	135	84	95	132	146	78	85	112	120	100	115	971	1043
65-74 years	12	11	23	19	45	43	47	48	39	26	66	61	38	50	44	33	34	21	348	312
75 years and older	4	4	9	3	20	15	23	19	18	15	26	21	29	15	5	3	13	16	147	111
Total	233	218	211	226	285	277	301	296	198	186	334	354	236	246	258	254	205	218	2261	2275
	Percentage in total population																			
0-4 years	2.7	0.9	1.4	1.4	2.1	0.9	0.7	1.0	1.0	0.8	1.3	0.7	1.5	1.2	2.0	1.8	0.2	0.5	1.4	1.0
5-14 years	5.5	4.7	3.4	5.3	4.6	4.6	4.7	3.9	3.9	1.8	3.6	3.8	4.1	6.6	5.9	4.9	2.6	5.2	4.3	4.5
15-24 years	7.8	4.7	6.2	7.1	6.0	5.5	6.7	5.5	5.2	5.2	6.7	7.8	6.8	5.0	4.3	3.9	6.6	6.1	6.3	5.7
25-44 years	10.0	11.1	4.1	6.2	5.2	6.0	4.4	5.4	4.7	5.2	4.4	6.0	6.4	7.1	6.8	8.6	4.3	3.8	5.5	6.6
45-64 years	22.2	23.7	25.9	26.8	21.2	21.9	22.3	22.6	21.9	24.7	19.2	21.2	16.2	17.6	21.9	23.4	23.6	27.2	21.4	23.0
65-74 years	2.7	2.4	5.3	4.3	8.0	7.7	7.9	8.0	10.2	6.8	9.6	8.9	7.9	10.4	8.6	6.4	8.0	5.0	7.7	6.9
75 years and older	0.9	0.9	2.1	0.7	3.6	2.7	3.9	3.2	4.7	3.9	3.8	3.1	6.0	3.1	1.0	0.6	3.1	3.8	3.2	2.4
Total	51.7	48.3	48.3	51.7	50.7	49.3	50.4	49.6	51.6	48.4	48.5	51.5	49.0	51.0	50.4	49.6	48.5	51.5	49.8	50.2

The total situation can be compared to the age sex structure prevailing in each of the LGAs and a number of points emerge from the comparison:

- Cairns, Byron, East Gippsland, Busselton and Mandurah have higher proportions of non residents aged 44-64 years than occur in the aggregated group of sea change LGAs.
- On the other hand, Shoalhaven, Eurobodalla, Surf Coast and Mornington Peninsula have higher than the aggregated average of older non residents aged 65-74 years.

As well as comparing the non resident population with the aggregated total of non residents in all of the participating LGAs, it is informative to compare the structure of non residents with that of the total population in each of the sea change LGAs. In the following series of age sex structures, the non resident population is superimposed over that of the total population, based on 2011 Census data.

Figure 4.1: Non residents and total population age structure, Cairns



The most noticeable observation here is that the proportion of persons aged 45-64 years in the non resident population is substantially greater than their representation in the total population of Cairns. This shows a clear preference for Cairns by this buying group, and will have implications for Cairns authorities if significant proportions of this cohort decide to make a permanent move to Cairns. Other points from the structure are:

- The proportion of non residents aged 65-74 years is almost the same as the proportions in the total population.
- In the 15-24 years cohort, the proportion of non residents is greater for males than for females.
- In the remaining cohorts, the representation in the total population is greater than that for the non resident population.
- In the three younger age groups, the representation of males in the non resident population is greater than that for females.

As is the case for all the sea change communities, almost a half of the non resident owners in Cairns are baby boomers, aged between 45 and 64 years, and due to enter the retirement ages over the next two decades. The key question is what proportion of them intends to retire to their holiday home?

In Byron, the representation of 15-24, 45-64 and 65-74 years cohorts is greater for the non resident population than for the total population. It may be reasonable to regard the two older cohorts as buyers into Byron, while the 15-24 year group will, in the main, represent family members of the owner group. In the 25-44 years cohort, the representation of non residents is substantially less than their presence in the total population. It is likely that this younger group is not yet able, mainly for financial reasons, to establish itself in the second home market in Byron. The smaller 0-4 years group is also likely to comprise the younger family members of this group. In the 75 years and older cohort, the non resident population has a greater proportion of males than females, which is unusual for this cohort, where females usually predominate.

Figure 4.2: Non residents and total population age structure, Byron

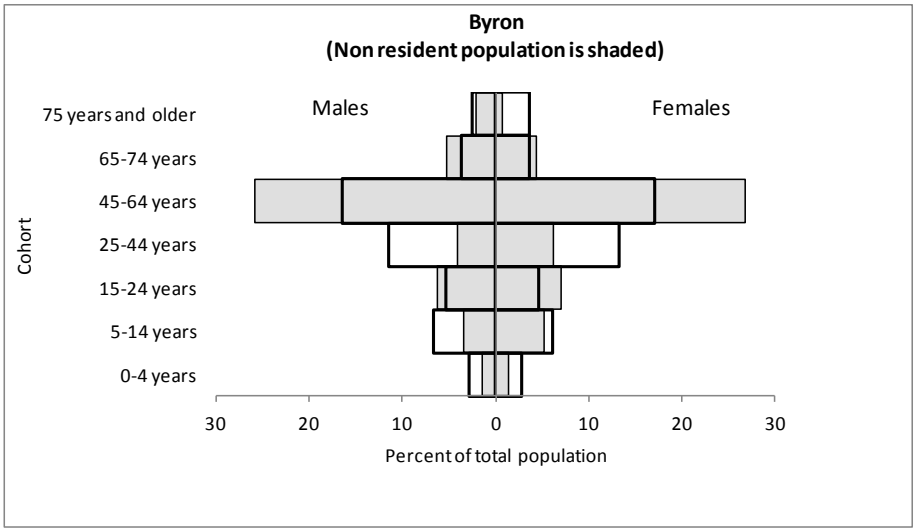
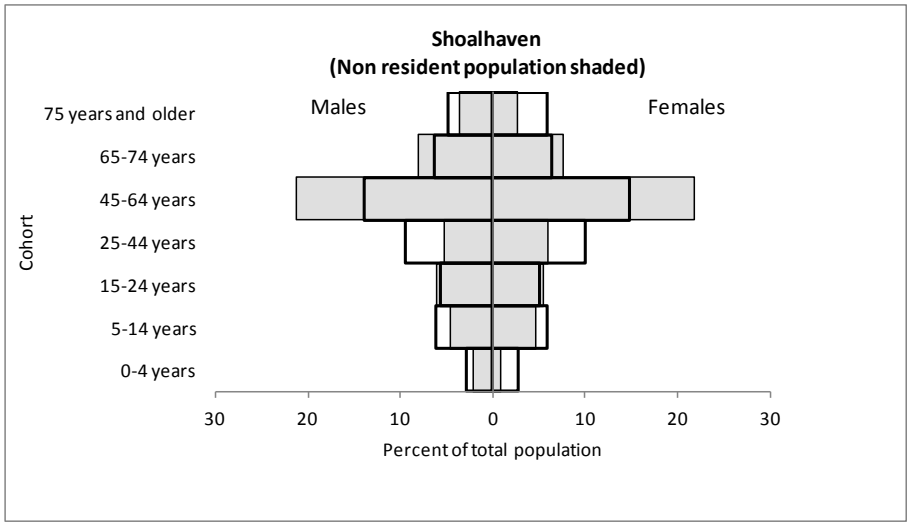
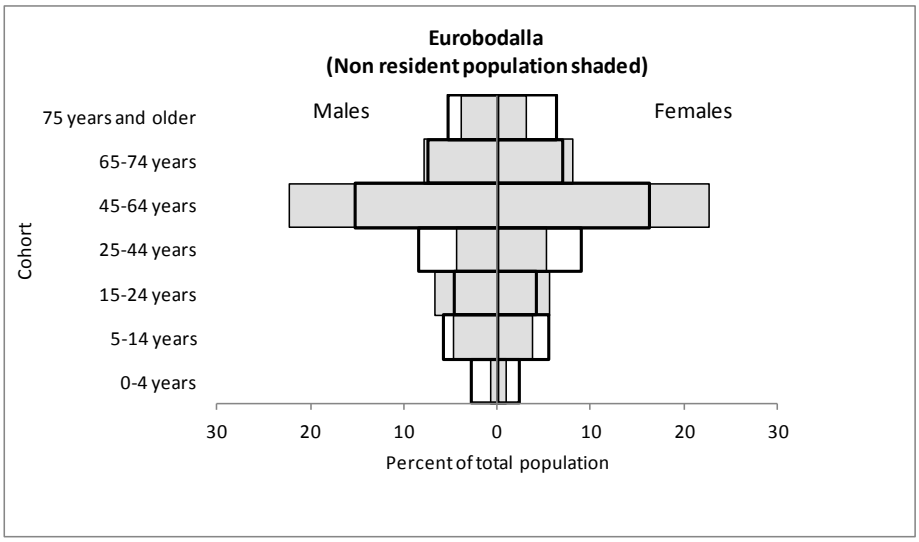


Figure 4.3: Non residents and total population age structure, Shoalhaven



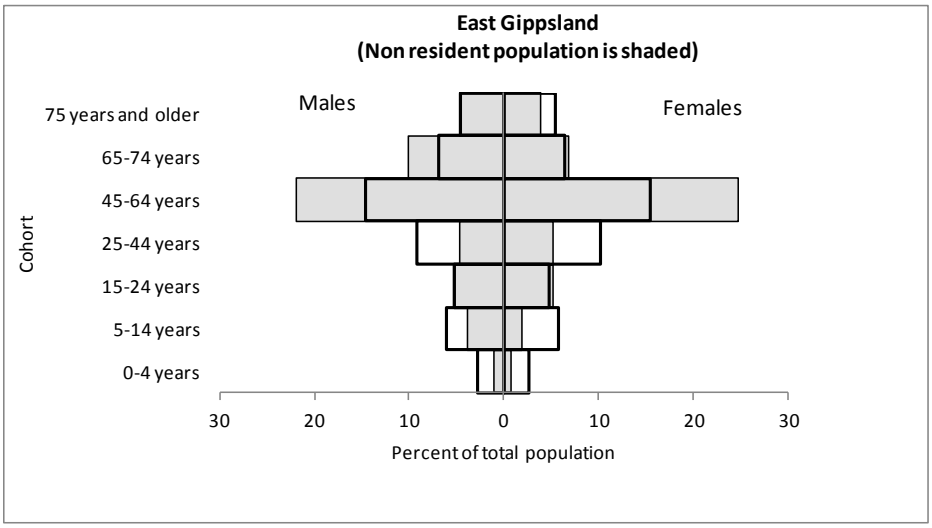
In Shoalhaven, the proportion of non residents exceeds the proportion of the total population in the 15-24, 45-64 and 65-74 years cohorts. This is essentially the same situation noted for Byron, with the same processes likely to be in play.

Figure 4.4: Non residents and total population age structure, Eurobodalla



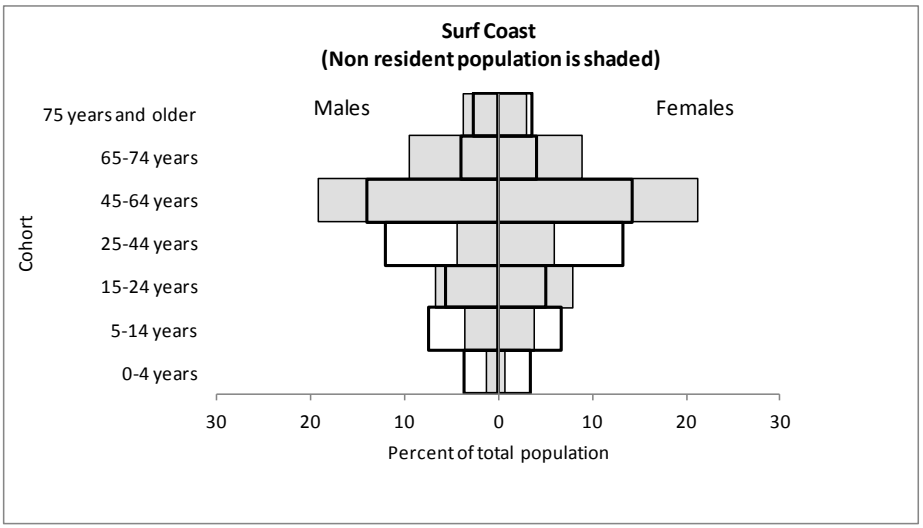
The relationship between the non residents' presence and that of the total population in the age structure of Eurobodalla is virtually identical to those noted for Byron and Shoalhaven, and the same conclusions can be drawn.

Figure 4.5: Non residents and total population age structure, East Gippsland



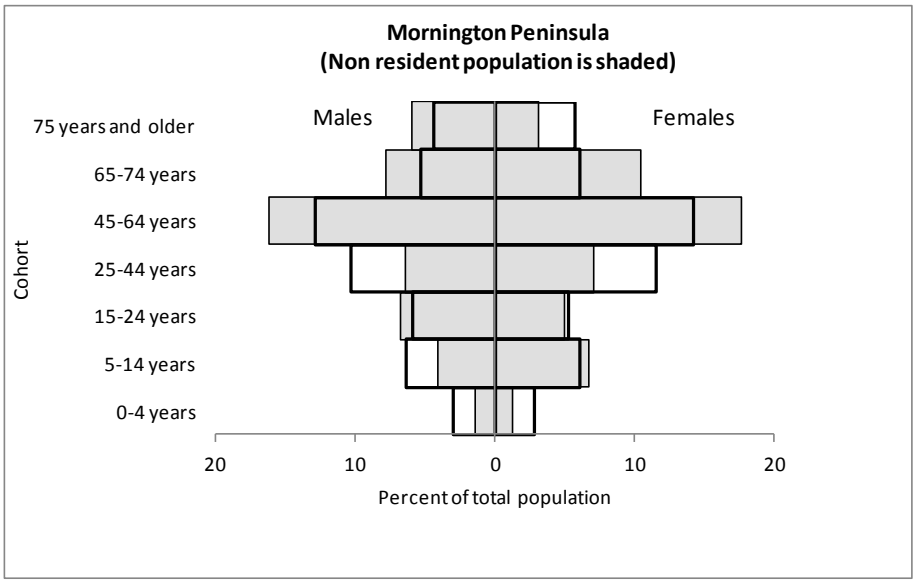
The situation in East Gippsland is a reflection of that which has been noted for Byron, Shoalhaven and Eurobodalla.

Figure 4.6: Non residents and total population age structure, Surf Coast



The situation in the Surf Coast LGA is slightly different from that observed for Byron, Shoalhaven, Eurobodalla and East Gippsland, in that the proportions of non residents in four cohorts – 15-24, 45-64, 65-74 and 75+ years – is greater than the representation of the total population in the corresponding cohorts. It suggests that the Surf Coast, not too distant from Melbourne, has an attraction to older non resident owners in the same way it has for non resident owners in younger age groups. Should these non residents decide to make a permanent move to the Surf Coast, they will add to an ageing population in the area.

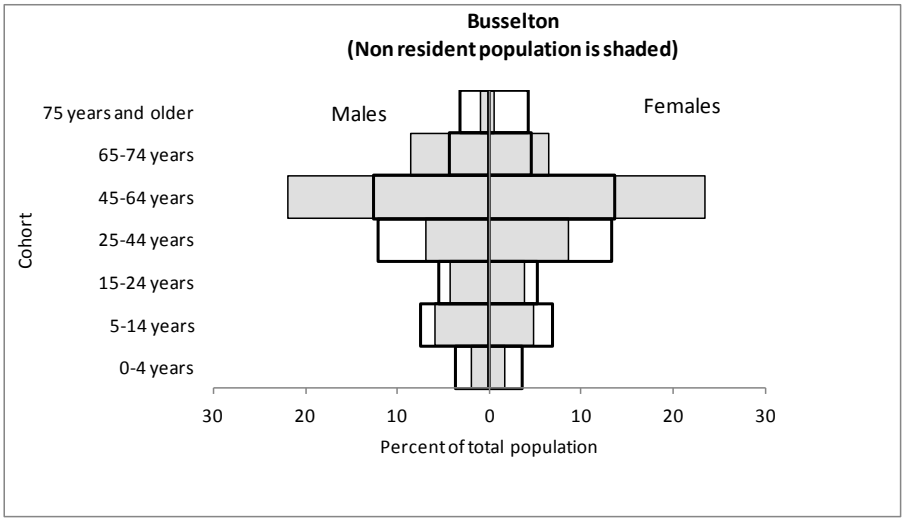
Figure 4.7: Non residents and total population age structure, Mornington Peninsula



Mornington Peninsula has the largest proportion of persons aged 75 years and older in its non resident population. With 9.1 percent, it compares with 8.6 percent in East Gippsland and 7.1 percent in Eurobodalla. These levels are much higher than the levels in Busselton (1.6 percent) and cairns (1.8 percent). This high proportion of persons aged 75 years and older in both the non resident population and the total population means that the younger cohorts have reduced proportions relative to their counterparts in other LGAs. These points notwithstanding, the relationship between the non resident population and the total population

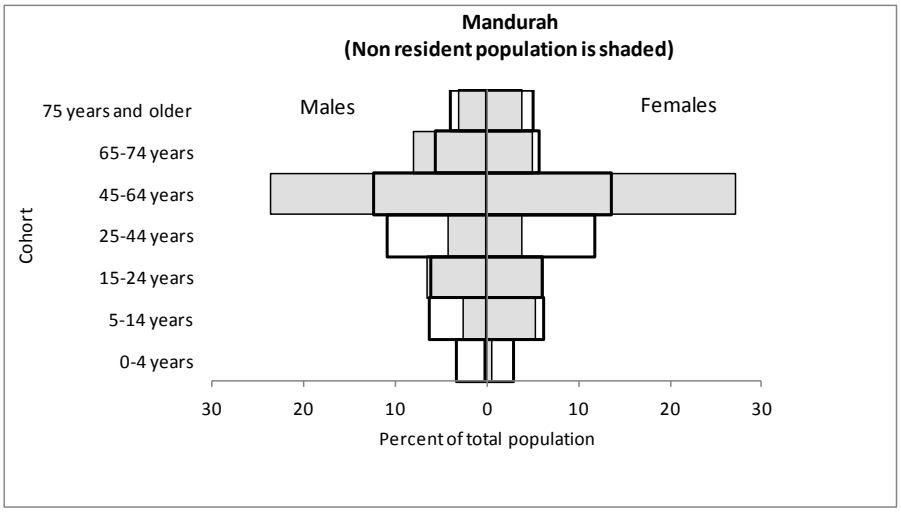
in Mornington Peninsula is similar to that prevailing in the other LGAs, with the slight exception of Cairns.

Figure 4.8: Non residents and total population age structure, Busselton



Busselton is distinct from the other LGAs in that the non resident population is clearly over represented in the 45-64 years and the 65-74 years cohorts compared with the total LGA population. In this respect it is different from Cairns, in which the non resident population was over represented only in the 45-64 years cohort, and the other LGAs where the non resident population was over represented in three main cohorts. This suggests that the two cohorts have a strong preference for Busselton and what it has to offer, and that this group does not have a strong young family group attached to it.

Figure 4.9: Non residents and total population age structure, Mandurah



In Mandurah, the non resident population is substantially larger than the total population in the 45-64 years cohort, a characteristic that has been noted for each of the preceding LGAs. Its 15-24 years cohort is equally represented in both the non resident population and the total population, and again this is something that has been noted in the other LGAs. Unlike Busselton, Mandurah does have a high representation of non residents in the 75 years and older cohort, and this may suggest that Mandurah has an attractiveness to older owners that does not occur in Busselton. It may be a distance from the capital city factor, along the same lines as was noted for Surf Coast and Mornington Peninsula. It may also be a timing factor, in that older owners may have bought some time ago when Mandurah was a "holiday/leisure"

destination. Subsequently, the construction of a freeway almost to Busselton meant that Mandurah became a part of the Perth conurbation, while Busselton became increasingly a "holiday/leisure" location. As a result, younger buyers have opted for Busselton, at the expense of Mandurah, with clear effects on the age structure of non resident owners.

Table 4.2 provides the statistical data on which the age sex structures presented above have been derived. It allows for careful scrutiny of the situation in, and between, individual LGAs.

Table 4.2: Age and sex structure, non resident population and total population in sea change LGAs

Age cohort	Cairns		Byron		Shoalhaven		Eurobodalla		East Gippsland		Surf Coast		Mornington Peninsula		Busselton		Mandurah		Total	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	Number of non residents																			
0-4 years	12	4	6	6	12	5	4	6	4	3	9	5	7	6	10	9	1	2	65	46
5-14 years	25	21	15	23	26	26	28	23	15	7	25	26	20	32	30	25	11	22	195	205
15-24 years	35	21	27	31	34	31	40	33	20	20	46	54	33	24	22	20	28	26	285	260
25-44 years	45	50	18	27	29	34	26	32	18	20	30	41	31	34	35	44	18	16	250	298
45-64 years	100	107	113	117	119	123	133	135	84	95	132	146	78	85	112	120	100	115	971	1043
65-74 years	12	11	23	19	45	43	47	48	39	26	66	61	38	50	44	33	34	21	348	312
75 years and older	4	4	9	3	20	15	23	19	18	15	26	21	29	15	5	3	13	16	147	111
Total	233	218	211	226	285	277	301	296	198	186	334	354	236	246	258	254	205	218	2261	2275
	Percentage in total non resident population																			
0-4 years	2.7	0.9	1.4	1.4	2.1	0.9	0.7	1.0	1.0	0.8	1.3	0.7	1.5	1.2	2.0	1.8	0.2	0.5	1.4	1.0
5-14 years	5.5	4.7	3.4	5.3	4.6	4.6	4.7	3.9	3.9	1.8	3.6	3.8	4.1	6.6	5.9	4.9	2.6	5.2	4.3	4.5
15-24 years	7.8	4.7	6.2	7.1	6.0	5.5	6.7	5.5	5.2	5.2	6.7	7.8	6.8	5.0	4.3	3.9	6.6	6.1	6.3	5.7
25-44 years	10.0	11.1	4.1	6.2	5.2	6.0	4.4	5.4	4.7	5.2	4.4	6.0	6.4	7.1	6.8	8.6	4.3	3.8	5.5	6.6
45-64 years	22.2	23.7	25.9	26.8	21.2	21.9	22.3	22.6	21.9	24.7	19.2	21.2	16.2	17.6	21.9	23.4	23.6	27.2	21.4	23.0
65-74 years	2.7	2.4	5.3	4.3	8.0	7.7	7.9	8.0	10.2	6.8	9.6	8.9	7.9	10.4	8.6	6.4	8.0	5.0	7.7	6.9
75 years and older	0.9	0.9	2.1	0.7	3.6	2.7	3.9	3.2	4.7	3.9	3.8	3.1	6.0	3.1	1.0	0.6	3.1	3.8	3.2	2.4
Total	51.7	48.3	48.3	51.7	50.7	49.3	50.4	49.6	51.6	48.4	48.5	51.5	49.0	51.0	50.4	49.6	48.5	51.5	49.8	50.2
	Number of persons at 2011 Census																			
0-4 years	6027	5655	815	827	2618	2567	967	854	1184	1117	964	894	4317	4124	1109	1066	2331	2076	20332	19180
5-14 years	11373	10800	1960	1788	5738	5479	2063	2002	2552	2413	1922	1748	9301	8810	2265	2104	4445	4297	41619	39441
15-24 years	9633	9786	1570	1348	5255	4766	1655	1527	2210	2011	1452	1305	8615	7645	1665	1562	4293	4214	36348	34164
25-44 years	22013	24174	3337	3893	8839	9294	2980	3199	3853	4311	3102	3436	14947	16634	3657	4044	7597	8208	70325	77193
45-64 years	20706	20231	4813	4968	12965	13681	5440	5815	6175	6544	3632	3704	18613	20470	3827	4128	8632	9542	84803	89083
65-74 years	5052	4602	1081	1039	5820	5889	2620	2522	2919	2730	1057	1044	7798	8702	1301	1364	3942	3971	31590	31863
75 years and older	2750	3366	709	1061	4478	5423	1852	2245	1904	2272	702	907	6451	8181	943	1296	2851	3504	22640	28255
Total	77553	78616	14285	14924	45712	47100	17578	18163	20798	21398	12832	13038	70042	74566	14767	15563	34092	35811	307659	319179
	Percentage in total population																			
0-4 years	3.9	3.6	2.8	2.8	2.8	2.8	2.7	2.4	2.8	2.6	3.7	3.5	3.0	2.9	3.7	3.5	3.3	3.0	3.2	3.1
5-14 years	7.3	6.9	6.7	6.1	6.2	5.9	5.8	5.6	6.0	5.7	7.4	6.8	6.4	6.1	7.5	6.9	6.4	6.1	6.6	6.3
15-24 years	6.2	6.3	5.4	4.6	5.7	5.1	4.6	4.3	5.2	4.8	5.6	5.0	6.0	5.3	5.5	5.2	6.1	6.0	5.8	5.5
25-44 years	14.1	15.5	11.4	13.3	9.5	10.0	8.3	9.0	9.1	10.2	12.0	13.3	10.3	11.5	12.1	13.3	10.9	11.7	11.2	12.3
45-64 years	13.3	13.0	16.5	17.0	14.0	14.7	15.2	16.3	14.6	15.5	14.0	14.3	12.9	14.2	12.6	13.6	12.3	13.7	13.5	14.2
65-74 years	3.2	2.9	3.7	3.6	6.3	6.3	7.3	7.1	6.9	6.5	4.1	4.0	5.4	6.0	4.3	4.5	5.6	5.7	5.0	5.1
75 years and older	1.8	2.2	2.4	3.6	4.8	5.8	5.2	6.3	4.5	5.4	2.7	3.5	4.5	5.7	3.1	4.3	4.1	5.0	3.6	4.5
Total	49.7	50.3	48.9	51.1	49.3	50.7	49.2	50.8	49.3	50.7	49.6	50.4	48.4	51.6	48.7	51.3	48.8	51.2	49.1	50.9

Source: Non residents survey and ABS, Cat Number 2001.0, Basic Community Profile, Sea Change LGAs

4.3 EMPLOYMENT STATUS AND OCCUPATION STRUCTURE OF NON RESIDENT POPULATION

In the survey, respondents were asked to provide details on the employment status for each person in the household. The results of this question are shown in Table 4.3.

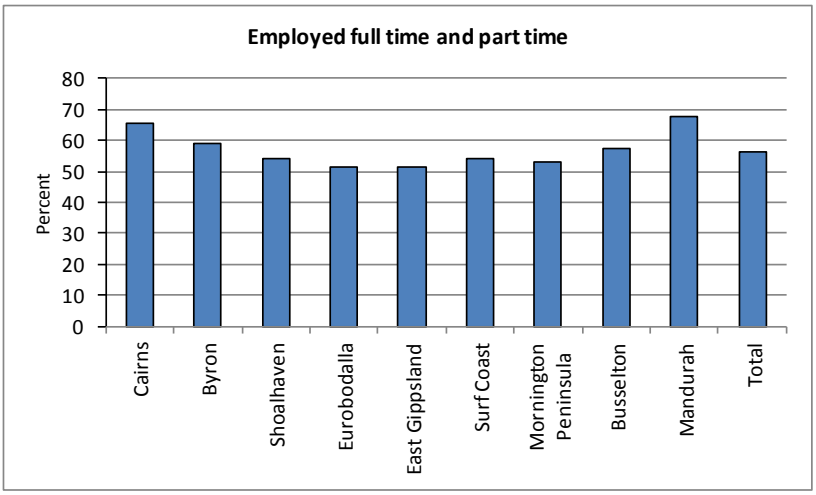
Employment levels in non resident households are generally high. As mentioned above, the entry cost into sea change locations along the Australian coastline is commensurate with the high level of demand for these locations. Accordingly, owners would be expected to have employment that generates the kind of resources necessary to buy into these areas. The level of owners employed full time ranges from around 30 percent in East Gippsland, Surf Coast and Mornington Peninsula, to over 40 percent in Busselton and Mandurah, and a little over 50 percent in Cairns. Lower proportions of persons in non resident households are employed on a part time basis. It may be that a sizeable proportion of these persons are family members, and not responsible for either the decision to buy into sea change locations or for bearing the financial responsibilities of ownership in these locations. When the numbers of households' members in full time and part time employment are aggregated, it becomes clear, as shown in Figure 4.10, that non resident households have very high employment rates. This is particularly the case for owners of properties in Mandurah, Cairns, Byron and Busselton.

Further, there are no sea change LGAs in which the combined full time and part time employment level is below 50 percent.

Table 4.3: Employment status of members of non resident households, sea change LGAs

Employment status	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Emploved full time	239	178	202	237	131	233	167	239	179	1805
Employed part time	68	85	82	84	64	160	99	81	83	806
Unemployed	6	8	3	9	2	5	5	4	3	45
Home duties	23	28	28	20	36	41	32	49	33	290
Retired	51	79	142	198	108	197	137	113	89	1114
Other	83	67	68	79	40	87	62	72	0	558
Total	470	445	525	627	381	723	502	558	387	4618
	Percentage in LGA									
Employed full time	50.9	40.0	38.5	37.8	34.4	32.2	33.3	42.8	46.3	39.1
Employed part time	14.5	19.1	15.6	13.4	16.8	22.1	19.7	14.5	21.4	17.5
Unemployed	1.3	1.8	0.6	1.4	0.5	0.7	1.0	0.7	0.8	1.0
Home duties	4.9	6.3	5.3	3.2	9.4	5.7	6.4	8.8	8.5	6.3
Retired	10.9	17.8	27.0	31.6	28.3	27.2	27.3	20.3	23.0	24.1
Other	17.7	15.1	13.0	12.6	10.5	12.0	12.4	12.9	0.0	12.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Figure 4.10: Persons employed full time and part time in non resident households



It follows that the level of unemployment in these households would be fairly low, as shown in Table 4.3. Unemployment levels range from 0.5 percent in East Gippsland to 1.8 percent in Byron.

Table 4.4 uses data from the survey to compute participation and unemployment rates for the non resident owner population in each of the sea change LGAs.

Table 4.4: Participation and unemployment rates of non resident owner population

Employment status	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Emploved full time	239	178	202	237	131	233	167	239	179	1805
Employed part time	68	85	82	84	64	160	99	81	83	806
Unemployed	6	8	3	9	2	5	5	4	3	45
Home duties	23	28	28	20	36	41	32	49	33	290
Retired	51	79	142	198	108	197	137	113	89	1114
Other	83	67	68	79	40	87	62	72	0	558
Total	470	445	525	627	381	723	502	558	387	4618
Participation rate	65.3	59.1	54.1	51.2	51.2	54.4	53.0	57.3	67.7	56.5
Unemployment rate	1.9	3.0	1.0	2.7	1.0	1.3	1.8	1.2	1.1	1.7

Note:
Participation rate is the number employed as a proportion of the total population
Unemployment rate is the number looking for work as a proportion of the labourforce.

In terms of participation rates, highest levels occur among non resident owners of properties in Mandurah, Cairns and Byron, while lowest levels prevail in East Gippsland, Eurobodalla

and Mornington Peninsula. Nationally, the level of participation in the workforce for the group is 56.5 percent.

The employment status for the total population in each of the sea change LGAs is shown in Table 4.5. While the data in this table does not exactly replicate that in Table 4.4, it nevertheless does enable some reasonable comparisons to be made. In terms of participation rates, the following points can be made:

- Nationally, the 2011 Census data for the participating LGAs generates a labour force participation rate of 54.8 percent compared with 56.5 percent derived for persons in non resident owned properties. The conclusion here is that the non resident owner population is participating in the workforce at slightly higher rates than is the case for the total population in the participating LGAs.
- The highest participation rates for the total population in the sea change LGAs occur in Cairns (64.8 percent), Surf Coast (62.7), Busselton (58.9) and Mornington Peninsula (55.4).
- The lowest rates were in Eurobodalla (42.8 percent), Shoalhaven (45.4) and East Gippsland (49.4)
- The results show that it is fair to say that there are no significant differences in participation rates between the two population sets – the non resident owners and the total population in each LGA.

Table 4.5: Employment status of total population in sea change LGAs, 2011

Employment status	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Employed full time	47586	5829	18829	6410	9355	7018	36455	7606	16440	155528
Employed part time	22018	5907	12639	5195	6428	4550	23020	5061	9165	93983
Employed, away from work	4900	889	2380	923	1263	916	4149	1119	2129	18668
Unemployed	5264	1170	2798	1014	995	495	2996	693	2123	17548
Not in Labour Force	32533	8549	35091	14527	15181	6399	44948	8154	22987	188369
Total	112301	22344	71737	28069	33222	19378	111568	22633	52844	474096
	Percentage in LGA									
Employed full time	42.4	26.1	26.2	22.8	28.2	36.2	32.7	33.6	31.1	32.8
Employed part time	19.6	26.4	17.6	18.5	19.3	23.5	20.6	22.4	17.3	19.8
Employed, away from work	4.4	4.0	3.3	3.3	3.8	4.7	3.7	4.9	4.0	3.9
Unemployed	4.7	5.2	3.9	3.6	3.0	2.6	2.7	3.1	4.0	3.7
Not in Labour Force	29.0	38.3	48.9	51.8	45.7	33.0	40.3	36.0	43.5	39.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Participation rate	66.3	56.5	47.2	44.6	51.3	64.4	57.0	60.9	52.5	56.6
Unemployment rate	6.6	8.5	7.6	7.5	5.5	3.8	4.5	4.8	7.1	6.1

Data Source: 2011 Census of Population and Housing
Table generated using ABS TableBuilder

The unemployment rate for the population within the non resident owner group is shown in Table 4.4. Highest rates occur in Byron and Eurobodalla, while lowest rates were in Shoalhaven, East Gippsland, Mandurah and Busselton. These rates reported for the non resident owner population are, however, quite low when compared with the unemployment rates for the total population in the sea change LGAs, measured at the 2011 Census – see Table 4.5. Nationally, the sea change LGAs reported an unemployment rate at the 2011 Census of 6.1 percent. Within the participating LGAs, the highest unemployment levels were reported for Byron (8.5 percent), Shoalhaven (7.6), Eurobodalla (7.5) and Mandurah (7.1). Lowest unemployment rates occurred in Surf Coast, Mornington Peninsula and Busselton. The clear conclusion is that, compared with the total population in the sea change LGAs, the

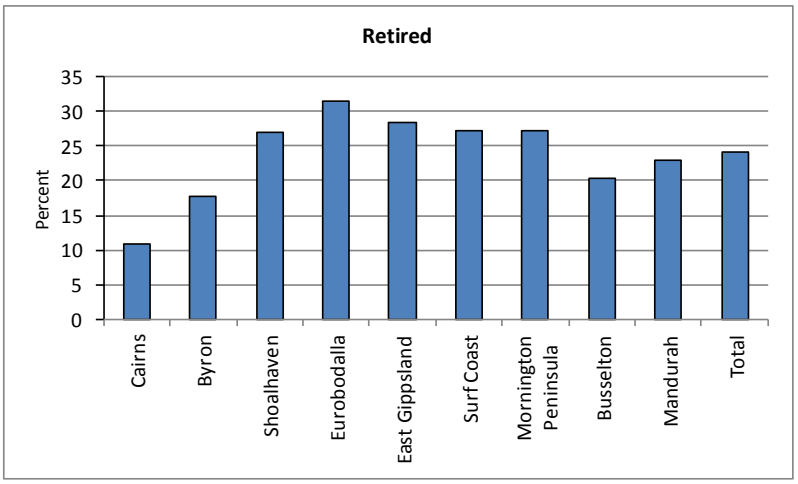
non resident owner population has significantly lower levels of unemployed persons within the group.

In addition to a consideration of participation and unemployment rates, Table 4.5 also allows for a comparison of the employment status of persons in non resident households (see Table 4.3) to be compared with the total population resident in the sea change LGAs. The main differences between the two populations are:

- There are higher rates of full time employment within the non resident population than in the total population, with the exceptions of Surf Coast and Mornington Peninsula.
- Lower rates of part time employment prevail in the non resident population than in the total population, with the exception of Mandurah.
- Unemployment rates are significantly higher in the total population than in the non resident population. In Shoalhaven, the total population unemployment rate is more than seven times greater than the rate within the non resident population. Other LGAs with rates significantly greater in the total population compared with the non resident population are East Gippsland, Mandurah and Busselton. This is a reflection of the fact that unemployment rates in regional coastal communities tend to be higher than the national average, particularly in terms of youth unemployment.

Moving away from the employment status of respondents in the survey, it could be expected, given that these non resident households have high concentrations in the older age cohorts, that there will be significant proportions of retired persons. These levels are shown in Figure 4.11.

Figure 4.11: Retired persons in non resident households



There are a couple of interesting points in Figure 4.11:

- The highest levels of retired persons in non resident households own properties in Shoalhaven, Eurobodalla, East Gippsland, Surf Coast and Mornington Peninsula. There are potential impacts in these local government areas if these households decide to move permanently into these locations.
- Slightly lower concentrations of retired persons live in households owning dwellings in Busselton and Mandurah.
- The lowest levels of retired persons owning sea change properties occur in Cairns and Byron. These LGAs have a more youthful age sex structure associated with their non resident households, in that they have larger proportions in the 45-64 years age group and smaller proportions in the older 65-74 and 75+ age groups. There are two

implications here. Are the older households avoiding Cairns and Byron as a sea change location? Have these localities acquired a reputation among the younger segment of the sea change market. Or, will these LGAs take on similar characteristics to the other LGAs in the process of time?

There are reasonable numbers of persons in the survey who described their employment status as "home duties", as shown in Table 4.3. Within this group, 55 percent were aged 45-64 years, while 25 percent were aged 65 years and older. It is reasonable to assume that many of these may well be retired, which will add to the size of the retired component of the non resident population in each of the participating LGAs.

The employment status of any group is linked to their occupational structure, and is a powerful indicator of socio economic status. Table 4.6 details the occupational structure of the non resident households in each of the sea change local government areas. The table shows both column and row percentages. However, the discussion in this section, and the accompanying graphs, are based on the column percentages which show the distribution of occupations within each of the LGAs.

Table 4.6: Occupational structure of non resident households in sea change LGAs

Occupation	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Managers	66	72	66	61	55	82	53	101	63	619
Professionals	100	118	85	78	58	151	82	98	59	829
Technical and Trades	28	11	14	28	23	22	19	16	27	188
Community and Personal Service	27	14	16	8	22	18	14	13	17	149
Clerical and Administrative	19	15	27	55	11	31	27	23	27	235
Sales	16	5	14	9	9	14	19	10	15	111
Machinery operators and drivers	7	2	2	1	4	3	4	2	5	30
Labourers	4	3	3	4	3	0	2	3	12	34
Self Employed	11	9	7	14	3	5	11	4	9	73
Total	278	249	234	258	188	326	231	270	234	2268
	Percent									
Managers	23.7	28.9	28.2	23.6	29.3	25.2	22.9	37.4	26.9	27.3
Professionals	36.0	47.4	36.3	30.2	30.9	46.3	35.5	36.3	25.2	36.6
Technical and Trades	10.1	4.4	6.0	10.9	12.2	6.7	8.2	5.9	11.5	8.3
Community and Personal Service	9.7	5.6	6.8	3.1	11.7	5.5	6.1	4.8	7.3	6.6
Clerical and Administrative	6.8	6.0	11.5	21.3	5.9	9.5	11.7	8.5	11.5	10.4
Sales	5.8	2.0	6.0	3.5	4.8	4.3	8.2	3.7	6.4	4.9
Machinery operators and drivers	2.5	0.8	0.9	0.4	2.1	0.9	1.7	0.7	2.1	1.3
Labourers	1.4	1.2	1.3	1.6	1.6	0.0	0.9	1.1	5.1	1.5
Self Employed	4.0	3.6	3.0	5.4	1.6	1.5	4.8	1.5	3.8	3.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

At the aggregate or total level persons employed in professional occupations represent nearly 37 percent, or more than one third, of all persons in non resident households. An additional 27 percent are employed in Managerial type occupations. Hence, nearly two thirds of members of non resident households are employed in relatively high paying occupations. As has been mentioned earlier, these high status and high paying occupations are expected to prevail in these households, as they make possible entry into the high demand coastal locations around the Australian coast. Moreover, these levels of high status occupations are greater than those prevailing in the total population. Table 4.7 shows the proportion each occupational category in the total population at the 2011 Census.

In terms of managerial occupations, the proportion of non resident owner population in this category is just over twice the level prevailing in the total population, while for professional occupations, the level in the non resident population is around 1.7 times greater than the level in the total population. For the remaining occupation types, higher levels prevail in the total population than in the non resident owner population.

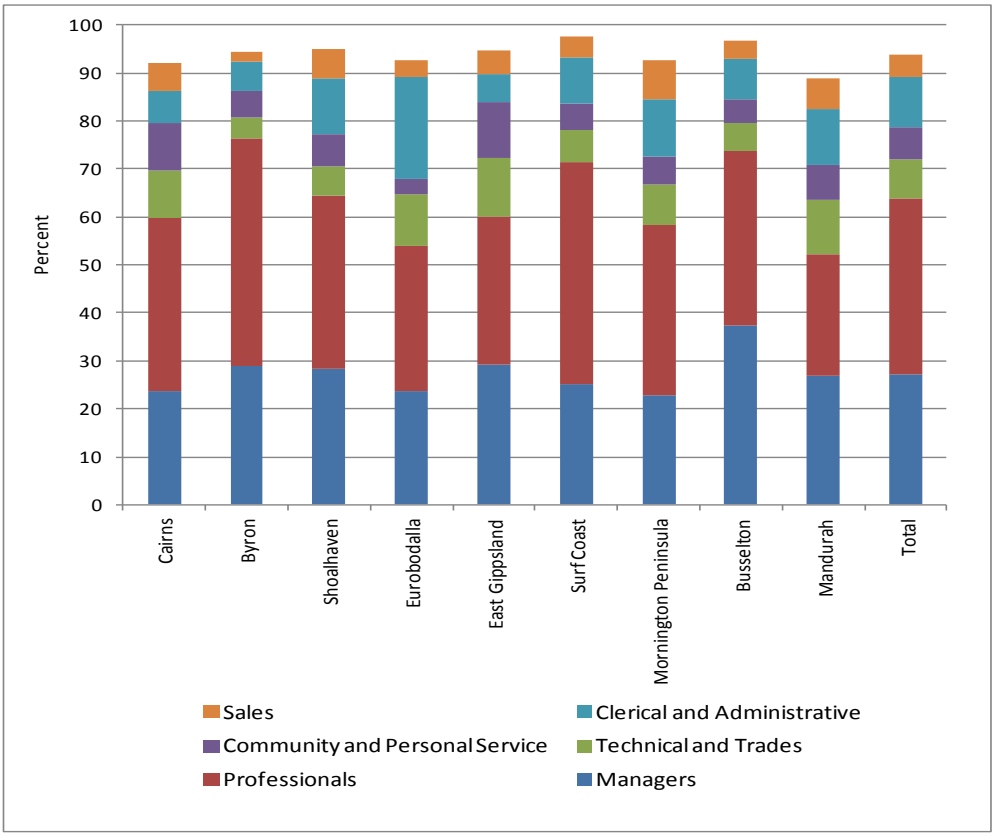
Table 4.7: Occupational structure, total population, Australia, 2011

Occupation	Australia	Percent
Managers	1293970	13.1
Professionals	2145442	21.7
Technical and Trades	1425146	14.4
Community and Personal services	971897	9.8
Clerical and Administrative Workers	1483558	15.0
Sales Workers	942140	9.5
Machinery Operators and Drivers	659551	6.7
Labourers	947608	9.6
Total	9869312	100.0

Source: 2011 Census, Table generated using TableBuilder

Figure 4.12 shows graphically how the dominant occupational categories are distributed between the various sea change LGAs. From Figure 4.12 the highest concentration of managerial occupations is in Busselton, where 37.4 percent of persons in non resident households have these occupations. This level is somewhat higher than the prevailing mid to high twenties percent in a handful of LGAs, including Byron, Shoalhaven, East Gippsland, Surf Coast and Mandurah. What is significant, however, is that the level of persons with managerial occupations in non resident households is greater than 20 percent in all the participating LGAs.

Figure 4.12: Distribution of dominant occupational groups in non resident households.



In the case of persons with professional occupations, the proportions are greater than those with managerial occupations. Here, the standout LGAs are Byron (47.4 percent) and Surf

Coast (46.3 percent). Are these, possibly, the most sought after sea change LGAs in Australia? This notwithstanding, levels of around 36 percent occur in Cairns, Shoalhaven, Mornington Peninsula and Busselton.

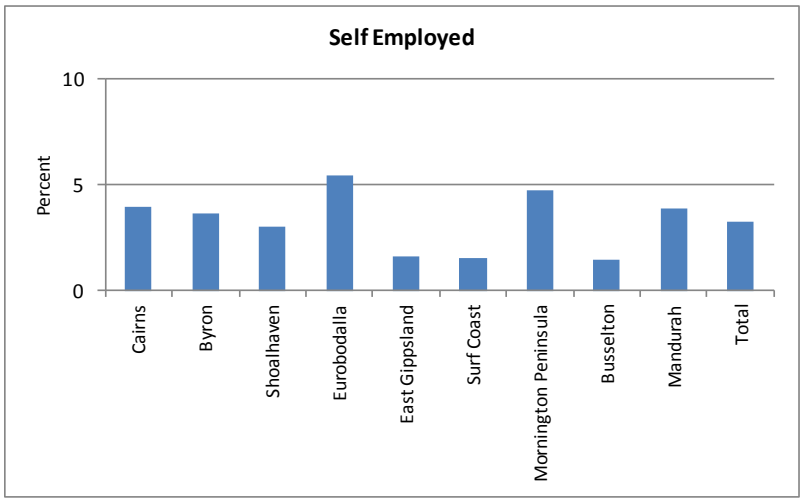
After managerial and professional occupations, the next most prevalent occupational grouping is for clerical and administrative occupations. Eurobodalla has more than 20 percent of these occupations in its non resident occupational structure, while Mandurah, Mornington Peninsula, and Shoalhaven have levels that are above the aggregate level for all the LGAs.

Technical and Trades occupations represent just over eight percent of the occupational structure for all the participating LGAs. The highest proportions of these occupations occur in Cairns, Eurobodalla, East Gippsland and Mandurah.

The largest presence of persons in non resident households in Community and Personal Service occupations occur in East Gippsland, Cairns, Shoalhaven and Mandurah

The situation for the less prevalent occupational categories can be gauged from Table 4.6. However, in the survey a number of respondents indicated they were self employed. The linkage between persons who state they are self employed and their possible income is less clear than for, say, professionals and managerial occupations. Nevertheless, there is a perception that self employed persons have reasonably large incomes. The distribution of self employed persons among the sea change LGAs is shown in Figure 4.13. Within the total group of LGAs, this occupational category represents 3.2 percent of all persons in non resident households. Levels higher than this occur in Cairns, Byron, Eurobodalla, and Mornington Peninsula.

Figure 4.13: Distribution of Self Employed persons in non resident households.



4.4 INCOME STRUCTURE OF NON RESIDENT POPULATION

It would be expected that there is a strong link between occupation and income of non resident owners in coastal locations. The survey data enables a quite precise assessment of the income levels of non resident households in sea change LGAs. Table 4.8 shows the reported annual household income levels for non resident households.

Table 4.8: Annual household income in non resident households.

Household income	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Less than $6,000	1	1	2	1	2	1	1	0	0	9
$6,000-$14,999	0	3	4	6	4	1	6	2	1	27
$15,000-$25,999	11	5	15	8	10	5	9	2	8	73
$26,000-$35,999	5	5	15	10	12	13	8	7	7	82
$36,000-$51,999	10	9	22	19	25	17	12	10	17	141
$52,000-$77,999	19	27	19	33	10	35	25	27	20	215
$78,000-$103,999	32	17	28	49	41	39	27	28	17	278
$104,000-$149,999	36	37	36	37	25	35	23	28	24	281
$150,000-$199,999	41	24	34	45	17	42	36	37	29	305
$200,000-$499,999	29	37	37	48	21	63	33	56	37	361
$500,000 or more	5	17	11	9	3	21	5	16	9	96
Total	189	182	223	265	170	272	185	213	169	1868
	Percent									
Less than $6,000	0.5	0.5	0.9	0.4	1.2	0.4	0.5	0.0	0.0	0.5
$6,000-$14,999	0.0	1.6	1.8	2.3	2.4	0.4	3.2	0.9	0.6	1.4
$15,000-$25,999	5.8	2.7	6.7	3.0	5.9	1.8	4.9	0.9	4.7	3.9
$26,000-$35,999	2.6	2.7	6.7	3.8	7.1	4.8	4.3	3.3	4.1	4.4
$36,000-$51,999	5.3	4.9	9.9	7.2	14.7	6.3	6.5	4.7	10.1	7.5
$52,000-$77,999	10.1	14.8	8.5	12.5	5.9	12.9	13.5	12.7	11.8	11.5
$78,000-$103,999	16.9	9.3	12.6	18.5	24.1	14.3	14.6	13.1	10.1	14.9
$104,000-$149,999	19.0	20.3	16.1	14.0	14.7	12.9	12.4	13.1	14.2	15.0
$150,000-$199,999	21.7	13.2	15.2	17.0	10.0	15.4	19.5	17.4	17.2	16.3
$200,000-$499,000	15.3	20.3	16.6	18.1	12.4	23.2	17.8	26.3	21.9	19.3
$500,000 or more	2.6	9.3	4.9	3.4	1.8	7.7	2.7	7.5	5.3	5.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The aggregate position presented for all the sea change LGAs is particularly interesting in terms of the concentration of high income households.

- The largest income category is for households with annual income of $200,000 to $499,999. This income is reported by 19.3 percent of households. A further 16 percent of households had incomes between $150,000 and $199,999.
- Just over five percent of households reported annual incomes of $500,000 or more.
- Some 55.7 percent of households reported annual incomes of $104,000 or more.

In terms of the highest annual income category, Byron (9.3 percent), Surf Coast (7.7 percent), Busselton (7.5 percent) and Mandurah (5.3 percent) are the only LGAs with levels above the aggregate level for all the LGAs. The same relativities prevail for annual income between $200,000 and $499,999. These results again beg the question as to whether these are the most sought after sea change locations in Australia?

Within each of the participating LGAs, the annual income with the highest occurrence for non resident households is:

- $78,000-$103,999 in Eurobodalla and East Gippsland.
- $150,000-$199,999 in Cairns and Mornington Peninsula.
- $200,000-$499,999 in Shoalhaven, Surf Coast, Busselton and Mandurah.
- Byron had equal proportions in $104,000-$149,999 and $200,000-$499,999 income categories.

The results for the non resident population can be compared with those reported at the 2011 Census. These results are shown in Table 4.9.

Table 4.9: Annual household income in households, participating LGAs, 2011.

Household Income	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
					Number					
$1-$10,399	839	189	708	280	372	134	771	155	415	3,863
$10,400-$15,599	1,677	478	1,289	551	666	183	1,379	304	770	7,297
$15,600-$20,799	3,332	944	3,423	1,363	1,698	445	3,973	712	2,006	17,896
$20,800-$31,199	5,248	1,398	5,593	2,382	2,484	766	6,137	1,257	3,430	28,695
$31,200-$41,599	5,252	1,263	4,265	1,790	2,042	777	5,334	993	2,543	24,259
$41,600-$51,999	5,042	1,157	3,641	1,600	1,695	789	4,913	962	2,142	21,941
$52,000-$64,999	4,886	936	2,884	1,230	1,368	694	4,277	835	1,697	18,807
$65,000-$77,999	4,558	798	2,480	945	1,194	684	3,952	810	1,573	16,994
$78,000-$103,999	6,822	991	3,114	1,133	1,420	1,049	5,740	1,209	2,498	23,976
$104,000-$129,999	4,790	595	1,864	612	819	821	3,837	829	1,585	15,752
$130,000-$155,999	3,253	445	1,154	404	466	687	3,389	641	1,973	12,412
$156,000-$181,999	1,904	270	748	199	284	412	1,949	378	1,031	7,175
$182,000-$207,999	714	77	259	63	75	177	777	130	398	2,670
$208,000 or more	872	152	302	79	137	215	1,107	208	559	3,631
Total	49,189	9,693	31,724	12,631	14,720	7,833	47,535	9,423	22,620	205,368
					Percent					
$1-$10,399	1.7	1.9	2.2	2.2	2.5	1.7	1.6	1.6	1.8	1.9
$10,400-$15,599	3.4	4.9	4.1	4.4	4.5	2.3	2.9	3.2	3.4	3.6
$15,600-$20,799	6.8	9.7	10.8	10.8	11.5	5.7	8.4	7.6	8.9	8.7
$20,800-$31,199	10.7	14.4	17.6	18.9	16.9	9.8	12.9	13.3	15.2	14.0
$31,200-$41,599	10.7	13.0	13.4	14.2	13.9	9.9	11.2	10.5	11.2	11.8
$41,600-$51,999	10.3	11.9	11.5	12.7	11.5	10.1	10.3	10.2	9.5	10.7
$52,000-$64,999	9.9	9.7	9.1	9.7	9.3	8.9	9.0	8.9	7.5	9.2
$65,000-$77,999	9.3	8.2	7.8	7.5	8.1	8.7	8.3	8.6	7.0	8.3
$78,000-$103,999	13.9	10.2	9.8	9.0	9.6	13.4	12.1	12.8	11.0	11.7
$104,000-$129,999	9.7	6.1	5.9	4.8	5.6	10.5	8.1	8.8	7.0	7.7
$130,000-$155,999	6.6	4.6	3.6	3.2	3.2	8.8	7.1	6.8	8.7	6.0
$156,000-$181,999	3.9	2.8	2.4	1.6	1.9	5.3	4.1	4.0	4.6	3.5
$182,000-$207,999	1.5	0.8	0.8	0.5	0.5	2.3	1.6	1.4	1.8	1.3
$208,000 or more	1.8	1.6	1.0	0.6	0.9	2.7	2.3	2.2	2.5	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: ABS, Cat Number 2001.0, Basic Community Profile, Sea Change LGAs

Although the income categories employed in the Census are different from those used in the survey, there are some important differences between the income structures described for the two groups. Whilst a number of these can be seen from close scrutiny of the two tables, Table 4.10 shows the essential differences by aggregating the survey results and Census results to create three comparable household income categories.

The data in Table 4.10 is presented graphically in the following figures to show three important comparisons between the survey non resident population and the resident population recorded in the 2011 Census.

- In Figure 4.14 it is clear that the non resident population has a significantly lower proportion of its population with “low” income compared with the total population in the nine LGAs.
- In Figure 4.15, each of the populations have similar levels reporting “middle” or “average” income levels.
- In the final figure, Figure 4.16, it is clear that the non resident population is exceedingly more wealthy, in terms of annual household income, than the resident population.

Table 4.10: Household income from Survey and Census aggregated to show key differences.

Household income	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number from survey									
Less than 52,000	27	23	58	44	53	37	36	21	33	332
52,000-$103,999	51	44	47	82	51	74	52	55	37	493
$104,000 or more	111	115	118	139	66	161	97	137	99	1043
Total	189	182	223	265	170	272	185	213	169	1868
	Percent (Survey)									
Less than 52,000	14.3	12.6	26.0	16.6	31.2	13.6	19.5	9.9	19.5	17.8
52,000-$103,999	27.0	24.2	21.1	30.9	30.0	27.2	28.1	25.8	21.9	26.4
$104,000 or more	58.7	63.2	52.9	52.5	38.8	59.2	52.4	64.3	58.6	55.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Number from 2011 Census									
Less than $52,000	21,390	5,429	18,919	7,966	8,957	3,094	22,507	4,383	11,306	103,951
$52,000-$103,999	16,266	2,725	8,478	3,308	3,982	2,427	13,969	2,854	5,768	59,777
$104,000 or more	11,533	1,539	4,327	1,357	1,781	2,312	11,059	2,186	5,546	41,640
Total	49,189	9,693	31,724	12,631	14,720	7,833	47,535	9,423	22,620	205,368
	Percent (Census)									
Less than $52,000	43.5	56.0	59.6	63.1	60.8	39.5	47.3	46.5	50.0	50.6
$52,000-$103,999	33.1	28.1	26.7	26.2	27.1	31.0	29.4	30.3	25.5	29.1
$104,000 or more	23.4	15.9	13.6	10.7	12.1	29.5	23.3	23.2	24.5	20.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Non residents survey and ABS, Cat Number 2001.0, Basic Community Profile, Sea Change LGAs

Figure 4.14: "Low" income, non residents and residents, LGAs

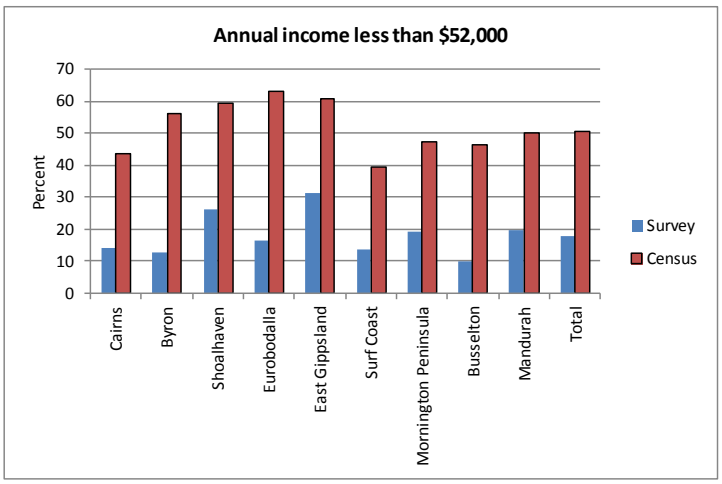


Figure 4.15: "Medium" income, non residents and residents, LGAs

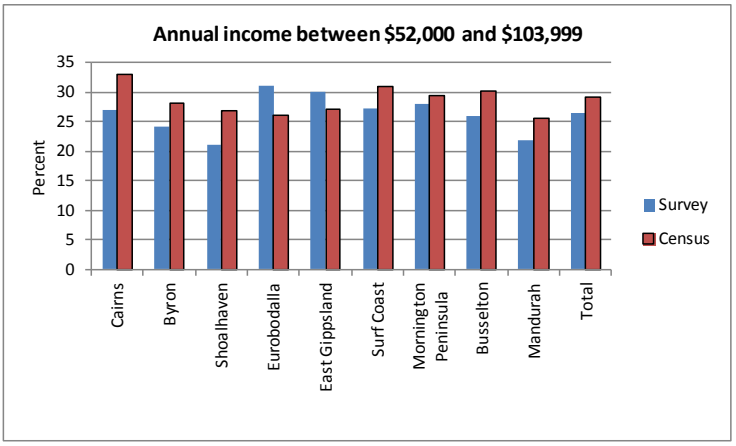
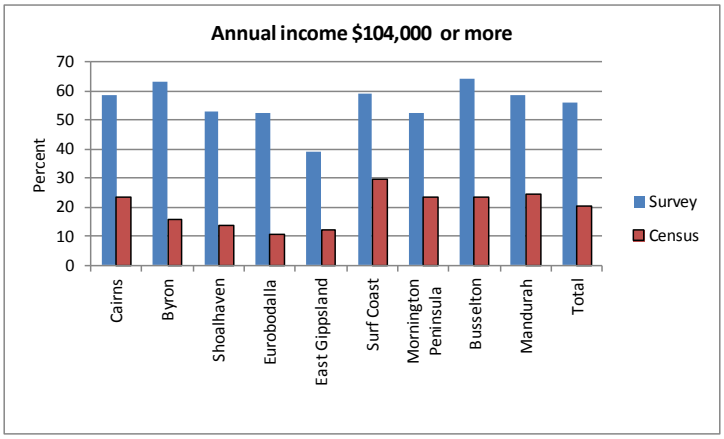


Figure 4.16: "High" income, non residents and residents, LGAs



The differences portrayed in the three figures above are similar to those noted in the discussion of the age and sex structures of the two populations. In that discussion, it was noted that there were significant differences between the non resident population and the resident population in terms of the critical 45-64 years age group, as well as the 25-44 and 65-74 years age groups.

4.5 FAMILY AND MARITAL STATUS OF NON RESIDENT HOUESHOLDS

This section reports the results of questions in the survey relating to family status of the household and the marital status of members of the household. Table 4.11 shows how the various categories of family status are distributed within the sea change LGAs. It also shows the aggregate situation in the participating LGAs.

Table 4.11: Family status of non resident households

Family status	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Couple without children	47	25	38	38	24	35	24	29	20	280
Couple with children who have left home (ie., empty nesters)	59	77	104	134	89	144	99	113	99	918
Couple with dependent children	56	50	53	57	37	80	67	55	44	499
Single parent	12	8	3	3	8	7	5	2	1	49
Lone person	24	19	23	21	22	12	9	15	12	157
Other	7	17	21	28	7	26	13	22	14	155
Total	205	196	242	281	187	304	217	236	190	2058
	Percentage in LGA (column percent)									
Couple without children	22.9	12.8	15.7	13.5	12.8	11.5	11.1	12.3	10.5	13.6
Couple with children who have left home (ie., empty nesters)	28.8	39.3	43.0	47.7	47.6	47.4	45.6	47.9	52.1	44.6
Couple with dependent children	27.3	25.5	21.9	20.3	19.8	26.3	30.9	23.3	23.2	24.2
Single parent	5.9	4.1	1.2	1.1	4.3	2.3	2.3	0.8	0.5	2.4
Lone person	11.7	9.7	9.5	7.5	11.8	3.9	4.1	6.4	6.3	7.6
Other	3.4	8.7	8.7	10.0	3.7	8.6	6.0	9.3	7.4	7.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Percentage in family status category (row percent)									
Couple without children	16.8	8.9	13.6	13.6	8.6	12.5	8.6	10.4	7.1	100.0
Couple with children who have left home (ie., empty nesters)	6.4	8.4	11.3	14.6	9.7	15.7	10.8	12.3	10.8	100.0
Couple with dependent children	11.2	10.0	10.6	11.4	7.4	16.0	13.4	11.0	8.8	100.0
Single parent	24.5	16.3	6.1	6.1	16.3	14.3	10.2	4.1	2.0	100.0
Lone person	15.3	12.1	14.6	13.4	14.0	7.6	5.7	9.6	7.6	100.0
Other	4.5	11.0	13.5	18.1	4.5	16.8	8.4	14.2	9.0	100.0
Total	10.0	9.5	11.8	13.7	9.1	14.8	10.5	11.5	9.2	100.0

There are a number of points that can be made from this table:

- The first point is that at both the aggregate level and the individual level, the top three groups are the same.
- The most dominant family type is the couple with children who have left home. These are the empty nesters, and are persons highly likely to move from their current location to their sea change LGA at some time in the future. In Mandurah, this group represents 52.1 percent of all households, while the proportion in Eurobodalla, East Gippsland, Surf Coast, and Mornington Peninsula is above 45 percent.
- The second most dominant group are couples with dependent children. Should this group decide to move in the near future, they are likely to bring with them children of school age, which may have implications for educational infrastructure in sea change LGAs. In Byron, Surf Coast, Mornington Peninsula and Cairns, the proportion of non resident households in this category is above 25 percent.
- The third largest family status group is couples without children. In aggregate, these are 13.6 percent of non resident households. The highest proportions occur in Cairns (22.9 percent), Shoalhaven (15.7) and Eurobodalla (13.5).
- At the aggregate level, nearly two thirds (65.7 percent) of households, including lone person households, are families which have no children within them.

In Table 4.12 comparable data for each of the LGAs has been extracted from the 2011 Census results. Comparison of this table with Table 4.11 enables some interesting comparisons between non resident households and those in the total population of each LGA.

Table 4.12: Family status of all households, Census 2011

Family status	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Couple without children	15592	2797	12126	5325	5924	2741	16726	3586	9045	73862
Couple with children who have left home (ie., empty nesters)	2211	448	1644	581	682	439	2886	480	1200	10571
Couple with dependent children	14120	2404	7068	2414	3261	2855	13176	2982	5804	54084
Single parent	7698	1686	4410	1589	1715	821	6051	1154	3141	28265
Lone person	14871	3092	9961	4161	4865	1935	14203	2506	6596	62190
Total	54492	10427	35209	14070	16447	8791	53042	10708	25786	228972
	Percentage in LGA (column percent)									
Couple without children	28.6	26.8	34.4	37.8	36.0	31.2	31.5	33.5	35.1	32.3
Couple with children who have left home (ie., empty nesters)	4.1	4.3	4.7	4.1	4.1	5.0	5.4	4.5	4.7	4.6
Couple with dependent children	25.9	23.1	20.1	17.2	19.8	32.5	24.8	27.8	22.5	23.6
Single parent	14.1	16.2	12.5	11.3	10.4	9.3	11.4	10.8	12.2	12.3
Lone person	27.3	29.7	28.3	29.6	29.6	22.0	26.8	23.4	25.6	27.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Percentgae in family status category (row percent)									
Couple without children	21.1	3.8	16.4	7.2	8.0	3.7	22.6	4.9	12.2	100.0
Couple with children who have left home (ie., empty nesters)	20.9	4.2	15.6	5.5	6.5	4.2	27.3	4.5	11.4	100.0
Couple with dependent children	26.1	4.4	13.1	4.5	6.0	5.3	24.4	5.5	10.7	100.0
Single parent	27.2	6.0	15.6	5.6	6.1	2.9	21.4	4.1	11.1	100.0
Lone person	23.9	5.0	16.0	6.7	7.8	3.1	22.8	4.0	10.6	100.0
Total	23.8	4.6	15.4	6.1	7.2	3.8	23.2	4.7	11.3	100.0

Data Source: 2011 Census of Population and Housing

Table generated using ABS TableBuilder

- The most significant difference between the two populations relates to the prevalence of "empty nesters". Their presence in the non resident population is much greater than in the total population in each of the LGAs. This group is, therefore, a huge part of the non resident owner sector of the property market in coastal areas.
- Couple families with dependent children are equally represented in each of the populations.

- As might be expected, the levels of couples without children, single parent families and lone person households are much higher in the total population than in the non resident population.

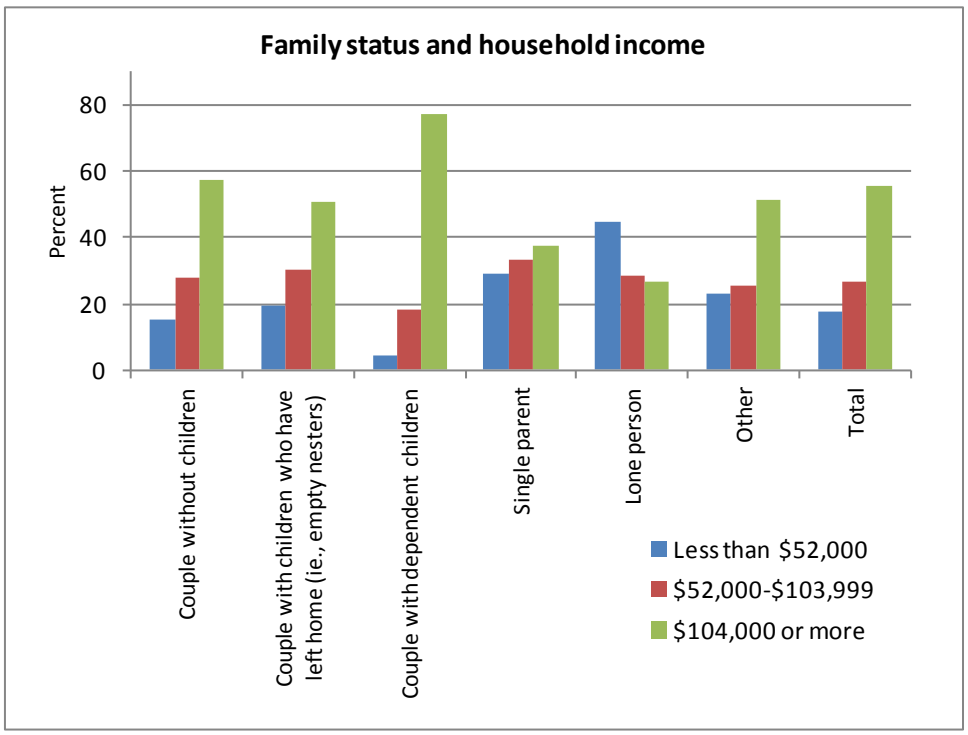
Table 4.13 assesses the relationship between family status and income in non resident households.

Table 4.13: Family status and annual household income

Household Income	Couple without children	Couple with children who have left home (ie., empty nesters)	Couple with dependent children	Single parent	Lone person	Other	Total
			Number				
Less than $52,000	38	159	21	14	63	32	327
$52,000-$103,999	70	247	81	16	40	35	489
$104,000 or more	145	416	346	18	37	70	1032
Total	253	822	448	48	140	137	1848
			Percent				
Less than $52,000	15.0	19.3	4.7	29.2	45.0	23.4	17.7
$52,000-$103,999	27.7	30.0	18.1	33.3	28.6	25.5	26.5
$104,000 or more	57.3	50.6	77.2	37.5	26.4	51.1	55.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The data in the table are presented graphically in Figure 4.17.

Figure 4.17: Family status and annual household income



There are several main points emerging from Table 4.13 and Figure 4.17:

- With all the family groups, with the exception of lone person households, the dominant annual income category is $104,000 or more.

- For the empty nesters, the proportion of households in the highest income category is 50.6 percent, while for couple families without children, the proportion is 57.3 percent.
- However, in couple with dependent children households, the proportion with annual incomes of $104,000 or more is 77.2 percent.

These results indicate that non resident households have generally high incomes, a conclusion that has been reached earlier in the discussion. However, the size of this income category in families with dependent children indicates that these are families whose purchase of sea change property is most likely for holiday purposes during the years in which their family is growing.

Finally, the survey sought data on the current marital status of persons in non resident households. These results are presented in Table 4.14. The most noticeable result from the table is the dominance of married persons in these households. At the aggregate level of all sea change LGAs, the proportion of persons married is 60.4 percent. Within the LGAs the highest levels occur in Mandurah (77 percent), Mornington Peninsula (73.6) and Eurobodalla, East Gippsland and Busselton, each with marginally more than 72 percent.

Table 4.14: Marital status, non resident households

Marital status	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Married	276	282	344	440	272	497	335	375	322	1644
Partner/defacto	2	6	6	0	1	8	0	2	0	25
Same sex relationship	0	0	0	0	0	4	0	0	0	4
Widowed	8	7	21	26	17	24	12	8	7	130
Divorced	32	32	10	22	21	14	8	21	12	172
Separated	2	0	1	0	0	0	4	0	0	7
Never married	110	109	111	119	63	157	96	113	77	738
Total	430	436	493	607	374	704	455	519	418	2720
	Percent									
Married	64.2	64.7	69.8	72.5	72.7	70.6	73.6	72.3	77.0	60.4
Partner/defacto	0.5	1.4	1.2	0.0	0.3	1.1	0.0	0.4	0.0	0.9
Same sex relationship	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.1
Widowed	1.9	1.6	4.3	4.3	4.5	3.4	2.6	1.5	1.7	4.8
Divorced	7.4	7.3	2.0	3.6	5.6	2.0	1.8	4.0	2.9	6.3
Separated	0.5	0.0	0.2	0.0	0.0	0.0	0.9	0.0	0.0	0.3
Never married	25.6	25.0	22.5	19.6	16.8	22.3	21.1	21.8	18.4	27.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The proportion of persons who are widowed is 4.8 percent at the aggregate level, with highest levels prevailing in East Gippsland, Shoalhaven and Eurobodalla. The proportion of persons who are divorced or separated is 6.6 percent at the aggregate level, with highest levels in the LGAs occurring in Cairns and Byron.

The never married group is more than a quarter of persons at the aggregate level, with highest levels in the participating LGAs occurring in Cairns and Byron. It may be that this group is essentially comprised of younger children in the non resident owners. Alternatively, a significant proportion of owners fall into this category. If we assume that the responses of Person 1 in the survey, and possible Person 2, are owners, then the analysis of never married in this group will be instructive. Table 4.15 below shows the proportion of Persons 1 and 2 who were never married in each LGA along with the numbers of Persons 3, 4, 5 and 6 who were never married. The highest proportions of Persons 1 and 2 occur in Cairns (11.8 percent) and Shoalhaven (6.5). Assuming these are "owners", then it would seem that the highest proportion of owners who have never married occurs in Cairns, Shoalhaven and Byron. If we assume that Persons 3, 4, 5, and 6 who have never married are "family"

members of owners, and possibly younger persons, then the highest proportions of this group are located in Byron, Surf Coast, Busselton and Mornington Peninsula.

Table 4.15: Marital status of Persons 1 and 2, and Persons 3, 4, 5, and 6

	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah
Never married P1, P2 (Number)	50	23	32	23	18	29	20	22	14
Never married P1, P2 Percent	11.8	5.3	6.5	3.8	4.8	4.1	4.4	4.2	3.3
Never Married P3, P4, P5, P6 (Number)	60	86	79	96	45	128	76	91	63
Never Married P3, P4, P5, P6 Percent	14.1	19.7	16.0	15.8	12.0	18.2	16.8	17.5	15.1
Total	425	436	493	607	374	704	453	519	418

4.6 SUMMARY

This analysis has shown very clearly that within the non resident population of sea change LGAs, the dominant age cohort is that of persons aged 45-64 years, and that in all the sea change LGAs the proportion of non residents in this cohort is significantly higher than the representation of the total population. It means that the baby boomer group has a clear interest in sea change locations, as well as the resources to buy into these locations. If a large proportion of this group eventually decides to move permanently to the coast, then their numbers will add to the older population already resident in these areas. Non residents are also highly represented in the 65-74 years age group and the 15-24 years age groups, but typically are not over represented in the oldest age group and the youngest age groups. In terms of the younger age groups, it means that should families decide to move to coastal locations, the chances of them bringing with them a sizeable school aged population is unlikely, and therefore any moves would not have significant implication for education provision.

In terms of the employment status of non resident households, the main finding was that persons in non resident households have high levels of full time employment. This is to be expected as continuing employment and associated income is needed to maintain secondary properties in sea change locations. Further, high percentages of non resident households contain persons in part time employment. Many in this group are likely to be family members of non resident households who do not have financial responsibilities associated with owning sea change properties. Clearly, there are very high levels of employment prevailing in non resident households who own sea change property. The corollary of this is that levels of unemployment are generally low within non resident households owning property in sea change LGAs, in stark contrast to the unemployment levels occurring in the total population in sea change localities. The level of retired persons in non resident households is quite high in all the participating LGAs. The lowest levels, however, occur in Cairns and Byron.

The occupational structure of any community is an important indicator of the group's socio economic status. Further, it has strong linkages to the group's income levels. The households associated with non resident properties in the sea change LGAs have extremely high representations in managerial, professional, clerical and administrative, technical and trades and community and personal services. These occupations typically have higher prevailing incomes than those associated with occupations with lower levels in the LGAs. Hence, it is likely that the occupational structure of the LGAs permits the kinds of income levels necessary to own property in the high demand sea change locations within Australia.

The survey has shown that non resident households are wealthy, based on the fact that the level of their annual income is positively skewed. This situation is in contrast to the situation

in the total population, as measured at the 2011 Census. The survey results suggest that if these households were to move to sea change locations, they would bring with them a considerable income boost to the local economy. In time, it is probable that any in migration to sea change localities will work to modify the prevailing income structure in these areas.

Finally, in all of the sea change LGAs, married persons predominate, representing a little over 60 percent of all persons averaged across all the sea change LGAs. The next most dominant group are persons who have never married. Many of these are family members who are probably young and have not yet married. Some, however, are owners. As a group, persons who are divorced or separated are marginally larger than the group of persons who are widowed.

CHAPTER 5. ESTIMATING THE SIZE OF TEMPORARY POPULATIONS IN NON RESIDENT HOUSEHOLDS

5.1 INTRODUCTION

It was established earlier that non metropolitan coastal areas in Australia have a high proportion of their dwellings unoccupied on Census night. The majority of these unoccupied dwellings are understood to be holiday homes which are occupied at other times of the year – especially holidays, weekends and in the summer vacation period. It is important from the perspective of understanding the actual demand which is created for services to make some estimation of the numbers of additional non residents who may be in the locality from time to time during the year. Accordingly, the survey questionnaire was designed to facilitate this estimation.

5.2 NON RESIDENTS ELSEWHERE ON THE NIGHT OF THE CENSUS

The survey asked respondents whether they, or any family members or friends, were resident in the sea change dwelling on the night of the Census, 9 August 2011. The responses to this question are presented in Table 5.1.

Table 5.1: Non resident owners present on night of Census 2011

Present on census night?	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Yes	9	13	11	12	6	14	8	11	5	89
No	199	186	233	272	179	292	208	226	187	1982
Total	208	199	244	284	185	306	216	237	192	2071
	Percent									
Yes	4.3	6.5	4.5	4.2	3.2	4.6	3.7	4.6	2.6	4.3
No	95.7	93.5	95.5	95.8	96.8	95.4	96.3	95.4	97.4	95.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The table suggests that at the aggregate level, 95.7 percent of non resident owners were not at their sea change LGA on the night of the Census. Similarly high levels of absence on the night of the Census prevailed in each of the participating LGAs. This is evidence that the Census data on unoccupied houses in sea change areas tends to be mainly holiday homes with non resident owners.

However, these levels of absence on Census night do not represent the true extent of the temporary populations in sea change LGAs. The principal reason for this is that some of the non resident owners may have rented out, or let, their dwelling. This phenomenon clouds the estimate of the size of temporary populations on the night of the Census. Therefore, we need to drill down so as to identify dwellings which were definitely unoccupied on Census night, and those that were likely to be unoccupied on Census night. In the latter category are dwellings which although rented at times during the year, may not have had tenants on the night of the Census.

The first step is to identify households which were definitely unoccupied on Census night. These are non resident owners who were not present on Census night and who did not rent out their property at any time during the preceding year. These will be dwellings which were both unoccupied and not rented out on the night of the Census. Table 5.2 shows the distribution of these dwellings between the LGAs.

Table 5.2: Households not present on Census night and which did not rent their property during preceding year

	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Unoccupied dwellings	6	57	169	181	112	204	151	109	101	1090
Total dwellings	208	199	244	284	185	306	216	237	192	2071
	Percent									
Unoccupied dwellings	2.9	28.6	69.3	63.7	60.5	66.7	69.9	46.0	52.6	52.6

The levels of unoccupied dwellings indicated by the table is not, however, a full representation of the size of the temporary population. Where non resident households were not present on the night of the Census, the dwelling may have been occupied by tenants. However, if the property was not occupied by tenants on Census night, then the dwelling would have been unoccupied from a Census perspective. A methodology is needed to estimate how many properties were likely to be untenanted on Census night. If it is assumed that a property rented for less than eight days during August 2011 is likely to be unoccupied on the night of the Census, then the survey data can identify an additional number of unoccupied dwellings on Census night 2011.

Table 5.3 shows the extent of unoccupied dwellings based on the fact that the owners were not present on Census night and the property was let for less than eight days during August.

Table 5.3: Unoccupied dwellings based on owner not present and dwelling not rented on Census night 2011

	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Unrented on census night	16	40	36	38	22	60	23	39	15	289
Total dwellings	208	199	244	284	185	306	216	237	192	2071
	Percent									
Unrented on census night	7.7	20.1	14.8	13.4	11.9	19.6	10.6	16.5	7.8	14.0

These additional unoccupied dwellings can be added to those identified in Table 5.2.

The number of non resident owner dwellings which were rented out, based on an assumption that those properties rented out for more than seven days during August 2011 were likely to have a tenant in them on Census night, is shown in Table 5.4.

Table 5.4: Non resident owner properties most likely occupied on Census night, 2011

	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Rented on census night	172	84	25	48	43	28	30	77	68	575
Total dwellings	208	199	244	284	185	306	216	237	192	2071
	Percent									
Rented on census night	82.7	42.2	10.2	16.9	23.2	9.2	13.9	32.5	35.4	27.8

There are several pertinent points emerging from this table:

- 82.7 percent of all non resident owned properties in Cairns were rented out on Census night.
- In Byron, the comparable percentage was 42.2 percent.
- In Cairns and Byron, non resident owners engage in high levels of rental.
- Levels in Mandurah (35.4 percent) and Busselton (32.5) are relatively high.
- Lowest levels of rental on Census night were in Surf Coast (9.2 percent) and Shoalhaven (10.2).

It would be expected that the tenants occupying the dwelling on Census night would have completed a Census form. As a result, these dwellings do not generate any temporary population, as the occupants were counted in the sea change LGA on the night of the Census. The ABS has a legislated obligation to count persons where they were on the night of the Census, and collectors do all in their power to ensure that this occurs. Therefore, renters and short term visitors using the properties of non resident owners will, in all probability, be counted where they were on the night of the Census. The count of these persons is published in Census data based on location on Census night. Visitors, however, are reallocated to their home area, and counted in data based on place of usual residence. Hence, LGAs with high levels of non resident owned properties rented out does not mean that the LGA is supporting "non-counted" or "lost" populations which enter their LGA from time to time creating a temporary population which places a burden on their resources.

Table 5.5 compares for the sea change LGAs the differences between their populations based on place of enumeration and place of residence. The first point to make is that in any LGA there will be persons who are visiting on the night of the Census – these may be from elsewhere in the LGA, from within the state, interstate or from overseas – and there will be persons who are absent from their usual residence. Importantly, this is a phenomenon that occurs every day of the year. The table shows that for Cairns and Byron, the difference between place of enumeration and usual residence counts is positive – significantly so for Cairns. In Cairns, the difference was 24,400, caused by the impact of visitors to the LGA and persons who were out of the LGA on the night of the Census. In Byron, the difference was 1,765. For the other sea change LGAs, the difference between visitors into the LGAs and usual residents who were elsewhere in Australia on the night of the Census, the difference is negative. However, much of this difference is due to the timing of the Census – mid week and in mid winter. The table also shows the percentage of persons in each LGA who were in their "usual residence" on Census night. Low percentages show the impact of visitors, while higher percentages indicate a relative absence of visitors, or temporary population. Cairns and Byron had the lowest percentages – 81.8 and 88.2 percent respectively – while the highest percentages were present in Mornington Peninsula, Mandurah and Shoalhaven. The situation in Cairns and Byron is heavily influenced by the fact that these are destinations for "snowbirds" who flee the south in winter to take advantage of these areas warmer winter climate. In this respect they are decidedly different from the other LGAs.

Table 5.5: Sea change populations based on usual residence and place of enumeration, Census 2011

Location	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah
	Place of enumeration								
Counted at home on Census Night	147,795	27,310	86,788	33,088	38,848	23,772	135,422	27,649	64,459
Visitor from same LGA	260	48	180	86	95	59	172	50	62
Visitor from Interstate and other territories	21,409	2,636	3,892	2,162	2,650	1,370	4,517	1,862	2,365
Overseas visitors	11,105	971	257	137	149	161	536	271	340
Total persons	180,569	30,965	91,117	35,473	41,742	25,362	140,647	29,832	67,226
	Percent in usual residence on Census night								
	81.8	88.2	95.2	93.3	93.1	93.7	96.3	92.7	95.9
	Place of usual residence								
"At home" on census night	147,794	27,309	86,787	33,089	38,849	23,773	135,422	27,650	64,458
"Elsewhere in Australia" on census night	8,376	1,900	6,024	2,652	3,346	2,097	9,187	2,680	5,445
Total persons	156,169	29,209	92,812	35,741	42,196	25,870	144,608	30,330	69,903
Difference between enumeration and usual residence counts	24,400	1,756	-1,695	-268	-454	-508	-3,961	-498	-2,677

Source:
ABS 2011 Census of Population and Housing, Cat No 2001.0, Basic Community Profile based on Place of Usual Residence
ABS 2011 Census of Population and Housing, Cat No 2004.0, Basic Community Profile based on Place of Enumeration

These differences between LGAs highlights the need for better methods of estimating visitors in any LGA at any given time throughout the year, and is an issue on which this Report seeks to provide some direction. In the case of Cairns and Byron, the Census data is able to

demonstrate a significant difference between usual residents and additional visitors. This difference can be used to show a dimension of the strain that visitors can place on facilities and infrastructure. However, for the other LGAs these differences do not identify the extent to which visitors impact on the real population that these LGAs have to cater for. At different times of the year visitors can impact on the population of all LGAs in the same way that the Census has demonstrated for Cairns. Unfortunately, the Census does not measure these increases that occur at times outside the time of the Census.

Table 5.6 combines the data in Table 5.2 and Table 5.3 to show the distribution of unoccupied non resident owned dwellings on the night of the Census, 2011, based on the assumptions employed. In the table, 1,379 is the aggregate number of non resident owners who were not at their property on Census night and whose property, in all likelihood, was not rented out. These are, therefore, properties that, had the owning households been present on Census night, would have boosted the census count for the particular LGAs. Because these households were not present, they represent a component of the "temporary" population that boosts LGA populations at various times during any year, and have implications for services and infrastructure provided by the LGAs. Other elements of the temporary population in LGAs include visitors using hotel, motel and apartment accommodation, caravan parks and staying in the homes of friends. Because of seasonality factors, a huge proportion of this temporary population is not captured in the Census. And because this temporary population has critical implications for LGAs it is important that some means of estimating its size is available to the LGAs.

Table 5.6: Unoccupied non resident dwellings on Census night, 2011

	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Unoccupied dwellings	22	97	205	219	134	264	174	148	116	1379
Total dwellings	208	199	244	284	185	306	216	237	192	2071
	Percent									
Unoccupied dwellings	10.6	48.7	84.0	77.1	72.4	86.3	80.6	62.4	60.4	66.6

The table especially shows where temporary populations based on non resident owners are likely to be high – Shoalhaven, Eurobodalla, East Gippsland, Surf Coast and Mornington Peninsula. In Cairns, the very low level of non resident owned properties vacant on Census night is testimony to high rental levels. A similar situation exists in Byron. The renters are in all likelihood part of the north-south snowbird exodus that has been evident for decades, and they are hiring properties that many non resident owners have bought for investment, or financial reasons, rather than for leisure and family reasons. Although levels of unoccupied dwellings in Busselton and Mandurah are higher than those in Cairns and Byron, the survey data indicates that there are elements of the same process occurring in these local government areas. For example, the proportions of non resident owners who bought their sea change property for investment reasons was highest in Cairns (65.5 percent), compared with 23.6 and 23.1 percent in Busselton and Mandurah respectively, and 13.7 percent in Byron.

Non resident properties not unoccupied on Census night were either rented out on the night of the Census, or occupied by the owner. The situation for each category of occupancy on Census night is shown in Table 5.7.

Table 5.7: Occupancy status, Census night 2011, non resident owned properties

Non resident households which were:	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Unoccupied on census night	22	97	205	219	134	264	174	148	116	1379
Occupied by owners	9	13	11	12	6	14	8	11	5	89
Rented	172	84	25	48	43	28	30	77	68	575
Total	203	194	241	279	183	306	212	236	189	2043
	Percent									
Unoccupied on census night	10.8	50.0	85.1	78.5	73.2	86.3	82.1	62.7	61.4	67.5
Occupied by owners	4.4	6.7	4.6	4.3	3.3	4.6	3.8	4.7	2.6	4.4
Rented	84.7	43.3	10.4	17.2	23.5	9.2	14.2	32.6	36.0	28.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The main points from the table are:

- Highest proportions of dwellings unoccupied occur in Surf Coast, Shoalhaven, Mornington Peninsula and Eurobodalla. Lowest levels occur in Cairns and Byron. This is an indication of the impact of winter, and the north-south divide, on occupancy of sea change dwellings by non resident owners. Their properties have been bought, in the most cases, for recreation and leisure reasons during the summer months, and are unlikely to be used for these reasons during winter, when the Census is conducted.
- The proportion of dwellings occupied by non resident owners on the night of the Census is low throughout all the LGAs, but lowest levels occur in Mandurah, East Gippsland and Mornington Peninsula.
- The highest level of non resident owned properties which were rented on Census night was in Cairns. That these owners have tenants wanting to rent in August is likely a response to weather conditions in Cairns in August, and this is probably a factor responsible for the high levels in Byron. The lowest proportions occurred in Surf Coast and Shoalhaven. Weather conditions in winter at these locations are not usually conducive to holidays and leisure meaning that these properties would not attract tenants at this time of the year.

5.3 THE SIZE OF THE TEMPORARY POPULATION IN LOCAL GOVERNMENT AREAS

Non resident owner respondents were not asked directly how many persons resided in their household. However, it is possible to use surrogate information to determine the number of persons in each non resident owner household. Virtually all non resident owners provided details on the age and sex of each household member. The number of persons for whom age and sex details were provided were averaged to give an indicative number representing the number of persons in each household in any of the occupancy categories prevailing on Census night.

Table 5.8 shows the population in households which were either unoccupied on the night of the Census, occupied by the owners or rented out.

Table 5.8: Size of non resident households by use status on Census night, 2011

Population in non resident households which were:	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Unoccupied on census night	49	242	493	495	279	622	401	337	260	3176
Occupied by owners on census night	15	28	24	22	11	36	22	18	13	188
Occupied by others (eg, renters)	402	185	54	109	95	75	83	181	171	1354
Total	465	455	571	626	384	733	506	536	444	4718
	Percent									
Unoccupied on census night	10.4	53.2	86.4	79.1	72.5	84.9	79.2	62.8	58.6	67.3
Occupied by owners on census night	3.1	6.2	4.2	3.4	2.9	4.9	4.4	3.4	2.9	4.0
Occupied by others (eg, renters)	86.4	40.7	9.4	17.4	24.6	10.2	16.4	33.8	38.5	28.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The numbers of persons in sea change dwellings occupied on Census night by either owners or renters is not relevant to any estimation of temporary population in these areas. In the case of the owners, they would have completed a Census return, and their details would be available in Census data prepared on a place of enumeration basis. The same can be said for renters in these dwellings.

It is the number of persons who live in dwellings that were unoccupied on Census night that have important significance for local government areas.

- At the aggregate level, 67.3 percent of persons linked to non resident owned dwellings, were not resident in the non resident sea change dwellings on Census night.
- Five LGAs – Shoalhaven, Surf Coast, Mornington Peninsula, Eurobodalla and East Gippsland were above this aggregate proportion. These LGAs are missing between 279 and 622 persons who might have been counted in the Census had they been in residence on Census night.
- In Cairns, this is less of an issue. However, it may be more significant if there are issues associated with the collection of Census data for persons who were renting in Cairns on Census night.

Table 5.9 takes the temporary population data in Table 5.8 and the dwellings data in Table 5.7 to generate a temporary, or "missing", population per 1,000 non resident owned dwellings in each of the LGAs, and for the aggregate of all the participating LGAs.

Table 5.9: Estimate of temporary population per 1000 non resident owned sea change properties

Number	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
Temporary population	49	242	493	495	279	622	401	337	260	3176
Dwellings, households	203	194	241	279	183	306	212	236	189	2043
Temporary population per 1000 dwellings	239	1247	2046	1774	1522	2033	1889	1426	1376	1555

Put simply, the table shows the number of persons that would be counted if all non resident owners who were absent, or "missing", on Census night had come to their holiday home on Census night. Hence, Surf Coast's Census count would have been 622 greater if absent non resident owners had been present, and the additional count would have been 495 in Eurobodalla, 493 in Shoalhaven and 401 in Mornington Peninsula.

Table 5.9 shows the size of the additional count per 1,000 non resident owned dwellings. The largest rates occur in Shoalhaven (2,046) and Surf Coast (2,033). Other LGAs with high levels of temporary population per 1,000 dwellings are Mornington Peninsula (1,889) and

Eurobodalla (1,774). Cairns has the lowest loss of population per 1,000 dwellings, and reasons for this have been mentioned earlier.

At the aggregate level, it is estimated that for every 1000 non resident owned dwellings in a local government area, there will be 1,555 persons not counted at the Census.

These estimates are useful tools for all sea change LGAs who want to get some indication of the missing population that might exist within their jurisdiction as a result of households not being present in their sea change dwelling on Census night. They would need to determine the number of non resident owned dwellings in their LGA, and then apply a rate derived from the estimates above.

As an example, in the (hypothetical) LGA of Orange Grove, 412 surveyed households were not at their holiday home on the night of the Census. Data provided by these households indicated that they contained some 816 persons. Based on this survey evidence we can calculate that for every 1000 holiday homes in Orange Grove, the LGA can expect (816/412)*1000=1,981 persons to be not counted on Census night. If, in fact, there were 4,912 non resident owned holiday homes in Orange Grove, then an estimate of how many persons would not be counted on census night is (4912/1000)*1981=9,731 persons.

5.4 SUMMARY

Dwellings owned by non residents in sea change LGAs along the Australian coastline constitute significant proportions of all dwellings in these localities. The survey results have been able to show the size of population that is not counted in these dwellings at the time of the 2011 Census. The extent of this temporary, or missing, population is substantial. Where many of these non resident owned dwellings were rented on Census night, there is the possibility that a proportion of these dwellings do not have their residents on Census night counted. The available data has enabled the computation of how many persons per 1,000 non resident owned dwellings are likely to be missed in the Census, which then allows councils to compute an estimate of their temporary population on the basis of how many non resident owned sea change dwellings are located within their jurisdiction.

CHAPTER 6. LEVELS OF PERSONAL USE AND RENTAL USE OF NON RESIDENT OWNED SEA CHANGE PROPERTIES

6.1 INTRODUCTION

In the survey, respondent non resident owners were asked how many days the sea change dwelling was used by themselves, family members or friends for each month – April 2011 to March 2012 - during the preceding year. In addition, the survey asked whether the sea change property was let either privately or through a letting agency. Respondents who indicated that their property had been rented out during the preceding year were asked to provide the number of days the property was rented for each month from April 2011 up to and including March 2012. These data have been analysed to provide insights into how many dwellings were used each month, and how many days the dwellings were used for each month during the 12 month period either by owners for personal use, or rented out to fee paying third parties.

6.2 USE OF PROPERTY BY OWNERS, FAMILY AND FRIENDS

Table 6.1 shows the number of properties in each LGA that were used by the owners for each of the 12 months surveyed. There are a number of tendencies apparent in this table:

- Firstly, relevant to the other LGAs very low proportions of properties in Cairns are used by the non resident owners. As has been shown elsewhere, the clear reason for this is that most owners of properties in Cairns rent out their properties rather than using them for personal use.
- In the case of Surf Coast, Mornington Peninsula and Busselton, their highest use period is clustered around the Christmas holiday period.
- High Christmas period use is also noticeable in Shoalhaven, Eurobodalla and East Gippsland, but these three LGAs have high usage levels in April – a school holiday period.
- Byron is unique in that its two highest use months were April 2011 and March 2012 – and it is fair to say therefore that in any year its highest use months are March and April.

Table 6.1: Number of non resident owned properties used by owner families, March 2011 to April 2012

Month	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number properties used in month									
April 2011	15	81	157	159	106	241	144	131	102	1136
May 2011	17	65	129	120	76	206	121	98	93	925
June 2011	12	57	135	132	88	222	131	111	98	986
July 2011	14	69	122	122	76	205	120	99	93	920
August 2011	12	60	130	126	76	202	122	102	79	909
September 2011	15	62	140	136	89	222	141	113	87	1005
October 2011	16	68	151	147	80	227	132	124	83	1028
November 2011	16	66	143	143	96	229	144	116	84	1037
December 2011	10	74	165	162	101	251	159	135	100	1157
January 2012	13	71	158	181	105	251	162	143	94	1178
February 2012	7	65	146	139	82	240	152	121	92	1044
March 2012	12	79	150	143	89	244	150	134	99	1100
Total non resident owned properties	211	207	250	288	203	309	221	246	194	2129
	Percent of all properties in LGA used in month									
April 2011	7.1	39.1	62.8	55.2	52.2	78.0	65.2	53.3	52.6	53.4
May 2011	8.1	31.4	51.6	41.7	37.4	66.7	54.8	39.8	47.9	43.4
June 2011	5.7	27.5	54.0	45.8	43.3	71.8	59.3	45.1	50.5	46.3
July 2011	6.6	33.3	48.8	42.4	37.4	66.3	54.3	40.2	47.9	43.2
August 2011	5.7	29.0	52.0	43.8	37.4	65.4	55.2	41.5	40.7	42.7
September 2011	7.1	30.0	56.0	47.2	43.8	71.8	63.8	45.9	44.8	47.2
October 2011	7.6	32.9	60.4	51.0	39.4	73.5	59.7	50.4	42.8	48.3
November 2011	7.6	31.9	57.2	49.7	47.3	74.1	65.2	47.2	43.3	48.7
December 2011	4.7	35.7	66.0	56.3	49.8	81.2	71.9	54.9	51.5	54.3
January 2012	6.2	34.3	63.2	62.8	51.7	81.2	73.3	58.1	48.5	55.3
February 2012	3.3	31.4	58.4	48.3	40.4	77.7	68.8	49.2	47.4	49.0
March 2012	5.7	38.2	60.0	49.7	43.8	79.0	67.9	54.5	51.0	51.7

In Table 6.1, the number of properties which were used each month was presented. Because the survey asked respondents how many days in each month they used their property, the number of days which properties in each LGA were used for each of the 12 months can be computed, and these results are shown in Table 6.2.

- There are five LGAs where the highest number of days used occur in January and December – Shoalhaven, Eurobodalla, East Gippsland, Surf Coast, Mornington Peninsula and Busselton.
- In Surf Coast and Mornington Peninsula, December through to March have the highest numbers of days used by non resident owners.
- Shoalhaven, Eurobodalla and East Gippsland have similar days used tendencies, with the highest days used occurring in January and December. February ranked fourth and March third.
- Busselton and Mandurah also have high numbers of days used in April, and again this is most likely related to the occurrence of school holidays and use of the property before winter sets in.
- For Cairns, most days used during the year occur in July, October, May, August and September.
- For Byron, there is high use in the December-January period, ranked fourth and first respectively. The second most used month is April, with July ranked third. Hence, of all the LGAs, Byron shows the least clustering of high use months.

Table 6.2: Number of days properties were used by owner families, March 2011 to April 2012

Month	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Days property used in month									
April 2011	239	916	1249	1266	879	2028	1111	1153	1234	10075
May 2011	280	627	818	817	550	1292	714	692	716	6506
June 2011	243	612	809	802	576	1319	770	739	717	6587
July 2011	301	821	901	909	505	1214	718	777	704	6850
August 2011	277	635	818	800	526	1198	757	713	521	6245
September 2011	276	588	960	941	607	1591	955	818	560	7296
October 2011	290	587	1139	1066	601	1505	851	1012	612	7663
November 2011	200	574	1005	986	688	1627	1091	884	632	7687
December 2011	196	805	1710	1745	982	2589	1750	1428	895	12100
January 2012	222	988	2580	2925	1428	4941	2706	2072	963	18825
February 2012	123	556	1158	1196	722	2402	1403	1106	750	9416
March 2012	176	636	1139	1098	676	2045	1197	1177	1043	9187
Total	2823	8345	14286	14551	8740	23751	14023	12571	9347	108437
	Percent of total days used each month									
April 2011	8.5	11.0	8.7	8.7	10.1	8.5	7.9	9.2	13.2	9.3
May 2011	9.9	7.5	5.7	5.6	6.3	5.4	5.1	5.5	7.7	6.0
June 2011	8.6	7.3	5.7	5.5	6.6	5.6	5.5	5.9	7.7	6.1
July 2011	10.7	9.8	6.3	6.2	5.8	5.1	5.1	6.2	7.5	6.3
August 2011	9.8	7.6	5.7	5.5	6.0	5.0	5.4	5.7	5.6	5.8
September 2011	9.8	7.0	6.7	6.5	6.9	6.7	6.8	6.5	6.0	6.7
October 2011	10.3	7.0	8.0	7.3	6.9	6.3	6.1	8.1	6.5	7.1
November 2011	7.1	6.9	7.0	6.8	7.9	6.9	7.8	7.0	6.8	7.1
December 2011	6.9	9.6	12.0	12.0	11.2	10.9	12.5	11.4	9.6	11.2
January 2012	7.9	11.8	18.1	20.1	16.3	20.8	19.3	16.5	10.3	17.4
February 2012	4.4	6.7	8.1	8.2	8.3	10.1	10.0	8.8	8.0	8.7
March 2012	6.2	7.6	8.0	7.5	7.7	8.6	8.5	9.4	11.2	8.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The number of days used in Table 6.2 is dependent on the number of properties that are participating in the survey. Hence, the tendencies identified may be, in some way, influenced by this. Hence, in Table 6.3, the number of days used in each month is computed on a per property basis, making all LGAs, and all months, more comparable with each other. Using this approach, a number of clear findings emerge in terms of the top six months for usage in each LGAs.

Table 6.3: Top six usage months, based on days used per property

Month	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Days used per property in month									
April 2011	1.1	4.4	5.0	4.4	4.3	6.6	5.0	4.7	6.4	4.7
May 2011	1.3	3.0	3.3	2.8	2.7	4.2	3.2	2.8	3.7	3.1
June 2011	1.2	3.0	3.2	2.8	2.8	4.3	3.5	3.0	3.7	3.1
July 2011	1.4	4.0	3.6	3.2	2.5	3.9	3.2	3.2	3.6	3.2
August 2011	1.3	3.1	3.3	2.8	2.6	3.9	3.4	2.9	2.7	2.9
September 2011	1.3	2.8	3.8	3.3	3.0	5.1	4.3	3.3	2.9	3.4
October 2011	1.4	2.8	4.6	3.7	3.0	4.9	3.9	4.1	3.2	3.6
November 2011	0.9	2.8	4.0	3.4	3.4	5.3	4.9	3.6	3.3	3.6
December 2011	0.9	3.9	6.8	6.1	4.8	8.4	7.9	5.8	4.6	5.7
January 2012	1.1	4.8	10.3	10.2	7.0	16.0	12.2	8.4	5.0	8.8
February 2012	0.6	2.7	4.6	4.2	3.6	7.8	6.3	4.5	3.9	4.4
March 2012	0.8	3.1	4.6	3.8	3.3	6.6	5.4	4.8	5.4	4.3
Total non resident owned properties	211	207	250	288	203	309	221	246	194	2129

The table shows:

- The impact of "summer" months on usage, especially in East Gippsland, Surf Coast and Mornington Peninsula. These LGAs have November to April as "top six" usage months.
- Shoalhaven, Eurobodalla, Busselton and Mandurah have December to April as "top six" usage months.
- Highest usage in Cairns occurs in the six consecutive months from May through to October – the warm winter months when Queensland is "beautiful one day, perfect the next", and southern states snowbirds make the most of Queensland's favourable climate.
- Byron usage is different from any of the other LGAs, in that its highest usage months are distributed in three two month groups – March and April, July and August and December and January. This could partly be influenced by variations in Queensland and New South Wales school holidays.

The figures below present the data in Table 6.2 to graphically show how the days used situation varies temporally for each LGA, and how LGAs compare with each other. Further, these trends can be compared with those presented in CHAPTER 8 and based on data from the ABS's Survey of Tourist Accommodation

Figure 6.1: Days used by non resident owners, Cairns and Byron, March 2011 to April 2012

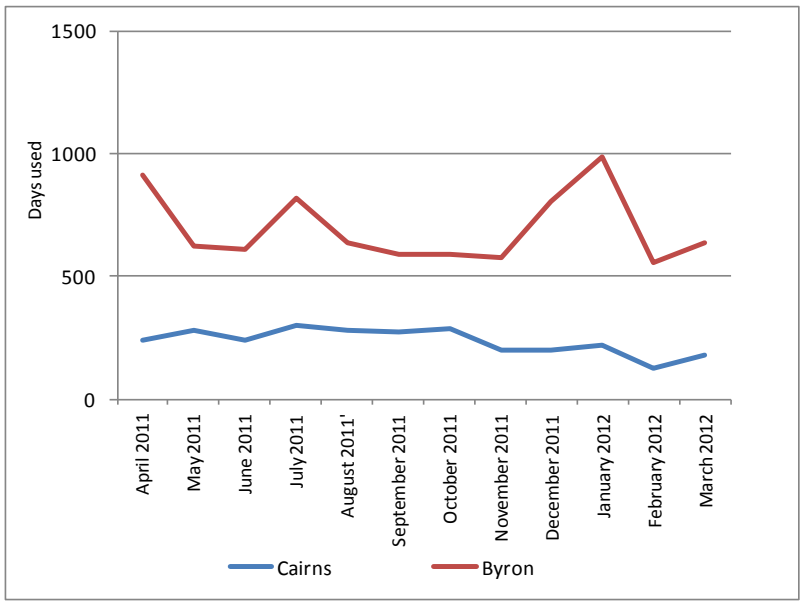


Figure 6.1 shows the situation for the two LGAs in the study which benefit most from the temperature divide during the winter months. The greater usage by non resident owners in Byron is due to the priority non resident owners in Cairns give to rental use rather than leisure use.

In Figure 6.2 the situation is shown for the two NSW LGAs to the south of Sydney. Usage by owners in these LGAs is virtually identical, with each having a huge surge in the holiday months of December and January, and falling away abruptly with the recommencement of schools in February. Further, each show subdued numbers from May through to August – the winter months of low use for holiday homes.

Figure 6.2: Days used by non resident owners, Shoalhaven and Eurobodalla, March 2011 to April 2012

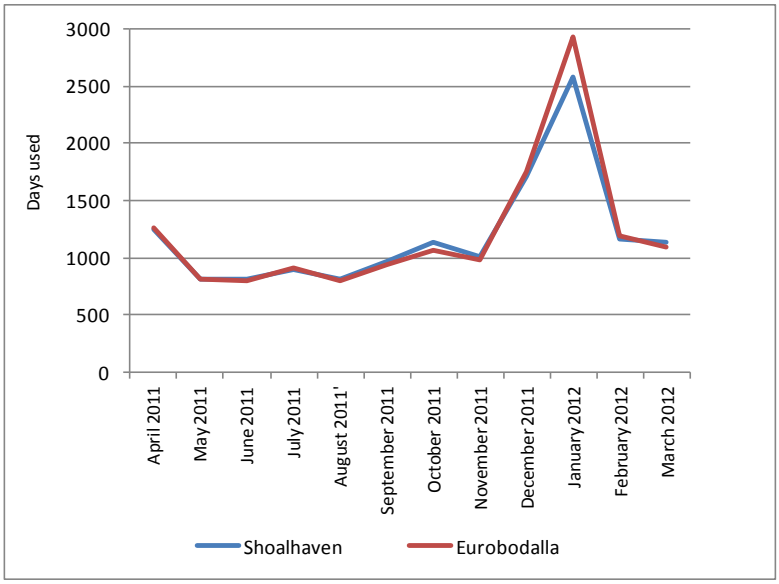
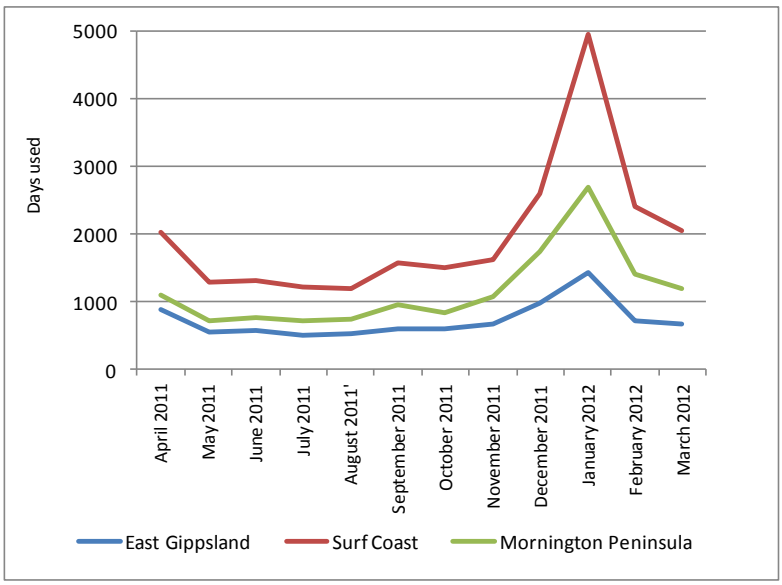


Figure 6.3 presents the usage by non resident owners of properties in the three Victorian LGAs.

Figure 6.3: Days used by non resident owners, East Gippsland, Surf Coast and Mornington Peninsula, March 2011 to April 2012



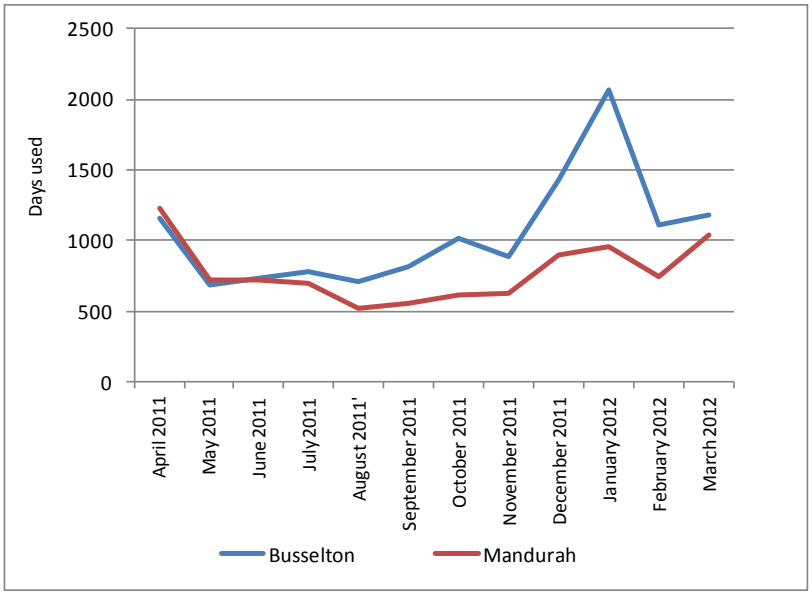
For each LGA, the pattern of usage is similar, and showing the same trends as identified for Shoalhaven and Eurobodalla in New South Wales. Surf Coast has the greatest number of days used throughout the year, and this is a reflection of it having a greater number of surveyed dwellings than is the case for the other two LGAs.

Finally, the situation in Western Australia is shown in Figure 6.4. These two LGAs have similar usage tendencies in March, April, May and June, but their usage patterns in the remaining months are different, in that:

- Usage levels are lower in Mandurah than in Busselton.

- In both, usage increases from November through to January. However, the rate of increase is much greater for Busselton than Mandurah. Therefore, Busselton should feel the impact of the Christmas surge more than is likely to be the case in Mandurah.

Figure 6.4: Days used by non resident owners, Busselton and Mandurah, March 2011 to April 2012



6.3 USE OF PROPERTY BY RENTERS AND TENANTS

The survey asked non resident property owners whether their property was available for rental. On this basis, owners were asked to provide details of the number of days their property was rented in each of the preceding 12 months. The rental details of properties are shown in Table 6.4.

Table 6.4: Number of properties rented by month, March 2011 to April 2012

Month	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number properties rented in month									
April 2011	173	95	44	68	53	50	42	103	75	703
May 2011	173	88	35	64	46	38	36	96	74	650
June 2011	176	90	35	63	48	40	36	95	73	656
July 2011	178	91	34	63	47	39	35	95	70	652
August 2011	177	91	32	61	45	36	34	90	71	637
September 2011	177	99	34	64	52	42	38	99	71	676
October 2011	178	95	39	71	50	43	34	105	71	686
November 2011	179	97	37	68	54	44	35	105	71	690
December 2011	177	101	48	74	55	68	46	112	72	753
January 2012	177	103	51	74	57	76	53	116	73	780
February 2012	174	97	41	69	51	54	40	105	73	704
March 2012	175	99	43	67	52	59	39	106	75	715
Total non resident owned properties	194	133	62	94	66	90	55	127	83	904
	Percent of all rented properties in LGA used in month									
April 2011	89.2	71.4	71.0	72.3	80.3	55.6	76.4	81.1	90.4	77.8
May 2011	89.2	66.2	56.5	68.1	69.7	42.2	65.5	75.6	89.2	71.9
June 2011	90.7	67.7	56.5	67.0	72.7	44.4	65.5	74.8	88.0	72.6
July 2011	91.8	68.4	54.8	67.0	71.2	43.3	63.6	74.8	84.3	72.1
August 2011	91.2	68.4	51.6	64.9	68.2	40.0	61.8	70.9	85.5	70.5
September 2011	91.2	74.4	54.8	68.1	78.8	46.7	69.1	78.0	85.5	74.8
October 2011	91.8	71.4	62.9	75.5	75.8	47.8	61.8	82.7	85.5	75.9
November 2011	92.3	72.9	59.7	72.3	81.8	48.9	63.6	82.7	85.5	76.3
December 2011	91.2	75.9	77.4	78.7	83.3	75.6	83.6	88.2	86.7	83.3
January 2012	91.2	77.4	82.3	78.7	86.4	84.4	96.4	91.3	88.0	86.3
February 2012	89.7	72.9	66.1	73.4	77.3	60.0	72.7	82.7	88.0	77.9
March 2012	90.2	74.4	69.4	71.3	78.8	65.6	70.9	83.5	90.4	79.1

At the outset, it is important to keep in mind that these data relate only to properties whose owners indicated were rented out at some times during the year. Therefore, the total number of properties is less than the total number of properties owned by non residents in each of the LGAs. There are a number of pertinent points arising from the table:

- In Cairns, Byron, Busselton and Mandurah, the number of properties rented in each month is consistent throughout the year. Clearly, in each of these LGAs, non resident owners have bought for return on investment through a regular rental stream.
- Further, none have a pronounced Christmas holiday period surge.
- In Cairns, the number of properties rented in each month is around 70 percent greater than the numbers in both Byron and Busselton, and more than double those in Mandurah.
- In the remaining LGAs, levels of rental are lower during the winter months, with pronounced peaks in the summer holiday period up to the end of March.

In Table 6.5 the number of days that rental properties were rented out is presented, and these days rented in each month are expressed as a percentage of total days rented for each month in the survey period. The top four months for each LGA have been highlighted to show the highest demand months for rental properties. The main points from the table are:

- In all LGAs, December is a high rental month, as is the case for January, with the exception of Mandurah.
- Three LGAs have their top four rental months in a block – October to January for Eurobodalla and East Gippsland, and December to March for Surf Coast.
- The highest rental months are more evenly spread through the year in Cairns, Byron and Mandurah than in any of the other LGAs. However, this is largely a result of the fact that in these LGAs most months are relatively similar in terms of days rented in each month.
- Highest rental activity in Shoalhaven and Mornington Peninsula is during the December to April period.

Table 6.5: Number of days properties were rented, March 2011 to April 2012

Month	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Days property rented in month									
April 2011	4881	2318	868	1680	1280	903	1014	2561	2154	17659
May 2011	5042	2186	801	1631	1240	893	1003	2555	2013	17364
June 2011	5036	2115	793	1588	1213	868	973	2480	2155	17221
July 2011	5256	2243	809	1642	1283	885	1000	2535	2001	17654
August 2011	5242	2296	796	1636	1248	871	997	2497	2109	17692
September 2011	5008	2447	769	1614	1112	898	990	2523	2052	17413
October 2011	5260	2403	832	1716	1328	913	978	2722	2144	18296
November 2011	4960	2393	786	1711	1347	885	920	2622	2111	17735
December 2011	5105	2602	968	1838	1429	1236	1081	2923	2081	19263
January 2012	5097	2689	1226	1995	1538	1791	1293	2965	2140	20734
February 2012	4763	2387	833	1605	1275	1054	949	2632	2053	17551
March 2012	5005	2492	803	1687	1328	1088	1032	2772	2162	18369
Total	60655	28571	10284	20343	15621	12285	12230	31787	25175	216951
	Percent of total days rented each month									
April 2011	8.0	8.1	8.4	8.3	8.2	7.4	8.3	8.1	8.6	8.1
May 2011	8.3	7.7	7.8	8.0	7.9	7.3	8.2	8.0	8.0	8.0
June 2011	8.3	7.4	7.7	7.8	7.8	7.1	8.0	7.8	8.6	7.9
July 2011	8.7	7.9	7.9	8.1	8.2	7.2	8.2	8.0	7.9	8.1
August 2011	8.6	8.0	7.7	8.0	8.0	7.1	8.2	7.9	8.4	8.2
September 2011	8.3	8.6	7.5	7.9	7.1	7.3	8.1	7.9	8.2	8.0
October 2011	8.7	8.4	8.1	8.4	8.5	7.4	8.0	8.6	8.5	8.4
November 2011	8.2	8.4	7.6	8.4	8.6	7.2	7.5	8.2	8.4	8.2
December 2011	8.4	9.1	9.4	9.0	9.1	10.1	8.8	9.2	8.3	8.9
January 2012	8.4	9.4	11.9	9.8	9.8	14.6	10.6	9.3	8.5	9.6
February 2012	7.9	8.4	8.1	7.9	8.2	8.6	7.8	8.3	8.2	8.1
March 2012	8.3	8.7	7.8	8.3	8.5	8.9	8.4	8.7	8.6	8.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Any discussion on number of days rented in any LGA, especially in terms of the biggest or smallest, may be influenced by the number of properties available for rental. To overcome any problems associated with an analysis on this basis, Table 6.6 shows data on a days' rented per property basis.

Table 6.6: Days rented per non resident owned property

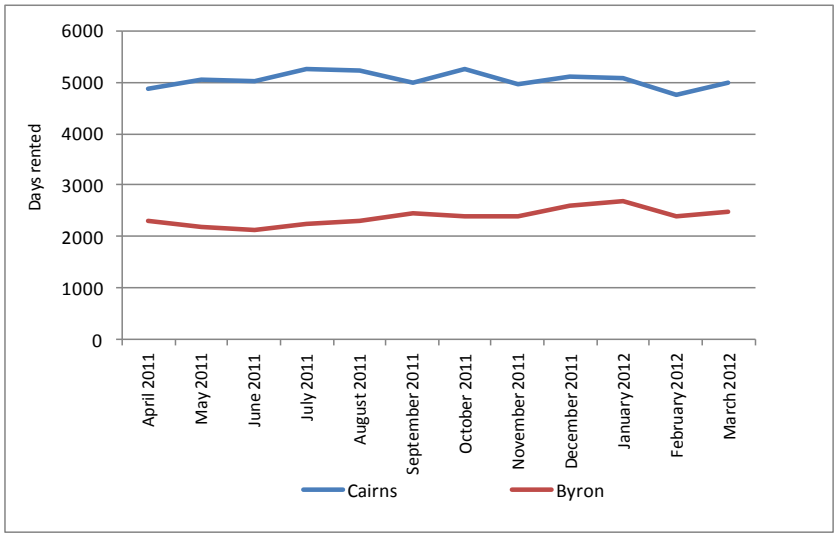
Month	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Days rented per property in month									
April 2011	25.2	17.4	14.0	17.9	19.4	10.0	18.4	20.2	26.0	19.5
May 2011	26.0	16.4	12.9	17.4	18.8	9.9	18.2	20.1	24.3	19.2
June 2011	26.0	15.9	12.8	16.9	18.4	9.6	17.7	19.5	26.0	19.0
July 2011	27.1	16.9	13.0	17.5	19.4	9.8	18.2	20.0	24.1	19.5
August 2011	27.0	17.3	12.8	17.4	18.9	9.7	18.1	19.7	25.4	19.6
September 2011	25.8	18.4	12.4	17.2	16.8	10.0	18.0	19.9	24.7	19.3
October 2011	27.1	18.1	13.4	18.3	20.1	10.1	17.8	21.4	25.8	20.2
November 2011	25.6	18.0	12.7	18.2	20.4	9.8	16.7	20.6	25.4	19.6
December 2011	26.3	19.6	15.6	19.6	21.7	13.7	19.7	23.0	25.1	21.3
January 2012	26.3	20.2	19.8	21.2	23.3	19.9	23.5	23.3	25.8	22.9
February 2012	24.6	17.9	13.4	17.1	19.3	11.7	17.3	20.7	24.7	19.4
March 2012	25.8	18.7	13.0	17.9	20.1	12.1	18.8	21.8	26.0	20.3
Total non resident owned properties	194	133	62	94	66	90	55	127	83	904

There are a number of trends that can be identified:

- For most LGAs, with the exception of Cairns and Byron, the rental season embraces the period October through to April.
- In Byron, the season is confined to the September to March period, but levels in the other months are only marginally below those prevailing in the top six months.
- In Cairns, the rental season, as such, is multi modal, due to high prevailing levels of days rented on a per property basis throughout the year.

In the following graph series, the data in Table 6.5 has been used to show graphically how days rented varies temporally for each LGA, and how LGAs compare with each other. As was the case with the graph series based on days used, the trends can be compared with data presented elsewhere in the Report from the STA prepared by the ABS.

Figure 6.5: Days rented, Cairns and Byron, March 2011 to April 2012



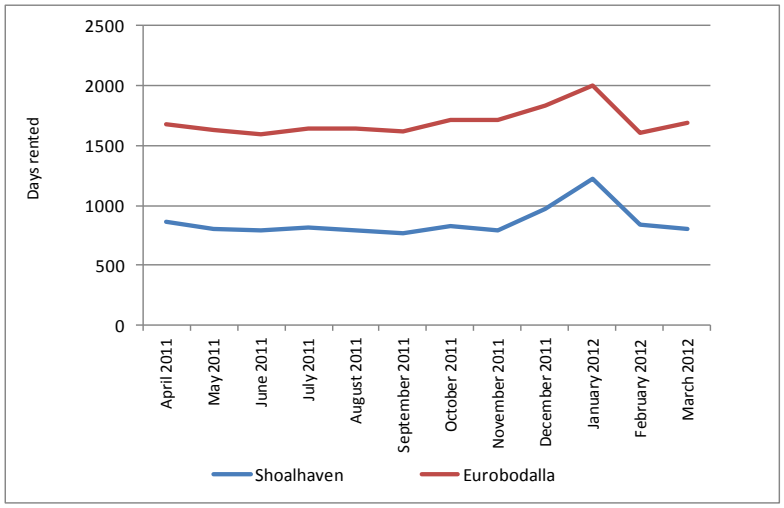
In both Cairns and Byron, the number of days rented in any month is consistent, although days rented are substantially greater in Cairns than in Byron. As has been noted earlier, the difference is mainly because most owners of Cairns properties use them for rental, to provide a return on their investment. In contrast, however, the analysis has shown that Byron owners

are more evenly distributed between those who apparently own for rental, and those who own for the personal use the property allows. Byron has a discernible peak in the Christmas period, which is not evident in Cairns, probably because this is the wet summer season for Cairns, and therefore not as attractive for renters compared with the warmer winter months.

The situation for Shoalhaven and Eurobodalla is shown in Figure 6.6. Two points of interest emerge:

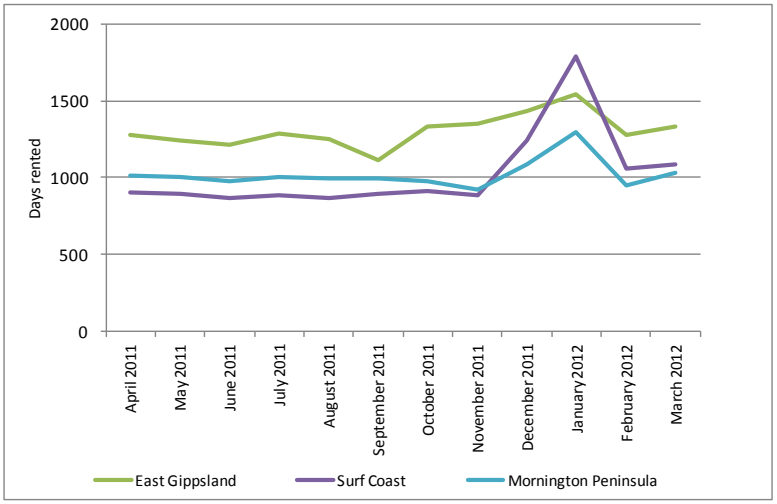
- The days rented out level for non resident owner properties in Eurobodalla is much greater than for Shoalhaven. This means that Eurobodalla owners have a greater propensity to rent out their properties, especially as they had identical tendencies in terms of using their properties for personal use (see Figure 6.2).
- In terms of seasonal peaks, both LGAs are similar, with numbers of days rented peaking from November through to January.

Figure 6.6: Days rented, Shoalhaven and Eurobodalla, March 2011 to April 2012



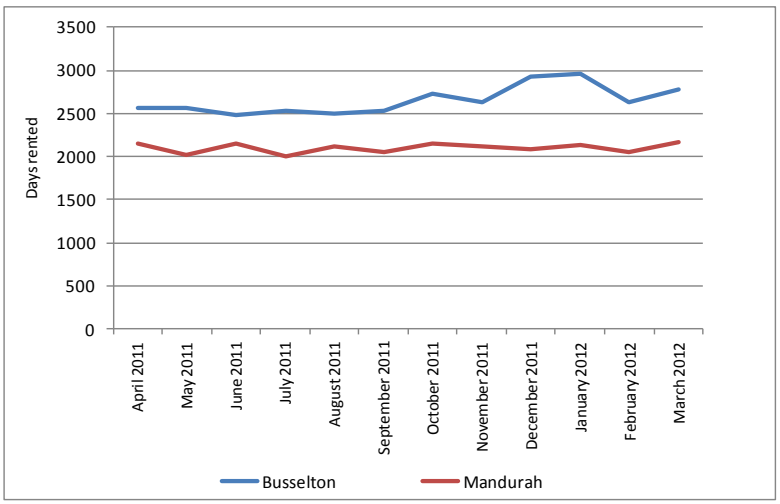
For the three Victorian LGAs, their situation is presented in Figure 6.7. In these LGAs, days rented trend similarly from February through to November for Surf Coast and Mornington Peninsula, and from February through to September in East Gippsland. Each LGA has an end of year upsurge, commencing in November for Surf Coast and Mornington Peninsula, and in September for East Gippsland. However, the most significant difference between the three LGAs is that days rented peak more markedly in Surf Coast than in the other two LGAs, so that in January, the numbers of days rented in Surf Coast is 16.5 percent higher than the number in East Gippsland and 38.5 percent higher than in Mornington Peninsula. In contrast, however, in the April to November period, Surf Coast had fewer days rented than in the other two LGAs.

Figure 6.7: Days rented, East Gippsland, Surf Coast and Mornington Peninsula, March 2011 to April 2012



Finally, Figure 6.8 presents the situation prevailing in the two Western Australian LGAs of Busselton and Mandurah. Busselton has more days rented than does Mandurah, and a more pronounced summer holiday peak. In contrast, Mandurah continues to flat line throughout the year, which may suggest that properties in Mandurah have more longer term tenants than might be the case in Busselton.

Figure 6.8: Days rented, Busselton and Mandurah, March 2011 to April 2012



6.4 AGGREGATING USE BY OWNERS AND RENTERS

This section brings together the findings of the previous two sections to indicate how many properties were used in the year April 2011 to March 2012. Survey respondents provided data on how many days their properties were used, both by themselves and by renters. The number of non resident owned properties used during any month was also obtained from survey data, and this was used to compute average number of non resident owned dwellings used per month. These data enabled a calculation of days used per non resident owned dwellings for the year. The average number of occupants per day used has been derived from other data generated from the survey – see note to Table 6.7. With this information, Table 6.7 computes the impact of non resident owned properties – holiday homes – in each of the

sea change LGAs can be determined, using the number of unoccupied dwellings reported at the 2011 Census.

Table 6.7: Combined owner and tenant use of non resident owned properties, and impact on temporary population

Variable	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
Total days used for year (owners and rental combined)	63,478	36,916	24,570	34,894	24,361	36,036	26,253	44,358	34,522	325,388
Average number of non resident owner dwellings used per month	189	164	183	210	140	277	179	221	164	1727
Days used per non resident owned dwelling	335	226	134	166	175	130	147	201	210	188
Average number of occupants per day used	2.3	2.3	2.4	2.2	2.1	2.4	2.4	2.3	2.3	2.3
Persons/non resident property/year	768	529	318	373	366	311	350	456	493	435
Persons/non resident property/day	2.1	1.4	0.9	1.0	1.0	0.9	1.0	1.2	1.4	1.2
Unoccupied properties, Census 2011	7,151	2,050	13,634	7,013	4,954	7,000	27,022	4,252	7,555	80,631
Additional LGA population if all people who used unoccupied dwellings periodically were present on Census night	15,040	2,971	11,866	7,175	4,974	5,967	25,940	5,306	10,210	96,100
Population, Census 2011	156,169	29,209	92,812	35,741	42,196	25,870	144,608	30,330	69,903	626,838
Percent additional LGA population to Census 2011 population	9.6	10.2	12.8	20.1	11.8	23.1	17.9	17.5	14.6	15.3

Note: Average number of occupants per day used based on data derived from Table 5.8 and Table 5.9

There are a number of points that can be made from the table:

- The derived persons/non resident property/day is a function of the number of days non resident properties in the various LGAs were used during the year. It also explains why these rates are different from those measuring average number of occupants per days used.
- When persons/non resident property/day is multiplied by the number of unoccupied dwellings in each LGA reported at the 2011 Census, the result is an estimate of the magnitude by which the LGA population would have swelled if all holiday homes had been occupied on the night of the Census. These numbers are significant, ranging from nearly 26,000 in Mornington Peninsula, 15,000 in Cairns, nearly 12,000 in Shoalhaven and 10,200 in Mandurah.
- These numbers can be expressed as a percentage of the actual Census count for each LGA, and again the results are instructive. For example, the "missing" population in Surf Coast was 23.1 percent of the population resident on Census night and in Eurobodalla is was 20.1 percent. High levels also prevailed in Mornington Peninsula (17.9 percent), Busselton (17.5) and Mandurah (14.6).

Later in the Report (see CHAPTER 9), these estimates will be added to estimates derived from an analysis of temporary populations using hotels, motels, apartments, caravan parks and rental holiday accommodation to show the extent of temporary populations in sea change LGAs, net of day trippers and visitors who stay with relatives and friends. These quantitative estimates are an indication of the additional stresses placed on these local governments by significantly higher populations than are reported for them at the Census. These kinds of estimates indicate the importance of measuring temporary populations if significant funding distributions are made available on the basis of resident population reported at the Census.

6.5 SUMMARY

Usage levels in non resident owned properties in LGAs along the Australian coastline are generally similar from one LGA to another. The main features of these patterns are highest usage in the months November through to April, with a tapering off in usage during the winter months. The main exceptions to this pattern occur in Byron and Cairns. Byron's use

is almost tri-modal with peaks in April, July and January of each year. Cairns, on the other hand, is virtually the opposite of the southern LGAs, in that its highest usage levels occur in winter during the six months from May through to October.

Rental levels in non resident owned properties in LGAs along the Australian coastline have several distinctive patterns, unlike the situation prevailing for personal use by non resident owners. The rental patterns in Cairns and Byron are relatively constant throughout the year. In Cairns there is a slight reduction in the hotter and wetter months from December through to February, while in Byron there is a peak from November through to January. This holiday period is not as affected by climate as is the case further north in Cairns. The situation in Busselton and Mandurah is similar to that in Cairns and Byron. Rental levels in Mandurah are consistent for each month of the year, much the same as occurs in Cairns, while Busselton has a distinct end of year holiday season peak, rather similar to that which occurs in Byron. LGAs in the two southern states, south of Sydney, have similar tendencies, which are quite different from those in the north, and in the west of the continent. Shoalhaven, Eurobodalla, East Gippsland, Surf Coast, and Mornington Peninsula each have a days' rented trend line which is flat and low in the winter months and which peaks in the summer holiday season.

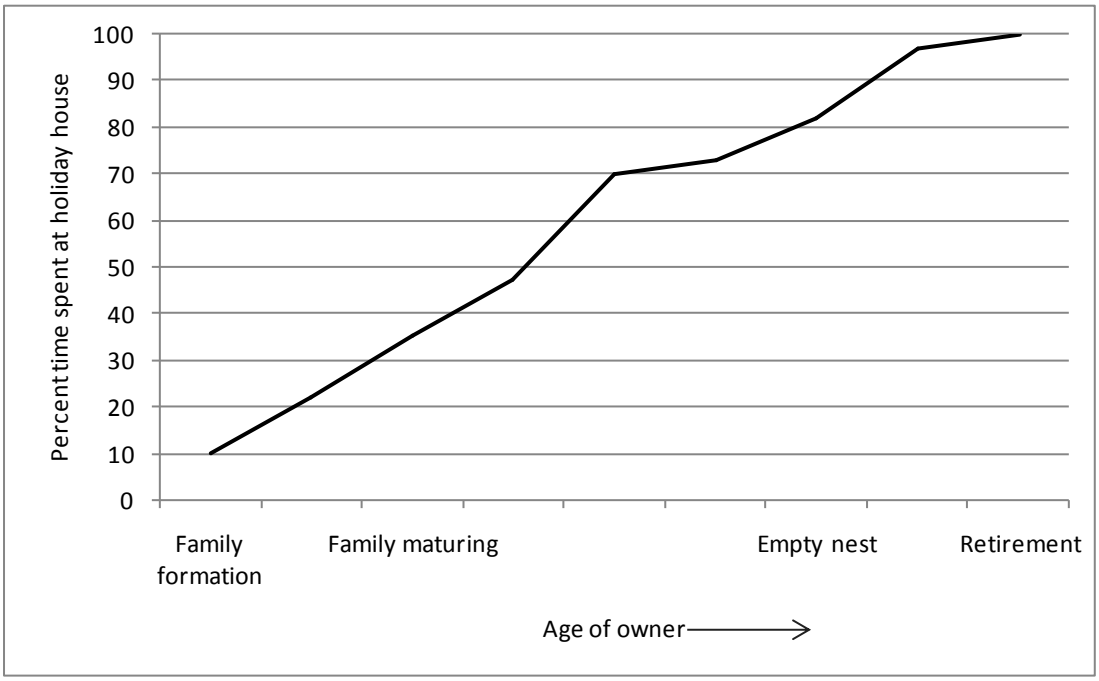
The impact of usage by both owners and renters on non resident owned properties is substantial. The survey has generated data that can be applied to unoccupied dwellings on the night of the Census to derive a measure of the "missing" population that would have been present if all holiday home owners had been counted on Census night, as well as a methodology to estimate the size of the population staying in tourist accommodation. At the aggregate level, that is across all the participating LGAs, this "missing" population is around 143,000 people, representing some 23 percent of the actual population counted in these LGAs on Census night.

CHAPTER 7. FUTURE MOBILITY INTENTIONS OF NON RESIDENT OWNERS IN SEA CHANGE LOCAL GOVERNMENT AREAS IN AUSTRALIA

7.1 INTRODUCTION

The amount of time non resident owners spends in their holiday home varies with a number of factors – the distance between it and their permanent residence, weather patterns and work patterns. However, it is apparent that these tend to be somewhat constant variations as owners move through the life cycle. Figure 7.1 presents a simplified model of this pattern.

Figure 7.1: A model of proportion of time spent at holiday home at different stages of the life cycle.



In the early stages of the family life cycle the time spent at the holiday home is restricted because of the necessity for most owners to be at the workplace on weekdays so that the time at the holiday house is confined to seasonal holidays and weekends. However, over time there is a tendency for the number of days to increase due to a number of factors including:

- Their commitment to work decreases with age so that they are less tied down to being close to the workplace
- For those with children as their offspring leave home they are less tied down by school, sport and other commitments to these children
- Some may even decide to move more or less permanently to their erstwhile holiday house and sell their original home.

Understanding future mobility intentions of non permanent residents has implications for the sea change LGAs, based not only around the numbers that can be expected, but also the demographic characteristics of the incoming population. What will be the age characteristics of this new population, and what demands will they make on infrastructure? Older groups will have demands that differ from younger groups. The survey asked a number of questions relating to whether households planned to move, if so when was the move expected, along with how many household members were expected to move, whether children were involved and if so would they be attending schools of various types in the LGA. The analysis of these

questions provides useful information for sea change localities on a range of aspects of future mobility by non resident owners of sea change properties. Of course, the information relates only to non resident owners and their families, and not to other categories of movers who may choose to reside in coastal areas in Australia.

7.2 HOW MANY MOVERS AND WHEN?

Respondent households were asked if they planned to make a permanent move to their sea change LGA, and if so, when was the move likely to occur. Questions of this type give an important indication of the size of likely influxes, and the time period over which the moves will occur. Table 7.1 shows the expected magnitude of non resident households who are thinking of making a move to their LGA at some time in the future.

Table 7.1: Households planning to move permanently to the LGA

Permanent move?	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Yes	50	91	86	76	66	81	52	91	37	630
No	153	93	150	193	111	216	151	132	144	1343
Unsure/maybe	1	9	6	13	12	10	11	14	6	82
Total	204	193	242	282	189	307	214	237	187	2055
	Percent									
Yes	24.5	47.2	35.5	27.0	34.9	26.4	24.3	38.4	19.8	30.7
No	75.0	48.2	62.0	68.4	58.7	70.4	70.6	55.7	77.0	65.4
Unsure/maybe	0.5	4.7	2.5	4.6	6.3	3.3	5.1	5.9	3.2	4.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

There are several key points emerging from the table:

- At the aggregate level, around 30 percent of households have a future intention of moving to their coastal location.
- Those LGAs above the aggregate proportion are Byron, Busselton, Shoalhaven and East Gippsland. In these LGAs it is likely that the mobility will have a more significant impact on population change than in the other LGAs. It is also likely that the impact of population increase will occur in the older cohorts as baby boomers make the transition from urban to sea change living.
- LGAs with low numbers expecting to move at this point probably have a higher proportion of younger non resident owners, who have not yet made up their mind on the matter. This is certainly the case in Cairns, Mornington Peninsula and Surf Coast, and to a lesser extent in Eurobodalla.
- Low numbers expecting to move may be due also to high numbers of non resident owners renting out their properties

For respondents who have a plan to move to the coast, Table 7.2 provides an indication of when this move may occur. The results indicate that more households are planning their move in the longer term than the short term. Nationally, 17 percent of households surveyed which expect to move will probably make the move within two years – that is by around mid 2014. On the other hand, nearly one third plan to move between two and five years from the time of the survey, with a further 29 percent expecting to move between five and ten years from the present.

Table 7.2: When do households plan to move?

When?	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Within two years from now	7	23	14	11	14	9	5	15	7	105
Between two and five years from now	14	24	32	23	24	30	9	32	15	203
Between five and ten years from now	17	28	18	21	13	24	25	22	12	180
More than ten years from now	0	0	1	0	0	0	1	0	0	2
Don't know	7	16	21	20	15	17	12	22	2	132
Total	45	91	86	75	66	80	52	91	36	622
	Percent									
Within two years from now	15.6	25.3	16.3	14.7	21.2	11.3	9.6	16.5	19.4	16.9
Between two and five years from now	31.1	26.4	37.2	30.7	36.4	37.5	17.3	35.2	41.7	32.6
Between five and ten years from now	37.8	30.8	20.9	28.0	19.7	30.0	48.1	24.2	33.3	28.9
More than ten years from now	0.0	0.0	1.2	0.0	0.0	0.0	1.9	0.0	0.0	0.3
Don't know	15.6	17.6	24.4	26.7	22.7	21.3	23.1	24.2	5.6	21.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total non resident owned properties	204	193	242	282	189	307	214	237	187	2055
	Rate per 1000 non resident owned properties									
Within two years from now	34	119	58	39	74	29	23	63	37	51
Between two and five years from now	69	124	132	82	127	98	42	135	80	99
Between five and ten years from now	83	145	74	74	69	78	117	93	64	88
More than ten years from now	0	0	4	0	0	0	5	0	0	1
Don't know	34	83	87	71	79	55	56	93	11	64

The LGAs which can expect the largest numbers of their current non resident households to move within the next two years are Byron, East Gippsland, Mandurah, Busselton and Shoalhaven. Mandurah, Busselton, Shoalhaven, Surf Coast and East Gippsland can expect large numbers to arrive between two and five years from now, while in the longer term, the largest influxes are likely to occur in Cairns, Surf Coast, Mornington Peninsula and Mandurah.

Table 7.2 calculates the numbers of non resident households which can be expected to move to the LGAs during the three time frames as a rate per 1,000 non resident owned properties in the LGA. This statistic is useful to allow comparisons between LGAs, and for each LGA to predict on the basis of the current number of non resident owned properties in their jurisdiction. On this basis, there are some clear tendencies:

- Within two years from now, Byron can expect the largest influx of current non resident owners into its area, more so than any other of the participating LGAs.
- During the next period, five LGAs can expect around 100 or more of their current non resident owner base to move into the LGA – Byron, Shoalhaven, East Gippsland, Surf Coast and Busselton.
- Between five and ten years from now, the largest influxes are likely to occur in Byron, Mornington Peninsula and Busselton.

The clearest finding from this analysis is that Byron, especially, can expect significant mobility into the LGA by households which are current non resident owners.

Survey respondents were asked to indicate how many family members would move into the sea change LGA as part of any household move. The table below shows how many people might move into the coastal LGA during each of the three periods.

Table 7.3: Expected numbers of persons moving to sea change LGAs

Expected arrivals	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Households									
Within two years from now	7	22	15	13	15	9	5	15	7	108
Between two and five years from now	14	23	32	27	27	33	13	35	14	218
Between five and ten years from now	16	29	18	22	13	25	24	23	13	183
Total	37	74	65	62	55	67	42	73	34	509
	Persons									
Within two years from now	18	44	24	22	29	21	15	27	15	215
Between two and five years from now	31	40	65	48	43	65	24	68	27	411
Between five and ten years from now	33	62	37	44	27	46	54	41	24	368
Total	82	146	126	114	99	132	93	136	66	994
	Estimates of persons per 1000 dwellings owned by non residents									
Within two years from now	88	228	99	78	153	68	70	114	80	105
Between two and five years from now	152	207	269	170	228	212	112	287	144	200
Between five and ten years from now	162	321	153	156	143	150	252	173	128	179
Total	402	756	521	404	524	430	435	574	353	484
Total non resident owned properties	204	193	242	282	189	307	214	237	187	2055

The persons per 1,000 dwellings owned by non residents component of Table 7.3 is a powerful planning tool for LGAs. By determining the number of non resident owned properties in the area, they can use this to estimate numbers of persons who will move into the area during the three time frames, based on the results from the survey. On this basis, the LGAs which will be most impacted during the next ten years are Byron, Busselton, East Gippsland and Shoalhaven. In the case of Byron, it can expect an influx from households which currently own secondary residences in the area of nearly 800 persons. The levels in the other three LGAs are more than 500 persons.

In Byron, more persons expect to arrive between five and ten years from now, compared with the two earlier periods, whereas in Shoalhaven, East Gippsland and Busselton, the peak of new arrivals is expected between two and five years from now.

These results can also be applied to non participating LGAs along the Australian coastline. These LGAs should be able to apply the aggregate data from the survey – that is, 484 persons per 1,000 non resident owned properties – to their LGA to estimate likely inflows during the next ten years. For example, in a coastal LGA which currently had 7,840 non resident owned properties within its area, the survey results would suggest that the LGA could expect to experience an increase in population of 3,794[11] as non resident households move permanently into their coastal property during the next ten years.

7.3 IMPACT OF FUTURE MOBILITY ON AGE STRUCTURE

Any group moving into a region will have an impact on the existing age structure of the region. It is clear that sizeable numbers of holiday home owners have an intention to retire to their holiday home at some future time. Table 7.4 shows, at the aggregate level, the age structure of persons who indicated that they would move permanently to their holiday home at some time in the future. The most important point emerging from the table is that baby boomers will, overwhelmingly, constitute the largest proportion of non resident owners who move permanently into sea change LGAs. Of persons expecting to move permanently within two years, 60 percent will be baby boomers, while among movers in the period between two and five years from now the proportion of baby boomers will exceed two third of the stream of former holiday home owners. In the period between five and ten years from now, baby boomer proportions will reduce to 59.6 percent. Among the other cohorts, movers aged

[11] The calculation is (7840/1000)*484 = 3,794

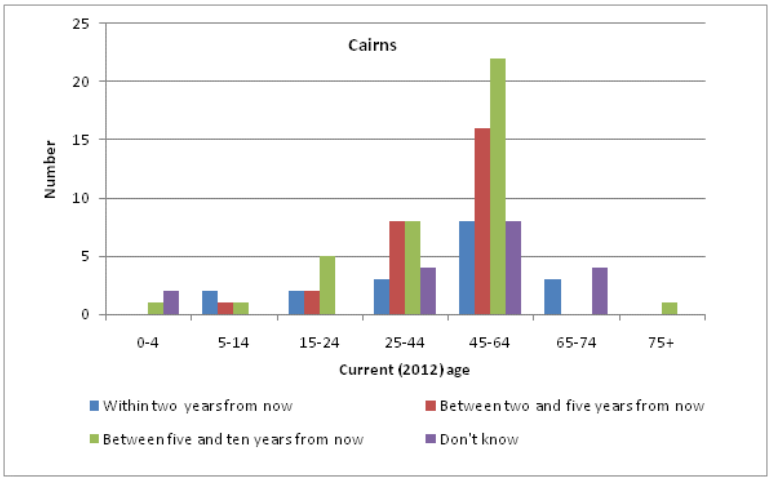
between 65 and 74 years will likely be around 18 percent of all movers within the next two years, reducing to around 11 percent in the period between two and five years from now. Future movers presently aged 25-44 years have much lower proportions expecting to move. In terms of non resident owners who, at this point do not know if they will move, the baby boomer group is again the largest segment, at 56.9 percent, compared with 10.7 percent in the 25-44 years age group.

Table 7.4: Age structure of persons intending to move to non resident owned property

Cohort	Within two years from now	Between two and five years from now	Between five and ten years from now	Don't know	Total
			Number		
0-4	3	4	8	17	32
5-14	10	10	34	47	101
15-24	10	37	66	54	167
25-44	20	26	43	66	155
45-64	129	267	249	183	828
65-74	39	43	17	41	140
75+	4	11	1	16	32
Total	215	398	418	424	1455
			Percent		
0-4	1.4	1.0	1.9	4.0	2.2
5-14	4.7	2.5	8.1	11.1	6.9
15-24	4.7	9.3	15.8	12.7	11.5
25-44	9.3	6.5	10.3	15.6	10.7
45-64	60.0	67.1	59.6	43.2	56.9
65-74	18.1	10.8	4.1	9.7	9.6
75+	1.9	2.8	0.2	3.8	2.2
Total	100.0	100.0	100.0	100.0	100.0

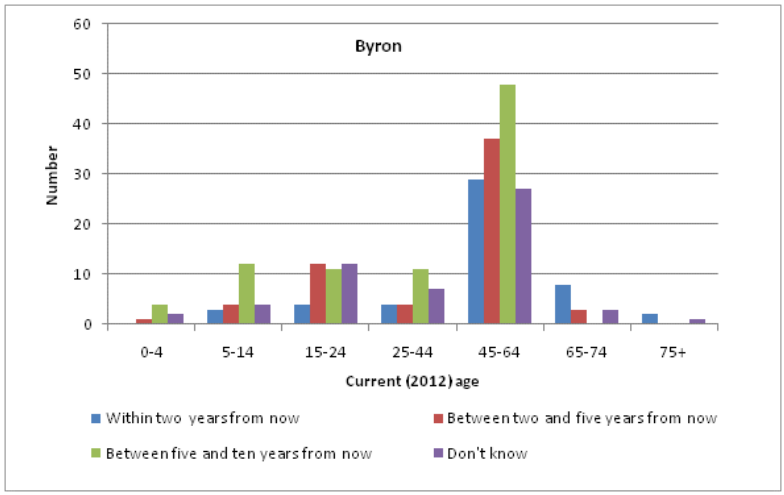
In the series of figures below, the age structure of respondents who plan to move to their holiday home at a future date is shown for each of the sea change LGAs. Figure 7.2 shows the situation for Cairns. Although numbers of persons intending to move to Cairns is relatively low, it is apparent that the majority of these movers will be baby boomers, and that most of them expect to move into their Cairns property between five and ten years from now.

Figure 7.2: Age structure of non resident owners intending to move to their Cairns property



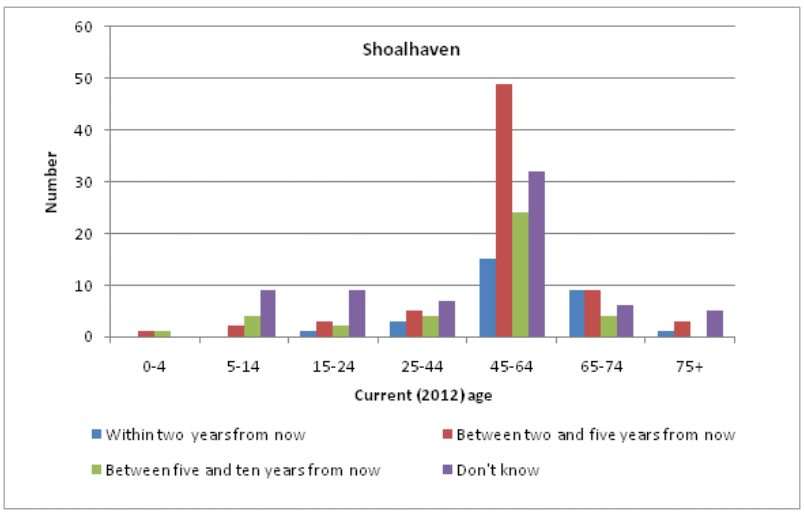
The situation for Byron is shown in Figure 7.3. Here the most striking impression is that it is the baby boomers who intend to move into Byron. Relative to this group, the numbers of persons in the other age groups expecting to move into Byron are quite small. This means that holiday home owners in Byron who expect to move to Byron at some stage in the future will be drawn heavily from the current baby boomer population. This has associated with it a range of implications in terms of services and infrastructure that will be required by an expanded baby boomer component in the Byron age structure. Numbers expected within two years from the present are smaller than those expected to move between two and five years from now. The largest influx of baby boomers will occur between five and ten years from now.

Figure 7.3: Age structure of non resident owners intending to move to their Byron property



In the case of Shoalhaven, shown in Figure 7.4, the age structure of intending movers into the district is similar to that noted for the preceding LGAs, in that the largest group is the baby boomer group. However, the largest inflow of this group is expected between two and five years from now, with a falling off in numbers in the succeeding period.

Figure 7.4: Age structure of non resident owners intending to move to their Shoalhaven property



Eurobodalla (see Figure 7.5) is similar to Shoalhaven, in that more baby boomers can be expected to arrive between two and five years from now. However, numbers arriving

between five and ten years from now will only be slightly less than those arriving in the earlier period.

Figure 7.5: Age structure of non resident owners intending to move to their Eurobodalla property

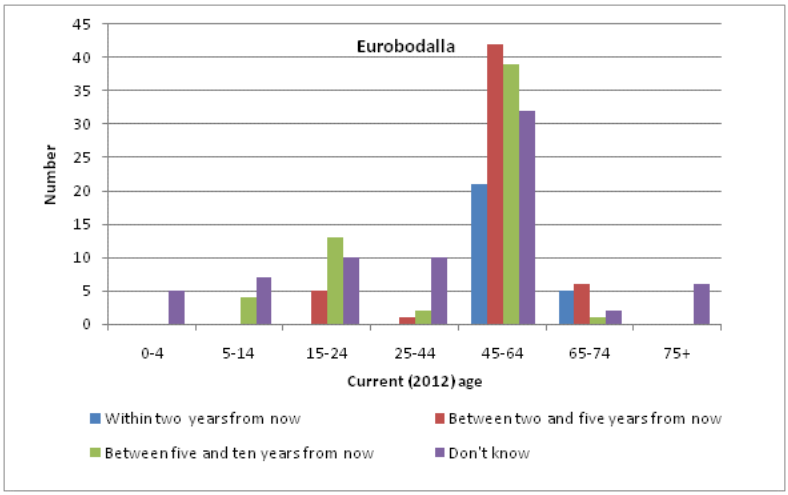


Figure 7.6 indicates that the situation in East Gippsland is essentially the same as that prevailing in Eurobodalla and Shoalhaven, as well as that in Surf Coast – see Figure 7.7.

Figure 7.6: Age structure of non resident owners intending to move to their East Gippsland property

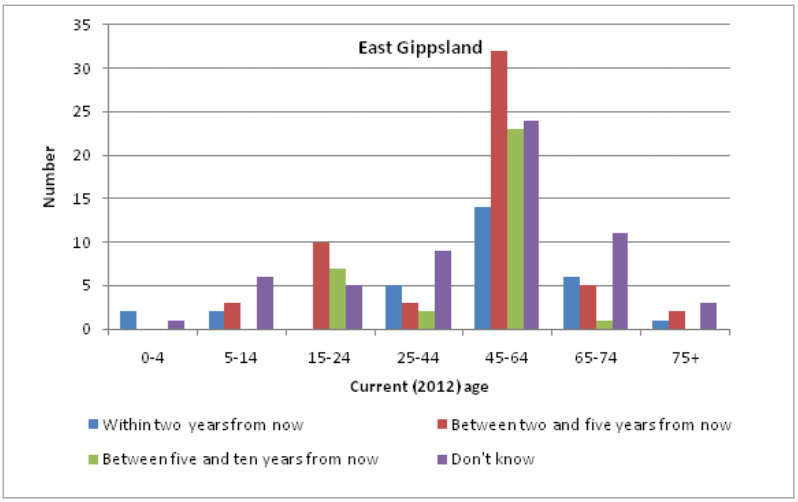
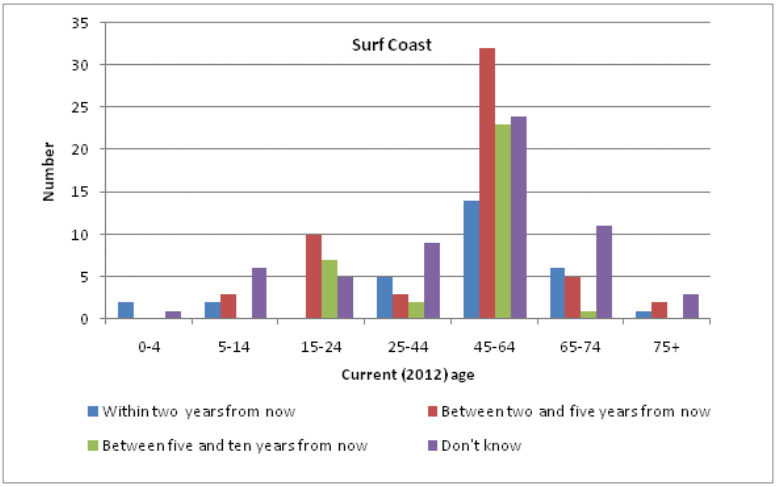
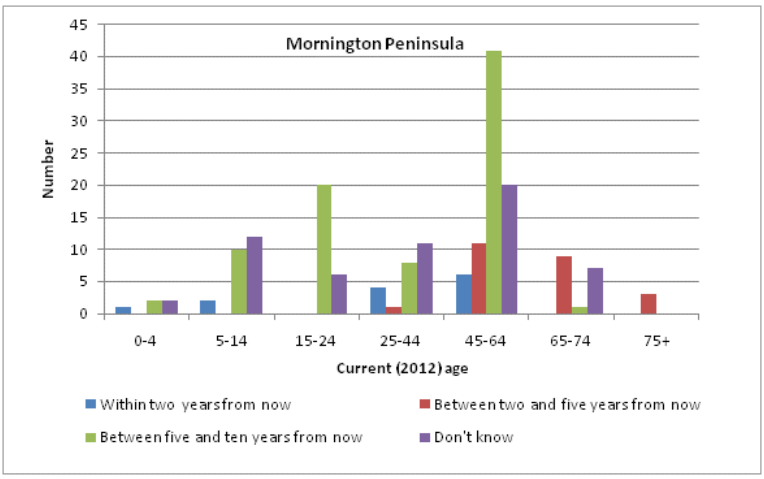


Figure 7.7: Age structure of non resident owners intending to move to their Surf Coast property



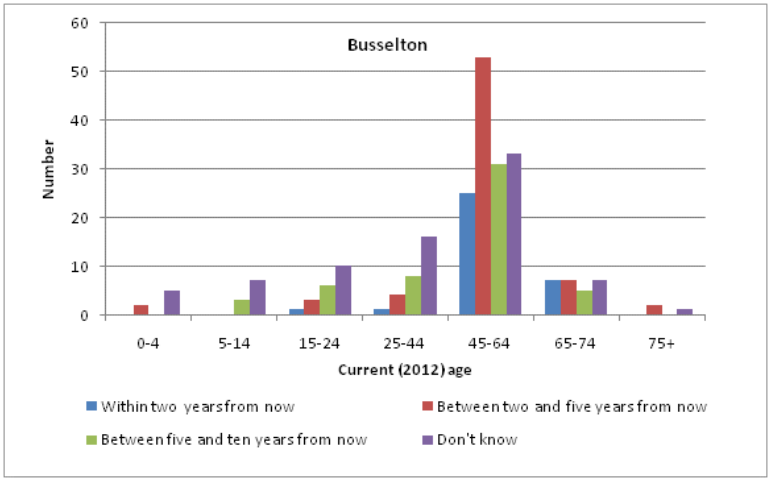
The situation with non resident owners in the Mornington Peninsula is strikingly different from that in the earlier LGAs. As Figure 7.8 shows, the majority of the baby boomer owners who intend to move are not expecting to do this until between five and ten years from now. Only relatively small numbers intend to move within the next two years and between two and five years from now. On the face of it, therefore, Mornington Peninsula has more time to plan for the baby boomer influx than may be available to the other LGAs.

Figure 7.8: Age structure of non resident owners intending to move to their Mornington Peninsula property



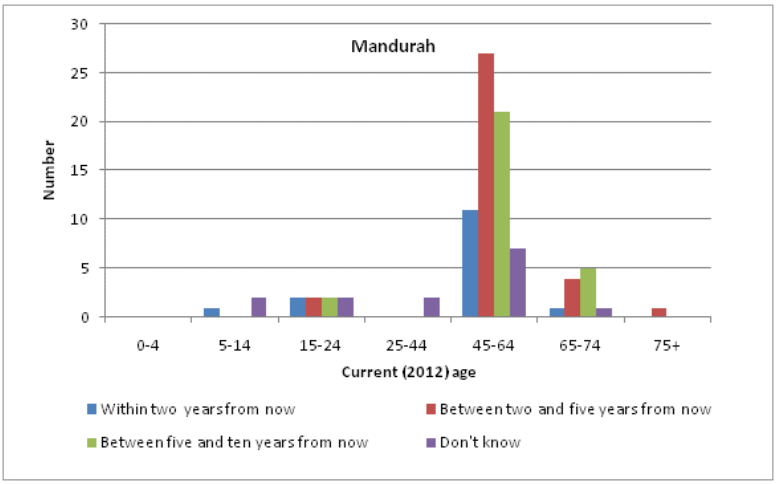
In Figure 7.9, Busselton exhibits similar patterns to those shown for most of the preceding LGAs, in that the largest number of baby boomers can be expected to arrive between two and five years from now, with a tailing off in the period five to ten years from now.

Figure 7.9: Age structure of non resident owners intending to move to their Busselton property



Finally, Mandurah (see Figure 7.10) also shows the same kind of characteristics that have been identified for most of the other sea change LGAs.

Figure 7.10: Age structure of non resident owners intending to move to their Mandurah property



There are several points that emerge from the series of figures above:

- First and most significantly is the dominance of baby boomers in the group who intend to move to their current holiday home at some time in the future.
- The timing of this group's arrival into the sea change LGAs is mostly going to occur between two and five years from now.
- In most LGAs there will be lesser numbers of baby boomers arriving between five and ten years from now, compared with the numbers arriving between two and five years from now.
- Relative to the baby boomer groups, the other groups are relatively small, even in the 65-74 and 75 years and older age cohorts.
- It is highly unlikely that many in the 5-14 and 15-24 age groups will arrive in the sea change LGAs, especially in the two to five years and five to ten years periods, because many will have become independent of parents by then and will not move when the older members of the household decide to shift permanently to the holiday

house. Indeed, it is the coming of independence of persons in these younger cohorts that will create a group of "empty nest" households, which in turn will cement the decision to move to the holiday home.

In summary, expected mobility among non resident owners in sea change LGAs is all about the baby boomers. This group will have a significant impact on the age structure of sea change LGAs, and in turn this creates significant challenges for local government to both provide for both the new demands the group will make on service provision and to harness the talent that increased numbers of baby boomers will bring to these areas.

7.4 CHILD MOVERS AND EDUCATIONAL NEEDS

The survey asked respondents who had indicated that they may move to their sea change LGA whether any children would accompany them on the move. The analysis elsewhere has shown that children are a small component of the age structure in households owning property in sea change localities, so it is expected that any numbers for children arriving in the LGAs during the next ten years would be fairly small. The table below shows how many of the households expecting to move will be accompanied by children.

Table 7.5: Households which will be accompanied by children

Households arriving with children	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
Households moving within two years from now and bringing children										
Number	1	2	0	0	2	2	3	0	2	12
Percent of all households moving during period	14.3	8.7	0.0	0.0	14.3	25.0	60.0	0.0	28.6	11.2
Households moving between two and five years from now and bringing children										
Number	3	2	2	1	5	1	1	1	2	18
Percent of all households moving during period	21.4	8.3	6.7	3.8	19.2	3.0	7.7	2.8	13.3	8.3
Households moving between five and ten years from now and bringing children										
Number	1	7	3	2	2	2	5	1	1	24
Percent of all households moving during period	6.7	23.3	16.7	9.5	15.4	8.0	20.0	4.3	8.3	13.2

Although the data does not allow a calculation of how many children will arrive with these households, it nevertheless is instructive for a number of reasons:

- Of the 506 households which provided information on their plans for future mobility, only 54 of them indicated that the move would be accompanied by children. That is, just over ten percent of movers will be accompanied by children. This reinforces the pattern in Figure 7.1 which suggests most of these moves occur at the "empty nest" stage of the life cycle.
- During the next two years, Shoalhaven, Eurobodalla and Busselton can expect no children to accompany any non resident owned households which decide to move into the LGA.
- In the other LGAs the highest numbers of households expected to arrive with children is three. The conclusion is that in the short term, these households which move into sea change LGAs will not impact on numbers of children, or infrastructure linked to children.
- Between two and three years from now, the numbers of households who will bring children into the LGAs remains low.
- In the longer term, between five and ten years from now, the largest numbers of households arriving with children will be in Byron, and to a lesser extent in Mornington Peninsula. Hence, even in this time frame, the conclusions are essentially the same – namely, households moving into the area will have minimal impact on infrastructure related to children because they will bring with them very few children.

Households which indicated that they would bring children with them when the move to the coast was made were also asked to indicate whether the children would attend school within the LGA. Their responses are shown in Table 7.6. At the aggregate level, 57 percent of households which were bringing school aged children with them indicated that they would use schools within the LGA. The highest proportions among the participating LGAs occurred in Shoalhaven, Busselton, Cairns and Byron. Households indicating that their children would attend school outside the LGA were most heavily concentrated in Mandurah, Eurobodalla and East Gippsland.

Table 7.6: Will children attend school in the LGA?

Attend school in LGA?	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Yes	4	10	5	1	4	3	8	5	0	40
No	2	5	0	4	8	2	5	1	3	30
Total	6	15	5	5	12	5	13	6	3	70
	Percent									
Yes	66.7	66.7	100.0	20.0	33.3	60.0	61.5	83.3	0.0	57.1
No	33.3	33.3	0.0	80.0	66.7	40.0	38.5	16.7	100.0	42.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 7.7 provides details on the type of school these children might attend.

Table 7.7: Type of school children expected to attend

Type of school	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
	Number									
Government pre-school	1	1			1	1	2	1	1	8
Non government pre-school			1							1
Government primary school	3	5	2		1	2	3	1		17
Non government primary school	1		1					2		4
Government secondary school	1	4	3		2	2	2	1		15
Non government secondary school	3		2		1		2	3		11
Total	9	10	9		5	5	9	8	1	56
	Number									
Government pre-school	11.1	10.0	0.0		20.0	20.0	22.2	12.5	100.0	14.3
Non government pre-school	0.0	0.0	11.1		0.0	0.0	0.0	0.0	0.0	1.8
Government primary school	33.3	50.0	22.2		20.0	40.0	33.3	12.5	0.0	30.4
Non government primary school	11.1	0.0	11.1		0.0	0.0	0.0	25.0	0.0	7.1
Government secondary school	11.1	40.0	33.3		40.0	40.0	22.2	12.5	0.0	26.8
Non government secondary school	33.3	0.0	22.2		20.0	0.0	22.2	37.5	0.0	19.6
Total	100.0	100.0	100.0		100.0	100.0	100.0	100.0	100.0	100.0

There are several points worth noting:

- Firstly, children attending pre-school and primary school are more likely to attend a government school than a non government school.
- In the case of secondary education, the split is less clear, although more would choose government secondary schools.
- More households would choose non government secondary schools for their children in Cairns and Busselton, while the split is even in Mornington Peninsula.

What is clear from the preceding analysis is that households which owned property in sea change localities before moving to these localities to reside are unlikely to bring children with them in any numbers which will significantly impact on the provision of educational services.

7.5 SUMMARY

The future intentions of households who are non resident owners of properties in coastal LGAs have significant implications for numbers of new arrivals that LGAs can expect into

the jurisdictions at various times during the next ten years. At the national level, more than 30 percent of non resident owners of sea change properties expect that they will move to the coast at some time. When households move, varying numbers of persons will move with them into the coastal LGAs. Typically, the size of households moving in will be relatively small, but in total they can be expected to have an impact on local resources. The analysis has developed rates of population increase per 1,000 non resident owned properties, and on this basis increases of more than 750 persons are expected into Byron, with nearly half of them arriving between five and ten years from now. More than 570 persons are expected to move into Busselton, and more than 520 into each of Shoalhaven and East Gippsland, between 2012 and 2022. At the national level, current non resident households moving to the coast are expected to result in population increase of some 480 persons for every 1,000 non resident owned dwellings in the LGA between now and the next ten years.

Among non resident owners whose households plan eventually to move to coastal LGAs there will be some children included. About 57 percent of these children will attend a school within the LGA. However, the impact they have on the provision of educational infrastructure within the LGAs will be minuscule, as their numbers are very small. Children accompanying parents moving into the areas on a different basis – that is, they are not former non resident owners – will have significantly greater impacts on the provision of educational infrastructure.

CHAPTER 8. ESTIMATING THE IMPACT OF TOURISM

8.1 INTRODUCTION

In Australia, tourism plays a huge role in creating temporary populations, especially in coastal locations. Measuring the impact of tourism on temporary population numbers in any tourist area has, however, always been difficult. Tourist information offices conduct counts of visitor numbers as they pass through the door, but these cannot really be used to estimate temporary populations, as the count does not distinguish between day trippers and longer term visitors, and their counts are not necessarily discrete, as a tourist may easily be counted in more than one visitor centre on any one day.

The NVS is a better data source for the purpose of estimating temporary populations generated by tourism. The survey collects data throughout the year, with a target of 120,000 responses each year from persons aged 15 years and over. Essentially, the survey collects data on respondents' travel during the preceding four weeks, related to day trips, trips involving overnight stays and international travel. Undertaken for the tourism industry, it is a source of information on the characteristics and travel patterns of tourists within Australia. From a tourism perspective, the NVS provides substantial data on the spatial and temporal characteristics of non permanent movers in Australia. However, it does have a number of limitations, principally the high level of sampling variability in the data. This has critical implications if the data are used for the estimation of temporary populations. More significant in the context of the present project is that the data are not available at a spatial level below the Tourism Region (TR)[12], and hence the data are unable to estimate population generated by tourism at the local government area level.

The ABS conducts a quarterly STA. The survey covers establishments which provide short term non-residential accommodation, and since the September quarter 2010 has provided accommodation data for hotels, motels and serviced apartments with 15 or more units. Between the March quarter of 2005 and the June quarter of 2010 the survey included data for hotels, motels and guest houses and serviced apartments with 5 or more rooms or units; holiday flats, units and houses of letting entities with 15 or more rooms or units; caravan parks with 40 or more powered sites and visitor hostels with 25 or more bed spaces. The results of the STA are coded to the Statistical Local Area, and therefore for 2006, the first two quarters of 2010 and the first three quarters of 2011 it has been possible to derive tourism accommodation data for each of the eleven LGAs around which this report is based. The aim of this section is to use these datasets to estimate the impact of tourist accommodation on the population of the selected LGAs for 2006, 2010 and 2011. Although, as noted above, the data are inconsistent between these years, an analysis of the 2006 data for establishments with 5-14 rooms, and those with 15 or more rooms gives an indication of the impact of the smaller establishments on total tourist accommodation levels, and this analysis can provide a factor by which the 2011 data, based only on the larger establishments, can be adjusted to reflect the impact of the smaller establishments not included in the 2011 STA.

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[12] The Australian Bureau of Statistics produces Tourism Regions for each state and the Northern Territory. They are defined in consultation with the relevant national and state/territory tourism organisations and their boundaries are reviewed annually. Each Tourism Region is constructed from allocations of whole Statistical Areas Level 2s (SA2s). SA2s are a small spatial unit of the Australian Statistical Geography Standard.

The most important quality of this data source is that it provides for each of the LGAs consistent temporal, spatial and discrete data which avoids the possibility of double counting. Because the STA data does count individuals, at a level that can distinguish between individual LGAs, this data source becomes important in terms of the critical policy responses which the project is aiming to develop.

The most significant shortcoming of the data source is that its sampling frame excludes tourists, and other temporary movers, who stay in private accommodation. In this respect, therefore, a critical component of non resident population in any area is missing. This is an advantage of the NVS, but its advantage is offset by the fact that it does not report for SLAs or LGAs.

The STA also provides data for Caravan Parks, and for Holiday Homes. Therefore, despite some shortcomings, they nevertheless do allow for important relativities between the three broad accommodation types to be identified. Each accommodation type is assessed separately in the Report.

8.2 SOME DATA ISSUES

There are several data issues that need to be explained. The ABS is restricted from releasing any data which may identify persons or organisations. As a result, some 2006 accommodation data for Mornington Peninsula has not been published. Therefore, in some of the tables, data for the Peninsula Tourist Region (TR) has been used as a surrogate for Mornington Peninsula. The Peninsula TR comprises the LGAs of Mornington Peninsula and Frankston. Of the two, Mornington Peninsula is the larger in terms of tourist accommodation provision. In Table 8.1 below, for example, data for Peninsula TR are provided in the body of the table, and data for Mornington Peninsula below the table. It can be seen that Mornington Peninsula LGA has 73.1 percent of Peninsula TR's establishments, 71.9 percent of its rooms and 73.4 percent of its beds.

In the case of Glenelg, there are quarters, and individual months where, due to confidentiality restrictions on the release of data, data are not available.

In 2006, the Sunshine Coast LGA did not exist. However, the Sunshine Coast TR in 2006 covered the same area which became the Sunshine Coast (R) in 2008. Hence, in any discussion related to the Sunshine Coast, the Sunshine Coast TR is comparable with the Sunshine Coast.

In 2008 Douglas (S) and Cairns (C) were amalgamated to form Cairns Regional Council. Hence, the 2006 analysis of accommodation data combines Cairns (C) with Douglas (S) so as to make the boundaries consistent with those used in 2010 and 2011 data analyses.

8.3 TOURISM ACCOMMODATION IN THE SELECTED LGAS

The Survey of Tourist Accommodation surveys used in this analysis provide accommodation data for three broad accommodation groups – Hotels, Motels and Apartments, Caravan Parks, and Holiday Houses. These types of establishments house substantial mobile populations during the course of any year, and each is discussed separately in the paper. The critical purpose of the analysis for each accommodation type is to arrive at an estimate of the equivalent full time population that they add to the underlying population, recorded at the Census, for each of the LGAs being considered.

8.3.1 Hotels, Motels and Apartments

Table 8.1 shows the number of tourist accommodation establishments providing hotel, motel or apartment accommodation in each of the selected LGAs for 2006 and 2011, as well as the number of rooms and beds available.

Table 8.1: Number of establishments, rooms and beds, Sea Change LGAs, 2006 and 2011

Local Government Area	Establishments	Rooms	Bed spaces	Establishments	Rooms	Bed spaces	Establishments	Rooms	Bed spaces
	December quarter 2006						September quarter 2011		
	5 to 14 rooms			15 or more rooms			15 or more rooms		
Eurobodalla (A)	17	169	494	28	791	2637	28	832	2,637
Shoalhaven (C)	35	342	987	30	709	2132	28	702	2,254
Byron (A)	16	156	475	18	514	1717	17	463	1,262
East Gippsland (S)	33	335	1033	24	721	2046	22	667	1,905
Glenelg (S)	11	104	308	7	186	536	6	161	492
Surf Coast (S)	8	62	195	13	368	1309	15	632	1,920
Peninsula (TR) (Dec Qtr 2006)	18	176	527	24	797	2239			
Mornington Peninsula (Spt Qtr 2011)							19	656	1816
Cairns (C), incl Douglas (S)	16	159	549	138	9809	29914	140	9,922	29,253
Sunshine Coast (TR)	55	550	1982	120	5401	18921	119	5,292	18,027
Busselton (S)	14	113	358	25	1262	4220	26	1,307	4,445
Mandurah (C)	2	n.a.	n.a.	7	426	1448	8	461	1,419

There are a number of comments that can be made from the table:

- In terms of the number of establishments with 15 or more rooms, the general position is one of maintenance, or increase/decrease by one establishment.
- Growth in establishments, and related room and bed numbers, has occurred in Surf Coast, Peninsula TR and Cairns.
- The most significant growth occurred in Cairns, where the number of establishments increased from 95 to 139, and room numbers increased by 35 percent and bed spaces by 27.7 percent.
- Surf Coast has experienced even greater growth in room numbers and bed spaces – 72.3 and 38 percent respectively.

In relation to the 2006 data in Table 8.1, there are several important points to be made from a comparison of establishment with 5-14 rooms and those with 15 or more rooms. In a number of LGAs, the smaller establishments outnumber the larger, as is the case in Shoalhaven, East Gippsland, and Glenelg. In considering the 2011 data, these relativities need to be considered because the smaller establishments are unrepresented in the data. However, in terms of their impact on the size of any LGAs mobile population, they will have a reasonably significant impact. In a later section (see section8.4), the extent of this potential impact is quantified.

Table 8.2 shows the number of non private dwellings classified as Hotel, Motel and Bed and Breakfast establishments, and those classified as boarding house or private hotel establishments, at the 2006 Census. It can be seen from a comparison of Table 8.2 and Table 8.1 that the Survey of Tourism Accommodation is comprehensive in its coverage of tourist accommodation establishments in the selected LGAs. The most significant discrepancy between the data of the two tables is for Byron and Glenelg, which indicate a larger role for bed and breakfast accommodation than is likely to be the case in Busselton and Surf Coast. Elsewhere, the comparison would seem to indicate a diminished role for B&B accommodation.

Table 8.2: Hotel, Motel, Bed and Breakfast, Boarding House and Private Hotel establishments, sea change LGAs, 2006

Local Government Area	Hotel, motel, bed and breakfast	Boarding house, private hotel	Total	Hotel, motel, bed and breakfast	Boarding house, private hotel	Total
	Number			Percent		
Eurobodalla (A)	46	3	49	93.9	6.1	100.0
Shoalhaven (C)	58	0	58	100.0	0.0	100.0
Byron (A)	55	9	64	85.9	14.1	100.0
East Gippsland (S)	58	3	61	95.1	4.9	100.0
Glenelg (S)	29	0	29	100.0	0.0	100.0
Surf Coast (S)	26	0	26	100.0	0.0	100.0
Mornington Peninsula (S)	34	0	34	100.0	0.0	100.0
Cairns (C), incl Douglas (S)	141	15	156	90.4	9.6	100.0
Sunshine Coast (Regional) LGA	95	3	98	96.9	3.1	100.0
Busselton (S)	46	3	49	93.9	6.1	100.0
Manduarah (C)	8	0	8	100.0	0.0	100.0
Augusta-Margaret River (S)	37	3	40	92.5	7.5	100.0
Total	633	39	672	94.2	5.8	100.0

Data Source: 2006 Census of Population and Housing, Derived from TableBuilder
Note: Sunshine Coast LGA is composite of SLAs in Noosa, Caloundra and Maroochy 2006 LGAs

The STA includes a particularly useful statistic for estimating mobile populations. The *Guest Nights Occupied* statistic represents the total number of paying guests counted on each night they stayed at the accommodation establishment during the survey period. This information is used in two ways for the Report.

Firstly, and significantly, these data enable an estimation of the impact of tourist accommodation facilities on the size of mobile populations in Sea Change LGAs in both 2006 and 2011. With this estimation, it is possible to gauge the additive effect from mobile populations using tourist accommodation on the populations of these LGAs recorded at the 2006 and 2011 censuses.

Table 8.3 shows Guest nights occupied for each month in 2006, for establishments with 5-14 rooms and with 15 or more rooms. The lower section of the table, showing guest nights occupied in establishments with five or more rooms, is obtained by summing the data for establishments with 5-14 rooms and those with 15 or more rooms.

It is clear from the table that in terms of total numbers of guests, Cairns and Sunshine Coast are the tourist "hotspots" within the selected sea change LGAs. Large numbers are also attracted to Busselton, Shoalhaven, East Gippsland, Peninsula (TR), and Byron.

These 2006 data allow the proportion of guests using smaller establishments to be compared with the number using the larger establishments, which in turn allows for a "multiplier" factor to be used on the 2011 data to take into account the impact of smaller establishments on 2011 mobile population levels. In Table 8.4 below, guest nights occupied in establishments with 5-14 rooms are expressed as a percentage of guest nights occupied in establishments with 15 or more rooms. This information is useful when applied to 2011 data, because it makes it possible to reverse engineer a value for the smaller establishments in 2011.

Table 8.3: Guest nights occupied by month, 2006, Sea Change LGAs.

Local Government Area	Guest nights occupied, establishments with 5-14 rooms												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Eurobodalla (A)	7588	4406	5092	3855	2743	2322	2533	2461	3597	4157	3896	5240	47890
Shoalhaven (C)	12921	8004	8576	8356	5140	4837	4747	4572	5740	7797	7581	10792	89063
Byron (A)	7290	5133	5743	5866	3831	4223	5636	4392	5870	6619	6462	7791	68856
East Gippsland (S)	13552	8789	11312	8989	5719	5974	4852	4630	7021	7365	7919	8773	94895
Glenelg (S)	3476	2481	2744	No data, June quarter			1500	1673	2203	2306	2555	3012	21950
Surf Coast (S)	2836	1909	2398	2847	1582	2239	1697	1306	1776	2637	2295	2980	26502
Peninsula (TR)	8532	5854	7179	5312	3705	3455	3581	4109	4978	5277	6305	6797	65084
Cairns (C), incl Douglas (S)	3192	2231	2562	3820	3550	4542	6373	6521	5208	5613	4191	4138	51941
Sunshine Coast (TR)	35713	19382	20257	23167	16887	19460	23880	24623	27083	28578	21274	27333	287637
Busselton (S)	6437	3594	4063	4687	2724	2964	2947	2416	3302	4481	4690	5592	47897
Mandurah (C)	Not for publication												
Augusta-Margaret River (S)	5068	3462	3882	4412	2826	2689	3680	3202	3720	4967	4730	5467	48105

Local Government Area	Guest nights occupied, establishments with 15 or more rooms												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Eurobodalla (A)	36262	20778	23260	21059	14582	13088	13572	13897	19589	23148	20819	24286	244340
Shoalhaven (C)	28893	21661	22746	21282	15851	13816	13571	14646	17386	22412	20756	23361	236381
Byron (A)	26482	19291	18233	20474	13147	12756	17912	15480	20051	23354	23364	24250	234794
East Gippsland (S)	30398	19201	25259	20884	14158	12546	12458	12156	17891	18570	18562	19598	221681
Glenelg (S)	5405	3940	5157	No data, June quarter			2914	3201	3391	4357	4405	4510	37280
Surf Coast (S)	22076	14492	16337	12447	7572	9310	8429	7475	12003	11002	14201	16183	151527
Peninsula (TR)	29999	22090	23888	20937	15189	14366	15600	16019	19625	21118	23847	25660	248338
Cairns (C), incl Douglas (S)	371567	297204	350943	356025	344658	377127	488164	490794	438051	457711	391261	374649	4738154
Sunshine Coast (TR)	350825	190439	216247	234954	155829	178079	234738	229489	279678	298374	225317	296106	2890075
Busselton (S)	85779	47291	58014	60606	31765	30475	39036	29543	37134	52791	50655	67798	590887
Mandurah (C)	17596	9597	10532	12346	6989	6435	13389	12430	13127	17423	16846	17353	154063
Augusta-Margaret River (S)	24261	14509	17385	17442	10216	10716	11181	9333	13279	15744	14861	18069	176996

Local Government Area	Guest nights occupied, establishments with 5 or more rooms												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Eurobodalla (A)	43850	25184	28352	24914	17325	15410	16105	16358	23186	27305	24715	29526	292230
Shoalhaven (C)	41814	29665	31322	29638	20991	18653	18318	19218	23126	30209	28337	34153	325444
Byron (A)	33772	24424	23976	26340	16978	16979	23548	19872	25921	29973	29826	32041	303650
East Gippsland (S)	43950	27990	36571	29873	19877	18520	17310	16786	24912	25935	26481	28371	316576
Glenelg (S)	8881	6421	7901	No data, June quarter			4414	4874	5594	6663	6960	7522	59230
Surf Coast (S)	24912	16401	18735	15294	9154	11549	10126	8781	13779	13639	16496	19163	178029
Peninsula (TR)	38531	27944	31067	26249	18894	17821	19181	20128	24603	26395	30152	32457	313422
Cairns (C), incl Douglas (S)	374759	299435	353505	359845	348208	381669	494537	497315	443259	463324	395452	378787	4790095
Sunshine Coast (TR)	386538	209821	236504	258121	172716	197539	258618	254112	306761	326952	246591	323439	3177712
Busselton (S)	92216	50885	62077	65293	34489	33439	41983	31959	40436	57272	55345	73390	638784
Mandurah (C)	Cannot be calculated - no data for establishments with 5-14 rooms												
Augusta-Margaret River (S)	29329	17971	21267	21854	13042	13405	14861	12535	16999	20711	19591	23536	225101

Source: ABS Survey of Tourist Accommodation, Cat No 8635.X.55.001various issues.

As an example, in Eurobodalla in 2006, guest nights occupied in the smaller establishments as a percentage of those in the larger establishments was 19.6 percent. If we then compute 19.6 percent of Eurobodalla's guest nights occupied in establishments with 15 or more rooms (244,340) we get 47,890 – the number of guest nights occupied in establishments with 5-14 rooms. Hence, when assessing the 2011 data, which provides guest nights occupied information only for establishments with 15 or more rooms, we can use the 2006 percentages developed in Table 8.4 to estimate the size of the guest nights occupied in the smaller, uncounted, establishments. This reverse engineering is an important methodology to enhance estimates of the size of mobile populations in tourist accommodation in the Sea Change LGAs.

A second point is that the proportion of smaller establishments to larger ones gives an indication of the relative significance of smaller establishments in the provision of tourist accommodation in the selected LGAs.

For example, in Glenelg smaller establishments are dominant relative to larger ones, with their numbers representing 58.9 percent of the larger establishments. On the other hand, in Busselton, Sunshine Coast and Cairns, including Douglas (S), the larger establishments dominate relative to the smaller one. In these three LGAs, smaller establishments are only 8.1, 10 and 1.0 percent respectively of the number of larger establishments. In tourist "hot

spots" larger establishments, relative to smaller ones, are needed to cope with the heavy demand for accommodation.

Table 8.4: Guest night occupied in small establishments as proportion of those in larger establishments, 2006

Local Government Area	Establishments with 5-14 rooms as proportion of establishments with 15 or more rooms												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Eurobodalla (A)	20.9	21.2	21.9	18.3	18.8	17.7	18.7	17.7	18.4	18.0	18.7	21.6	19.6
Shoalhaven (C)	44.7	37.0	37.7	39.3	32.4	35.0	35.0	31.2	33.0	34.8	36.5	46.2	37.7
Byron (A)	27.5	26.6	31.5	28.7	29.1	33.1	31.5	28.4	29.3	28.3	27.7	32.1	29.3
East Gippsland (S)	44.6	45.8	44.8	43.0	40.4	47.6	38.9	38.1	39.2	39.7	42.7	44.8	42.8
Glenelg (S)	64.3	63.0	53.2	No data, June quarter			51.5	52.3	65.0	52.9	58.0	66.8	58.9
Surf Coast (S)	12.8	13.2	14.7	22.9	20.9	24.0	20.1	17.5	14.8	24.0	16.2	18.4	17.5
Peninsula (TR)	28.4	26.5	30.1	25.4	24.4	24.0	23.0	25.7	25.4	25.0	26.4	26.5	26.2
Cairns (C), incl Douglas (S)	0.9	0.8	0.7	1.1	1.0	1.2	1.3	1.3	1.2	1.2	1.1	1.1	1.1
Sunshine Coast (TR)	10.2	10.2	9.4	9.9	10.8	10.9	10.2	10.7	9.7	9.6	9.4	9.2	10.0
Busselton (S)	7.5	7.6	7.0	7.7	8.6	9.7	7.5	8.2	8.9	8.5	9.3	8.2	8.1
Mandurah (C)	Cannot be calculated - no data for establishments with 5-14 rooms												
Augusta-Margaret River (S)	20.9	23.9	22.3	25.3	27.7	25.1	32.9	34.3	28.0	31.5	31.8	30.3	27.2

Similar data were collected by the ABS in the first two quarters of 2010, after which these categories were discontinued. Table 8.5 below shows the proportion of guest nights occupied in establishments with 5-14 rooms relative to those in the larger establishments with 15 or more rooms.

Table 8.5: Guest night occupied in small establishments as proportion of those in larger establishments, January-June, 2010

Local Government Area	Establishments with 5-14 rooms as proportion of establishments with 15 or more rooms								Total
	Jan	Feb	Mar	Apr	May	Jun	Mar Quarter	Jun Quarter	
Eurobodalla (A)	19.9	21.5	20.3	18.1	19.0	19.0	20.4	18.6	19.7
Shoalhaven (C)	42.8	38.6	33.7	37.3	38.8	31.4	38.9	36.0	37.7
Byron (A)	24.4	25.4	27.9	29.6	32.8	41.4	25.7	33.4	28.8
East Gippsland (S)	44.4	39.3	41.2	44.1	42.2	41.5	42.0	42.9	42.3
Glenelg (S)	58.6	56.9	45.7	56.8			53.8	49.9	52.1
Surf Coast (S)	8.3	10.1	12.5	10.8	11.1	17.0	10.0	12.4	10.9
Peninsula (TR)	18.7	15.9	17.7	16.3	15.6	15.7	17.6	15.9	16.9
Cairns (R)	1.9	1.3	1.3	1.8	1.9	2.0	1.5	1.9	1.7
Sunshine Coast (R)	11.5	11.5	11.2	12.0	12.4	11.9	11.4	12.1	11.7
Busselton (S)	5.0	6.0	5.6	5.4	5.9	6.6	5.4	5.9	5.6
Mandurah (C)	Cannot be computed								
Augusta-Margaret River (S)	29.6	27.5	27.2	30.6	38.9	35.4	28.2	34.3	30.8

8.3.2 Estimating the impact of hotel, motel and apartment accommodation on mobile population

This section uses 2006 tourist accommodation data for hotels, motels and apartments to estimate the impact of tourism in the selected LGAs on their total populations. The 2006 analysis is based on data for accommodation establishments with more than five rooms.

In Table 8.3 the number of guest nights occupied during 2006 for these establishments is presented for each of the LGAs. Table 8.6 below takes this information to estimate how many persons this effectively adds to the population counted at the 2006 Census. By dividing the total number of guest nights occupied by 365[13] we effectively derive a daily average, or full time equivalent, of the size of the mobile population housed by this form of accommodation in 2006. The size of these additional populations is shown in Table 8.6.

[13] For Glenelg LGA, data for the June quarter 2006 were not published for confidential reasons. Hence, its guest nights occupied data is divided by 274.

Table 8.6: Derived mobile populations in tourist accommodation, Selected LGAs, 2006

Local Government Area	Total guest nights occupied in establishments with 5 or more rooms	Size of derived mobile population	Total Population 2006	Mobile population as percentage of total population
Eurobodalla	292230	801	35010	2.3
Shoalhaven	325444	892	88405	1.0
Byron	303650	832	28767	2.9
East Gippsland	316576	867	40038	2.2
Glenelg *	59230	216	19759	1.1
Surf Coast	178029	488	21769	2.2
Peninsula (TR)	313422	859	254285	0.3
Cairns, incl Douglas	4790095	13124	127435	10.3
Sunshine Coast	3177712	8706	276263	3.2
Busselton	638784	1750	25356	6.9
Mandurah **	154063	422	55817	0.8
Augusta-Margaret River	225101	617	10351	6.0

Source: ABS Survey of Tourist Accommodation, Cat No 8635.X.55.001various issues, ABS TableBuilder

*No data for the June qtr. Therefore, total guest nights occupied has been divided by 274, not 365

** Mandurah Guest Nights Occupied based on eastablishments with 15 or more rooms

The table suggests that the impact of mobile populations using tourist accommodation during 2006 added from around one percent and 10.3 percent to the population of the selected local government areas, notwithstanding the situation in Peninsula (TR) which is distorted by the need to use this enumeration district as a surrogate for Mornington Peninsula LGA. Impacts greater than six percent occurred in Busselton (6.9) and Cairns, including Douglas Shire (10.3). The level in Sunshine Coast (3.2 percent) is lower than might be expected, but this is explained by the geography of the Sunshine Coast TR, which has a substantial hinterland. Hence the proportion of the mobile population, which is largely concentrated along the coastal tourist strip, in the total population, which includes a large population in the hinterland, is subdued from the level that might be expected.

The analysis undertaken above for 2006 data can be repeated using 2011 data from the STA. However, for 2011 data are only available for accommodation establishments with 15 or more rooms. To enable comparability with the 2006 findings, the analysis is in two parts. Firstly, the number of guest nights occupied generated by establishments with 15 or more rooms will be determined. Secondly, these levels will be inflated, using the reverse engineering procedure detailed above, to derive a level of guest nights occupied that is likely to be generated by all establishments with five or more rooms.

The number of establishments with 15 or more rooms available in June 2011, along with the number of bed spaces, has been presented in Table 8.1. In Table 8.7, the number of guest nights occupied in establishments with 15 or more rooms is presented, along with an estimate of how many guest nights occupied would have occurred in all establishments with five or more rooms in each of the selected LGAs.

Table 8.7: Guest nights occupied by month, 2011, Sea Change LGAs.

Local Government Area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total to 30 September 2011	Size of derived mobile population
	Guest nights occupied, establishments with 15 or more rooms										
Eurobodalla (A)	38064	21843	25016	22,790	14,615	12,883	15,430	14,561	18,381	183,583	672
Shoalhaven (C)	28841	20213	20496	21,470	17,147	14,405	14,208	14,273	19,121	170,174	623
Byron (A)	25095	18462	19497	23,423	16,365	12,175	15,965	15,458	20,505	166,945	612
East Gippsland (S)	29,238	23,252	25,050	23,705	15,326	14,299	15,974	15,120	18,819	180,783	662
Glenelg (S)	4,601	3,980	5,087	4,891	4,084	3,301	2,872	2,818	2,764	34,398	126
Surf Coast (S)	30,784	20,974	23,321	22,156	11,909	11,265	13,809	11,298	14,145	159,661	585
Mornington Peninsula (S)	25,276	18,263	20,505	19,340	14,584	12,015	13,587	12,494	14,081	150,145	550
Cairns (R)	290379	245788	250135	312809	291149	352678	464,474	441,837	398,598	3,047,847	11,164
Sunshine Coast (R)	283651	149982	180444	241573	149275	161065	219,098	208,370	250,775	1,844,233	6,755
Busselton (S)	86011	47661	56118	66261	36552	32020	45,756	35,473	41,634	447,486	1,639
Mandurah (C)	25,859	17,117	18,259	17,913	12,648	12,722	16,821	12,692	15,584	149,615	548
Augusta-Margaret River (S)	18627	13774	15619	17339	10722	10392	11,660	12,197	13,116	123,446	452

Local Government Area	Estimate of Guest nights occupied, establishments with five or more rooms										Size of derived mobile population
Eurobodalla (A)	46029	26475	30492	26962	17364	15169	18310	17140	21756	219,697	805
Shoalhaven (C)	41739	27682	28224	29900	22707	19448	19178	18729	25434	233,040	854
Byron (A)	32003	23374	25638	30134	21134	16206	20988	19844	26508	215,829	791
East Gippsland (S)	42273	33895	36268	33908	21517	21108	22195	20879	26204	258,248	946
Glenelg (S)	7560	6486	7794	7409	6218	5446	4350	4291	4560	54,113	198
Surf Coast (S)	34739	23737	26744	27224	14397	13974	16589	13272	16238	186,914	685
Mornington Peninsula (S)	32465	23103	26667	24247	18141	14905	16706	15699	17653	189,585	694
Cairns (R)	292874	247633	251961	316165	294148	356926	470538	447708	403337	3,081,289	11,287
Sunshine Coast (R)	312526	165246	197347	265393	165452	178666	241387	230727	275059	2,031,803	7,443
Busselton (S)	92465	51283	60048	71385	39687	35134	49210	38374	45336	482,923	1,769
Mandurah (C)	No estimates as Guest Nights Occupied not available for establishments with 5-14 rooms										
Augusta-Margaret River (S)	22518	17061	19107	21725	13688	13000	15498	16382	16790	155,768	571

Estimates based on 2006 Guest Nights Occupied in establishments with 5-14 rooms as a proportion of Guest Nights Occupied in establishments with more than 15 rooms .

Source: ABS Survey of Tourist Accommodation, Cat No 8635.X.55.001various issues

Notes: Values for July, August and September 2006 in Glenelg (see Table 8.4) have been used as approximations for April, May and June in the Table. Values derived for Peninsula (TR) in Table 8.4 have been used for Mornington Peninsula in the table.

The estimate of guest nights occupied in establishments with five or more rooms is derived using 2006 data, and the reverse engineering methodology detailed earlier. However, similar data were collected up to June 2010, and presented in Table 8.5. If the relativities between smaller and larger establishments prevailing in 2010 are used, the estimates of guest nights occupied in establishments with five or more rooms in 2011 are shown in Table 8.8. When the size of the derived mobile population in Table 8.8 is compared to that in Table 8.7 the results are exceedingly similar.

Table 8.8: Estimates of guest nights occupied in establishments with five or more rooms, 2011, based on 2010 data

Local Government Area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total to 30 September 2011	Size of derived mobile population
	Estimate of Guest nights occupied, establishments with five or more rooms										
Eurobodalla (A)	45655	26531	30107	26904	17392	15334	18474	17433	22007	219,837	805
Shoalhaven (C)	41199	28017	27413	29488	23792	18925	19558	19648	26322	234,361	858
Byron (A)	31226	23159	24936	30347	21738	17213	20558	19905	26404	215,487	789
East Gippsland (S)	42227	32389	35361	34154	21800	20227	22739	21523	26788	257,208	942
Glenelg (S)	7299	6245	7411	7668			4367	4285	4203	41,479	196
Surf Coast (S)	33341	23102	26233	24556	13233	13177	15312	12528	15685	177,168	649
Mornington Peninsula (S)	29992	21162	24144	22499	16853	13897	15884	14606	16462	175,498	643
Cairns (R)	295775	248925	253506	318457	296782	359858	472533	449503	405514	3,100,854	11,358
Sunshine Coast (R)	316197	167245	200741	270484	167813	180306	244759	232775	280147	2,060,466	7,547
Busselton (S)	90329	50512	59275	69870	38698	34147	48329	37467	43975	472,602	1,731
Mandurah (C)	No estimates as Guest Nights Occupied not available for establishments with 5-14 rooms										
Augusta-Margaret River (S)	24134	17560	19861	22649	14892	14067	15249	15952	17153	161,519	592

Estimates based on 2010 Guest Nights Occupied in establishments with 5-14 rooms as a proportion of Guest Nights Occupied in establishments with more than 15 rooms .

Source: ABS Survey of Tourist Accommodation, Cat No 8635.X.55.001various issues

The first clear conclusion from this analysis is that hotel, motel and apartment accommodation add substantial numbers of additional population to each of the selected LGAs. The lowest level of additional population from this accommodation source occurred in Glenelg. Here the additive impact of tourist accommodation was 196, which if converted to additional households equates to a significant number. The size of the additional population generated by this form of tourist accommodation in the next ranked LGAs – Surf Coast and Mornington Peninsula – was more than three times the level recorded for Glenelg. Levels approaching 800 additional person equivalents were generated in the three New South Wales LGAs of Byron (789), Eurobodalla (805) and Shoalhaven (858). Busselton recorded a level of 1,731, while huge levels of equivalent full time (EFT) population from hotel, motel and apartment users occurred in Sunshine Coast (7,547) and Cairns (11,358).

8.3.3 Estimating the impact of caravan parks on mobile populations

The ABS STA series reported data for caravan parks with 40 or more powered sites up to, and including, the June quarter 2010. These data provide tourist accommodation data which are discrete from that provided for hotel, motel and apartment accommodation reported in the previous section. Hence, there is no element of double counting of numbers of persons involved. In Table 8.9, the number of defined caravan parks in each of the sea change LGAs is shown.

Table 8.9: Number of caravan parks and total capacity, Selected LGAs, 2006 and 2010

Local Government Area	December Quarter 2006	June Quarter 2010	December Quarter 2006	June Quarter 2010
	Number of establishments		Total capacity	
Eurobodalla (A)	21	21	3305	3138
Shoalhaven (C)	53	51	9572	9266
Byron (A)	10	10	1673	1687
East Gippsland (S)	35	35	3589	4158
Glenelg (S)	6	6	838	766
Surf Coast (S)	8	7	2650	2492
Mornington Peninsula (S)	33	32	3566	3732
Cairns (C), incl Douglas (S)	16	17	2414	2362
Sunshine Coast (TR)	28	28	4249	4203
Busselton (S)	13	12	1936	1568
Mandurah (C)	9	8	1034	838
Augusta-Margaret River (S)	10	9	1350	1175

Source: ABS Cat No 8635.X.55.002, various issues

The survey provides data for Site Nights Occupied, in contrast to Guest Nights Occupied for the hotels, motels and apartments data. Hence, there is no direct count of people occupying the sites as was the case for the previous accommodation type. Site Nights Occupied is defined as the total number of nights each caravan park site was occupied during any survey period. Clearly, there is a link between site nights occupied and number of persons using the sites, but to establish a number of persons an estimate of persons per site night occupied needs to be made. In Table 8.10, site nights occupied are shown for each month of 2006.

Table 8.10: Site nights occupied in caravan parks, Selected LGAs, 2006

Local Government Area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	March Quarter 2006	June Quarter 2006	September Quarter 2006	December Quarter 2006	Derived population, 2006
Site Nights Occupied, 2006																	
Eurobodalla (A)	75304	59131	63024	61741	57016	52654	53513	53483	55564	59581	57162	65922	197459	171411	162560	182665	1956
Shoalhaven (C)	240831	187767	201785	207068	193206	186079	194043	192590	195552	200432	195146	215540	630383	586353	582185	611118	6603
Byron (A)	32573	23628	22116	23679	18976	17815	22116	20257	22957	23862	20737	29181	78317	60470	65330	73780	761
East Gippsland (S)	63281	43128	49587	49588	41072	39334	41969	42454	44842	49001	49815	55421	155996	129994	129265	154237	1560
Glenelg (S)	7119	**	**	6209	4123	4324	3710	**	**	**	4240	**	16886	14656		14038	125
Surf Coast (S)	69638	53386	58193	55151	37129	35866	36250	36214	35533	37037	38953	46233	181217	128146	107997	122223	1478
Mornington Peninsula (S)	91803	69401	78070	72600	65789	63573	65333	65220	64246	65468	64901	73941	239274	201962	194799	204310	2302
Cairns (C), incl Douglas (S)	24939	22114	25264	27768	33320	42972	57849	55241	41174	35610	27986	27546	72317	104060	154264	91142	1156
Sunshine Coast (TR)	93909	64538	69599	79955	73473	84884	101764	102691	91475	85568	73825	90420	228046	238312	295930	249813	2773
Busselton (S)	44280	33507	31685	32654	20702	18561	19654	18325	21147	24949	24813	34678	109472	71917	59126	84440	890
Mandurah (C)	28792	24169	27273	30412	30480	29570	29524	29608	29347	26194	25793	26678	80234	90462	88479	78665	926
Augusta-Margaret River (S)	27355	18120	19790	19217	9738	9286	10748	10570	11783	12165	12941	17529	65265	38241	33101	42635	491
Estimate of mobile population based on 1.5 persons per night																	
Eurobodalla (A)	3644	3168	3050	3087	2759	2633	2589	2588	2778	2883	2858	3190	3291	2825	2650	2978	2935
Shoalhaven (C)	11653	10059	9764	10353	9349	9304	9389	9319	9778	9698	9757	10429	10506	9665	9492	9964	9904
Byron (A)	1576	1266	1070	1184	918	891	1070	980	1148	1155	1037	1412	1305	997	1065	1203	1142
East Gippsland (S)	3062	2310	2399	2479	1987	1967	2031	2054	2242	2371	2491	2682	2600	2143	2108	2515	2340
Glenelg (S)	344			310	200	216	180				212		281	242	0	229	122
Surf Coast (S)	3370	2860	2816	2758	1797	1793	1754	1752	1777	1792	1948	2237	3020	2112	1761	1993	2221
Mornington Peninsula (S)	4442	3718	3778	3630	3183	3179	3161	3156	3212	3168	3245	3578	3988	3329	3176	3331	3454
Cairns (C), incl Douglas (S)	1207	1185	1222	1388	1612	2149	2799	2673	2059	1723	1399	1333	1205	1715	2515	1486	1729
Sunshine Coast (TR)	4544	3457	3368	3998	3555	4244	4924	4969	4574	4140	3691	4375	3801	3928	4825	4073	4153
Busselton (S)	2143	1795	1533	1633	1002	928	951	887	1057	1207	1241	1678	1825	1185	964	1377	1338
Mandurah (C)	1393	1295	1320	1521	1475	1479	1429	1433	1467	1267	1290	1291	1337	1491	1443	1283	1388
Augusta-Margaret River (S)	1324	971	958	961	471	464	520	511	589	589	647	848	1088	630	540	695	738
Estimate of mobile population based on 2.0 persons per night																	
Eurobodalla (A)	4858	4224	4066	4116	3678	3510	3452	3451	3704	3844	3811	4253	4388	3767	3534	3971	3914
Shoalhaven (C)	15537	13412	13018	13805	12465	12405	12519	12425	13037	12931	13010	13906	14009	12887	12656	13285	13206
Byron (A)	2101	1688	1427	1579	1224	1188	1427	1307	1530	1539	1382	1883	1740	1329	1420	1604	1523
East Gippsland (S)	4083	3081	3199	3306	2650	2622	2708	2739	2989	3161	3321	3576	3467	2857	2810	3353	3120
Glenelg (S)	459			414	266	288	239				283		375	322	0	305	162
Surf Coast (S)	4493	3813	3754	3677	2395	2391	2339	2336	2369	2389	2597	2983	4027	2816	2348	2657	2961
Mornington Peninsula (S)	5923	4957	5037	4840	4244	4238	4215	4208	4283	4224	4327	4770	5317	4439	4235	4442	4606
Cairns (C), incl Douglas (S)	1609	1580	1630	1851	2150	2865	3732	3564	2745	2297	1866	1777	1607	2287	3354	1981	2305
Sunshine Coast (TR)	6059	4610	4490	5330	4740	5659	6565	6625	6098	5521	4922	5834	5068	5238	6433	5431	5538
Busselton (S)	2857	2393	2044	2177	1336	1237	1268	1182	1410	1610	1654	2237	2433	1581	1285	1836	1784
Mandurah (C)	1858	1726	1760	2027	1966	1971	1905	1910	1956	1690	1720	1721	1783	1988	1923	1710	1851
Augusta-Margaret River (S)	1765	1294	1277	1281	628	619	693	682	786	785	863	1131	1450	840	720	927	984
Estimate of mobile population based on 2.5 persons per night																	
Eurobodalla (A)	6073	5280	5083	5145	4598	4388	4316	4313	4630	4805	4764	5316	5485	4709	4417	4964	4892
Shoalhaven (C)	19422	16765	16273	17256	15581	15507	15649	15531	16296	16164	16262	17382	17511	16109	15820	16606	16507
Byron (A)	2627	2110	1784	1973	1530	1485	1784	1634	1913	1924	1728	2353	2175	1661	1775	2005	1904
East Gippsland (S)	5103	3851	3999	4132	3312	3278	3385	3424	3737	3952	4151	4469	4333	3571	3513	4191	3899
Glenelg (S)	574			517	333	360	299				353		469	403	0	381	203
Surf Coast (S)	5616	4767	4693	4596	2994	2989	2923	2920	2961	2987	3246	3728	5034	3520	2935	3321	3702
Mornington Peninsula (S)	7403	6197	6296	6050	5306	5298	5269	5260	5354	5280	5408	5963	6647	5548	5293	5552	5757
Cairns (C), incl Douglas (S)	2011	1974	2037	2314	2687	3581	4665	4455	3431	2872	2332	2221	2009	2859	4192	2477	2882
Sunshine Coast (TR)	7573	5762	5613	6663	5925	7074	8207	8282	7623	6901	6152	7292	6335	6547	8042	6788	6922
Busselton (S)	3571	2992	2555	2721	1670	1547	1585	1478	1762	2012	2068	2797	3041	1976	1607	2295	2230
Mandurah (C)	2322	2158	2199	2534	2458	2464	2381	2388	2446	2112	2149	2151	2229	2485	2404	2138	2314
Augusta-Margaret River (S)	2206	1618	1596	1601	785	774	867	852	982	981	1078	1414	1813	1051	899	1159	1230
Estimate of mobile population based on 3.0 persons per night																	
Eurobodalla (A)	7287	6335	6099	6174	5518	5265	5179	5176	5556	5766	5716	6380	6582	5651	5301	5956	5871
Shoalhaven (C)	23306	20118	19528	20707	18697	18608	18778	18638	19555	19397	19515	20859	21013	19330	18984	19928	19809
Byron (A)	3152	2532	2140	2368	1836	1782	2140	1960	2296	2309	2074	2824	2611	1994	2130	2406	2284
East Gippsland (S)	6124	4621	4799	4959	3975	3933	4062	4108	4484	4742	4982	5363	5200	4286	4215	5029	4679
Glenelg (S)	689			621	399	432	359				424		563	483	0	458	244
Surf Coast (S)	6739	5720	5632	5515	3593	3587	3508	3505	3553	3584	3895	4474	6041	4225	3522	3986	4442
Mornington Peninsula (S)	8884	7436	7555	7260	6367	6357	6323	6312	6425	6336	6490	7156	7976	6658	6352	6662	6908
Cairns (C), incl Douglas (S)	2413	2369	2445	2777	3225	4297	5598	5346	4117	3446	2799	2666	2411	3431	5030	2972	3458
Sunshine Coast (TR)	9088	6915	6735	7996	7110	8488	9848	9938	9148	8281	7383	8750	7602	7856	9650	8146	8307
Busselton (S)	4285	3590	3066	3265	2003	1856	1902	1773	2115	2414	2481	3356	3649	2371	1928	2753	2676
Mandurah (C)	2786	2590	2639	3041	2950	2957	2857	2865	2935	2535	2579	2582	2674	2982	2885	2565	2776
Augusta-Margaret River (S)	2647	1941	1915	1922	942	929	1040	1023	1178	1177	1294	1696	2176	1261	1079	1390	1475

Source: ABS Cat No 8635.X.55.001 Tourist Accommodation, Small Area Data, various issues

** For some month, data for Glenelg withheld for confidential reasons

As with guest nights occupied in the hotels, motels and apartment data, site nights occupied data provide an indication of the temporal ebb and flow of tourists and the nature of seasonal demand. In the case of caravan parks in Sunshine Coast and Cairns, site nights occupied peak in the middle of the year, coinciding with the region's warm and dry winter. In contrast, in the southern states, site nights occupied peak around the December and January period. For southern van parks, peak nights occupied tend to drop off dramatically in February, as the Christmas holidays end, and experience slight rise from time to time during the year, generally coinciding with school holiday periods. In the case of Mornington Peninsula and

Mandurah, each relatively close to their capital city, site nights occupied, and for that matter occupancy rates, are relatively consistent from one month to another.

Site night occupied data can be directly related to persons by assigning a number of persons to each site. This requires a determination of the level of occupancy on each site on each night it was occupied. Unfortunately there are no collected data relating to the actual level of occupancy of these sights on each night. In Table 8.10 estimates of the size of the mobile population, based on various levels of occupancy of each site, are provided for each month and each quarter. The table also presents a derived population, or the EFTR, that might be present on any one day of the year, based on the various occupancy scenarios employed.

Because actual person data are not part of the caravan parks data there are some difficulties associated with any derived population estimates. This is because assumed persons per site levels are not consistent throughout any year. Hence, in the southern states LGAs, high estimates of persons per site are likely, but these are replaced by lower levels during the winter months. Therefore, to get a real estimate of the size of derived populations caused by caravan park usage, any person using the table may need to take data for different months from different parts of the table.

Regardless of this problem, the data do allow for several very interesting observations. The first is that caravan parks throughout Australia represent, possibly, the most significant form of tourist accommodation. Secondly, regardless of location, caravan parks do add a significant number of EFTR to the prevailing population in each of the sea change LGAs. Nowhere is this more obvious than in Shoalhaven LGA where, even on the lowest estimates of persons per site, its caravan parks generate an equivalent full time addition to the resident population of close to 10,000 people[14]. High levels are also generated in Cairns, Mornington Peninsula, Eurobodalla, and Surf Coast. The impact of "grey nomads", tourists in campervans and backpackers cannot be underestimated in the generation of these levels of additional population.

Comparable data for 2011 are not available. As mentioned previously, the ABS ceased collecting accommodation data from caravan parks at the end of June 2010. In Table 8.11, site nights occupied data for the first six months of 2010 are presented for the selected LGAs, and can be compared with similar data for 2006 presented above. Although comparison of the numbers show clear differences between the 2006 and 2010 data for the March and June quarters, the two distributions are highly correlated – 0.993 for the March quarters and 0.997 for the June quarters. Therefore, it is clear that any tendencies existing in 2006 have been maintained into 2010, and presumably into 2011. Also in the table, these site nights occupied values have been converted into derived population data, as was done in Table 8.10, based on a number of persons per site scenarios.

The conclusions to be drawn from this table, in terms of the impact of caravan park accommodation on derived population, or EFT addition to the resident population, are the same as those drawn from the 2006 data.

[14] These estimates are exclusive of permanent residents living in caravan parks. The ABS seeks data only for caravan park users who are resident for "two months or less" – Tourism section, ABS, 22 April 2013.

Table 8.11: Site nights occupied in caravan parks, Selected LGAs, 2010

Local Government Area	Jan	Feb	Mar	Apr	May	Jun	March Quarter 2010	June Quarter 2010	Derived population, 2010
	Site Nights Occupied, 2010								One person/site
Eurobodalla (A)	72334	55173	58513	56864	52851	50270	186020	159985	1912
Shoalhaven (C)	231219	177210	190068	193827	175982	169547	598497	539356	6286
Byron (A)	29372	20661	21751	27446	20673	19919	71784	68038	772
East Gippsland (S)	84933	53658	59330	58390	43360	39768	197921	141518	1875
Glenelg (S)	**	**	**	8179	6022	5189	**	19390	
Surf Coast (S)	64903	48040	50053	45205	33794	32038	162996	111037	1514
Mornington Peninsula (S)	98115	76930	82766	75806	68152	65656	257811	209614	2582
Cairns (C)	23669	19848	23519	28230	33166	43950	67036	105346	952
Sunshine Coast (TR)	97166	63071	64588	76264	68805	77435	224825	222504	2471
Busselton (S)	37255	29611	26867	28513	20145	18158	93733	66816	887
Mandurah (C)	22847	20588	22504	22311	21919	21468	65939	65698	727
Augusta-Margaret River (S)	28777	20079	19116	18825	11616	11041	67972	41482	605
	Estimate of mobile population based on 1.5 persons per night								
Eurobodalla (A)	3500	2956	2831	2843	2557	2514	3100	2637	2867
Shoalhaven (C)	11188	9493	9197	9691	8515	8477	9975	8890	9427
Byron (A)	1421	1107	1052	1372	1000	996	1196	1122	1158
East Gippsland (S)	4110	2875	2871	2920	2098	1988	3299	2333	2810
Glenelg (S)				409	291	259		320	160
Surf Coast (S)	3140	2574	2422	2260	1635	1602	2717	1830	2272
Mornington Peninsula (S)	4748	4121	4005	3790	3298	3283	4297	3455	3874
Cairns (C), incl Douglas (S)	1145	1063	1138	1412	1605	2198	1117	1736	1427
Sunshine Coast (TR)	4702	3379	3125	3813	3329	3872	3747	3668	3703
Busselton (S)	1803	1586	1300	1426	975	908	1562	1101	1333
Mandurah (C)	1106	1103	1089	1116	1061	1073	1099	1083	1091
Augusta-Margaret River (S)	1392	1076	925	941	562	552	1133	684	908
	Estimate of mobile population based on 2.0 persons per night								
Eurobodalla (A)	4667	3941	3775	3791	3410	3351	4134	3516	3822
Shoalhaven (C)	14917	12658	12262	12922	11354	11303	13300	11854	12569
Byron (A)	1895	1476	1403	1830	1334	1328	1595	1495	1544
East Gippsland (S)	5480	3833	3828	3893	2797	2651	4398	3110	3747
Glenelg (S)				545	389	346		426	213
Surf Coast (S)	4187	3431	3229	3014	2180	2136	3622	2440	3030
Mornington Peninsula (S)	6330	5495	5340	5054	4397	4377	5729	4607	5165
Cairns (C), incl Douglas (S)	1527	1418	1517	1882	2140	2930	1490	2315	1902
Sunshine Coast (TR)	6269	4505	4167	5084	4439	5162	4996	4890	4938
Busselton (S)	2404	2115	1733	1901	1300	1211	2083	1468	1777
Mandurah (C)	1474	1471	1452	1487	1414	1431	1465	1444	1455
Augusta-Margaret River (S)	1857	1434	1233	1255	749	736	1510	912	1211
	Estimate of mobile population based on 2.5 persons per night								
Eurobodalla (A)	5833	4926	4719	4739	4262	4189	5167	4395	4778
Shoalhaven (C)	18647	15822	15328	16152	14192	14129	16625	14817	15712
Byron (A)	2369	1845	1754	2287	1667	1660	1994	1869	1930
East Gippsland (S)	6849	4791	4785	4866	3497	3314	5498	3888	4684
Glenelg (S)				682	486	432		533	267
Surf Coast (S)	5234	4289	4037	3767	2725	2670	4528	3050	3787
Mornington Peninsula (S)	7913	6869	6675	6317	5496	5471	7161	5759	6457
Cairns (C), incl Douglas (S)	1909	1772	1897	2353	2675	3663	1862	2894	2378
Sunshine Coast (TR)	7836	5631	5209	6355	5549	6453	6245	6113	6172
Busselton (S)	3004	2644	2167	2376	1625	1513	2604	1836	2221
Mandurah (C)	1843	1838	1815	1859	1768	1789	1832	1805	1819
Augusta-Margaret River (S)	2321	1793	1542	1569	937	920	1888	1140	1513
	Estimate of mobile population based on 3.0 persons per night								
Eurobodalla (A)	7000	5911	5663	5686	5115	5027	6201	5274	5734
Shoalhaven (C)	22376	18987	18394	19383	17031	16955	19950	17781	18854
Byron (A)	2842	2214	2105	2745	2001	1992	2393	2243	2316
East Gippsland (S)	8219	5749	5742	5839	4196	3977	6597	4665	5620
Glenelg (S)				818	583	519		639	320
Surf Coast (S)	6281	5147	4844	4521	3270	3204	5433	3661	4544
Mornington Peninsula (S)	9495	8243	8010	7581	6595	6566	8594	6910	7748
Cairns (C), incl Douglas (S)	2291	2127	2276	2823	3210	4395	2235	3473	2853
Sunshine Coast (TR)	9403	6758	6250	7626	6659	7744	7494	7335	7407
Busselton (S)	3605	3173	2600	2851	1950	1816	3124	2203	2666
Mandurah (C)	2211	2206	2178	2231	2121	2147	2198	2166	2182
Augusta-Margaret River (S)	2785	2151	1850	1883	1124	1104	2266	1368	1816

Source: ABS Cat No 8635.X.55.001Tourist Accommodation, Small Area Data, various issues

** For some month, data for Glenelg withheld for confidential reasons

8.3.4 Estimating the impact of holiday flats, units and houses on mobile populations

When using data for these types of tourist accommodation from the ABS STA several compromises have been made which were not necessary with the previous two types of tourist accommodation. The survey sought data for the number of holiday flats, units and houses (excluding establishments predominantly operated on a time-share basis) operated by letting entities, defined as owners, managers or real estate agents who have sole letting rights to at least 15 flats, units or houses for short-term letting. As a result, there were no letting entities meeting the criteria in Glenelg, Augusta-Margaret River and Mandurah LGAs. In East Gippsland, Surf Coast, Mornington Peninsula and Busselton, although there were letting entities that met the criteria for inclusion in the survey, their results were not published for confidentiality reasons. Within the Cairns LGA, results for some SLAs were withheld for confidentiality reasons, while others had their data released without confidentiality infringement. Hence, in the following discussion the situation for Cairns is on the basis of data for the Cairns – City and Cairns – Northern Suburbs SLAs. Data for Douglas (S) is unaffected by any of these constraints. Accordingly, in this section the discussion is based on data for Eurobodalla, Shoalhaven and Byron in New South Wales, the combined results for two SLAs in Cairns, Douglas and Sunshine Coast in Queensland. No data are available for LGAs in Victoria and Western Australia.

The significance of these data is that they allow temporal changes throughout the year to be understood. In LGAs where these data are not available, as in Victoria and Western Australia, it is true that a snapshot of residents in holiday flats, units and houses may be provided at the census, but this snapshot does not allow for any temporal analysis of temporary populations in these types of holiday accommodation.

Table 8.12 shows the number of unit nights occupied in the LGAs meeting the criteria for inclusion in the survey.

Table 8.12: Unit nights occupied in holiday flats, units and houses, Selected LGAs, 2006

Local Government Area, or representative	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	March Quarter 2006	June Quarter 2006	September Quarter 2006	December Quarter 2006	Derived population, 2006
Unit Nights Occupied, 2006																	
Eurobodalla (A)	18614	8686	8292	9860	6616	6873	6961	6307	8246	6580	5802	10478	35592	23349	21514	22860	283
Shoalhaven (C)	17678	5208	5890	5841	1784	2526	4014	2064	2884	3772	3057	8175	28776	10151	8962	15004	172
Byron (A)	9469	6612	6812	6344	4759	4586	6297	5536	7244	8966	8610	9348	22893	15689	19077	26924	232
Cairns (Two SLAs), incl Douglas	12496	8189	11456	12831	13378	15967	19684	19929	18482	16341	14520	11852	32141	42176	58095	42713	480
Sunshine Coast (TR)	105405	66056	76933	76128	55464	69176	88408	90650	90821	95740	79226	93859	248394	200768	269879	268825	2706
Estimate of mobile population based on 1.5 persons per night																	
Eurobodalla (A)	901	465	401	493	320	344	337	305	412	318	290	507	593	385	351	373	424
Shoalhaven (C)	855	279	285	292	86	126	194	100	144	183	153	396	480	167	146	245	258
Byron (A)	458	354	330	317	230	229	305	268	362	434	431	452	382	259	311	439	348
Cairns (Two SLAs), incl Douglas	605	439	554	642	647	798	952	964	924	791	726	573	536	695	947	696	718
Sunshine Coast (TR)	5100	3539	3723	3806	2684	3459	4278	4386	4541	4633	3961	4542	4140	3309	4400	4383	4054
Estimate of mobile population based on 2.0 persons per night																	
Eurobodalla (A)	1201	560	535	636	427	443	449	407	532	425	374	676	2296	1506	1388	1475	555
Shoalhaven (C)	1141	336	380	377	115	163	259	133	186	243	197	527	1857	655	578	968	338
Byron (A)	611	427	439	409	307	296	406	357	467	578	555	603	1477	1012	1231	1737	455
Cairns (Two SLAs), incl Douglas	806	528	739	828	863	1030	1270	1286	1192	1054	937	765	2074	2721	3748	2756	942
Sunshine Coast (TR)	6800	4262	4963	4911	3578	4463	5704	5848	5859	6177	5111	6055	16025	12953	17412	17344	5311
Estimate of mobile population based on 2.5 persons per night																	
Eurobodalla (A)	1501	700	669	795	534	554	561	509	665	531	468	845	2870	1883	1735	1844	694
Shoalhaven (C)	1426	420	475	471	144	204	324	166	233	304	247	659	2321	819	723	1210	423
Byron (A)	764	533	549	512	384	370	508	446	584	723	694	754	1846	1265	1538	2171	568
Cairns (Two SLAs), incl Douglas	1008	660	924	1035	1079	1288	1587	1607	1490	1318	1171	956	2592	3401	4685	3445	1177
Sunshine Coast (TR)	8500	5327	6204	6139	4473	5579	7130	7310	7324	7721	6389	7569	20032	16191	21764	21679	6639
Estimate of mobile population based on 3.0 persons per night																	
Eurobodalla (A)	1801	841	802	954	640	665	674	610	798	637	561	1014	3444	2260	2082	2212	833
Shoalhaven (C)	1711	504	570	565	173	244	388	200	279	365	296	791	2785	982	867	1452	507
Byron (A)	916	640	659	614	461	444	609	536	701	868	833	905	2215	1518	1846	2606	682
Cairns (Two SLAs), incl Douglas	1209	792	1109	1242	1295	1545	1905	1929	1789	1581	1405	1147	3110	4082	5622	4134	1412
Sunshine Coast (TR)	10200	6393	7445	7367	5367	6694	8556	8773	8789	9265	7667	9083	24038	19429	26117	26015	7967

Source: ABS Cat No 8635.X.55001 Tourist Accommodation, Small Area Data, various issues

In terms of the unit nights occupied part of the table, there are a number of salient points emerging from the table, including:

- The number of unit nights occupied is highest in the Sunshine Coast, with numbers four to five times those prevailing in the next most dominant LGA – Cairns.
- Unit nights occupied are relatively similar in the remaining LGAs.
- In each of the LGAs, unit nights occupied fall away dramatically between January and February, as the Christmas holiday period ends and holiday makers return to work and school.
- In the NSW LGAs, numbers are relatively subdued for the remainder of the year, with slight peaks coinciding with school holidays. After November, numbers rise in December coinciding with the beginning of the Christmas holiday period.
- In the case of Sunshine Coast and Cairns, there is a reduction after the Christmas holiday period, but then numbers steadily increase to peak levels in July/August, coinciding with the southern states winter period, when the tropical winter dry season lures tourists to these locations.

The unit nights occupied data provide an indication of the temporal ebb and flow of tourists using this form of accommodation and the nature of seasonal demand. Unit night occupied data can be directly related to persons by assigning a number of persons to each unit. As with the data for caravan sites, this requires a determination of the level of occupancy in each unit on each night it was occupied. Unfortunately there are no collected data relating to the actual level of occupancy of these units on each night. However, estimates of the size of the mobile population, based on various levels of occupancy in each unit, have also been presented in Table 8.12.

In terms of the additive impact that holiday flats and homes have on the resident population, their impact is not as marked as was the case with caravan parks. The exception is the Sunshine Coast, where the impact of holiday flats and houses is essentially the same as that for caravan parks and camping grounds.

As was the case with data for caravan parks, comparable data for 2011 are not available as the ABS ceased this reporting in June 2010. In Table 8.13, similar data to that presented above is provided for the first six months of 2010. As with the previous data set, there are several qualifications that need to be made. In particular:

- There were no eligible letting entities in Glenelg and Mandurah.
- In Busselton, Surf Coast and Mornington Peninsula the data collected were not available for publication.
- Unlike the situation prevailing for 2006, data for Mornington Peninsula LGA were available for publication and are included in the relevant tables below.
- For Cairns, data were available only for its City, Northern Suburbs and Douglas SLAs, which was the situation in 2006.
- In the case of the Sunshine Coast Tourist Region (TR), while data were available in 2006, the situation in 2010 allowed publication of data for the SLAs of Buderim, Caloundra South, Maroochydore, Mooloolaba, Noosa-Noosaville and Sunshine-Peregian SLAs.

A comparison of Table 8.12 and Table 8.13 show that the tendencies prevailing in the first six months of 2006 are replicated in the corresponding period of 2010. The same relativities for unit nights occupied are observed, noting that in 2010 East Gippsland recorded the lowest levels of unit nights occupied. As well, there are seasonal discrepancies between the two

Queensland LGAs and those located in more southerly locations experiencing colder winter months.

Table 8.13: Unit nights occupied in holiday flats, units and houses, Selected LGAs, 2010

Local Government Area, or representative	Jan	Feb	Mar	Apr	May	Jun	March Quarter 2010	June Quarter 2010	Derived population, 2010
	Unit Nights Occupied, 2010								
Eurobodalla (A)	16,956	7,374	6,782	6,654	3,053	2,919	31,112	12,626	242
Shoalhaven (C)	16,223	6,557	5,226	4,699	2,942	3,170	28,006	10,811	214
Byron (A)	8,832	6,064	6,633	6,475	5,228	4,631	21,529	16,334	209
East Gippsland (S)	3,214	2,137	2,449	2,187	1,302	1,315	7,800	4,804	70
Cairns *	12,736	10,024	12,040	13,883	15,419	18,197	34,800	47,499	455
Sunshine Coast **	97,529	57,428	63,766	64,931	51,212	54,861	218,723	171,004	2153
	Estimate of mobile population based on 1.5 persons per night								
Eurobodalla (A)	820	395	328	333	148	146	519	208	362
Shoalhaven (C)	785	351	253	235	142	159	467	178	321
Byron (A)	427	325	321	324	253	232	359	269	314
East Gippsland (S)	156	114	119	109	63	66	130	79	104
Cairns *	616	537	583	694	746	910	580	783	681
Sunshine Coast **	4719	3077	3085	3247	2478	2743	3645	2819	3225
	Estimate of mobile population based on 2.0 persons per night								
Eurobodalla (A)	1094	527	438	444	197	195	691	277	482
Shoalhaven (C)	1047	468	337	313	190	211	622	238	428
Byron (A)	570	433	428	432	337	309	478	359	418
East Gippsland (S)	207	153	158	146	84	88	173	106	139
Cairns *	822	716	777	926	995	1213	773	1044	908
Sunshine Coast **	6292	4102	4114	4329	3304	3657	4861	3758	4300
	Estimate of mobile population based on 2.5 persons per night								
Eurobodalla (A)	1367	658	547	555	246	243	864	347	603
Shoalhaven (C)	1308	585	421	392	237	264	778	297	535
Byron (A)	712	541	535	540	422	386	598	449	523
East Gippsland (S)	259	191	198	182	105	110	217	132	174
Cairns *	1027	895	971	1157	1243	1516	967	1305	1135
Sunshine Coast **	7865	5128	5142	5411	4130	4572	6076	4698	5375
	Estimate of mobile population based on 3.0 persons per night								
Eurobodalla (A)	1641	790	656	665	295	292	1037	416	723
Shoalhaven (C)	1570	703	506	470	285	317	934	356	642
Byron (A)	855	650	642	648	506	463	718	538	627
East Gippsland (S)	311	229	237	219	126	132	260	158	209
Cairns *	1233	1074	1165	1388	1492	1820	1160	1566	1362
Sunshine Coast **	9438	6153	6171	6493	4956	5486	7291	5637	6450

Source: ABS Cat No 8635.X.55.001Tourist Accommodation, Small Area Data, various issues

* Based on City, Northern Suburbs and Douglas SLAs within Cairns (C)

**Based on Buderim, Caloundra South, Maroochydore, Mooloolaba, Noosa-Noosaville and Sunshine-Peregian SLAs in Sunshine Coast (R)

As has been done elsewhere, these unit nights occupied data have been converted into estimates of the mobile population, based on various occupancy scenarios. When 2010 derived population estimates are compared with those for 2006, it is apparent that the same prevailing tendencies exist. In particular, at the lowest occupancy level, this form of tourist accommodation would appear to be adding some 200 equivalent full time residents (EFTR) to the underlying resident population in Eurobodalla, Shoalhaven and Byron, compared with 450 in Cairns and nearly 2,200 in Sunshine Coast.

8.4 TOURISM AND ITS IMPACT ON POPULATION

In this section we summarise the data that have been presented in the preceding sections to show specifically what kind of impact each of the three tourist accommodation types have on the underlying resident population in each of the sea change LGAs. In the table below, the size of the derived population generated by hotels, motels and apartment accommodation is shown.

Table 8.14: Derived population from hotel, motel and apartment accommodation, 2006, 2010 and 2011, selected LGAs

Local Government Area	Total guest nights occupied in establishments with 5 or more rooms	Size of derived mobile population	Total Population 2006	Mobile population as percentage of total population	Total guest nights occupied in establishments with 5 or more rooms	Size of derived mobile population	Total Estimated Resident Population 2010	Mobile population as percentage of total population
	Total 2006				First two quarters, 2010			
Eurobodalla	292230	801	35010	2.3	162098	896	37714	2.4
Shoalhaven	325444	892	88405	1.0	180494	997	96967	1.0
Byron	303650	832	28767	2.9	144641	799	32378	2.5
East Gippsland	316576	867	40038	2.2	183099	1012	44262	2.3
Glenelg *	59230	216	19759	1.1	38294	319	21249	1.5
Surf Coast	178029	488	21769	2.2	129612	716	26173	2.7
Peninsula (TR) ***/ Mornington Peninsula (S)	313422	859	254285	0.3	172455	953	150238	0.6
Cairns, incl Douglas	4790095	13124	127435	10.3	1735838	9590	168251	5.7
Sunshine Coast	3177712	8706	276263	3.2	1356812	7496	330934	2.3
Busselton	638784	1750	25356	6.9	344226	1902	31767	6.0
Mandurah **	154063	422	55817	0.8	103201	570	70413	0.8
Augusta-Margaret River	225101	617	10351	6.0	112663	622	12509	5.0

Local Government Area	Total (derived) guest nights occupied in establishments with 5 or more rooms, based on 2010 data	Size of derived mobile population	Total Estimated Resident Population 2010	Mobile population as percentage of total population	Total (derived) guest nights occupied in establishments with 5 or more rooms, based on 2006 data	Size of derived mobile population	Total Estimated Resident Population 2010	Mobile population as percentage of total population
	First three quarters, 2011							
Eurobodalla	219837	805	37714	2.1	219,697	805	37714	2.1
Shoalhaven	234361	858	96967	0.9	233,040	854	96967	0.9
Byron	215487	789	32378	2.4	215,829	791	32378	2.4
East Gippsland	257208	942	44262	2.1	258,248	946	44262	2.1
Glenelg *	41479	196	21249	0.9	54,113	198	21249	0.9
Surf Coast	177168	649	26173	2.5	186,914	685	26173	2.6
Peninsula (TR) ***/ Mornington Peninsula (S)	175498	643	150238	0.4	189,585	694	150238	0.5
Cairns, incl Douglas	3100854	11358	168251	6.8	3,081,289	11287	168251	6.7
Sunshine Coast	2060466	7547	330934	2.3	2,031,803	7443	330934	2.2
Busselton	472602	1731	31767	5.4	482,923	1769	31767	5.6
Mandurah **	149615	546	70413	0.8			70413	0.0
Augusta-Margaret River	161519	592	12509	4.7	155,768	571	12509	4.6

Source: ABS Survey of Tourist Accommodation, Cat No 8635.X.55.001 various issues, ABS TableBuilder

* Data for Glenelg is incomplete. Derived population calculations adjusted accordingly.

** Mandurah Guest Nights Occupied based on establishments with 15 or more rooms

*** Data for Mornington Peninsula unavailable for publication in 2006 and 2010. Hence Peninsula Tourist region data used. In 2011 data available for Mornington Peninsula (S)

In Table 8.15, an average of the derived populations computed in the table above is presented. There are several important points to be made from this table, including:

- Hotel, motel and apartment accommodation in Cairns adds nearly 11,500 EFTR to the underlying resident population.
- Nearly 8,000 are added to the underlying resident population in Sunshine Coast, and almost 2,000 in Busselton.
- More than 800 are added to the populations of Byron, Eurobodalla and Shoalhaven.
- The lowest addition is 230 in Glenelg, and no other LGA has less than 500 additional persons added to its population from hotel, motel and apartment accommodation.

Table 8.15: Mean level of derived population from hotel, motel and apartment accommodation, 2006, 2010 and 2011

Local Government Area	Average derived populations
Eurobodalla	827
Shoalhaven	900
Byron	803
East Gippsland	942
Glenelg	232
Surf Coast	634
Peninsula (TR)/Mornington Peninsula (S)	787
Cairns, incl Douglas	11338
Sunshine Coast	7798
Busselton	1788
Mandurah	521
Augusta-Margaret River	600

Although there are problems related to estimating additional populations attributed to caravan parks and holiday flats and houses, it is nevertheless possible to provide some reasonable estimates. If we take the lowest occupancy scenario of 1.5 persons per site or unit night occupied, the effect of this on additional population is shown in Table 8.16.

Table 8.16: Derived population from caravan parks, using lowest site occupancy level, 2006 and 2010

Local Government Area	Derived population, 2006	Derived population, 2010	Mean
Eurobodalla (A)	2935	2867	2901
Shoalhaven (C)	9904	9427	9666
Byron (A)	1142	1158	1150
East Gippsland (S)	2340	2810	2575
Glenelg (S)	122	160	141
Surf Coast (S)	2221	2272	2247
Mornington Peninsula (S)	3454	3874	3664
Cairns (C), incl Douglas (S)	1729	1427	1578
Sunshine Coast (TR)	4153	3703	3928
Busselton (S)	1338	1333	1335
Mandurah (C)	1388	1091	1240
Augusta-Margaret River (S)	737	908	823

The mean values in the table are based on a most conservative estimate of site occupancy. Yet, the results are significant in terms of the impact that caravan park tourist accommodation has on adding equivalent full time population to the underlying resident population. Nowhere is this more apparent than in Shoalhaven. At the June quarter 2010 there were 51 caravan park establishments included in the tourist accommodation survey, 16 more than in the next ranked Mornington Peninsula LGA. As a result, people using this form of tourist accommodation represent an additive impact to the resident population of more than 8,000 people. In Sunshine Coast and Mornington Peninsula LGAs, the impact on underlying resident population is more than 3,000, while in Eurobodalla and East Gippsland the impact is greater than 2,000 persons. In Surf Coast the impact is nearly 2,000, while an impact greater than 1,000 occurred in Cairns, Busselton and Mandurah. The conclusion is clear that this form of tourist accommodation has substantial impacts on the population of these coastal LGAs.

Of the three broad tourist accommodation types, holiday flats, units and houses is the most problematic in terms of gauging its impact on the resident population in most of the sea change LGAs. This is because the survey applies only to letting entities which manage 40 or

more units. As such, it misses the many holiday flats, units and houses that are rented out to tourists by smaller entities and a myriad of individual service providers. As has been explained above, there are a number of caveats applied to various aspects of this analysis.

Table 8.17 shows the derived EFT population for the LGAs or representative areas within LGAs based on a conservative 1.5 persons per unit night occupied.

Table 8.17: Derived population from holiday flats, units and houses, using lowest unit occupancy level, 2006 and 2010

Local Government Area, or representative	Derived population, 2006	Derived population, 2010	Mean
	Estimate based on 1.5 persons per night		
Eurobodalla (A)	424	362	393
Shoalhaven (C)	258	321	289
Byron (A)	348	314	331
Cairns (Two SLAs), incl Douglas	718	681	699
Sunshine Coast (TR)	4054	3225	3640
East Gippsland (S)	No data	104	104

The biggest impact of this type of tourist accommodation on the underlying resident population occurs in the Sunshine Coast. Here, holiday makers create an EFT population of more than 3,600 people, more than five times the level generated in Cairns. Holiday flats, units and house rentals generate an EFT population of around 300 persons in each of Eurobodalla, Shoalhaven and Byron LGAs.

Finally, what is the combined impact of these three discrete tourist accommodation types on population in each of the local government areas? In Table 8.18 these means have been summed, where applicable, to provide for each LGA an EFT population generated by tourist accommodation. The most striking point from the table is that tourist accommodation is capable of generating large numbers of additional population in most of the LGAs under review. The largest levels of 13,378 and 14,750 were reported for Cairns and Sunshine Coast respectively, while more than 9,000 additional persons were generated in Shoalhaven. Numbers greater than 3,000 were produced in Eurobodalla, East Gippsland and Mornington Peninsula, and nearly 3,000 in Busselton.

Table 8.18: Level of population generated by various tourist accommodation types

Local Government Area	Hotel, motels and apartments	Caravan Parks	Holiday flats, units and houses	Total EFTs from tourist accommodation	Total Population 2006	EFT as % 2006 total population	Total Population 2011	EFT as % 2011 total population
	Mean derived population							
Eurobodalla	827	2901	393	4121	34542	11.9	35336	11.7
Shoalhaven	900	9666	289	10855	86651	12.5	90858	11.9
Byron	803	1150	331	2283	29417	7.8	29991	7.6
East Gippsland	942	2575	104	3621	39220	9.2	41597	8.7
Glenelg	232	141		373	19296	1.9	18973	2.0
Surf Coast	634	2247		2881	20979	13.7	25202	11.4
Mornington Peninsula (S)	787	3664		4451	131632	3.4	140112	3.2
Cairns, incl Douglas	11338	1578	699	13615	150485	9.0	169467	8.0
Sunshine Coast	7798	3928	3640	15366	287207	5.4	312790	4.9
Busselton	1788	1335		3123	24767	12.6	29558	10.6
Mandurah	521	1240		1761	53555	3.3	66885	2.6
Augusta-Margaret River	600	823		1423	10390	13.7	11584	12.3
Total	27170	31247	5456	63873	888141	7.2	972353	6.6

These EFT populations generated by tourist accommodation have also been compared with both the 2006 and 2011 resident population, recorded at the Census. Relative to the 2006 and 2011 populations, the population generated by tourist accommodation is greater than ten percent in each of Eurobodalla, Shoalhaven, Surf Coast, Busselton and Augusta-Margaret River.

8.5 TEMPORAL CHANGE IN TOURIST ACCOMMODATION TRENDS

Whereas in the preceding discussion the emphasis has been on determining by how much tourists staying in the sea change LGAs impacted on the population recorded at the Census, in this section the emphasis is on identifying the seasonal variation in numbers of tourists residing in the three main types of tourist accommodation. This aspect is incorporated into many of the tables presented above, but specific attention has not been drawn to it. However, it is important to address the issue because much of the pressure on sea change LGAs occurs during the "holiday" season, when huge peaks in population are experienced. During December and January, for example, many thousands, if not millions of people, flock to coastal areas around the Australian coastline. Counting these additional people is a difficult task, and this present analysis is an attempt to quantify a component of these seasonal population surges. Earlier (see section 1.4) it was shown how Bass Coast Shire Council in Victoria and Shoalhaven in NSW experienced huge influxes of people at particular times of the year, adding significantly to their baseline population as measured at the Census.

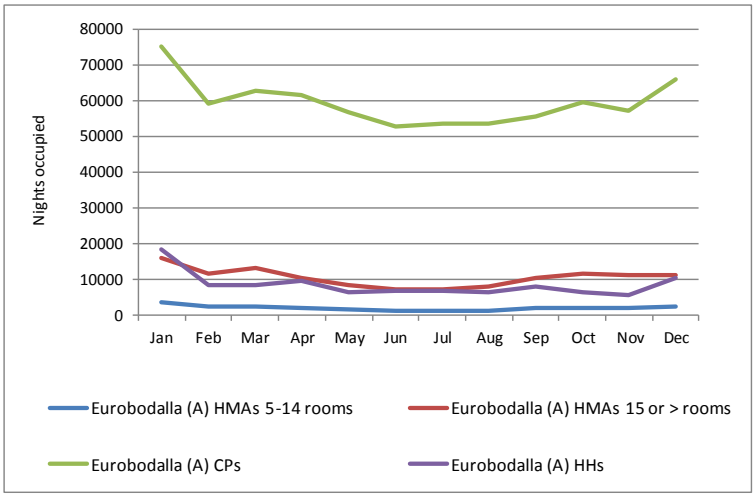
The approach in the following sections is to show monthly trends for each of the participating LGAs, for 2006, 2010 and 2011.

8.5.1 Temporal Tourist impacts on selected LGAs during 2006 – site nights occupied

In this section an LGA by LGA approach is adopted to show how the three accommodation types are used by tourists relative to each other. The ABS uses the concept of room, site and units nights occupied for hotels, motels and apartment, caravan parks and holiday houses respectively. Essentially, this statistic represents the number of nights each room, site or unit was occupied by a paying guest during the survey period. For each LGA the impact of each tourist accommodation type will be shown, and any relevant comments made.

Figure 8.1 shows the situation in Eurobodalla.

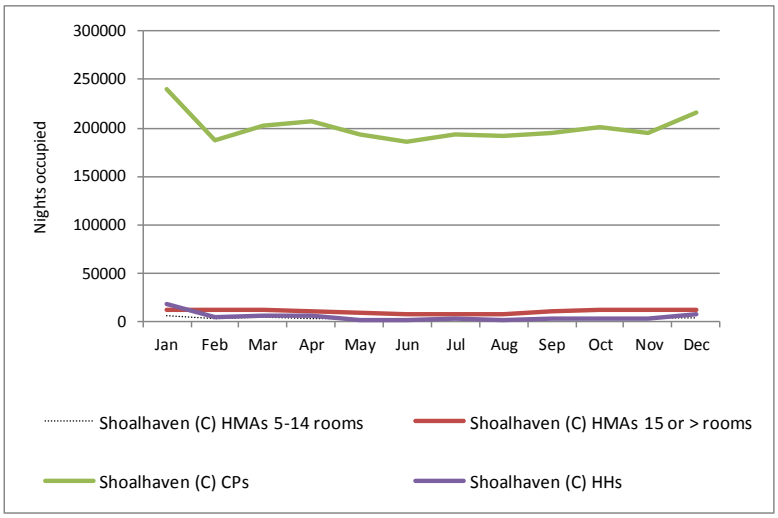
Figure 8.1: Tourist use of each accommodation type, Eurobodalla, 2006



Clearly, in Eurobodalla, caravan parks play a significant role in accommodating the mobile population tourist population. Its caravan parks utilised more than three times the number of sites used by larger hotels and the holiday home component of the accommodation industry. The use by tourist of larger hotel and motel establishments, and holiday houses, was evenly balanced. Smaller hotel and motel establishments played a lesser role in terms of accommodating the tourist population.

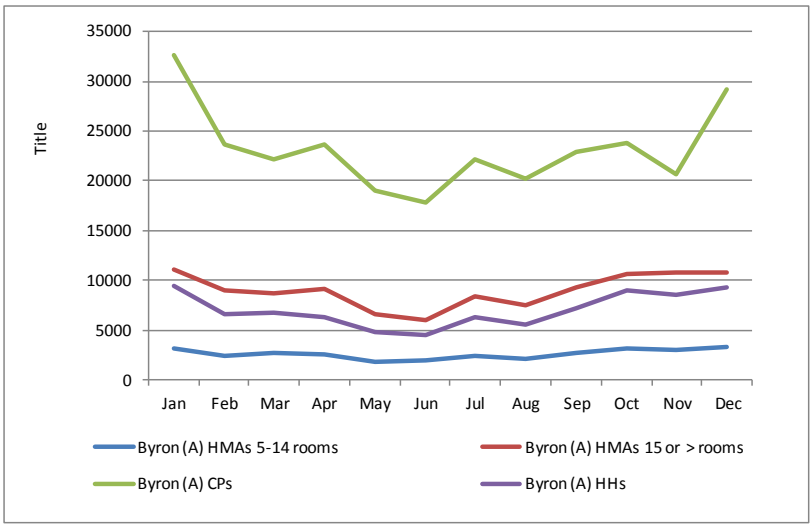
In Shoalhaven (see Figure 8.2) the situation is somewhat similar. As has been noted elsewhere, the impact of caravan parks in accommodating the inflow of tourists is huge. The number of sites occupied in January 2006, for example, was nearly four times the number used in Eurobodalla. The other accommodation types offer similar numbers of sites to tourists, but at a level more than five times less than that offered by Shoalhaven's caravan parks.

Figure 8.2: Tourist use of each accommodation type, Shoalhaven, 2006



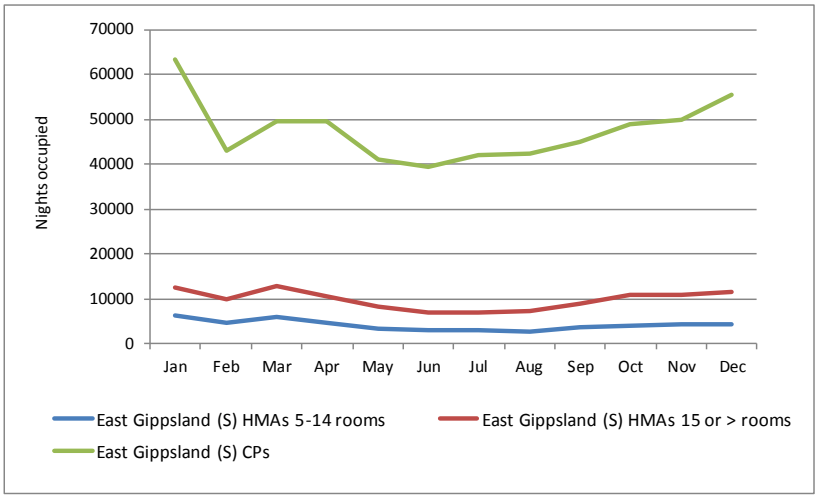
The situation for Byron, shown in Figure 8.3, shows a clearer division between the four main accommodation types. Sites offered by caravan parks still outnumber the sites used in the other accommodation types. However, there is a more clear differentiation between the other accommodation types. The dominant of these is accommodation in the larger hotel, motel and apartment establishments, ahead of accommodation taken up in holiday house accommodation.

Figure 8.3: Tourist use of each accommodation type, Byron, 2006



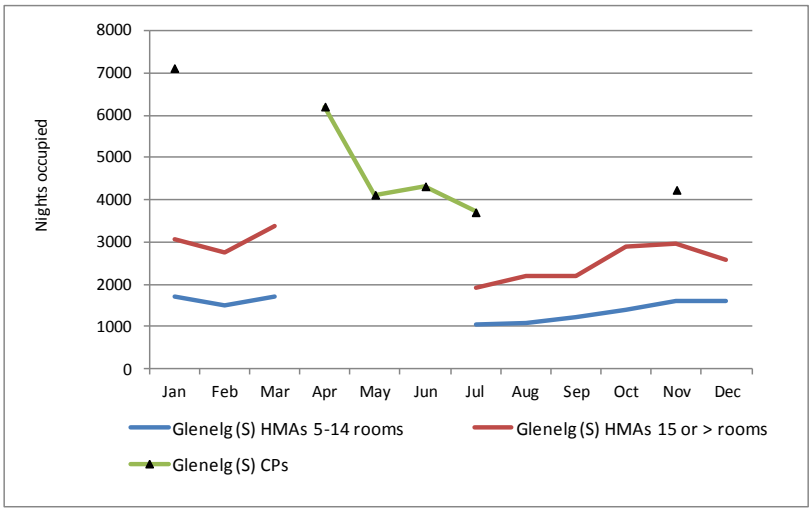
In East Gippsland, data are not available for holiday house accommodation. Again, the important role of caravan parks in accommodating the ebb and flow of tourists is clear, as shown in Figure 8.4. At the peak season, caravan parks are used by tourists at levels approaching five times more than their use of the accommodation provided by smaller and larger hotels, motels and apartments.

Figure 8.4: Tourist use of each accommodation type, East Gippsland, 2006



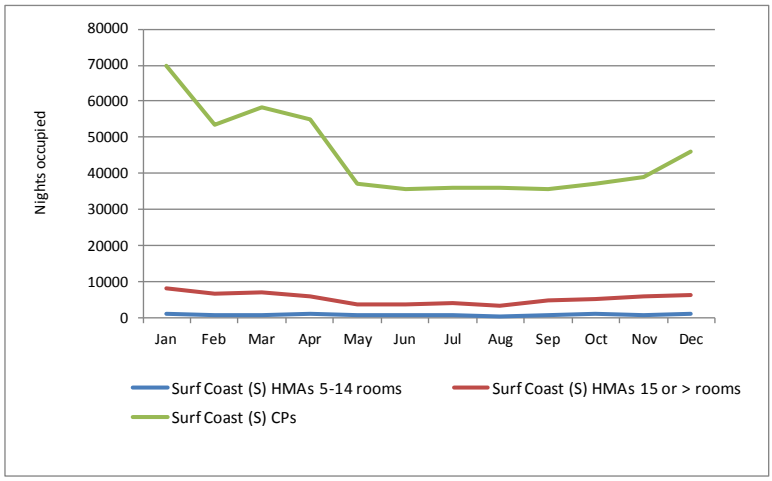
Only patchy nights occupied data are available for Glenelg because its relatively small community means that the ABS data has been suppressed on confidentiality grounds. However, from Figure 8.5, it is clear that caravan parks play a more significant role in terms of accommodating tourists than is the case for the small and large motel/hotel type of establishments.

Figure 8.5: Tourist use of each accommodation type, Glenelg, 2006



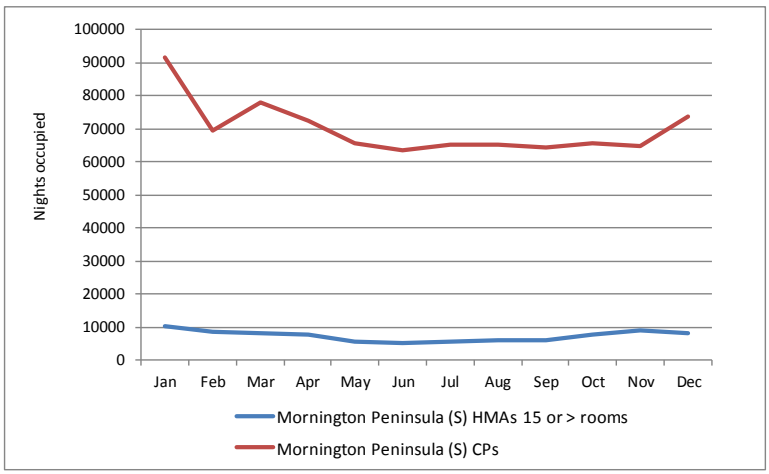
The same tendencies occur in the Surf Coast LGA, as shown in Figure 8.6.

Figure 8.6: Tourist use of each accommodation type, Surf Coast, 2006



With the Mornington Peninsula there are data issues with the Survey of Tourist Accommodation, in that information for its constituent SLAs cannot be published due to confidentiality issues. Hence, in Figure 8.7 below, only trends in nights occupied are available for caravan parks and larger hotel/motel establishments. As with many other LGAs, the dominant role played by caravan parks, relative to other forms of tourist accommodation, is quite clear.

Figure 8.7: Tourist use of each accommodation type, Mornington Peninsula, 2006



The case of Cairns is interesting, in that it reveals a trend not noted in the LGAs considered to this point. As Figure 8.8 shows, in Cairns the number of nights occupied in larger hotel, motel and apartment accommodation is substantially larger than the number attributed to caravan parks. This is possibly due to the fact that a large proportion of tourists to Cairns fly in, leaving their caravans behind, if indeed they own caravans. Hence, hotel and motel accommodation is favoured. Further, the occupancy of holiday homes is similar, albeit slightly lower, to that for caravan park occupancy. Overall, therefore, the data suggest that for tourists to Cairns accommodation in either hotels and motels or holiday houses is preferred to accommodation in caravan parks.

The situation in the Sunshine Coast is different from that in Cairns. As with Cairns, caravan parks do not dominate in the Sunshine Coast. However, unlike the situation in Cairns, the

trend lines for the three major accommodation types are closely bunched throughout the entire year. What does this suggest? Perhaps, that the Sunshine Coast is close enough for van owners to use this accommodation. In this way they match the numbers of fly in tourist who opt for hotels and motels and holiday houses.

Figure 8.8: Tourist use of each accommodation type, Cairns, 2006

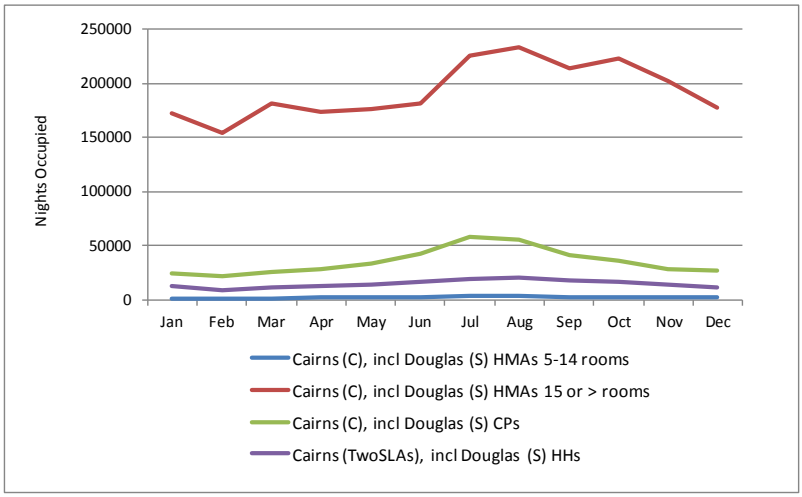
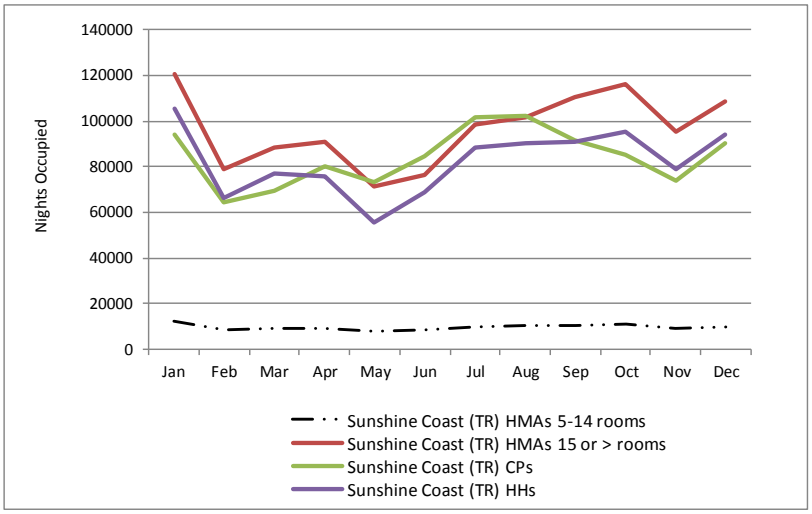
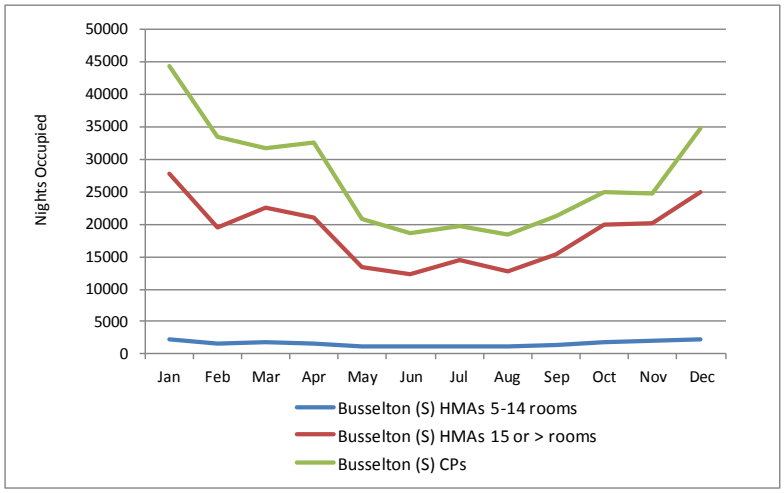


Figure 8.9: Tourist use of each accommodation type, Sunshine Coast, 2006



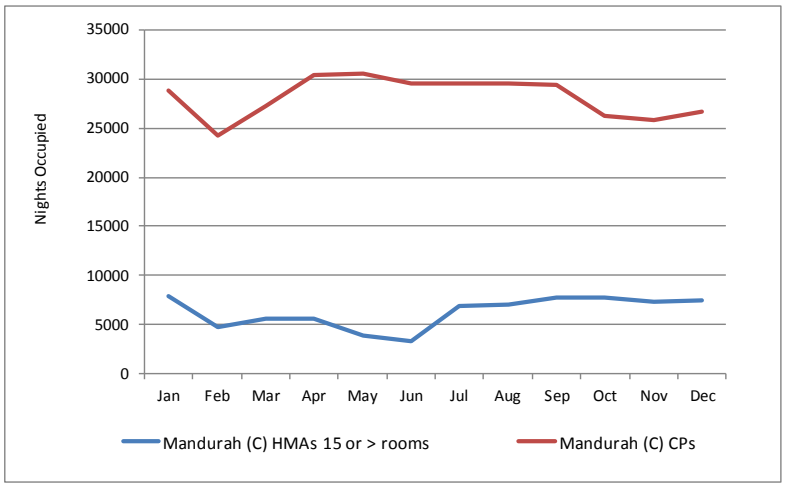
The situation in Busselton is shown in Figure 8.10. The level of dominance shown by caravan parks in many other LGAs is not as apparent in Busselton. It does, however, generate more nights occupied than do the larger hotel/motel type establishments.

Figure 8.10: Tourist use of each accommodation type, Busselton, 2006



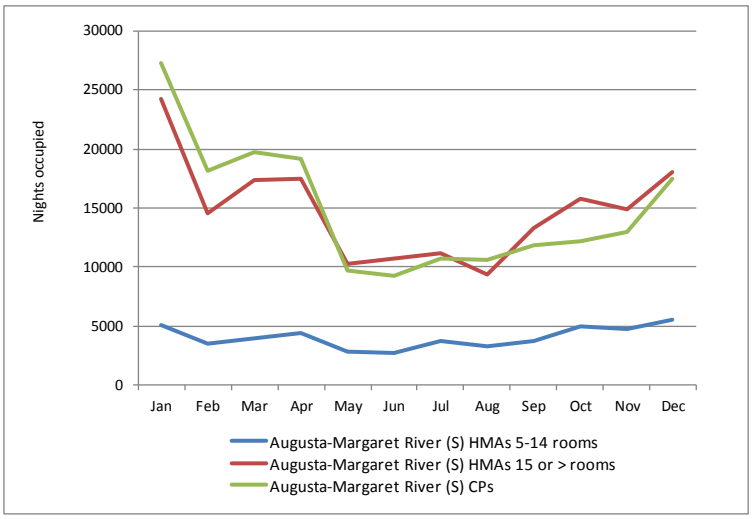
In Mandurah, however, there is a clear contrast in nights occupied between caravan parks and hotels, motels and apartments with more than 15 rooms. Further, the caravan park data shows very little seasonal variation, compared with Busselton. This must be linked to Mandurah's proximity to Perth, as well as a more mild winter climate than that experienced in Busselton.

Figure 8.11: Tourist use of each accommodation type, Mandurah, 2006



Finally, the situation in Augusta-Margaret River is shown in Figure 8.12. Here, the most significant accommodation is caravan parks and hotels and motels with more than 15 rooms. Each of these accommodation types has virtually identical usage levels, and each exhibit lowest usage in the winter months and highest demand in the Christmas holiday period.

Figure 8.12: Tourist use of each accommodation type, Augusta-Margaret River, 2006

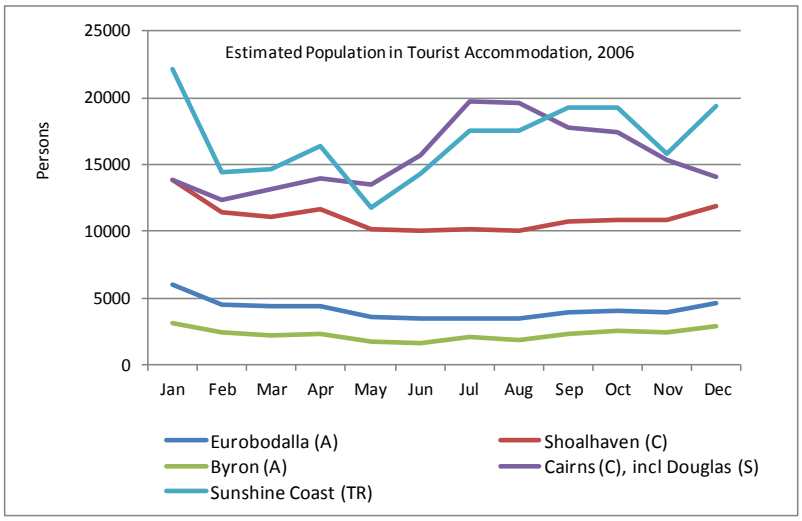


8.5.2 Nights occupied and impact on population

There is a direct link between Nights Occupied data and the number of persons accommodated on these nights. In the case of Hotels, motels and apartments, the ABS Tourist Accommodation Survey seeks information on the number of paying guests in establishments for each night of the survey. For caravan parks and holiday houses, this information was not collected by the survey. Hence to convert nights occupied data into numbers of persons requires a number of assumptions to be made. These assumptions and the results they produce have been detailed above in sections 8.3.3 and 8.3.4. In making the link between nights occupied and population, conservative occupancy rates were used. As well, no attempt was made to take into account seasonal variations in occupancy rates. To do this would require more complex modelling than has been employed here. With these limitations in mind, Figure 8.13 shows monthly estimates of tourists using the three types of tourist accommodation for LGAs which experienced high monthly estimates. The first point from the figure is that tourism accommodation has the largest impacts in Cairns, Sunshine Coast and Shoalhaven. In the case of Cairns and Sunshine Coast the effect of the winter dry season is apparent.

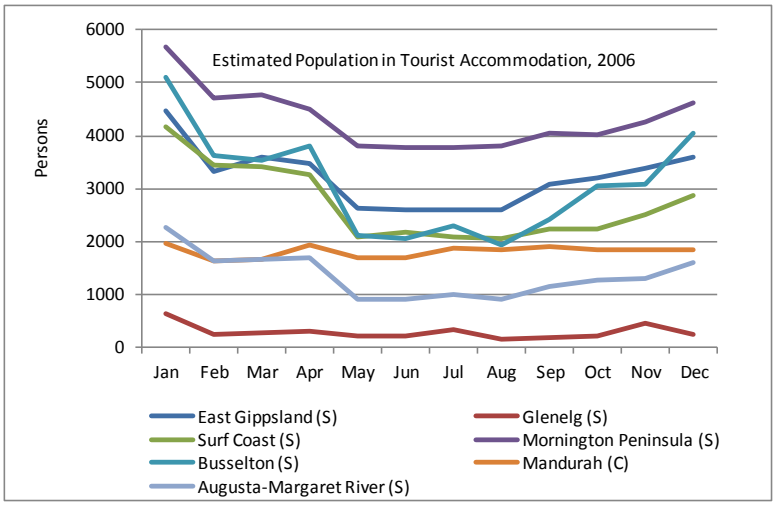
For Cairns, its peak season is from June to August. There is a build up to this period commencing in December, and a decline after this period. Because the Sunshine Coast is further south from Cairns, it experiences a peak in the December holiday period, which collapses to low levels in February, March and April, before beginning to climb to its peak levels midyear. In the case of Shoalhaven, peak tourist accommodation numbers occur in the December/January holiday period, and fall to lower levels during the winter season.

Figure 8.13: LGAs with large estimated populations in tourist accommodation, 2006



In Figure 8.14, the same situation is presented for the remaining LGAs, which recorded smaller monthly estimates of tourists using the accommodation facilities.

Figure 8.14: LGAs with smaller estimated population in tourist accommodation, 2006



For Mornington Peninsula, Busselton, East Gippsland, and Surf Coast LGAs, the impact of the Christmas holiday period is significant. On a lesser scale, the same effect occurs in Glenelg. For all the LGAs, the decline in tourists using tourist accommodation is steep and continues to mid year, after which recovery occurs up to the December period, aided by increases during the school holiday periods in the second half of the year. In the case of Mandurah, its numbers of tourists using local accommodation is reasonably stable for the entire year, and this is likely to be due to its relative closeness to Perth and its relatively mild winter season.

In the next section, the same approach is employed using data for the first six months of 2010, after which the STA ceased collecting information on caravan parks and holiday houses.

8.5.3 Temporal Tourist impacts on selected LGAs during 2010 – site nights occupied

The following figures have been produced in the same way as the similar figures for 2006 presented in the previous section. They are presented here for the reader to peruse. It is likely that any perusal will draw the same conclusions as those noted in the previous section.

Figure 8.15: Tourist use of each accommodation type, Eurobodalla, 2010

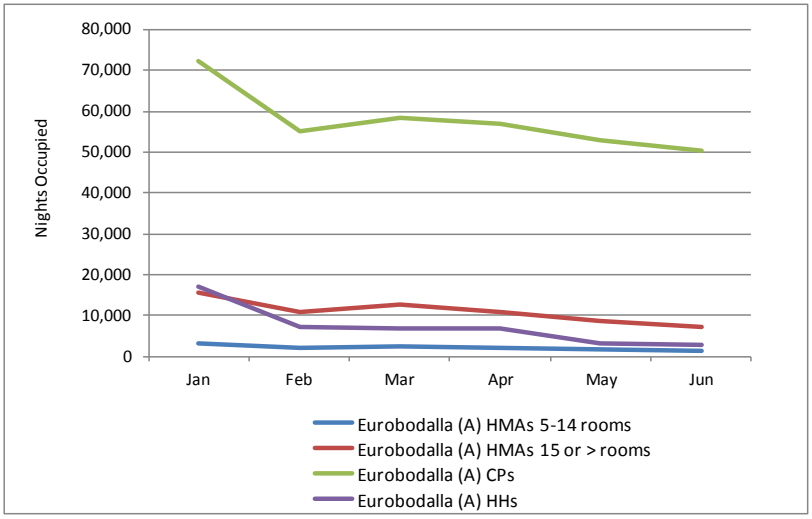


Figure 8.16: Tourist use of each accommodation type, Shoalhaven, 2010

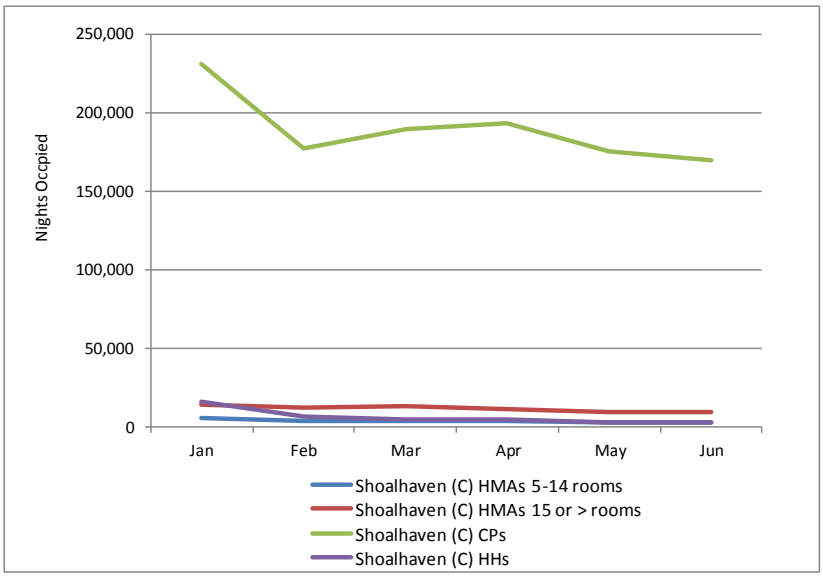


Figure 8.17: Tourist use of each accommodation type, Byron, 2010

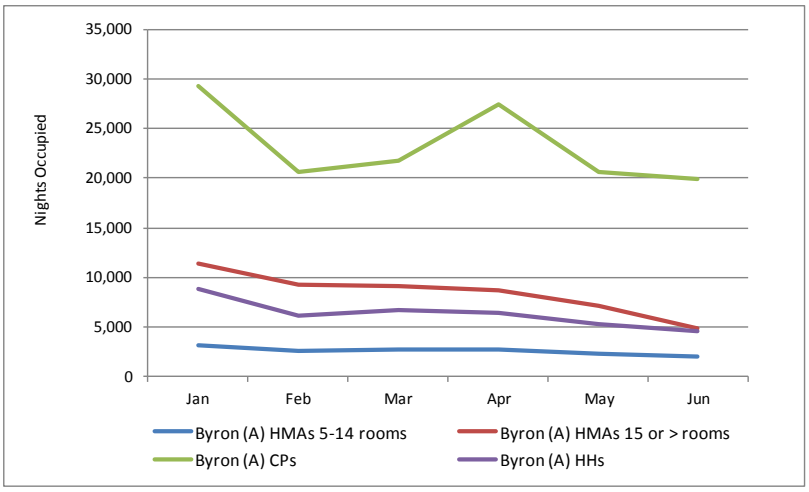


Figure 8.18: Tourist use of each accommodation type, East Gippsland, 2010

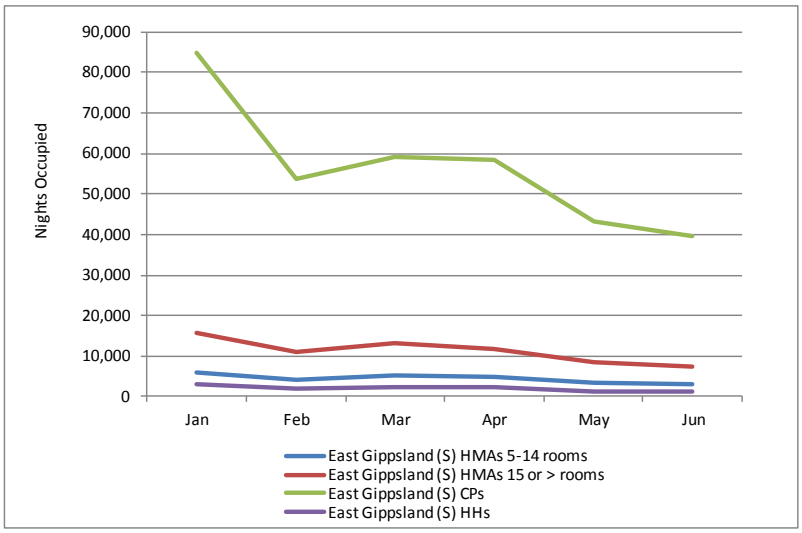


Figure 8.19 Tourist use of each accommodation type, Mornington Peninsula, 2010

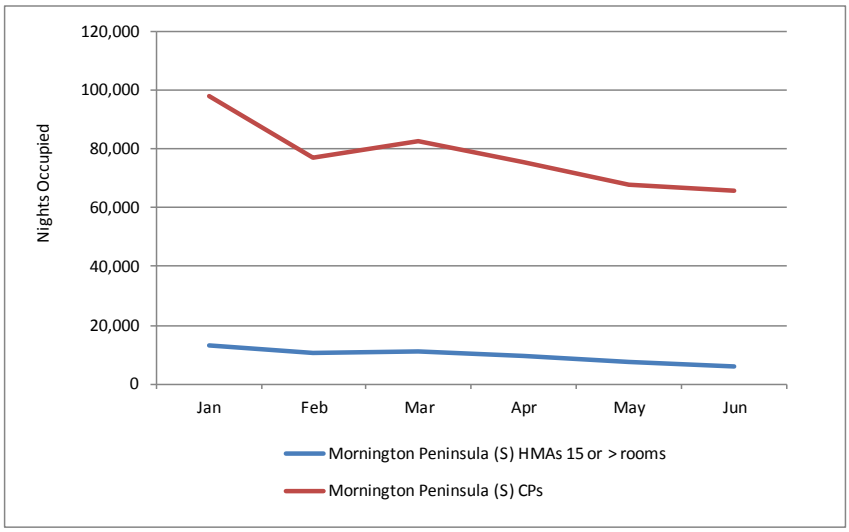


Figure 8.20 Tourist use of each accommodation type, Glenelg, 2010

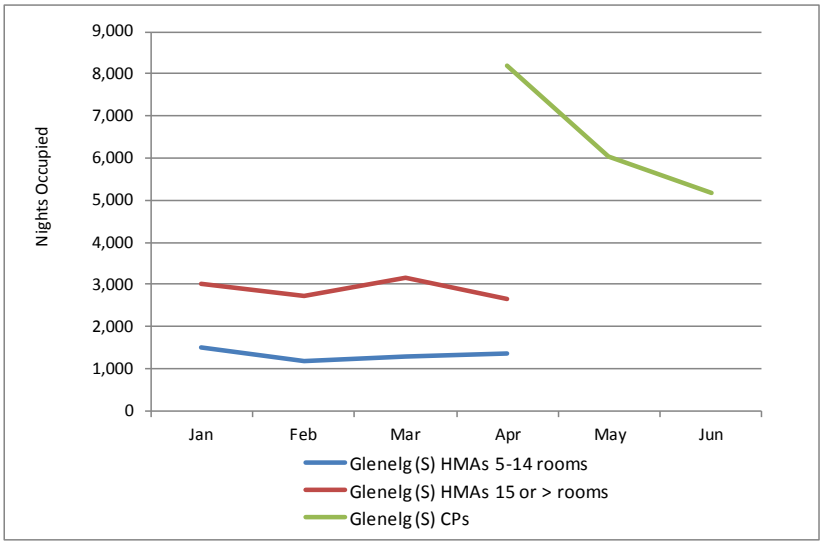


Figure 8.21: Tourist use of each accommodation type, Surf Coast, 2010

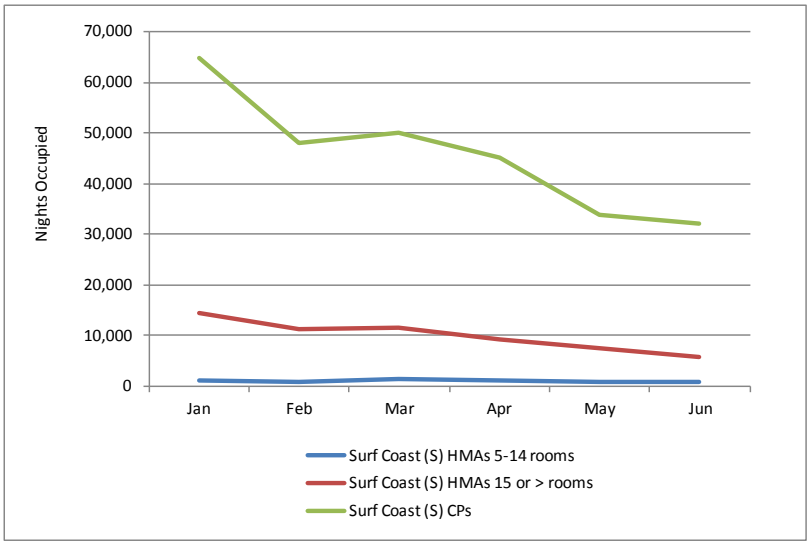


Figure 8.22: Tourist use of each accommodation type, Cairns, 2010

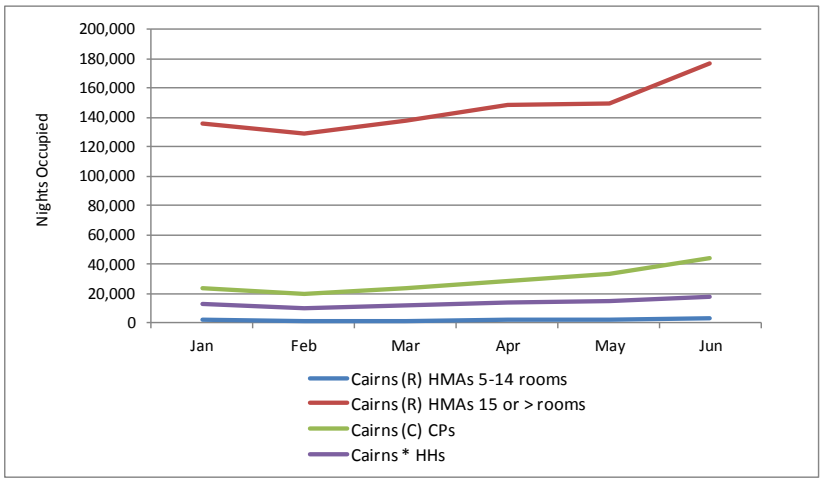


Figure 8.23: Tourist use of each accommodation type, Sunshine Coast, 2010

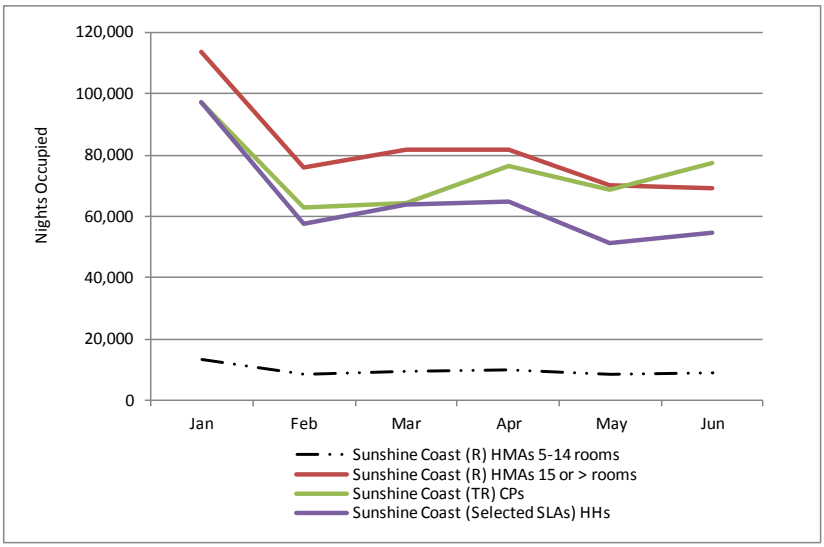


Figure 8.24: Tourist use of each accommodation type, Busselton, 2010

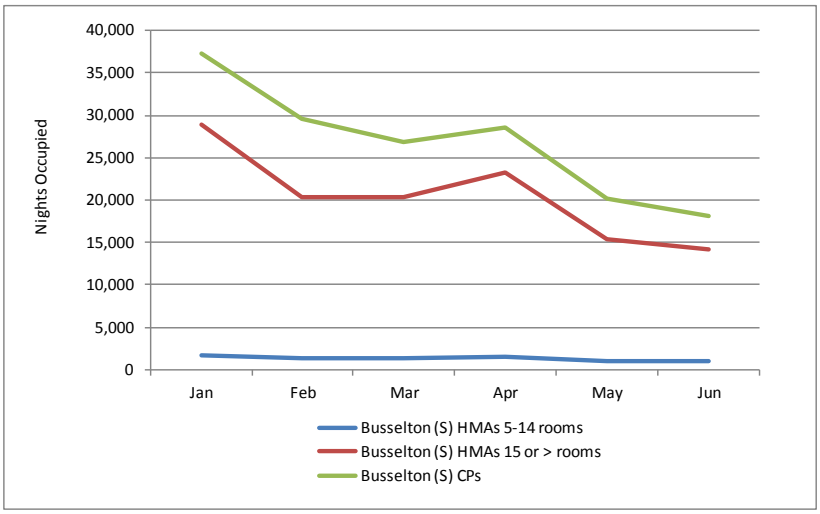


Figure 8.25: Tourist use of each accommodation type, Mandurah, 2010

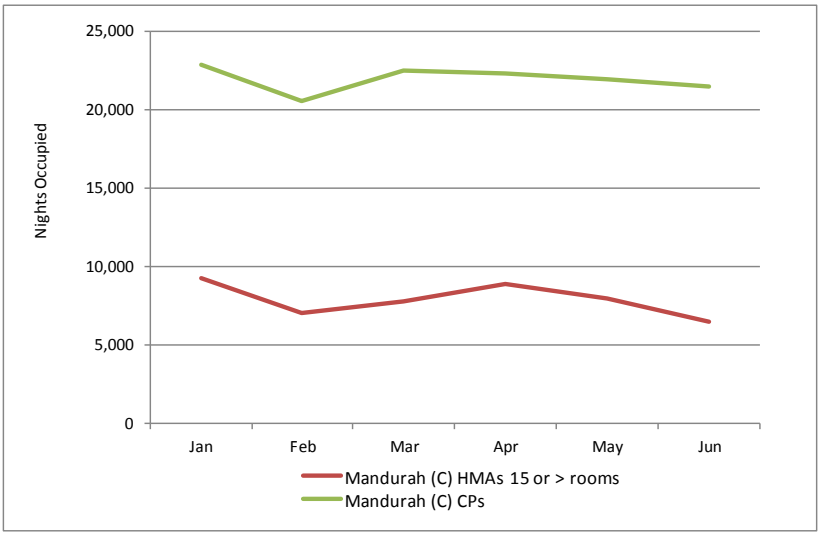
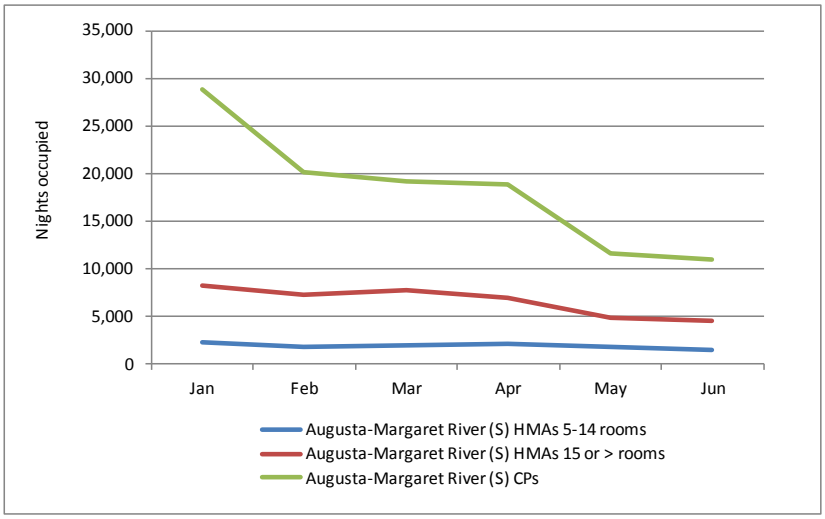


Figure 8.26: Tourist use of each accommodation type, Augusta-Margaret River, 2010



8.5.4 Nights occupied and impact on population

In Figure 8.27, the impact of the tourist population using the various accommodation types is shown for the larger of the LGAs. The situation in the smaller LGAs is shown in Figure 8.28. These can be compared with the situation prevailing in 2010 in Figure 8.13 and Figure 8.14.

Figure 8.27: Estimated population in tourist accommodation, larger LGAs, 2010

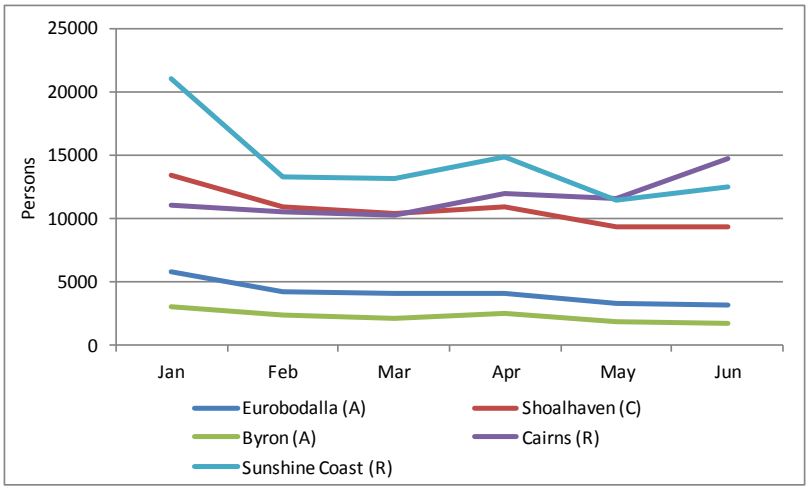
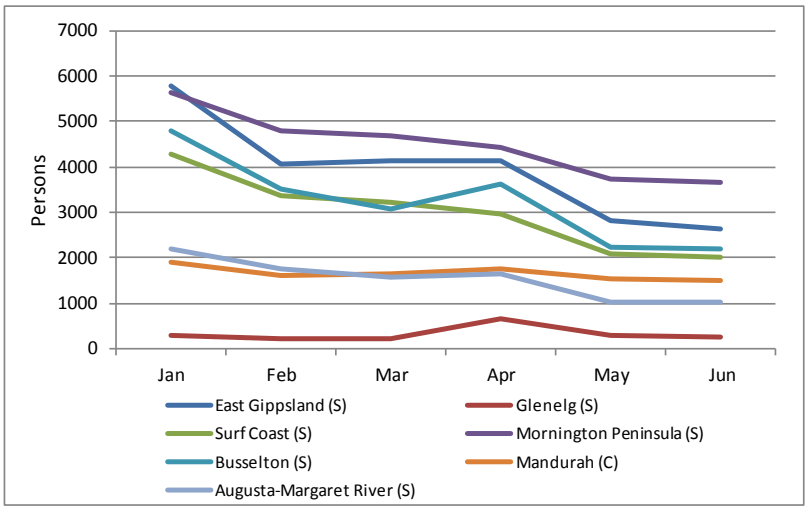


Figure 8.28: Estimated population in tourist accommodation, smaller LGAs, 2010



8.5.5 Temporal Tourist impacts on selected LGAs, 2011

After July 2010, the ABS Survey of Tourist Accommodation restricted its coverage to hotels, motels and apartments with 15 or more rooms. This has restricted the ability to factor in the role of caravan parks and holiday houses on mobile populations in the sea change LGAs. In Table 8.19 and Table 8.20 below, estimates of the mobile population using hotels, motels and apartments have been made for the first nine months of 2011. In these tables, estimates of the number of guest nights occupied in the smaller establishments with 5-14 rooms have been made based on 2006 and 2010 data. The procedure for making these estimates has been detailed above.

Table 8.19: Estimate of mobile population staying in hotels, motels and apartments, selected LGAs, 2011, based on 2006 data

Local Government Area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Eurobodalla (A)	1485	946	984	899	560	506	591	553	702
Shoalhaven (C)	1346	989	910	997	732	648	619	604	820
Byron (A)	1032	835	827	1004	682	540	677	640	855
East Gippsland (S)	1364	1211	1170	1130	694	704	716	674	845
Glenelg (S)	244	232	251	247	201	182	140	138	147
Surf Coast (S)	1121	848	863	907	464	466	535	428	524
Mornington Peninsula (S)	1047	825	860	808	585	497	539	506	569
Cairns (R)	9448	8844	8128	10539	9489	11898	15179	14442	13011
Sunshine Coast (R)	10081	5902	6366	8846	5337	5956	7787	7443	8873
Busselton (S)	2983	1832	1937	2380	1280	1171	1587	1238	1462
Mandurah (C)	834	611	589	597	408	424	543	409	503
Augusta-Margaret River (S)	726	609	616	724	442	433	500	528	542

Estimates based on 2006 Guest Nights Occupied in establishments with 5-14 rooms as a proportion of Guest Nights Occupied in establishments with more than 15 rooms .
Mandurah based only on data for establishments with more than 15 rooms
Source: ABS Survey of Tourist Accommodation, Cat No 8635.X.55.001various issues

Table 8.20: Estimate of mobile population staying in hotels, motels and apartments, selected LGAs, 2011, based on 2010 data

Local Government Area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Eurobodalla (A)	1473	948	971	897	561	511	596	562	710
Shoalhaven (C)	1329	1001	884	983	767	631	631	634	849
Byron (A)	1007	827	804	1012	701	574	663	642	852
East Gippsland (S)	1362	1157	1141	1138	703	674	734	694	864
Glenelg (S)	235	223	239	256	0	0	141	138	136
Surf Coast (S)	1076	825	846	819	427	439	494	404	506
Mornington Peninsula (S)	967	756	779	750	544	463	512	471	531
Cairns (R)	9541	8890	8178	10615	9574	11995	15243	14500	13081
Sunshine Coast (R)	10200	5973	6476	9016	5413	6010	7895	7509	9037
Busselton (S)	2914	1804	1912	2329	1248	1138	1559	1209	1419
Mandurah (C)	834	611	589	597	408	424	543	409	503
Augusta-Margaret River (S)	779	627	641	755	480	469	492	515	553

Estimates based on 2010 Guest Nights Occupied in establishments with 5-14 rooms as a proportion of Guest Nights Occupied in establishments with more than 15 rooms .

Mandurah based only on data for establishments with more than 15 rooms

Source: ABS Survey of Tourist Accommodation, Cat No 8635.X.55.001various issues

The tendencies in this table confirm those that have been identified based on earlier data. In particular, the impact of the Christmas holiday period is again clear, as is the decline in mobile populations in the period leading to the winter months in the more southern LGAs. In contrast, the "sunshine state" LGAs of Cairns and Sunshine Coast show a clear increasing tendency towards the winter months.

8.6 SUMMARY

This chapter has been an analysis in three parts. The first part used the Survey of Tourist Accommodation (STA), produced by the ABS on a quarterly basis, to derive populations resident in local government areas which become additive to the LGAs underlying, or "usual", resident population as recorded by the Census. The main points emerging from the analysis were:

- Hotel, motel and apartment accommodation generate the largest additional populations in Cairns, Sunshine Coast and Busselton. EFT populations generated by caravan parks are largest in Shoalhaven, which recorded levels nearly 2.5 times greater than the next ranked Sunshine Coast LGA. Although the data for holiday flats, units and houses is patchy, due to restrictions of data publication, the largest additional population occurred in the Sunshine Coast. The level here was nearly five times the level in Cairns, the next ranked LGA.
- In Eurobodalla, Shoalhaven, East Gippsland, Surf Coast, Mornington Peninsula and Mandurah, caravan parks had a greater impact on additional population than did the other two types of tourist accommodation. Clearly, caravan parks have a powerful influence in generating additional population in areas where they are located along Australia's coastline.
- Within the selected sea change LGAs in this study, the impact of hotels, motels and apartments and caravan parks in creating additional population is evenly balanced, with the former marginally larger than the latter. However, as has been explained above, the numbers of population generated by caravan parks was based on a very conservative estimate of persons per site night occupied.
- Overall, this analysis has shown that tourist accommodation in the selected LGAs generated 57,441 EFTR. Further, this level would be greater than this if data unavailable for publication were included.

- The summary data presented here represent a per day level of population, essentially a Census count or snapshot for one day. There are seasonal variations around the per day levels discussed above. During the high season, tourists will place increased pressure on some resources within LGAs more so than at other times of the year. In assessing the size of seasonal impacts of tourism the data presented above for individual months would be instructive for planners and policy makers.
- There are other ways of gauging the impact of additional levels of population generated by tourism in LGAs. For example, the person numbers could be turned into "households", with 2.5 persons per household, or some other relevant size. This could be instructive in terms of understanding the impact of so many additional households in any LGA and the impact this would have on resources, infrastructure and other demands.
- Finally, the analysis has shown the value of the Survey of Tourist Accommodation. The hotels, motels and apartments component is especially useful as its Guest Nights Occupied statistic is directly related to numbers of people. Unfortunately, the Site Nights Occupied and Unit Nights Occupied statistics for caravan parks and holiday flats, units and houses does not lend itself directly to a Guest Nights Occupied statistic. Although it would be useful if the ABS could find a way of incorporating a "persons resident" indicator into the caravan parks and holiday flats, units and houses component of the STA the fact is that collection of data for caravan parks and holiday houses ceased in June 2010. Perhaps there is a strong case for this aspect of the survey to be reinstated?

The second part of the chapter highlighted the huge impact that caravan parks have on accommodating the tourist population in coastal LGAs. There are a couple of LGAs where this dominance does not exist, but despite this, caravan parks remain a substantial form of accommodation for tourists. A secondary task of this part was to relate the nights occupied data to actual impacts on population. More importantly, this second part showed the monthly impact that these establishments have on creating a mobile population in each of the LGAs. There is an argument that says this is a critical aspect of mobile populations, as large point in time populations do place pressure on the infrastructure of LGAs, be it community health centres, doctors and other health providers, car parks, and other public facilities.

The third part of the chapter sought to show how tourist accommodation impacts on mobile populations in selected LGAs, using the STA data. This dataset has the advantage of providing temporal data down to the SLA level. However, like many time series it has undergone changes in terms of the kind of data it has collected. As a result, in the early stages it collected data for smaller and larger accommodation establishments, and for a range of accommodation types, but in more recent times the survey has been restricted to collecting data for only hotels, motels and apartments with 15 or more rooms. It means that smaller accommodation types are excluded, as well as bed and breakfast establishments. From the perspective of estimating mobile population impacts on areas, this is disappointing.

Nevertheless, working with the data available, this analysis has been able to demonstrate a real impact on resident population levels caused by tourist using the types of accommodation surveyed by the ABS. The important point is that this dataset allows for an objective measurement of this impact. It is unfortunate that at a time when the data are needed to better understand the impact of mobile populations on the underlying population base of an area the ABS has reduced the coverage of the survey. Ideally, data need to be collected for hotels, motels, apartments which are smaller than the present 15 room limit, as well as for caravan parks and holiday units. Caravan park data should ideally have a guest nights component,

while holiday homes data collection should go beyond those let through an agency of some kind.

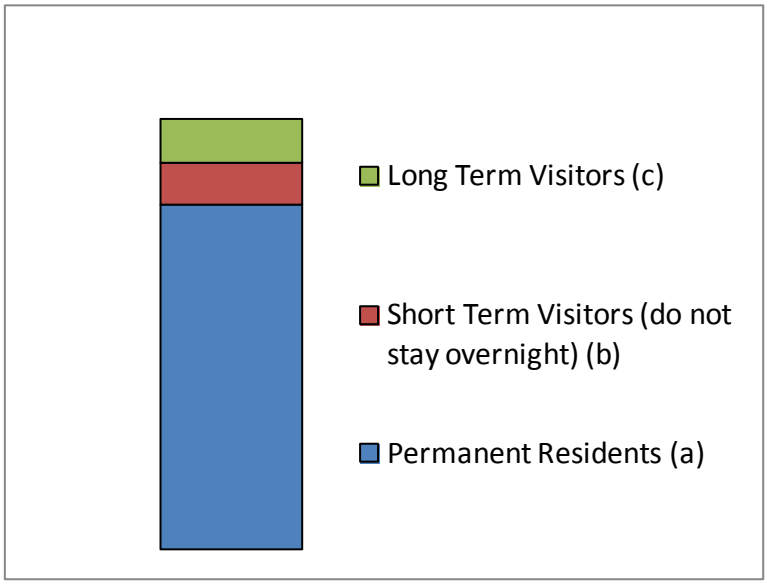
The estimate of mobile populations is not only related to tourists using retail accommodation. There are a number of other sources which are difficult to measure. For example, there are people who stay in private accommodation, day trippers and people who are passing through but stop to use some of the town's facilities. These are people whose numbers are difficult to quantify and therefore include in some kind of model designed to arrive at a "real" level of mobile populations in sea change LGAs. In the City of Busselton, it has been estimated that during the three years ended December 2010, the proportion of domestic visitors staying in the homes of friends and/or relatives was 29 percent (Tourism Western Australia, 2010). A similar finding has been made for the Byron Shire in New South Wales. Data derived from the National Visitor Survey indicated that in 2007, 25 percent of domestic visitors to the Byron Shire used accommodation provided by relatives or friends (Byron Shire, 2009: 49)

CHAPTER 9.ESTIMATING TEMPORARY POPULATIONS IN SEA CHANGE LOCATIONS

9.1 INTRODUCTION

The previous chapters have demonstrated that sea change localities experience considerable fluctuations in the number of people in them with significant increases on weekends and in holidays, especially during summer. Moreover, because the Australian population census is taken in late winter and mid week it is likely that the population enumerated on census night comprises overwhelmingly the permanent resident population, especially in the southern part of Australia. At any one time people actually in an area comprise three components as indicated in Figure 9.1.

Figure 9.1: Model of Population in an Area at a Point in Time



Note: This is a representation of components in any population.
No inferences on relative size of each group should be drawn from the model.

The Census is very effective at capturing the permanent resident population ((a) in Figure 9.1), not only because most are likely to be 'at home' on Census night but also because if they are enumerated elsewhere in Australia, and/or reported as being temporarily away by members of their household who are at home, they will be reallocated to the region as part of the *Usual Resident Population*. Also, by identifying visitors in the *Census count* population Census data can give an indication of ((c) in Figure 9.1) on the day the census is taken. However, in sea change localities this is often the lowest point of their seasonal population. The Census gives no information on short term visitors ((b) in Figure 9.1). In this final chapter we examine approaches to gaining some indication of the size of (b) and (c) in sea change communities at different times of the year.

Census usual resident populations must remain the 'gold standard' in Australian Census population geography. Nevertheless it needs to be recognised that the census 'captures' only the population within spatial units on the night of the census enumeration and that this changes according to the time of day, time of week and time of year that the snapshot of the population is taken. Accordingly it is argued that there is a need for officially recognising that for any spatial unit in the Australian Standard Geographical System (ASGS) that there are a number of populations that can be identified. In fact this is already the case because

there are three Census populations that can be identified for each unit:

- Census Count
- Overseas visitors and persons from "elsewhere in Australia", based on place of enumeration on Census night.
- Persons who were "elsewhere in Australia" on Census night, based on place of usual residence.

It is the argument of this Report that while the usual resident population should remain the population figure which is used for official purposes, such as for determining electoral boundaries, there is a need for alternative measurement for some purposes. This particularly refers to the provision of services such as health, education, infrastructure, policing, rubbish collection and housing. Accordingly it is argued here that we should work toward developing a robust methodology which allows estimates of non-resident populations to be made available for some purposes.

The issue of seasonal variations in population are becoming more significant globally, especially as leisure travel is increasing in importance. Ahas *et al.* (2007, 898) in the international context point out:

> '… the majority of tourism destinations are seasonal because of variations in climate and the fact that tourists' homelands have traditional holiday seasons and seasonal traditions. This phenomenon generates seasonal tourism spaces which are popular and frequented during the high season and forgotten during the off season'.

The concept of 'seasonal spaces' is an important one and in the Australian context.

9.2 APPROACHES

There are two ways in which the measurement of non-resident populations can be addressed. The first approach is to consider estimating it in terms of EFTR. This would involve counting up the number of full days in which people are temporarily in the area in a year and divide it by 365. This may, for example, be a useful approach for funding and resource allocations based on per capita allocations. An alternative approach is to estimate the population in an area for each day, week or month in the year so that an estimate of the numbers of people in the area at a particular time is obtained. In some ways this is a more useful approach for planning and targeting of service provision. A good example is in health. In sea change areas it is reported that there are considerable increases in the demand for hospital services during peak summer holiday times. For planning of such services estimates of seasonal fluctuations in population are clearly more useful than EFTR.

In terms of developing a robust methodology for estimating the size of the temporary population, whether in EFTR or daily, weekly or monthly numbers, there are two possible approaches. The first is what could be termed *direct* estimates which seek to obtain a measure of the numbers of people temporarily in an area at a particular time. The second methodology is *indirect* which uses the population at the census as a base and obtains information on some variable which is influenced by population size. Then by calculating an algorithm between the size of population and size of the variable changes in the variable can be used to estimate the size of the total population including temporary residents. Such variables are referred to by Rigall-I-Torrent (2010) as 'symptomatic' variables. A number of potential variables were investigated in the course of this study and some examples of where we were able to access appropriate data are explained below. Indirect approaches only allow

estimates of the stock of temporary migrants at a particular time and not details of the inflows and outflows of temporary residents.

9.3 DIRECT APPROACHES

The focus in the present study has been predominantly on direct measures of non-permanent residents in sea change localities. Moreover with reference to Figure 9.1 we have concentrated heavily on the estimation of (c) – the temporary resident population who stays overnight in sea change destinations. We have sought to estimate two components of this population:

- Non-resident property owners who have holiday homes in the area.
- Others who spend nights in hotels, motels, caravan parks and other commercial accommodation.

These estimates leave out two groups from the temporary population:

- Persons who stay with friends and relatives.
- Day trippers.

Turning first to the non-resident owner population, in the survey respondent non-resident owners were asked how many days the sea change dwelling was used by themselves, family members or friends for each month – April 2011 to March 2012 - during the preceding year. In addition, the survey asked whether the sea change property was let either privately or through a letting agency. Respondents who indicated that their property had been rented out during the preceding year were asked to provide the number of days the property was rented for each month from April 2011 up to and including March 2012. These data have been analysed to provide insights into how many dwellings were used each month, and how many days the dwellings were used for each month during the 12 month period either by owners for personal use, or rented out to fee paying third parties.

Figure 9.2, for example, shows the number of days non-resident owners used their holiday homes in three sample LGAs of East Gippsland, Surf Coast and Mornington Peninsula. Figure 9.3 shows the pattern of days when the owners rented their holiday home out to paying customers. A clear pattern of seasonality showing large numbers using their holiday homes in summer season is in evidence.

These data were assessed for each of the sample LGAs to calculate the number of days the holiday homes were occupied for both personal and rental use. The occupancy rate was computed and then applied to the total number of holiday homes in each LGA. These data are presented in Table 9.1 and it can be seen the number of days used by holiday homes in each area vary between 63,478 in Cairns and 24,361 in East Gippsland. This is converted to EFTR by applying the average number of persons and dividing by 365. The EFTR obtained varied between 15,040 in Cairns and 2,971 in Byron. In all there were 96,100 EFTR to add the resident population of 626,838 in the 9 LGAs. The table shows that this equates to 15.3 percent of the total resident population counted in the census enumeration.

Figure 9.2: Days Used by Non-Resident Owners, East Gippsland, Surf Coast and Mornington Peninsula, March 2011 to April 2012

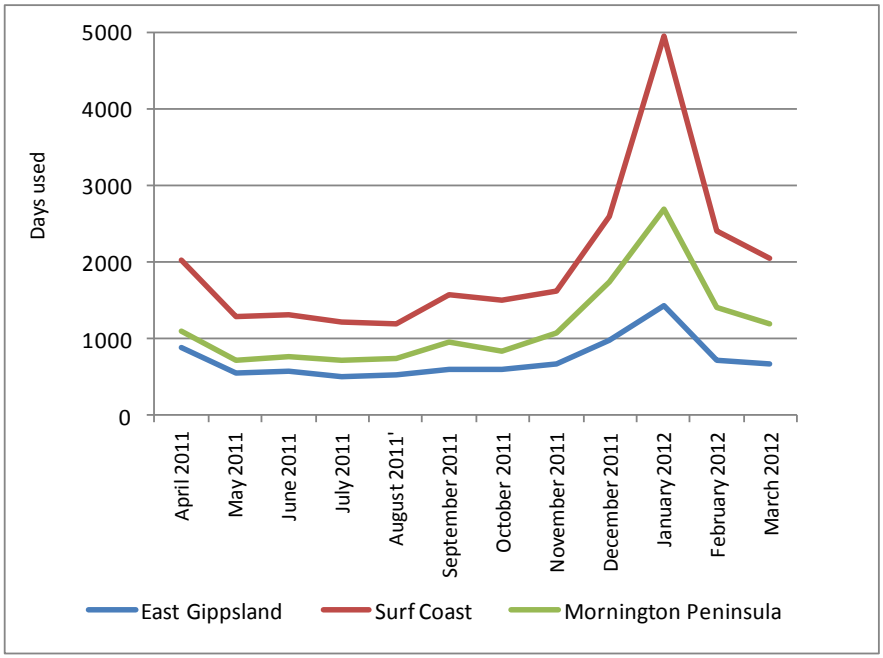


Figure 9.3: Days Rented, East Gippsland, Surf Coast and Mornington Peninsula, March 2011 to April 2012

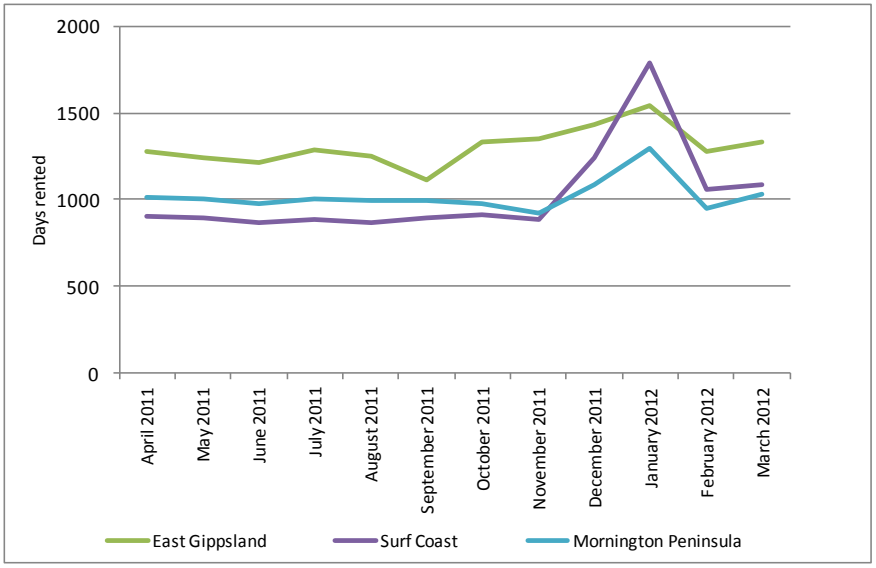


Table 9.1: Combined Owner and Tenant Use of Non-Resident Owned Properties and Impact on Temporary Population

Variable	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
Total days used for year (owners and rental combined)	63,478	36,916	24,570	34,894	24,361	36,036	26,253	44,358	34,522	325,388
Average number of non resident owner dwellings used per month	189	164	183	210	140	277	179	221	164	1727
Days used per non resident owned dwelling	335	226	134	166	175	130	147	201	210	188
Average number of occupants per day used	2.3	2.3	2.4	2.2	2.1	2.4	2.4	2.3	2.3	2.3
Persons/non resident property/year	768	529	318	373	366	311	350	456	493	435
Persons/non resident property/day	2.1	1.4	0.9	1.0	1.0	0.9	1.0	1.2	1.4	1.2
Unoccupied properties, Census 2011	7,151	2,050	13,634	7,013	4,954	7,000	27,022	4,252	7,555	80,631
Additional LGA population if all people who used unoccupied dwellings periodically were present on Census night	15,040	2,971	11,866	7,175	4,974	5,967	25,940	5,306	10,210	96,100
Population, Census 2011	156,169	29,209	92,812	35,741	42,196	25,870	144,608	30,330	69,903	626,838
Percent additional LGA population to Census 2011 population	9.6	10.2	12.8	20.1	11.8	23.1	17.9	17.5	14.6	15.3

The percentage varied between 9.6 percent (Cairns) and 23.1 percent (Surf Coast). These figures represent an average across the whole year so at peak times the numbers of temporary residents are significantly higher.

In terms of a second group of temporary residents who stay overnight in the selected LGAs, we have used data collected by the ABS as part of its survey of tourist accommodation. Using the analysis discussed in Chapter 8 of this report, Table 9.2 presents the results of a similar analysis to that carried out on the non-resident holiday home owners to calculate the EFTR represented by these visitors. These data must be considered as lower estimates because, as was indicated in Chapter 8, some overnighters are missed in these data.

Table 9.2: Level of Population Generated by Various Tourist Accommodation Types

Local Government Area	Hotel, motels and apartments	Caravan Parks	Holiday flats,units and houses	Total EFTs from tourist accommodation	Total Population 2006	EFT as % 2006 total population	Total Population 2011	EFT as % 2011 total population
	Mean derived population							
Eurobodalla	827	2901	393	4121	34542	11.9	35336	11.7
Shoalhaven	900	9666	289	10855	86651	12.5	90858	11.9
Byron	803	1150	331	2283	29417	7.8	29991	7.6
East Gippsland	942	2575	104	3621	39220	9.2	41597	8.7
Glenelg	232	141		373	19296	1.9	18973	2.0
Surf Coast	634	2247		2881	20979	13.7	25202	11.4
Mornington Peninsula (S)	787	3664		4451	131632	3.4	140112	3.2
Cairns, incl Douglas	11338	1578	699	13615	150485	9.0	169467	8.0
Sunshine Coast	7798	3928	3640	15366	287207	5.4	312790	4.9
Busselton	1788	1335		3123	24767	12.6	29558	10.6
Mandurah	521	1240		1761	53555	3.3	66885	2.6
Augusta-Margaret River	600	823		1423	10390	13.7	11584	12.3
Total	27170	31247	5456	63873	888141	7.2	972353	6.6

Nevertheless they show that this group contribute substantially to the resident population in the sample areas during seasonal peaks. The total number of EFTR added by tourist accommodation varies between 373 in Glenelg and 15,366 in Cairns. This equates to between 2.0 percent and 12.3 percent of the 2011 census enumerated population. Overall the EFTR added up to 63,873 or 6.6 of the total 2011 enumerated population.

We can bring these two sets of information together to produce estimates of the total impact of both holiday home use and tourist accommodation on the temporary population in the nine participating LGAs. Table 9.3 brings together the EFTR from these two elements of the temporary population. It must be remembered that these need to be considered as conservative estimates because:

- They exclude people staying with friends and relatives.
- They exclude day trippers.
- The accommodation estimates exclude some small providers.

Table 9.3: Estimated Level of Population Generated by Non-Resident Owned Dwellings (Holiday Homes) and Tourist Accommodation

	Cairns	Byron	Shoalhaven	Eurobodalla	East Gippsland	Surf Coast	Mornington Peninsula	Busselton	Mandurah	Total
Population, Census, 2011	156,169	29,209	92,812	35,741	42,196	25,870	144,608	30,330	69,903	626,838
Unoccupied dwellings, Census 2011	7,151	2,050	13,634	7,013	4,954	7,000	27,022	4,252	7,555	80,631
Derived population in unoccupied dwellings	15,040	2,971	11,866	7,175	4,974	5,967	25,940	5,306	10,210	96,100
Derived population in tourist accommodation	13,615	2,283	10,855	4,121	3,621	2,881	4,451	3,123	1,761	46,711
Sum Temporary population from unoccupied dwellings and tourist accommodation (net of day trippers and visitors staying with relatives and friends)	28,655	5,254	22,721	11,296	8,595	8,848	30,391	8,429	11,971	142,811
Derived population in unoccupied dwellings as percent of population at Census, 2011	9.6	10.2	12.8	20.1	11.8	23.1	17.9	17.5	14.6	15.3
Derived population in tourist accommodation as percent of population at Census, 2011	8.7	7.8	11.7	11.5	8.6	11.1	3.1	10.3	2.5	7.5
Combined estimated populations as percent of population at Census, 2011	18.3	18.0	24.5	31.6	20.4	34.2	21.0	27.8	17.1	22.8

Nevertheless overall it is suggested that there are 142,811 EFTR to add to the 626,838 in the survey LGAs. This is equivalent to 22.8 percent of the resident population. The total percent varies between 17.1 percent in Mandurah and 34.2 percent in Surf Coast. In all cases it is a substantial addition to the permanent resident population. This is a key finding of the Report, and reinforces much of what LGA representatives have been saying for some time. It clearly indicates that where funding to LGAs is based on their reported population at the Census, then the level of funding is inadequate. It further indicates the need for some additional methodologies to be developed, and applied at regular intervals, so that these temporary populations can be monitored.

9.4 THE IMPACT OF DAY TRIPPERS

Sea change localities experience a substantial influx of holiday makers during weekends and holidays as well as those that stay overnight. This influx is analogous to the daily in movement of workers in city centres so that there are important variations between night time and day time populations. Their impact on infrastructure services and resources tends to be lower than that of those that stay overnight but they nevertheless have some impact. The present study was not able to estimate the impact of day trippers in all of the selected LGAs. However, Eurobodalla was able to provide estimates of the impact of day trippers. The methods they used are able to be duplicated across other sea change localities. This uses:

- The NVS which samples 120,000 Australians aged 15 years and over annually on their domestic travel over the last four weeks (Tourism Research Australia, 2009).
- Information provided by Local Government Visitor Centres.

Table 9.4 combines these data with our calculations of the FTREs from holiday homes and tourist accommodation. The table shows that the census resident population of 35,741 should be supplemented with 7,178 FTREs from holiday homes and 4,121 from tourist accommodation. The new data, however, comes from an estimate derived from the NVS of visitors who stay with friends and family in Eurobodalla Shire. This equated to 675 EFTR. In addition, information derived from Eurobodalla's Visitors Centre suggests that day trippers add another 1,266 EFTR to the local population. In total all sources add an estimated 13,288

FTREs to the total resident population counted at the census. This is equivalent to 37 percent of the census population.

Table 9.4: Eurobodalla Shire: Estimate of Non-Resident Population, 2011

Category	Assumption	Number
Total population Census 2011		35741
Plus non-resident population	1 person/non-resident property/day by 7,013 unoccupied dwellings at Census 2011	7,175
Plus Total EFTR from tourist accommodation	From Table 8.18	4,121
Plus percentage of visitors who stay with friends and family	32.2% of domestic and international overnight visitors – 765,000 / 365 days (from NVS for South Coast NSW region) and Eurobodalla Tourism statistics	675
Plus day visitors	462,000 / 365 days (from Eurobodalla Tourism statistics)	1,266
Total population		48,978

Source: 2011 Survey and data provided by Eurobodalla Shire

It must be stressed that this in no way makes the Census information 'wrong'. The Census data are an accurate reflection of the 'usually resident population' as defined for Census purposes. These data indicate, however, there is a significant influx of temporary populations at different times of the year which all told is equivalent to one third of the resident population if averaged across the whole year.

9.5 INDIRECT METHODS: CELLULAR NETWORKS

As part of this study a number of potential sources of 'symptomatic' information which reflects seasonal variations in population in sea change localities were investigated. Of all those that were considered, one promises to most approach the requirements which are needed for a robust measure which is able to be calculated at a range of geographical scales for a range of geographical areas on a daily basis. This is the detailed information which is maintained by mobile phone providers. The ubiquity of mobile phones and the geographical specificity of the data on origins and destinations of calls open up the opportunity of obtaining very detailed information on day to day and week to week variations in the number of calls originating and coming in to sea change localities. This would allow a comparison with Census data to be made and a quite robust estimate made of the numbers of people temporarily in an area. Unfortunately, despite strenuous efforts, it was not possible for the researchers to gain access to this source to test its utility in obtaining indirect estimates of seasonal variation in population. Nevertheless we would argue that this source has more potential than any other to use as a symptomatic or indirect way of measuring seasonal variations in population because:

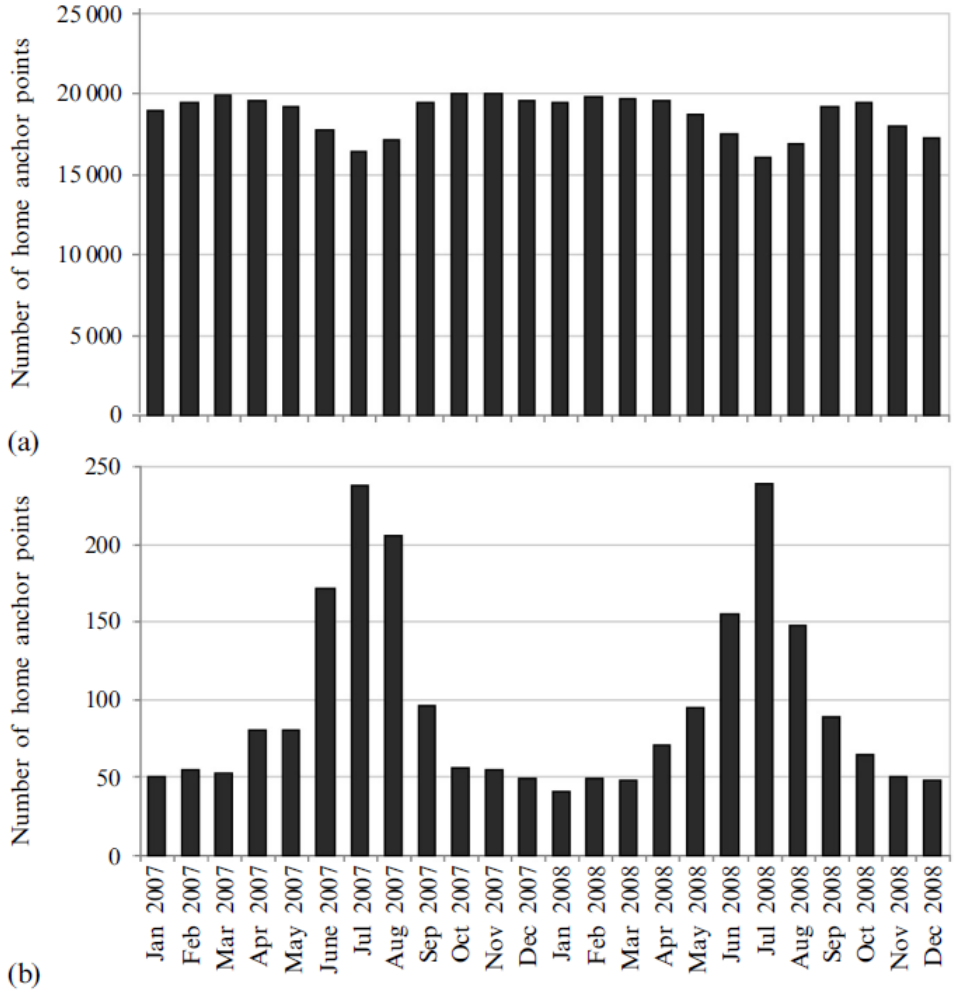
- The data on origins of phone calls (mobile positioning data) are available for all locations in Australia so could be used to calculate seasonal variations in population in any spatial unit in the ASGS.

- They are available on an hourly, daily, weekly, monthly or annual basis so are sensitive to even diurnal variations in population.

Of course, there would need to be empirical investigation of the nature of mobile phone usage in different contexts like holidays but there is every indication that a robust methodology could be developed.

This opinion is buttressed by the extensive use of mobile positioning data in overseas contexts to effectively measure seasonal variations in population. For example, Ahas (2010); Ahas *et al* (2008, 2009, 1010), Silm and Ahas (2010), have effectively used mobile positioning data to establish seasonal variations in population in municipalities in Estonia. Figure 9.4, for example, is taken from their work and shows how in the seasonal municipality of Alajoe in Estonia there is a substantial increase in telephone traffic originating in the area during summer.

Figure 9.4: Number of home anchor points of Municipalities by month for the period under investigation: (a) City of Tartu and (b) Alajoe Municipality



Source: Silm and Ahas, 2010, 2537

There is a need to gain access to this data in the Australian case and establish the linkage between telephone traffic and population. This can be done by examining the telephone traffic at the time of the census in a range of sea change localities, and using this as the basis for estimating the relationship between telephone traffic and population. In turn, this

estimate can be used to derive the population size at other times of the year when the temporary population is more substantial.

9.6 INDIRECT METHODS: THE '*DEMOFLUSH*' APPROACH

One of the earliest and long lasting efforts to use an indirect approach to estimating temporary populations was undertaken in the United States in Ocean City, Maryland (Goldschmidt and Dahl, 1976). Efforts to estimate the size of the temporary population were initiated because in summer the numbers using local health facilities increased fourfold, placing huge pressure on them. The decision was made to use water flow data for the following reasons:

- The data applied specifically to the geographical area of Ocean City.
- Detailed data on water flow was available.
- Water flow is less influenced by extraneous things (e.g. electricity data is influenced by heat, air conditioning effects etc.).
- Data are available for every day.
- There is a clear intuitive connection between numbers of people and water flow.

The model that was developed is composed of four components:

$$s = a + bv + cw + dx$$

where:

s = mean gallons of waste water flow per day

a = mean gallons of ground water infiltration

b = average number of gallons of waste water per permanent resident per day

v = mean number of permanent residents

c = average number of gallons of waste water per overnight visitor

w = mean number of overnight visitors

d = average number of gallons of waste water per day tripper visitor

x = mean number of day visitors

The formula can be rewritten as:

$$s = a + bv + c(1-y)z = dyz$$

where:

y is the proportion of total visitors to the resort in a given period who do not stay overnight (day trippers) and

z is the mean visitor population (w+x).

This then allows the total visitor population (z) to be obtained by:

$$z = \frac{(s - a - bv)}{[y(c-d) + d]}$$

The elements of the equation are available in the waste water data. However, there is a need to separate the human generated waste water flow from that deriving from rainfall, and which infiltrated the waste water system as a result of leakage into damaged pipeline infrastructure.

This formula came to be known as the *Demoflush* formula and it has now been in operation for several decades and has become an accepted basis for the planning and allocation of resources for health services in Maryland, USA.

The *Demoflush* formula uses a number of assumptions:

- Average daily wastewater output is assumed to be between 150 and 290 litres (converted from US gallons). The lower figure referred to rooming houses, and this has been used to estimate consumption for an overnight visitor.
- The average daily waste water output per permanent resident is 230 litres per day.
- *Demoflush* calculated the average wastewater consumption for day trippers at 25 litres per day.
- If adapted for Australian usage, the number of permanent residents can be obtained from Estimated Resident Population data in Australia.
- Several surveys in were undertaken in Ocean City to assist in the estimation of day tripper numbers. These showed that day trippers during weekends, comprising Friday, Saturday and Sunday, were 10.3 percent of Ocean City's resident population. Another estimate put it at 15 percent. Further, on special holidays the proportion could reach 20 percent. The formula ultimately used a seasonal factor to accommodate lower visitor numbers during the winter.

Adapting the formula to Australian communities means that the following data would be needed:

- Waste water data for prescribed areal units – such as LGAs.
- Estimates of infiltration.
- Refined tourist information which defines the number of tourists and their seasonal fluctuations.
- Data on the number of overnight visitors (combined estimates of the STA and NVS).

A recent Victorian study concluded that out of a range of indirect indicators suitable for informing population estimates, including rubbish collection, tourist centre enquiries, water consumption, traffic counts, visitor survey data and tourist accommodation data, water consumption provided one of the best indications of annual peaks and troughs (McKenzie, Martin and Paris, 2008; 61).

In a study of Copper Coast, South Australia, a coastal area (Hugo and Harris, 2012) it was found that in the construction of housing estates it is assumed that consumption of mains water will be 140 litres per persons, or 490 litres per house, based on 3.5 persons per dwelling. The District Council of the Copper Coast estimates that 75 percent (140*.75=105 litres per person) of consumption goes into the sewer system.

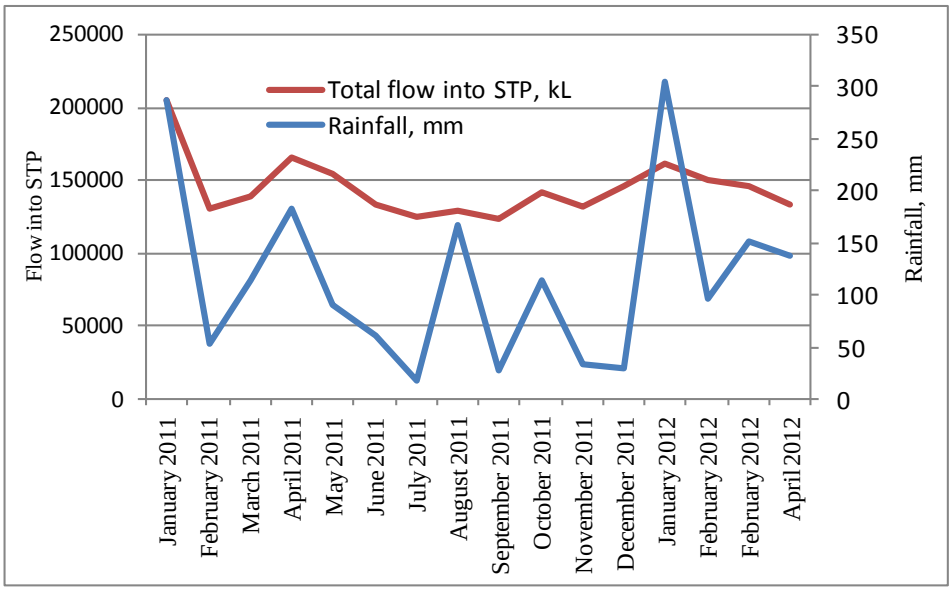
If waste water volumes are known (discounted for infiltration), then volume divided by 105 litres = number of persons. At any time, this number of persons less ERP = number of visitors. This is a crude method because, as in the Ocean City case study, there will be lower levels of consumption for visitors staying in hotels, motels and other visitor accommodation. Data would need to be obtained to accommodate the Ocean City formula any Australian LGA. It also means that all households and accommodation facilities would need to be discharging into the waste water scheme, and not using septic tanks. That is, using waste water as a population surrogate can only work if all dwellings are connected, and suitable data are maintained. Where this is not the case, modifications to the Ocean City formula would be needed.

We know that some LGAs have reasonably comprehensive data on waste water treatment in their jurisdictions. We need to conduct an audit of LGAs to define the extent of waste water treatment in coastal LGAs before widespread use of this methodology can be used as an estimate of temporary populations in any locality. In the course of our study Byron provided data for daily sewage inflow into Byron Sewage Treatment Plant (STP) and rainfall for the period January 2011 to April 2012. These daily records were summed to produce monthly data, which are presented in Table 9.5 and Figure 9.5 below. Rainfall data are provided because rainfall impacts on the volumes of liquid coming into the plant for treatment.

Table 9.5: Monthly Sewage Inflows to Byron STP, and Rainfall, January 2011 to April 2012

Month	Rainfall, mm	Total flow into STP, kL	Total flow into STP, kL, change on previous month (%)
January 2011	288	204804	
February 2011	53	130091	-36.5
March 2011	114	138823	6.7
April 2011	183	165224	19.0
May 2011	91	154072	-6.7
June 2011	60	133842	-13.1
July 2011	18	124864	-6.7
August 2011	168	128494	2.9
September 2011	27	124159	-3.4
October 2011	114.5	142356	14.7
November 2011	33	131819	-7.4
December 2011	29	146296	11.0
January 2012	304	161203	10.2
February 2012	96	149623	-7.2
February 2012	151.5	145376	-2.8
April 2012	137	133410	-8.2

Figure 9.5: Monthly Sewage Inflows to Byron STP, and Rainfall, January 2011 to April 2012



The *demoflush* methodology definitely has potential to be used as a measure of temporary population for individual local government areas. However, it would be difficult to adapt this methodology across all areas around Australia because of data limitations. Moreover, the data are not available in aggregated form nationally. Hence its potential to derive nationally comprehensive estimates is not as great as the mobile phone positioning data.

9.7 INDIRECT METHODS: RUBBISH COLLECTION

One clear indicator of seasonal increases in population in sea change areas is in the amount of rubbish which is generated. As most local governments measure the amount of rubbish that they handle on a daily or weekly basis this variable has some potential to be used in indirect measurement of seasonal populations.

Busselton LGA provided symptomatic data of a number of kinds including kerbside rubbish and recycling collection, flows into sewerage treatment plants, and electricity consumption. Kerbside rubbish collection data are presented in Figure 9.6, and shows clearly a peak in the November, December and January period, along with several minor peaks during the year.

Figure 9.6: Kerbside Tonnages Collected, Busselton LGA, 2009-2011

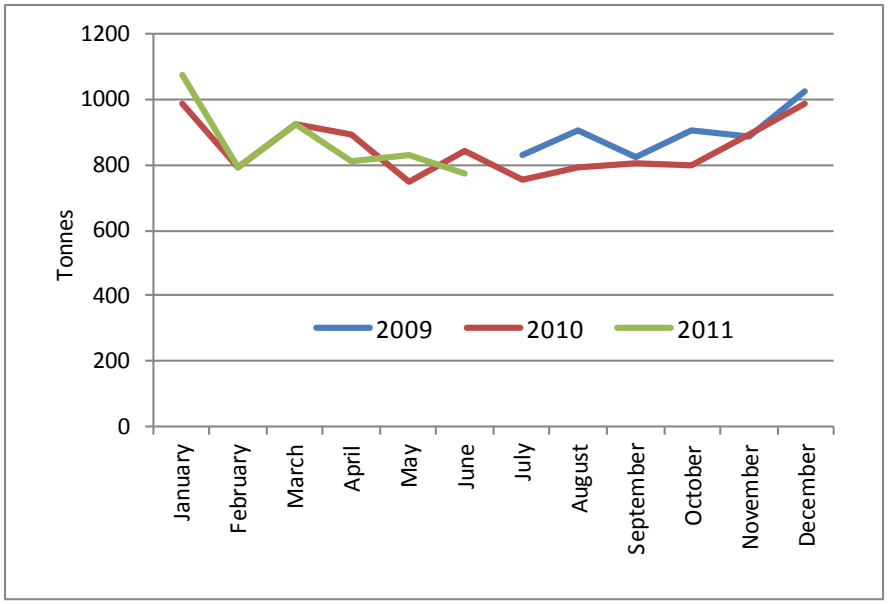
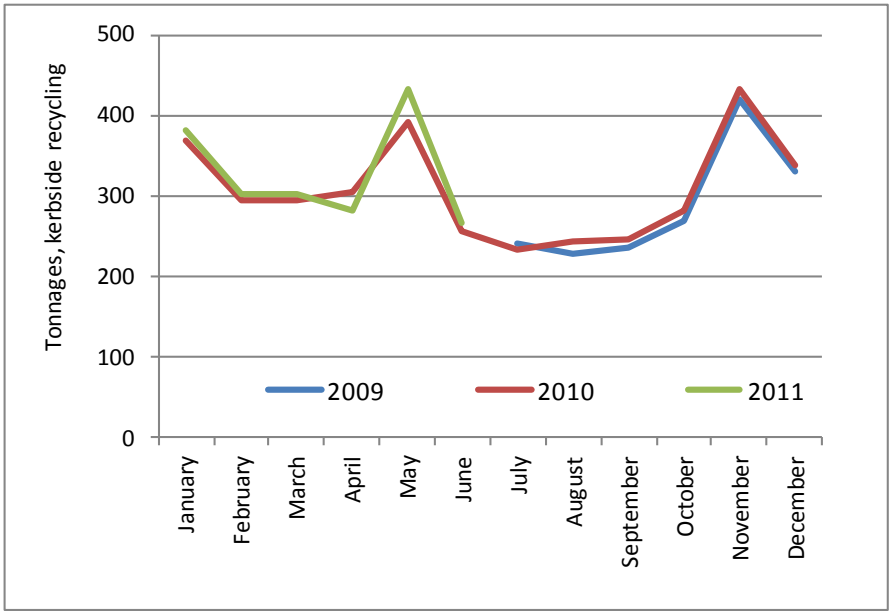
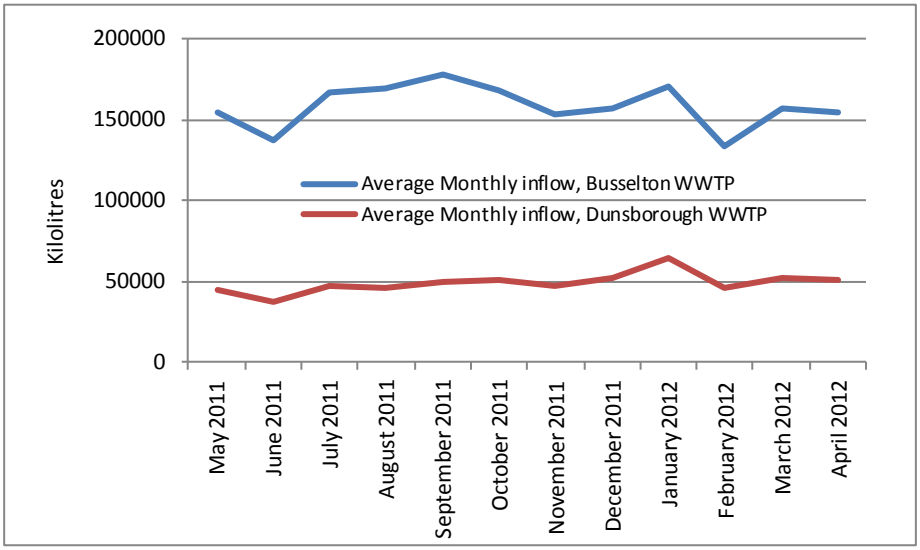


Figure 9.7: Kerbside Recycling Tonnages Collected, Busselton LGA, 2009-2011



In Figure 9.7 the situation is presented for kerbside *recycling* collection. It shows a bi-modal situation with highest kerbside recycling tonnage being collected in May and November connecting with key holiday periods. In Figure 9.8 the average monthly inflows into the Busselton and Dunsborough waste water treatment plants, both located in the Busselton LGA, are shown. As was the case with flows into the Byron STP, the flows include elements of rainfall that flow into the plants, and as a result these trends do not show the impact of holiday seasons, and the increased temporary population they bring, as well as some of the other data provided. There is, nevertheless a peak in December/January period, and a tapering off after this, and the peaks in the colder winter months can be attributed to rainfall flow into the treatment plants.

Figure 9.8: Average Monthly Inflow, Busselton and Dunsborough Treatment Plants



Data on rubbish collection provided by Mandurah LGA is not as comprehensive as that provided by Busselton. However, as Table 9.6 shows, there is a sizeable difference between the amounts of refuse and recycling collected in 'winter' and those collected in 'summer'. It

is highly likely that some of this change is due to many holiday homes in the LGA being occupied in January and unoccupied in August, as well as increased household size in the peak periods. The question is whether a methodology can be developed to show that the 15 percent change in rubbish collected in the six month period is matched by a 15 percent increase in the temporary population.

Table 9.6: Rubbish and Recycling Collection, Mandurah, August 2011 and January 2012

Time	Refuse	Recycling
	Number of pickups	
August 2011	28099	25026
January 2012	32401	28724
	Percentage change - August 2011-January 2012	
	15.3	14.8

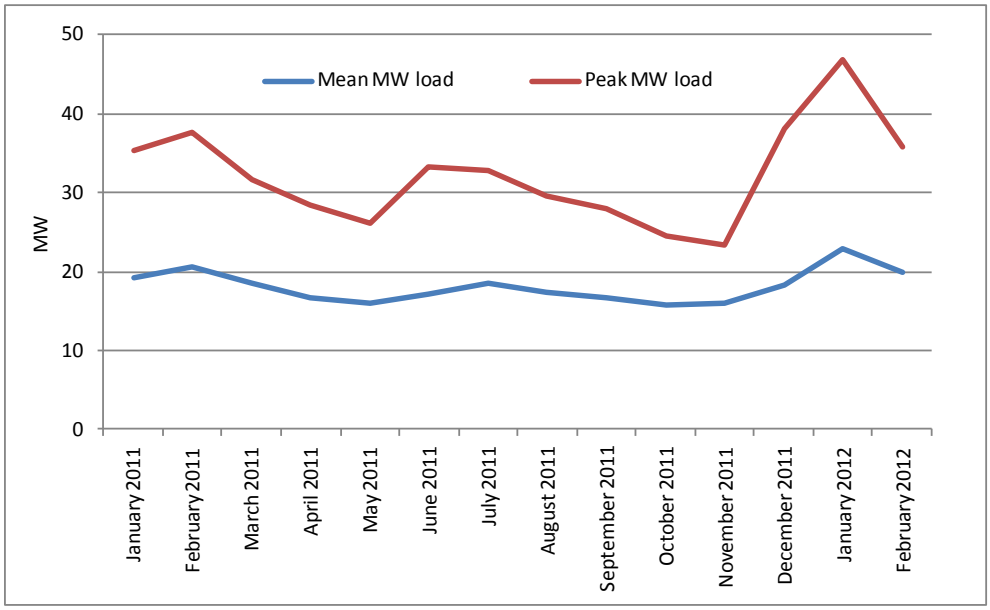
9.8 INDIRECT METHODS: POWER CONSUMPTION

Like rubbish collection, power consumption is a relatively sensitive indicator of variations in the population of an area. Busselton LGA provided power consumption data for the LGA from Western Power. Western Power provided data for Megawatt (MW) loads at hourly intervals for more than two years. A representative from Western Power, Mr Ricky Sah, suggested that the hourly records could be averaged to give a monthly average load. Mr Sah also suggested that calculating the peak value for any month's data would also be useful. In Figure 9.9, the average monthly load for Busselton has been calculated, along with the peak value for each month.

There are several points that can be made in relation to this figure:

- Highest demand occurs in December and January and then falls away in February, continuing through to May.
- There is an increase in demand for June and July, after which demand again falls away steadily to November.
- Busselton LGA representatives suggest the peak in June/July may be due to events held in the area at this time, and an influx of northern hemisphere tourists.
- The peak load trend is significant in that it relates to maximum demand, when infrastructure is tested. If the demand is greater than the infrastructure can handle, then delivery fails.

Figure 9.9: Power Usage, Average and Peak, Busselton, January 2011 to February 2012



Infrastructure must be provided to meet peak electricity demand, and infrastructure of other kinds, related to services such as health, parking, visitor information, libraries, for example, need also to be provided to meet peak demands. However, often this demand is generated by a temporary population, for which the LGA providing the services does not receive funding. Symptomatic data of the kind presented above can give some indication of the size of the additional population in these areas at certain times of the year which place strain on an organisations ability to provide services which will not fail when tested by increased demand.

Power data, like telephone data, has considerable potential to be used as a symptomatic variable to individually estimate seasonal variations in the size of populations in sea change areas. Like the telephone data it has the advantage of being available for point locations which can be aggregated into any spatial unit to facilitate the estimation of population. As with telephone data, however, there are issues of being able to access the data to enable routine estimation of seasonal populations at a local level. However, these data should be part of any initiative to derive a national methodology for estimating seasonal populations.

9.9 RECOMMENDATIONS

This study has clearly demonstrated that there are substantial variations in the numbers of people in sea change LGAs between different times of the year. For many LGAs, especially those in southern Australia, the date of the Census coincides with the low point in the seasonal fluctuations of the numbers present in their area. There must be no question that the Census data represents the 'gold standard' of population resident in areas in Australia. It is an accurate representation of the number of permanent residents in Australian local areas and must be retained as the basic measure of the populations of subareas within Australia.

The argument here, however, is that there are significant seasonal variations in the actual populations present in those areas. On the one hand, sea change areas arguably experience the largest seasonal fluctuations in population of any areas in Australia. On the other hand, for many such areas, especially in the south, the Census is taken at a time which is the

extreme trough of those variations. Accordingly, in the interests of equity it is important to have a measure of the size of temporary residents in order to better plan the provision of utilities, infrastructure and services in those areas.

This study has demonstrated beyond doubt the need for such a measure. However, despite a number of direct and indirect methodologies being investigated, it has not been possible at this stage to recommend the adoption of a single methodology to estimate non-resident, or temporary, populations. Indeed a major recommendation here is:

> 'The Australian Bureau of Statistics should, as a matter of some urgency, undertake a study to develop a robust, meaningful and nationally applicable measure of temporary populations, at least at the LGA level. This measure would not replace the usual resident population as the gold standard measurement of Census population for electoral and other purposes. Nevertheless, a measure of temporary population is needed to better guide services, infrastructure and utilities provision and to allocate resources regarding them'.

Accordingly the following specific recommendations are made to the ABS:

1. The establishment of an investigation of the potential for adding to the Census question on usual residence. There should be a question which asks whether a family member owns, or is purchasing, a dwelling or dwellings other than that which is the usual place of residence, and in which they spent a significant period during the last year. The location of that place needs also to be identified. This would allow a clear indication of not only temporary migration to sea change areas for leisure but other important temporary moves for work and other reasons. This would be a clear recognition that many Australians now have multiple places of residence and there is a need to supplement the usual place of residence concept which is basic to our Census enumeration.

2. The ABS should develop the concept of there being multiple population geographies in Australia. In assigning population to various ASGS (Australian Statistical Geography Standard) spatial units we need to recognise that there are criteria, other than the currently used 'usual place of residence', which need to be considered. These include:

- Day time/night time populations. The Journey to Work question currently used in the census can be used to derive this.
- Temporary resident populations comprising people permanently resident elsewhere who spend a significant time at another location.

3. The ABS should build on the work presented here to develop a robust mathematical measure using telephone traffic data to provide Census based estimates of seasonal variations in population at the LGA level.

9.10 SUMMARY

Recognition of the significance of temporary migration in temporarily increasing the population of particular areas in Australia at particular times is not new. In analysing the results of the Australian Population Census of 1981, Hugo (1986, 117) wrote that we should not:

> '… ignore temporary changes in place of residence since such movements can lead to substantial seasonal shifts in the demand for goods and services'.

He went on to analyse data from the 1981 census on the population away from their usual residence on the night of the census. More recently an excellent body of work on temporary

migration of various types in Australia has been undertaken by geographers at the University of Queensland (Bell, 2004; Bell and Ward, 1998; Charles-Edwards, 2011; Charles-Edwards *et al.*, 2008; Hanson and Bell, 2007).

The outcomes of the present study have been:

- Demonstration of the significance and scale of temporary migration in increasing the population in sea change coastal localities at particular times of the year.
- Demonstration that it is feasible to obtain a quantitative measurement of the scale of impact of temporary migration in increasing permanent resident populations of sea change communities.

The study does not recommend a specific methodology for the estimation of temporary populations for the following reasons:

- The ABS is an agency of the highest world standard and it is crucial that any initiative toward the creation of an alternative geography for establishing the populations in areas at different times be undertaken under its auspices.
- The ABS oversees the Australian Statistical System and any additions to that system must meet the ABS strict test of accuracy, representation across the country, reliability and validity. Hence it is essential that final development of such a measure be undertaken within the ABS.
- The ABS, as the premier statistical agency in the nation and part of government, may have greater access to data like the mobile phone positioning information which could serve as the basis or a robust measure of temporary populations.

It must be stressed that the present study does not recommend in any way that the existing methods of counting population using the usual place of residence be replaced. This must remain the 'gold standard' for establishing the resident population of places for purposes such as official population statistics and electoral redistributions. The argument here is that a robust measure of temporary populations can be of use in planning the provision of some utilities, services and infrastructure and potentially in the allocation of resources to undertake these activities.

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APPENDICES

Appendix One

Australia: Coastal non-metropolitan SLAs, by State
Source: ABS

Statistical Local Area (SLA)

New South Wales	*Victoria*	*Queensland*	*Queensland, continued*	*Queensland, continued*
Ballina (A)	Bass Coast (S) - Phillip Is.	Aurukun (S)	Currumbin	Noosa (S) - Noosa-Noosaville
Bega Valley (A)	Bass Coast (S) Bal	Biggera Waters-Labrador	Currumbin Waters	Noosa (S) - Sunshine-Peregian
Bellingen (A)	Bass Strait Islands	Bilinga-Tugun	Douglas (S)	North Ward-Castle Hill
Byron (A)	Bellarine - Inner	Broadbeach-Mermaid Beach	Gladstone (C)	Pallarenda-Shelley Beach
Clarence Valley (A) - Coast	Colac-Otway (S) - South	Broadsound (S)	Hervey Bay (C) - Pt A	Palm Beach
Coffs Harbour (C) - Pt A	Corangamite (S) - South	Burdekin (S)	Hervey Bay (C) - Pt B	Palm Island (S)
Coffs Harbour (C) - Pt B	Corio - Inner	Burke (S)	Hinchinbrook (S)	Paradise Point-Runaway Bay
Eurobodalla (A)	E. Gippsland (S) - Bairnsdale	Burleigh Heads	Hope Vale (S)	Pimpama-Coomera
Great Lakes (A)	E. Gippsland (S) - Orbost	Burnett (S) - Pt A	Injinoo (S)	Pormpuraaw (S)
Greater Taree (C)	French Island	Burnett (S) - Pt B	Isis (S)	Rowes Bay-Belgian Gardens
Hastings (A) - Pt A	Geelong	Cairns (C) - Barron	Johnstone (S)	Sarina (S)
Hastings (A) - Pt B	Geelong West	Cairns (C) - Central Suburbs	Kowanyama (S)	Seisia (IC)
Kempsey (A)	Glenelg (S) - Heywood	Cairns (C) - City	Livingstone (S) - Pt B	South Townsville
Kiama (A)	Glenelg (S) - Portland	Cairns (C) - Mt Whitfield	Lockhart River (S)	Southport
Lake Macquarie (C) - East	Greater Geelong (C) - Pt B	Cairns (C) - Northern Suburbs	Mackay (C) - Pt A	Stuart-Roseneath
Lake Macquarie (C) - North	Greater Geelong (C) - Pt C	Cairns (C) - Pt B	Mackay (C) - Pt B	Surfers Paradise
Lake Macquarie (C) - West	Lady Julia Percy Island	Cairns (C) - Trinity	Magnetic Island	Torres (S)
Lord Howe Island	Moyne (S) - South	Calliope (S) - Pt A	Main Beach-South Stradbroke	Umagico (S)
Nambucca (A)	Queenscliffe (B)	Calliope (S) - Pt B	Mapoon (S)	Weipa (T)
Newcastle (C) - Inner City	South Gippsland (S) - Central	Caloundra (C) - Caloundra N.	Maroochy (S) - Maroochydore	Whitsunday (S)
Port Stephens (A)	South Gippsland (S) - East	Caloundra (C) - Caloundra S.	Maroochy (S) - Mooloolaba	Wujal Wujal (S)
Richmond Valley (A) Bal	Surf Coast (S) - East	Caloundra (C) - Kawana	Maryborough (C)	Yarrabah (S)
Shellharbour (C)	Surf Coast (S) - West	Cardwell (S)	Miami	
Shoalhaven (C) - Pt B	Warrnambool (C)	Carpentaria (S)	Mirani (S)	
Tweed (A) - Tweed Coast	Wellington (S) - Alberton	City - QLD	Miriam Vale (S)	
Tweed (A) - Tweed-Heads	Wellington (S) - Rosedale	Cook (S)	Mornington (S)	
Wollongong (C) - Inner		Coolangatta	Napranum (S)	
Wollongong (C) Bal		Cooloola (S) (excl. Gympie)	New Mapoon (S)	

Statistical Local Area (SLA)

South Australia	*Western Australia*	*Tasmania*	*Northern Territory*
Alexandrina (DC) - Coastal	Albany (C) - Central	Break O'Day (M)	Cox-Finniss
Barunga West (DC)	Albany (C) Bal	Burnie (C) - Pt A	Daly
Ceduna (DC)	Ashburton (S)	Central Coast (M) - Pt A	East Arnhem - Bal
Cleve (DC)	Augusta-Margaret River (S)	Circular Head (M)	Groote Eylandt
Copper Coast (DC)	Broome (S)	Devonport (C)	Gulf
Elliston (DC)	Bunbury (C)	Dorset (M)	Numbulwar Numburindi (CGC)
Franklin Harbour (DC)	Busselton (S)	Flinders (M)	South Alligator
Grant (DC)	Capel (S) - Pt A	George Town (M) - Pt A	Thamarrurr (CGC)
Kangaroo Island (DC)	Capel (S) - Pt B	George Town (M) - Pt B	Tiwi Islands (CGC)
Kingston (DC)	Carnamah (S)	Glamorgan/Spring Bay (M)	Victoria
Lower Eyre Peninsula (DC)	Carnarvon (S)	Huon Valley (M)	West Arnhem
Mallala (DC)	Chapman Valley (S)	King Island (M)	Yugul Mangi (CGC)
Mount Remarkable (DC)	Coorow (S)	Latrobe (M) - Pt A	
Port Augusta (C)	Dandaragan (S)	Latrobe (M) - Pt B	
Port Lincoln (C)	Denmark (S)	Sorell (M) - Pt B	
Port Pirie C Dists (M) - City	Derby-West Kimberley (S)	Tasman (M)	
Port Pirie C Dists (M) Bal	Dundas (S)	Waratah/Wynyard (M) - Pt A	
Robe (DC)	Esperance (S)	West Coast (M)	
Streaky Bay (DC)	Exmouth (S)	West Tamar (M) - Pt A	
The Coorong (DC)	Geraldton (C)	West Tamar (M) - Pt B	
Tumby Bay (DC)	Gingin (S)		
Unincorp. West Coast	Greenough (S) - Pt A		
Victor Harbor (C)	Harvey (S) - Pt B		
Wakefield (DC)	Irwin (S)		
Wattle Range (DC) - West	Jerramungup (S)		
Whyalla (C)	Mandurah (C)		
Yankalilla (DC)	Manjimup (S)		
Yorke Peninsula (DC) - North	Nannup (S)		
Yorke Peninsula (DC) - South	Northampton (S)		
	Port Hedland (T)		
	Ravensthorpe (S)		
	Roebourne (S)		
	Shark Bay (S)		
	Waroona (S)		
	Wyndham-East Kimberley (S)		

Appendix 2

Sample survey questionnaire

LGA logo

Survey of non resident ratepayers of <LGA>- April 2012

The National Sea Change Task Force Inc has engaged The National Centre for Social Applications of Geographical Information Systems (also known as GISCA), located at the University of Adelaide, and headed by Professor Graeme Hugo, to undertake a project to estimate the size of mobile populations in *sea change* local government areas throughout Australia. In these LGAs the mobile population, comprising holiday home owners, holiday makers using rental accommodation and tourists, can cause the population in these areas to swell by significant numbers, especially during the Christmas period and school holidays.

The Census counts the number of people resident in any area every five years, and significant funding is directed to <LGA>, especially from the Commonwealth Government, based on the population recorded at the Census. However, at each Census a significant number of dwellings in <LGA> are unoccupied. For many of these the reason is because the owners use them as holiday homes, and in winter, when the Census is conducted, these holiday homes are unoccupied. Despite this, when the holiday home is being used a sizeable addition to <LGA>'s population occurs. The key aims of this survey are:

- To discover the size of population residing in these holiday homes based on their periodic usage of them.
- To indicate an additional full time equivalent population that can be added to the population counted at the time of the Census. This may have significant implications in terms of any funding directed to <LGA> which is based on population.
- To provide information that can assist the <LGA>to plan and improve the services it offers to ratepayer and to help it to better plan for population changes that may occur in the future.

We are assuming that because your rate notice has been sent to an address outside of the <LGA> Shire that you may use your <LGA> residential property as a holiday home. Accordingly, we would like you to respond to the questionnaire which appears below. In addition to the aims mentioned above, it is hoped that the survey results provided by you will lead to wider recognition in resource allocation processes of the importance of temporary populations.

We would expect the questionnaire to take 15 to 20 minutes to complete, and on completion we would ask that it be returned in the reply paid envelope provided. The responses will be forwarded to the National Sea Change Taskforce, which will code the responses for Professor Hugo.

Your responses will be treated with complete confidence, and used by Professor Hugo and his team to prepare a report for the National Sea Change Taskforce and the <LGA>.

We assure you that your responses will be absolutely anonymous, and in any research output prepared by Professor Hugo, no individuals will be identified. The survey has been despatched from the <LGA> offices, and none of your address details or other ratepayer information has been provided to GISCA. Please be advised that by completing and returning this questionnaire you agree to be part of this research.

In the questionnaire, all questions should be answered, giving attention to any instructions that may be provided.

If you have any questions, please contact Dr Kevin Harris, University of Adelaide, Phone 08 8313 3973, or email him at <kevin.harris@adelaide.edu.au>

We hope that you will participate in the survey, and if you do can you please return the completed survey form in the reply paid envelope no later than 30 April 2012.

Survey of non resident ratepayers of <LGA> April 2012

1. Please state the post code of your permanent address _____

2. Do you own more than one property in the <LGA>?
   - ☐ No. Go to Question 3
   - ☐ Yes. Please go to Question 3 and answer it, and the remaining questions, in relation to the <LGA> property you, and your family/friends use the most
3. In which suburb/town within the Shire is your property?
   i. Please state_____
4. Which description best suits your housing:
   - ☐ House
   - ☐ Flat/apartment/unit
   - ☐ Shack
   - ☐ Other (please state) _____
5. How many bedrooms does your property in <LGA> have? _____
6. Is your <LGA> dwelling:
   - ☐ Fully owned (that is, mortgage free)
   - ☐ Being purchased (that is, you have a mortgage)
   - ☐ Other (please state) _____
7. Were you, members of your family or friends resident in this dwelling on the night of the last census, 9th August 2011?
   - ☐ Yes
   - ☐ No
8. In which year did you purchase your <LGA> dwelling? _____

9. Please indicate how many days your <LGA>dwelling was used by you, or family members and friends, during each of the months listed below

MONTH	NUMBER OF DAYS AT PROPERTY IN <LGA>	MONTH	NUMBER OF DAYS AT PROPERTY IN <LGA>
April 2011		October 2011	
May 2011		November 2011	
June 2011		December 2011	
July 2011		January 2012	
August 2011		February 2012	
September 2011		March 2012	

10. Please state the main reasons for choosing to purchase your <LGA> property?

_____

_____

_____

11. Do you rent out your <LGA> residence commercially, either privately or through a letting agency?

☐ Yes. Go to Question 12

☐ No. Go to Question 13

12. Please indicate how many days you rented out your <LGA> property during each of the months listed below

MONTH	NUMBER OF DAYS PROPERTY IN <LGA> RENTED OUT	MONTH	NUMBER OF DAYS PROPERTY IN <LGA>RENTED OUT
April 2011		October 2011	
May 2011		November 2011	
June 2011		December 2011	
July 2011		January 2012	
August 2011		February 2012	
September 2011		March 2012	

13. Do you plan to make a permanent move to <LGA>?

- ☐ Yes. Go to Question 14
- ☐ No. Go to question 19

14. When is it likely that you would make such a move?

- ☐ Within two years from now
- ☐ Between two and five years time from now
- ☐ Between five and ten years from now
- ☐ Don't know

15. Including you, how many family members are likely to make this move? _____

16. Are there any children included in the family who will move?

- ☐ Yes. Go to Question 17
- ☐ No. Go to question 19

17. Will these children attend school within the council area?

- ☐ Yes. Go to Question 18
- ☐ No. Go to question 19

18. What type of school will they attend?

- ☐ Government pre-school
- ☐ Non government pre-school
- ☐ Government primary school
- ☐ Non government primary school
- ☐ Government secondary school
- ☐ Non government secondary school
- ☐ Other (Please state) _____

19. Which of the following best describes the family status of your household?

- ☐ Couple without children
- ☐ Couple with children who have left home (that is, "empty nesters")
- ☐ Couple with dependent children
- ☐ Single parent
- ☐ Lone person
- ☐ Other (Please state) _____

20. This question seeks some information relating to you (Person 1), and other persons living with you.

	Person 1	Person 2	Person 3	Person 4	Person 5
Sex Enter M or F for each person					
Sex					
Age (Years) ✓one age group only for each person					
0-4					
5-14					
15-24					
25-44					
45-64					
65-74					
75+					
Employment ✓one employment category only for each person					
Employed full-time					
Employed part-time (including casual)					
Unemployed and looking for work)					
Home duties					
Retired, (or mostly retired)					
Other					
Occupation of persons employed Full time or Part time (for example, Teacher, Driver, manager)					
Occupation					
Present marital status ***✓one status category only for each person***					
Married					
Widowed					
Divorced					
Never married					

21. Please indicate into which category your total annual household income falls. Include all sources of income (salary, Centrelink/Veterans Affairs, investment) for **all** household members.

- ☐ Less than $6,000
- ☐ $6,000-$14,999
- ☐ $15,000-$25,999
- ☐ $26,000-$35,999
- ☐ $36,000-$51,999
- ☐ $52,000-$77,999
- ☐ $78,000-$103,999
- ☐ $104,000-$149,999
- ☐ $150,000-$199,999
- ☐ $200,000-$499,000
- ☐ $500,000 or more

22. What do you consider to be the most favourable aspects of <LGA>?

_____

_____

_____

_____

23. What do you consider to be the least favourable aspects of the <LGA>?

_____

_____

_____

_____

THANK YOU VERY MUCH FOR YOUR VALUABLE INPUT.

PLEASE USE THE REPLY PAID ENVELOPE TO RETURN THE SURVEY BY 30 APRIL 2012

Appendix 3

Broad categories used to code Question 10 of the survey

Broad reason for buying property	Examples of reasons provided for buying property
Location	Location e.g. nice town, tourist resort, beautiful location, nice area, beautiful area
Lifestyle	Lifestyle reasons e.g. Sea Change, Coastal location, escape from city, R & R, Leisure, weekend getaways, coastal lifestyle
Accessibility	Proximity to capital, regional city, close to home, accessible, ski fields
Beach	Water e.g. the beach, good beach, safe beach, ocean, coast, coastline, estuary and canals, lakes
Holidays	Holidays, Holiday house, beach house, summer getaway, family holiday
Friends	Friends live there, friends nearby, had a holiday house there
Family	Family reasons e.g. family live(d) there, close to family, family use, maintain family unity, family holidayed there
Inheritance	Inheritance
Retirement	Retirement, to retire to, semi-retirement, potential retirement, future holiday home, previous investment property
Future	Future residence, future plans, future development
Investment	Investment, financial benefit, negative gearing, growth potential, gain wealth, rental income, tax, development potential
Affordability	Price, affordability
Quality of life	Quality of life, well being, community, space, views, fresh air, natural beauty, bush, isolation
Work/business	Work, business
Recreation	Recreational features (fishing, swimming, walking, boating, crabbing, sailing, races), sporting and leisure facilities (golf, bowls, tennis, boat ramps, lifesaving, reserves and parks), facilities and infrastructure in general (restaurants, shops, wineries)
Climate/weather	Climate, weather

Broad categories used to code Question 22 of the survey

Broad reason for buying property	Examples of reasons provided for buying property
Retirement	Retirement location, facilities for retirees
Lifestyle	Lifestyle, relaxed environment, holiday resort lifestyle, Holiday lifestyle, relaxed atmosphere, holiday lifestyle, coastal atmosphere,
Climate, weather	Climate, weather, sunshine
Location	Location (general) comments, holiday destination, Seaside location, regional location, coastal location
Beach	Coasts, beaches, ocean, waterways, estuary, riverfront, coastline, sea,
Accessibility	Accessibility, access to capital and regional cities, country towns, transport services, health services, airport, ski fields, 4WD tracks
Environment	Quiet, peaceful, serenity, beauty, isolation, quiet area, tranquillity, lack of traffic, restful, fauna and flora, bushland, forest, wilderness, marine reserves, national parks, open spaces, fresh air, uncrowded,
Community	"The People", friendly, family friendly, great for family, community, people friendly, great community workers, to be close to family, community, country atmosphere, rural feel, markets
Heritage	Towns, villages, charm, nice towns, coastal small town, village atmosphere, coastal villages, aboriginal heritage
Affordability	Housing, land costs, affordable housing, affordability
Leisure	Recreational activities (fishing, swimming, walking, crabbing , boating, surfing, fstivals, events, tourism and arts), General facilites, services and amenities (hotels, restaurants, shops, wineries), Sporting and leisure facilities (golf, bowls, tennis, marinas and jetties, life
Work, Employment	Work, Employment
Investment	Good rental, good rental agents, population growth, positive investment, investment growth, cost of living, growth, local economy,
Family	Close to family, close to friends
Council	Good council, subdivision limits, messages for council

Broad categories used to code Question 23 of the survey

Broad reason for buying property	Examples of reasons provided for buying property
None	None, don't know any, can't think of anything, not getting there enough
Nuisances	Mosquitoes, insects, flies, critters, sharks, big bugs, midgies, weather, wind, humidity, heat, seagrass, dogs, cats, pines, loss of habitat
Traffic	Traffic issues e.g. traffic congestion, parking at shopping centre, foreshore, traffic lights, congestion, roads, highways, freeways
Crime	Crime e.g. crime rate, break-ins, vandals, vandalism, more police, violence, drugs, antisocial bahaviour, graffiti, surf skies, undesirable tenants, rubbish, litter, schoolies, socio-economic and cultural issues
Crowds	Crowds, holiday crowds, tourists, congestion, retirement destination, number of retired people, overpopulation, overdeveloped, becoming urbia, too commercialised
Council	Planning and development issues (inconsistent decisions, onerous development restrictions, inadequate park maintenance), poor planning, boring architecture, too commercialised, too many canal homes, high rise, McMansions, bureaucracy (general) governance, sewerage and septic tanks
Employment	Employment issues e.g. Unemployment, youth unemployment, lack of employment, limited work, lack of jobs, not high income jobs
Facilities	Lack of, Poor (general) facilities, services, telecommunications and amenities e.g. poor shopping, Inadequate shopping, lack of restaurants, poor restaurants, lack of delis, lack of amusements, lack of entertainment, lack of culture, lack of eating places open in winter, shuts down over winter, lack of things to do, lack of amenities for youth, poor availability of trades and services
Housing	Real estate and economic issues e.g. lower house prices, lack of price growth, high land costs and low rents, lack of good tenants, housing costs, cost of living, low cost accomm, too few caravan parks, land tax
Accessibility	Accessibility and transport Distance issues e.g. distance from metro, CBD, travel time, traffic congestion to and from metro, isolation from Eastern states, distance from family, distance from services
Infrastructure and services	Medical , emergency and educational services, lack of medical practitioners, no hospital, no permanent medical centre, unis, TAFEs, high schools