2 Peak Population

2.1 2016/17 Peak Population Report (22 December to 9 January)

TO	Thames-Coromandel District Council
FROM	Scott Summerfield - Strategic Planning Team Leader
DATE	2 June 2017
SUBJECT	**2016/17 Peak Population Report (22 December to 9 January)**

1 Purpose of report

This report presents Council with the estimated peak population numbers over the period 22 December 2016 to 9 January 2017. Data relating to water supply, wastewater and rubbish and recycling volumes is provided for context to demonstrate the impact of the peak population on Council infrastructure. Occupancy figures are also provided for key Department of Conservation and private campgrounds to show the population of popular visitor sites across the district outside of our settlements over the peak period.

2 Background

The Council has at intermittent years commissioned or undertaken peak population studies to identify the occupancy of the district over the holiday peak period. This peak helps us understand the demands on our infrastructure as a district, enables facility planning, and informs us of the scale of population to be considered in the event of a civil defence emergency.

This study has not been about identifying visitor trends within a tourism context as this work is undertaken by Destination Coromandel. Peak population studies look at all visitor numbers though to assess the impact on our operations.

The last peak population study was undertaken across the summer of 2009/10 and estimated a peak of 120,874 people in the district on 31 December 2009. Previous studies for 2007/08 and 2003/04 estimated a peak population of 137,700 and 142,375 respectively, both identified on 31 December.

For each previous peak population study, information was also collected on Council traffic data, wastewater, water and solid waste data for each settlement, where it was available. This information assists in determining the impact of peak population figures for those settlements.

Peak populations over summer had decreased from the early 2000s as the visiting population over the Christmas and New Year period has gradually shifted to more family visitors. Of late there have been fewer large scale concerts and festivals aimed at young people held on the Coromandel Peninsula.

3 Issue

The latest peak population study is presented for Council's consideration, alongside water supply, wastewater, rubbish and recycling data, state highway traffic volumes and key campground occupancies for the peak visitor period. This information will give Council an insight into population numbers for busy summer period experienced by the Coromandel in

recent and coming years and help inform capacity decisions in the coming 2018-2028 Long Term Plan.

4 Discussion

4.1 Qrious Peak Population report

Qrious (a child company of telecommunciations provider Spark, formerly Telecom) has provided a report on the population of the Thames-Coromandel District from 22 December 2016 to 9 January 2017. The Qrious report is included as **Attachment A** of this report.

Methodology
This report is based on the use of cellphones in the district during the peak period. The data is aligned within mesh block areas from Statistics New Zealand which correspond with our settlement areas. Qrious data is sourced from cellphone towers in the district which pick up connections to the network from cellphones which are related to Spark, i.e. cellphones running on the Spark and Skinny Mobile networks.

The Qrious methodology looks at its market share for each home region that an individual user has been identified from and calculates accordingly how many people would then expect to be in the area at any given time. In other words, the Spark network data is extrapolated to estimate all networks and for the percentage of the public who do not have a mobile phone.

More detail on the Qrious methodology can be found on pages 38-42 of the Qrious report.

Limitations
There are some limitations associated with the Qrious report. As the area of focus is tightened, the accuracy of people counts and movements decreases. There is greater accuracy when looking at the total population for the district, but less accuracy when looking at cellphone movements at settlement level.

Poor or limited reception and the location of cellphone towers around the Peninsula can also skew the figures provided for each settlement. There may be people identified as staying overnight who were actually in neighbouring areas that are serviced by the same cellphone tower.

Lastly, the Qrious data is influenced by the cellphone use behaviour of each individual. For example, holiday visitors may have their phone switched off for days at a time or have limited network events during a day which may mean some of their movements or locations they stay in are not captured in the data and as a result they are counted in a different area.

Staff have investigated other data sources to create a fuller picture of the district's peak summer population. The Qrious data does, importantly, provide us with real time, individual focused estimates of the peak population and movements by people throughout the district which gives a greater level of insight than from previous peak population studies.

Highlights
Similarly to past peak population studies, the peak population day over this period occurred on 31 December 2016, with 146,456 people identified in the district on that day (includes day visitors) with an overnight population of 126,298.

A total of 498,000 unique individual visitors were identified in the district from 22 December to 9 January which included 212,000 visitors from Auckland (43% of the total), and 109,000 overseas visitors (22% of the total). The study identified a usually resident population of 27,600.

Of our international visitors, over 25% came from Australia and over 10% from Germany. Of our domestic visitors, 59% came from the Auckland region, 23% from the Waikato, and 8% from the Bay of Plenty. Overall most of our international visitors are from European Countries with very few from Asia.

The Qrious report also shows the type of visit made, with nearly 40% of domestic visitors and nearly 50% of international visitors making a single day trip to the district.

Whangamata had the highest peak population, with 28,050 people identified there overnight on 31 December.

Tables showing the population, broken down into day visitors, overnight visitors and residents, are shown for each of our settlements where we collect demographic data as **Attachment B**.

The highest overnight peak population has increased from 2009/10 by more than 5,000 people, with higher numbers of between 5,000 and 10,000 across the five days before the peak on 31 December and the four days following it.

The Qrious peak population report also identifies day visitors in the district on each day across the study period, which shows between 10,000 and 20,000 day visitors in the district each day. These visitors are in addition to overnight visitors and residents and while they do not have the same impact on Council infrastructure as a person staying overnight, it is important to have an indication of the numbers of day visitors to understand the full extent of the peak population period.

Dwellings/number per household

As a method of sense checking some of the numbers provided for each settlement by Qrious, the peak settlement populations have been compared against the district wide number per dwelling and peak population from the 2009/10 study below. This does not provide a separate estimate, but instead a different view of what likely settlement overnight peak population numbers might have been. The total district peak population number from 31 December of 126,298 has been divided by the total number of dwellings in the district (25,725) to give an average number of people per household of 4.9. This is comparable to the average district per dwelling figure of 5.25 from the 2009/10 peak population study.

Average household numbers over the peak period will in reality vary greatly by settlement (for example, Thames will be much lower than the district average and Hahei will be higher) and this should be considered when reading the table below. Where available, average settlement household numbers from 2009/10 have been multiplied by the 2016 dwelling numbers to generate a baseline against which to consider the Qrious estimated peak population.

Settlement areas	**2016/17 Peak night estimates**	**Dwellings 2016 estimates***	**No. per household**	**Amended peak population based on district average per dwelling number (4.9)**	**Amended peak population based on district average per dwelling number from 2009 study**	**2009/10 Peak night estimates (comparison)**
Whitianga	7,664 (31 Dec)	3,522	2.18	17,257	14,898	19,770 (31 Dec)
Cooks Beach-Ferry Landing	5,689 (2 Jan)	1,003	5.67	4,914	5,857	6,015 (2 Jan)
Hahei	7,186 (31 Dec)	717	10.02	3,513	4,445	5,150 (2 Jan)
Whangapoua	1,597 (31 Dec)	441	3.62	2,160	3,113	2,654 (31 Dec)
Matarangi	6,207 (30 Dec)	1,262	4.92	6,183	8,379	7,015 (31 Dec)
Other Mercury Bay	9,856 (31 Dec)	1,411	6.99	6,913	n/a	4,691 (1 Jan)
Pauanui	9,415	2,325	4.05	11,392	13,531	14,401

Settlement areas	2016/17 Peak night estimates	Dwellings 2016 estimates*	No. per household	Amended peak population based on district average per dwelling number (4.9)	Amended peak population based on district average per dwelling number from 2009 study	2009/10 Peak night estimates (comparison)
	(31 Dec)					(1 Jan)
Tairua	10,430 (1 Jan)	1,615	6.46	7,913	8,672	8,437 (31 Dec)
Other Tairua-Pauanui	2,532 (30 Dec)	188	13.47	921	n/a	N/A
Whangamata	28,050 (31 Dec)	4,779	5.87	23,417	25,041	24,337 (31 Dec)
Onemana	2,920 (30 Dec)	401	7.28	1,964	n/a	2,190 (2 Jan)
Other Whangamata	Not provided	220	-		n/a	1,148 (2 Jan)
Coromandel	12,171 (31 Dec)	1,118	10.89	5,478	4,103	5,380 (1 Jan)
Other Coromandel	5,830 (31 Dec)	1,426	4.09	6,987	n/a	7,354 (1 Jan)
Thames	8,282 (23 Dec)	3,647	2.27	17,870	9,154	9,501 (27 Dec)
Thames South	Not provided	447	-		n/a	1,089 (26 Dec)
Thames Coast	1,550 (9 Jan)	1,202	1.29	5,889	n/a	5,256 (27 Dec)
Total	126,298	25,724	4.9	126,298	n/a	120,874

*Dwelling estimates taken from the draft Thames-Coromandel District Projections for Resident Population, Dwellings and Rating Units to 2048 from Rationale.

Limitations assessment

In addition to the limitations raised by Qrious it is apparent that the data when narrowed down to settlement level is not as accurate for some places. Some areas such as Coromandel town show numbers which exceed what could be considered reasonable for peak population numbers while others are lower than anticipated. These numbers have been checked against other data sources such as daily water use which in areas where numbers seem inaccurate (either too high or too low) the other data sources have not shown an unexpected increase in demand likely to result from a dramatically increased peak population. The data at a district or Community Board level seems in keeping with anticipated peak population numbers and therefore are still useful to reinforce our existing knowledge of population numbers over this period.

Coromandel Town's unusually high numbers in the Qrious data could be explained through the cellphone towers picking up large parts of the Thames Coast and Other Coromandel populations as both are significantly lower than in 2009/10. This would make Coromandel's peak population closer to 6,731 or 6.2 occupants per dwelling which is more realistic for the area.

4.2 Water supply and wastewater use

Data on daily water for December 2016 - January 2017 (**Attachment C**) has been provided by Veolia and enables comparison of peak periods in water use. The data for daily water does not align directly with the settlements used by Qrious, and for areas such as Hahei the data only represents the portion of those properties connected to the system.

	Coromandel	Thames	Hahei	Whitianga	Pauanui	Tairua	Onemana
2009/10*	22,838	69,522	2,398	43,197	43,579	28,764	5,562
2016/17*	23,122	72,574	2,388	103,501	36,342	30,401	5,443

**Total water takes from 22 December to 9 January*

Highlights
The water and wastewater data shows that for most settlements there is a peak of use around 30 December - 1 January. Coromandel's daily water use when compared with the Qrious data does not support the same influxes in population suggested with no significant peaks during this period. Compared against 2009/10 water takes for the same peak period suggests a small increase in water use over this period in 2016/17 and therefore does not support a large increase in visitor numbers either.

However, most other settlements show a similar increase between water use and the trends provided by Qrious. As expected, areas with more permanent resident populations and non-resident populations such as Thames and Whitianga show less defined peak periods for daily water use. Areas with the greatest increase compared to normal usage for water usage were Pauanui (4x as much), Matarangi and Onemana (3x as much).

The doubling of water take between 2009/10 and 2016/17 for Whitianga can largely be attributed to significant dwelling growth since 2009/10 with estimates of total dwellings almost doubling from 1,788 to the 3,522 in 2016/17.

4.3 Rubbish and recycling volumes

Data on rubbish and recycling volumes has been provided by Smart Environmental. Unfortunately, collection data is not available for December 2016 owing to Smart Environmental not having collected it over this month, however, as the peak month for rubbish and recycling collections is in January the data provided is still valuable for understanding the impact of our peak population.

Graphs showing rubbish and recycling volumes for the district and for each collection area are provided as **Attachment D**. The collection areas do not align precisely with the settlements identified as part of the Qrious report, or with the settlements for which water supply and wastewater data is available, so the table below provides guidance for alignment.

Qrious report settlements	**Rubbish and recycling collection area**
Cooks Beach/Ferry Landing	Mercury Bay South
Coromandel	Coromandel
Hahei	Mercury Bay South
Matarangi	Mercury Bay North
Onemana	Whangamata
Other Coromandel-Colville	North Coromandel
Other Mercury Bay	Mercury Bay North Mercury Bay South
Other Tairua-Pauanui	
Other Thames (Thames Coast)	
Other Whangamata	Whangamata
Pauanui	Pauanui
Tairua	Tairua
Thames	Thames
Thames South	Thames
Whangamata	Whangamata
Whangapoua	Mercury Bay North
Whitianga	Whitianga

Highlights
Across the district recycling volumes were up significantly on the recorded levels for January in the previous two years. There was a small increase in rubbish volumes shown. There were no notable decreases in volumes for either rubbish or recycling in any settlements. There most considerable increases for refuse occurred in Mercury Bay North and Pauanui. Large increases in recycling volumes occurred in Mercury Bay South, North Coromandel and Whitianga.

4.4 Campground occupancy and visitors

Staff were provided with data from the Department of Conservation campgrounds north of Coromandel (Waikawau, Port Jackson, Stony Bay, Fantail Bay and Fletcher Bay). These figures show that 41% of the total population identified in the Qrious report in Other Coromandel from 23 December to 9 January can be identified within Department of Conservation campgrounds. Staff were also able to see the same pattern of increases and decreases of populations in both Qrious data and DOC campground numbers over those days.

Staff were also provided with the data for 2015/16 for the Department of Conservation campgrounds. Overall campground occupancy was either similar or decreased from the previous year with the peak days ranging from 28 December - 1 January for 2016/17 compared with 29 December - 31 December for 2015/16.

Staff considered the impact of three of the largest campgrounds of the district over this peak period. Long Bay Motor Camp advised they were booked solidly for the 3 months over summer with an estimated 600 people each day. Hahei Holiday Resort advised that from 22 December to 9 January they had a total of 4345 people through their campground with a minimum of 1100 a day and a maximum of 1500. Their busiest week was from the 27 December to the 3 January and they had 1153 people on New Year's Eve. Hot Water Beach advised they had a total of 13,972 from 22 December to 9 January, with their busiest day over that period being 1037 on the 1 January 2017. These numbers would have contributed to the high numbers suggested in the Qrious report for Coromandel, Hahei, and Other Mercury Bay.

4.5 State Highway traffic counts

Data was provided by NZTA showing traffic volumes on the Kopu-Hikuai Road (State Highway 25A) from 22 December 2016 to 9 January 2017.The traffic counter was located 1.3km after the Kitahi Road intersection.

A table showing traffic volumes on this road over the peak period, in both westward and eastward directions, is included as **Attachment F**.

It shows similar trends in the days we have increased movement of people into the district via this route. The peak period for incoming visitors was from 27 December - 31 December and the peak period for exodus from the district was from the 3 January onwards.

4.6 Weather over the peak period

2016/17		22/12	23/12	24/12	25/12	26/12	27/12	28/12	29/12	30/12	31/12	1/1	2/1	3/1	4/1	5/1	6/1	7/1	8/1	9/1
Thames	Rain (mm)	19	0	0	0	0	0	0	0	0	0	0	0	3.8	1.4	0	0	0	0	0
	Max temp	23.7	19.4	20.7	20.7	21.9	21.5	24.4	18.3	21.7	22.4	22.9	22.2	22.5	20.3	21.5	21.5	22.1	21	22.2
Whitianga	Rain (mm)	3	0.6	0	0	0	0	0	0	0	0	0	0	1	6	0.2	0	0	0	0
	Max temp	24.3	21.4	22.2	23.6	22.3	24.1	25.4	19.8	20.4	23.7	26.3	25.7	25.8	22.1	22.1	20.3	23	23.1	24.3

2015/16		22/12	23/12	24/12	25/12	26/12	27/12	28/12	29/12	30/12	31/12	1/1	2/1	3/1	4/1	5/1	6/1	7/1	8/1	9/1
Thames	Rain (mm)	0	0	4.4	0	0	0	0	0	0	0	15.8	20.2	1.6	0	0	0	1.8	36.9	0
	Max temp	24.3	23	20.8	23	25	25.1	24.5	24.9	24.4	26	19.9	20.4	22.8	22.6	21.5	21.2	23	21.2	23
Whitianga	Rain (mm)	0	28	39.4	10.8	0	0	0	0	0	2.2	75.4	43.6	0.8	0	0	0	7.8	36.6	0
	Max temp	25.7	21.5	16.8	21.5	23.4	23.1	26.4	26.2	26.6	23.5	18.9	20.3	26.5	20.5	19.9	20	21.1	22	24.8

2009/10		22/12	23/12	24/12	25/12	26/12	27/12	28/12	29/12	30/12	31/12	1/1	2/1	3/1	4/1	5/1	6/1	7/1	8/1	9/1
Thames	Rain (mm)	Not recorded for Thames in 2009/10																		
	Max temp	Not recorded for Thames in 2009/10																		
Whitianga	Rain (mm)	0.2	0	0	0	0	0	0	0	0	0	0	0	1	6.4	0	0	0	0	0
	Max temp	18.9	22.7	24.5	26.2	26.9	25.2	26.5	22.6	23.5	22	25.9	26	25.1	21.6	23.4	22.7	23.4	23.7	22.7

The weather measured for Thames and Whitianga by NIWA shows that 2016/17 was both warmer and dryer than the previous year (2015/16) which was unseasonably wet. Unfortunately there was no data available for Thames in 2009/10. The weather in Whitianga shows it was warmer and dryer over the 2009/10 peak period than in 2016/17.

5 Conclusions

- There were no major increases compared with the 2009/10 peak period, despite a notable increase in dwellings in some areas.
- The 2016/17 peak was an extended period, with increases from the 2009/10 period being more notable on the days around New Year's Eve than the increase on New Year's Eve itself.
- 212,000 Aucklanders were here, either on day visits or staying overnight, which shows significant connections to that region.
- European visitors are our most significant international visitor market outside of Australia, with the Coromandel having notably low number of Chinese and other Asian visitors despite their burgeoning share of the total visitor market to New Zealand.
- It is important to know the large volume of people at DOC campgrounds in Northern Coromandel for roading purposes as well as civil defence matters.
- The water usage over the peak period was not outside of consent limits or notably different from previous peak periods. The usage will help highlight key pressure points for infrastructure planning.
- The 2016/17 peak population estimate and projections together will support the case for consent increases around water take.
- The peak period information can usefully inform levels of service reviews for community facilities such as toilets, reserves, boat ramps.
- Peak population estimates support the population/dwelling growth projections provided by Rationale.

References-Tabled/Agenda Attachments

Attachment A *Qrious Thames-Coromandel District Peak Population Study*
Attachment B *Peak Population figures from Qrious by settlement*
Attachment C *Water and wastewater volumes over peak period by settlement*
Attachment D *Rubbish and recycling volumes over peak period by settlement*
Attachment E *DOC northern campground peak period occupancy rates*
Attachment F *Peak period traffic counts on Kopu-Hikuai road*

Thames-Coromandel District Peak Population Study 2016/17

3/3/2017

QRIOUS

CONTEXT AND OBJECTIVES

Thames-Coromandel District Council wants to understand its visitors estimates as opposed to the usual resident population during peak season (22-12-2016 to 09-01-2017).

The objective of this report is to analyze the attendance of the *Area of interest* showing:

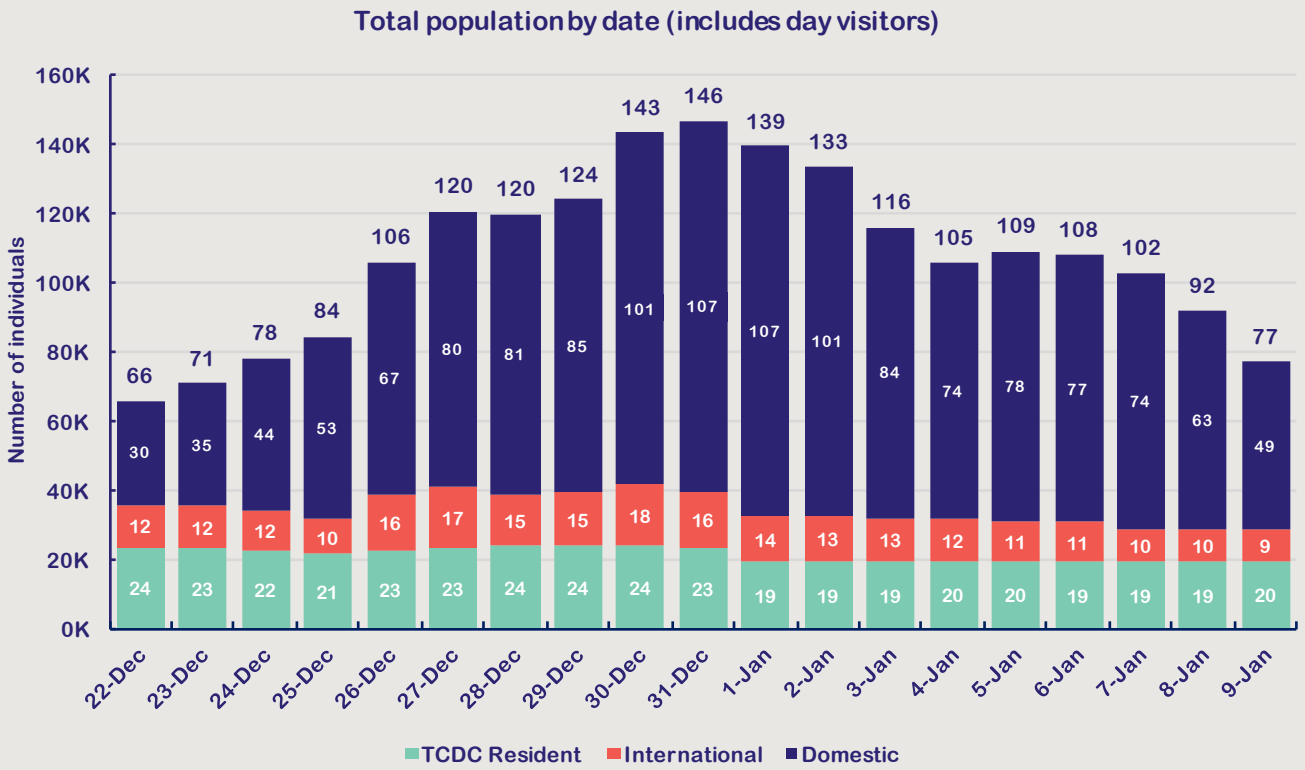
- Number of people in the Thames-Coromandel District
- Number of people in each settlement of the Thames-Coromandel District
- Number of visitors by day
- Number of domestic visitors by region and international visitors by country
- Percentage of visitors by type of stay
- Percentage of visitors by dwell time

The following presentation illustrates the key findings of the analysis.

COVERAGE AREA

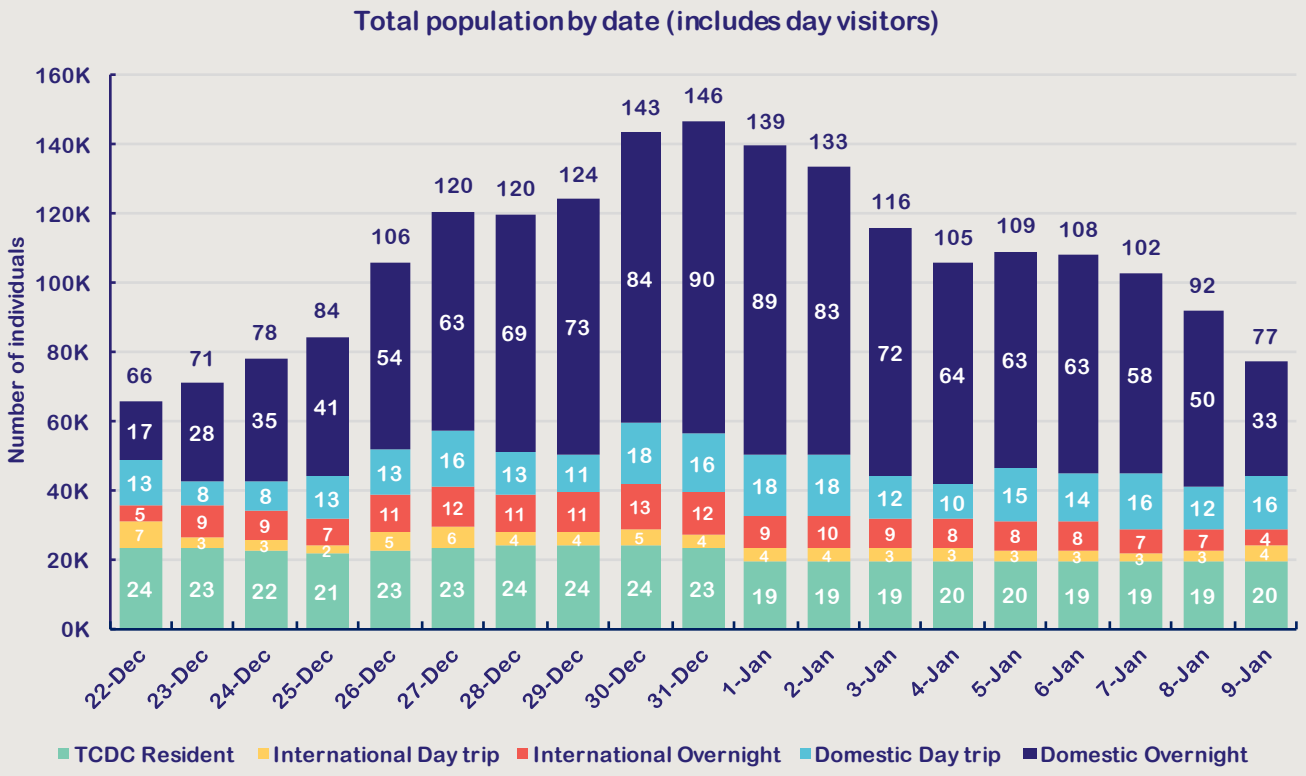
- Map shows the *area of interest*.
- The *area* is served by multiple cell towers.

TOTAL NUMBER OF INDIVIDUALS BY DATE



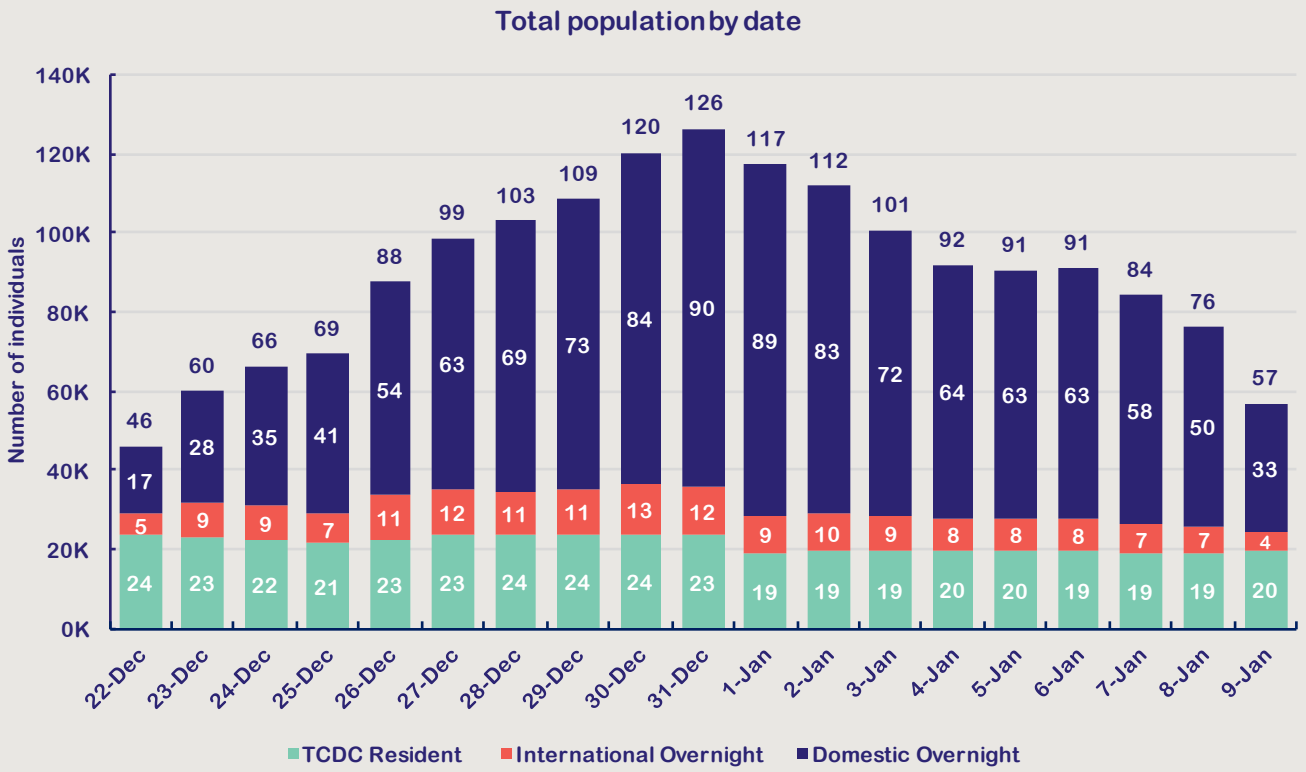
- The 2 visitor peaks were December 30th and New Year's Eve, when more than 140K people visited the area per day
- International visitors and resident numbers started to decline from 1st of January 2017

NUMBER OF INDIVIDUALS BY DATE



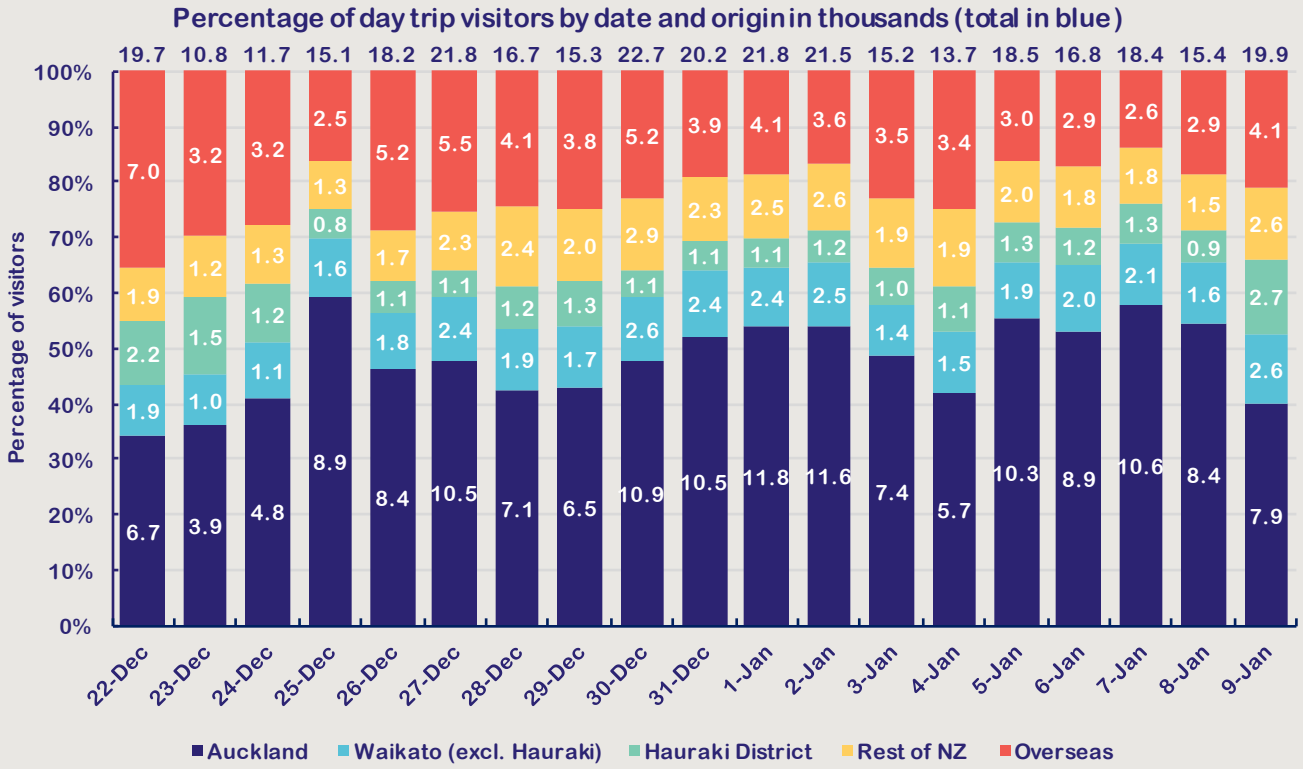
- Day trips registered less visitors than overnight for both international and domestic visitors

NUMBER OF OVERNIGHT INDIVIDUALS BY DATE



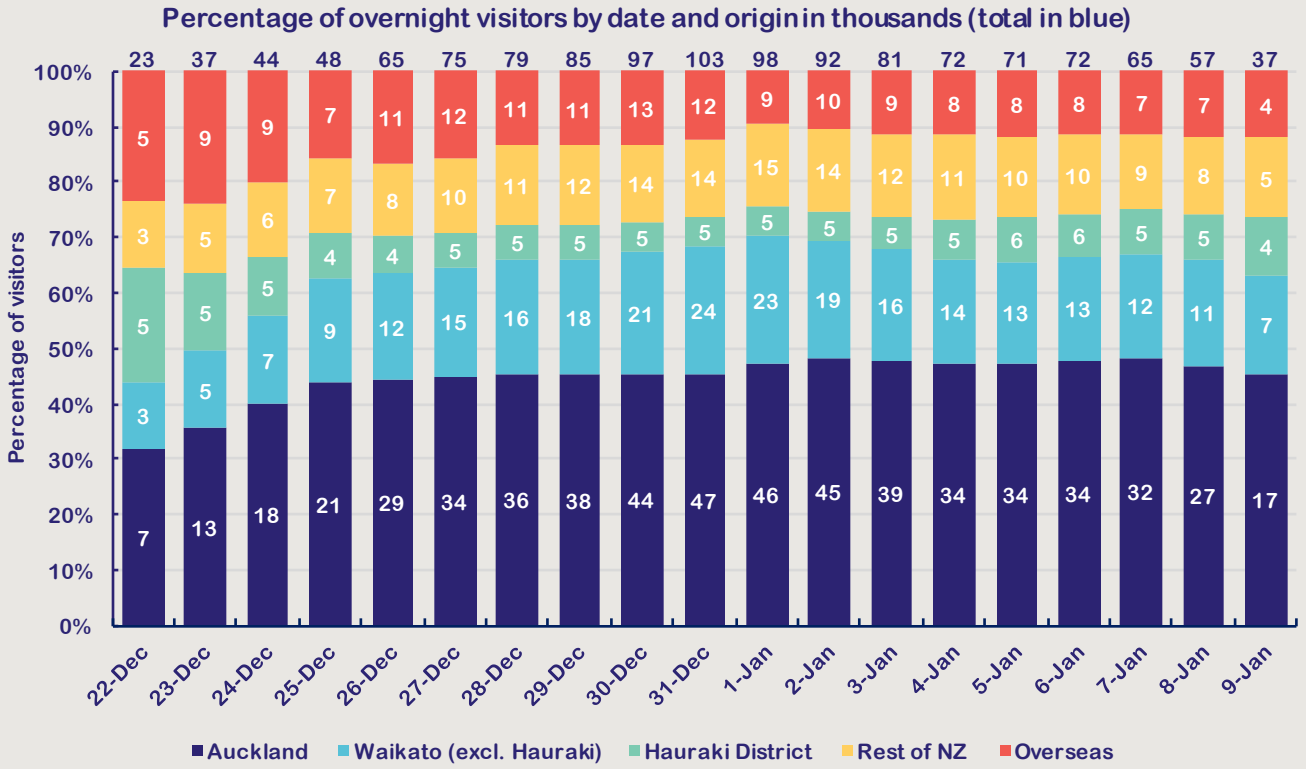
- The overnight population pecked on 31st December when there were 126k visitors across the whole region.

PERCENTAGE OF DAY TRIP VISITORS BY DATE AND ORIGIN



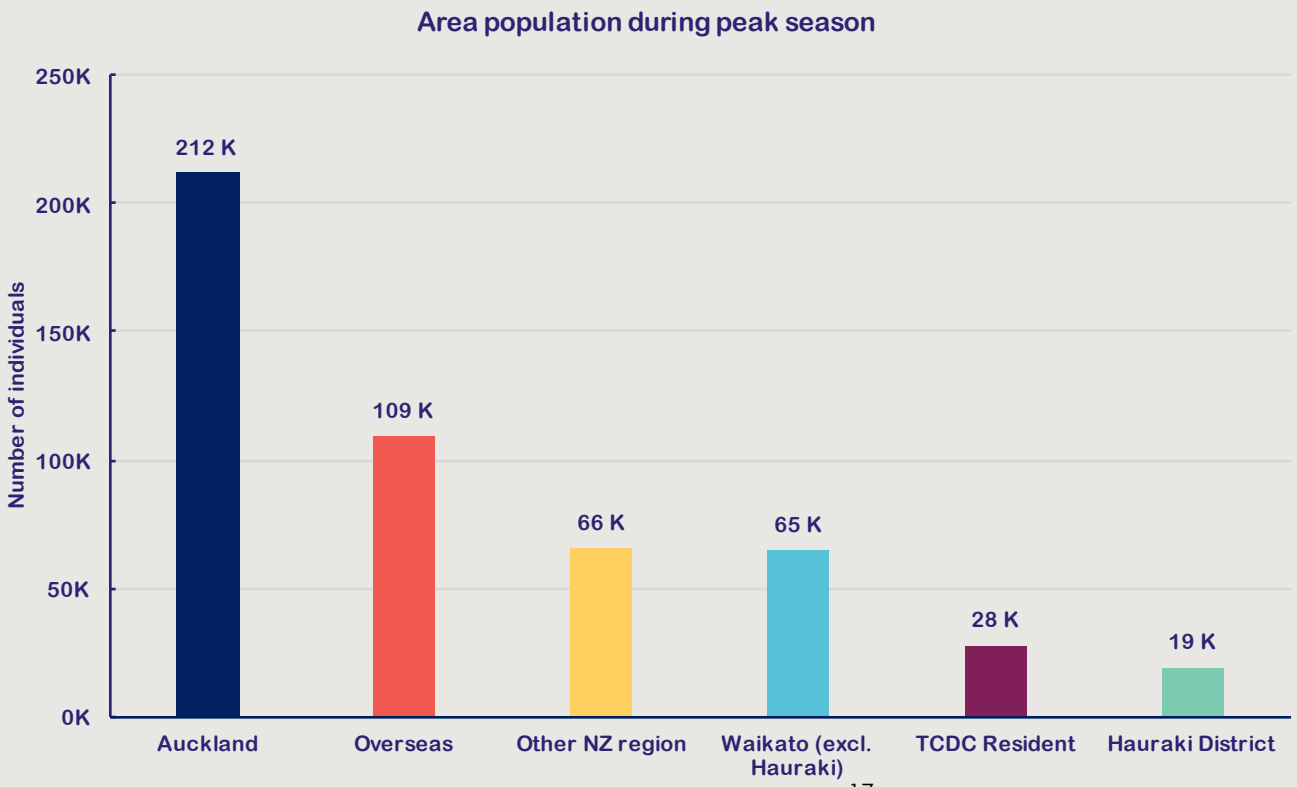
- Aucklanders, followed by overseas visitors accounted for the main day trip visitors culminating in a peak on Christmas day

PERCENTAGE OF OVERNIGHT VISITORS BY DATE AND ORIGIN



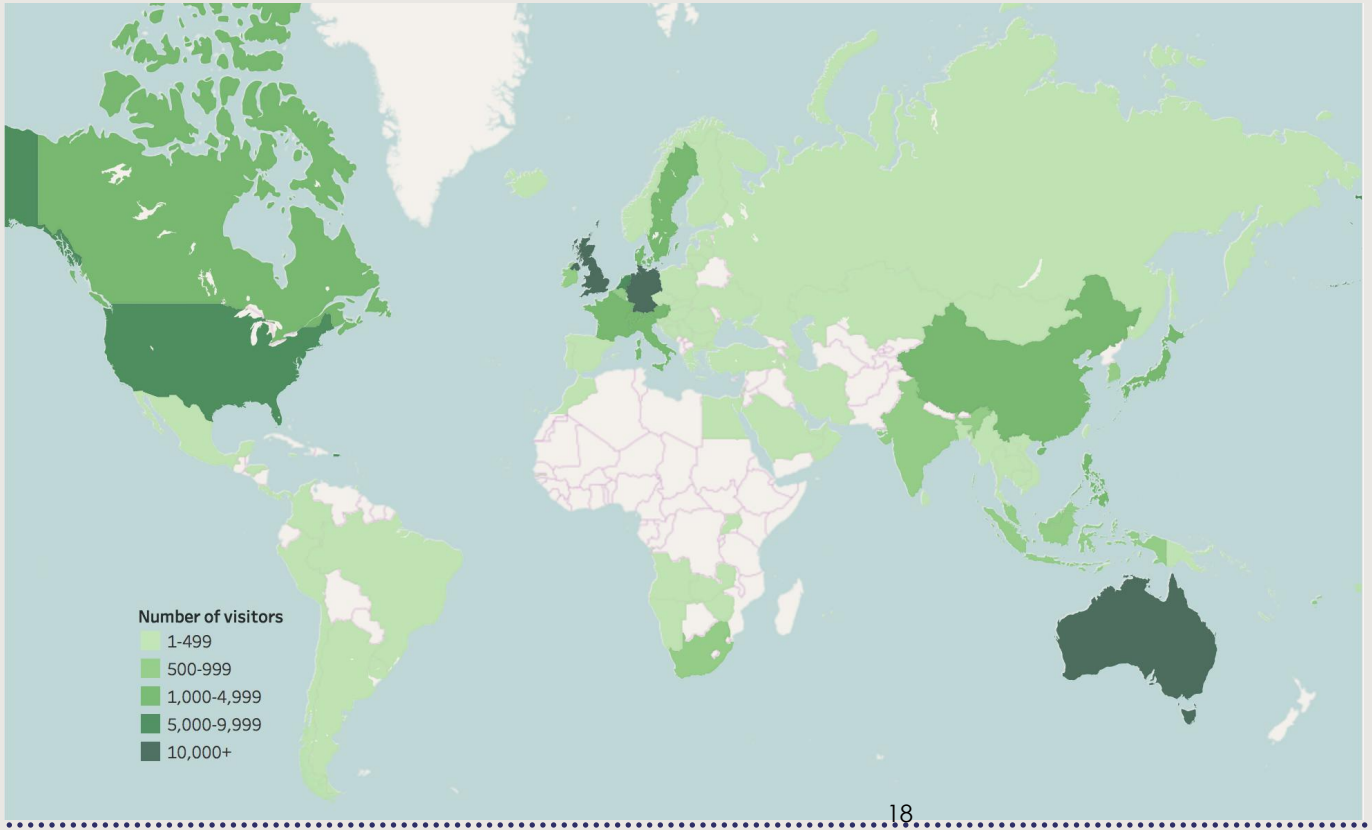
- Aucklanders were the main domestic overnight visitors
- Visitors from the Hauraki District showed a decrease in overnight stays post Christmas day as a daily percentage, but not in actual numbers
- As did international visitors

AREA POPULATION DURING PEAK SEASON



- Aucklanders accounted for 43% of individuals in the area, whilst internationals accounted for 22%
- After Auckland, Waikato region (incl. Hauraki District) was the highest represented NZ region with 17% of individuals, while the other regions combined with 13% of individuals
- TCDC residents were recorded as a population of 28K

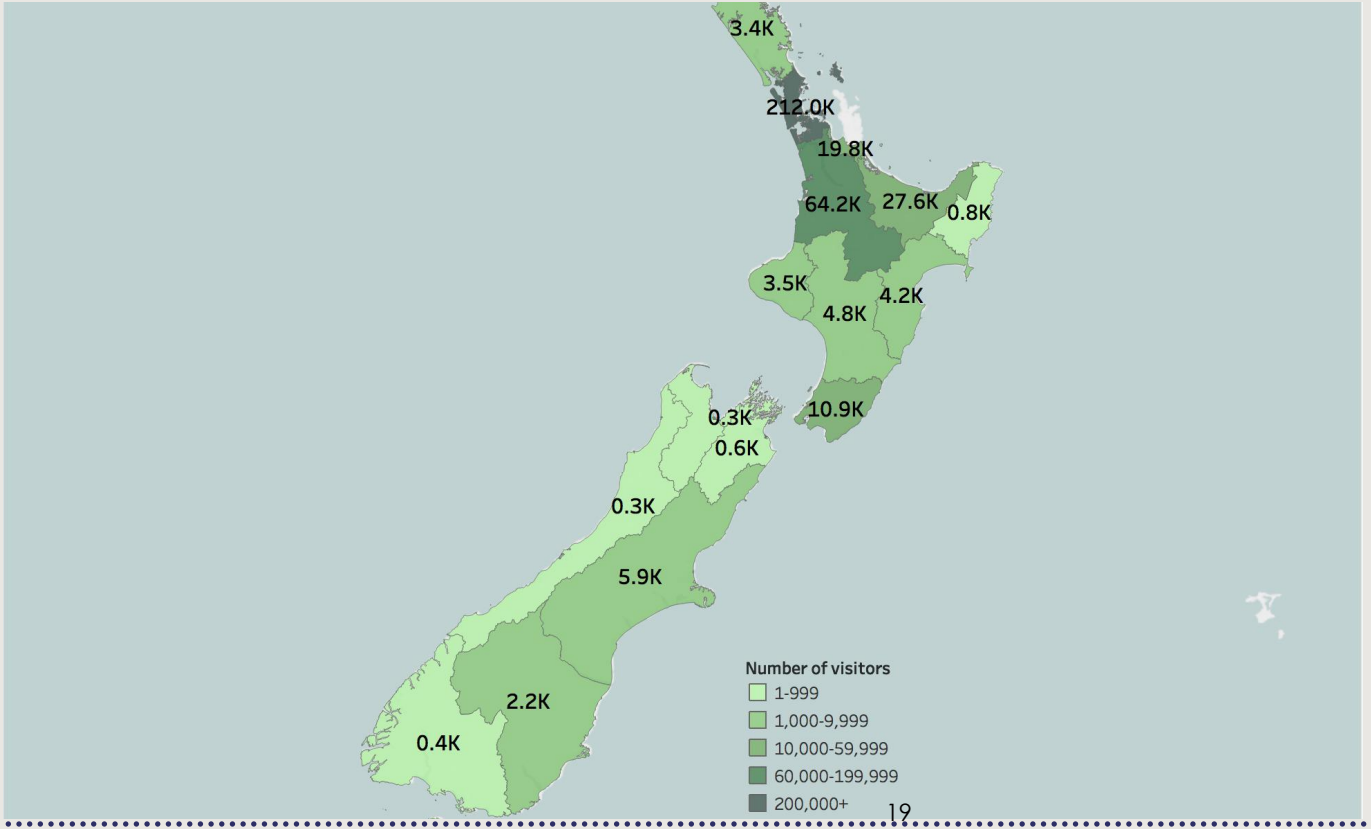
NUMBER OF INTERNATIONAL VISITORS BY COUNTRY



- Australia made up the highest proportion of international visitors, followed by Germany and United Kingdom

Country	Number of visitors
Australia	29 K
Germany	13 K
United Kingdom	12 K
Netherlands	9 K
United States	9 K
Sweden	3 K
Switzerland	3 K
Canada	3 K
China	3 K
Philippines	2 K
Other	23 K
Total	**109 K**

NUMBER OF DOMESTIC VISITORS BY AREA UNIT

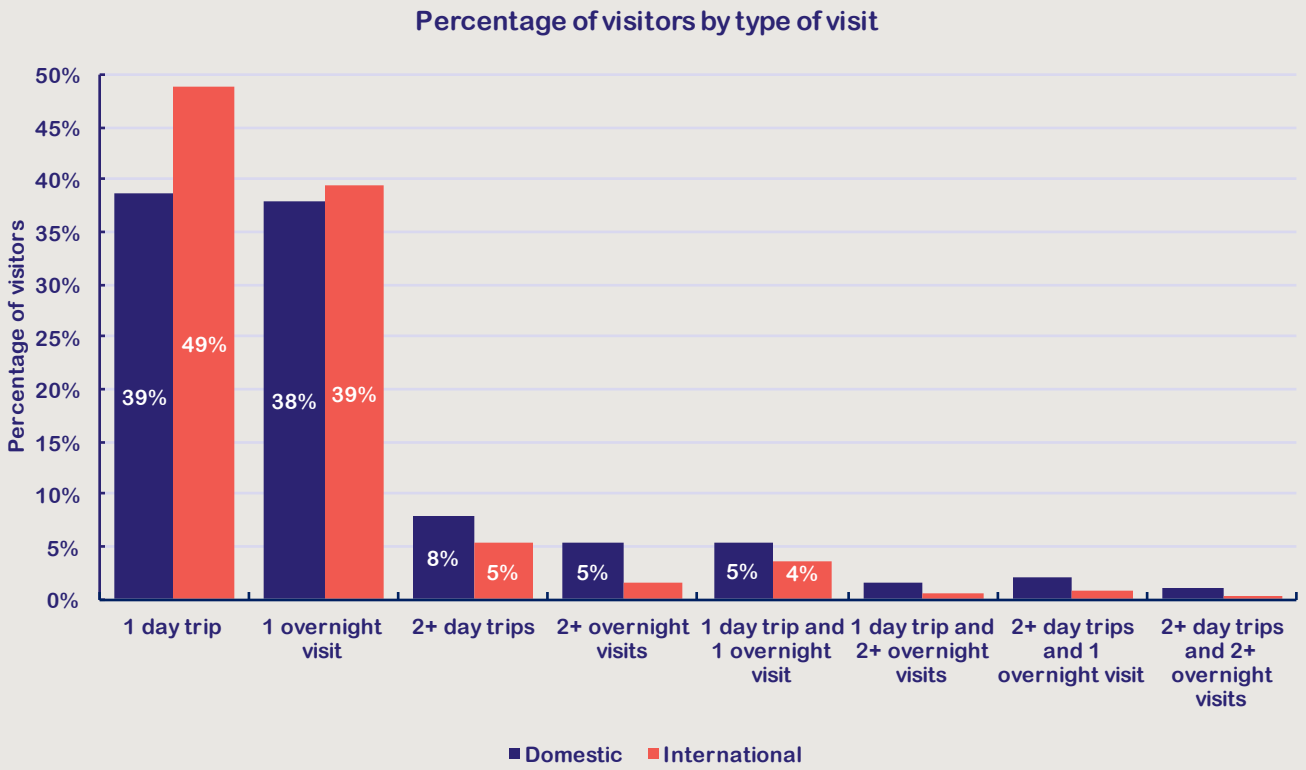


- Visitors are represented from all over NZ
- The regions adjacent to Thames-Coromandel produced the top visitors
- Auckland accounts for 59% of all domestic visitors

Region	% of visits
Auckland	59%
Waikato	23%
Bay of Plenty	8%
Wellington	3%
Canterbury	2%
Other	6%

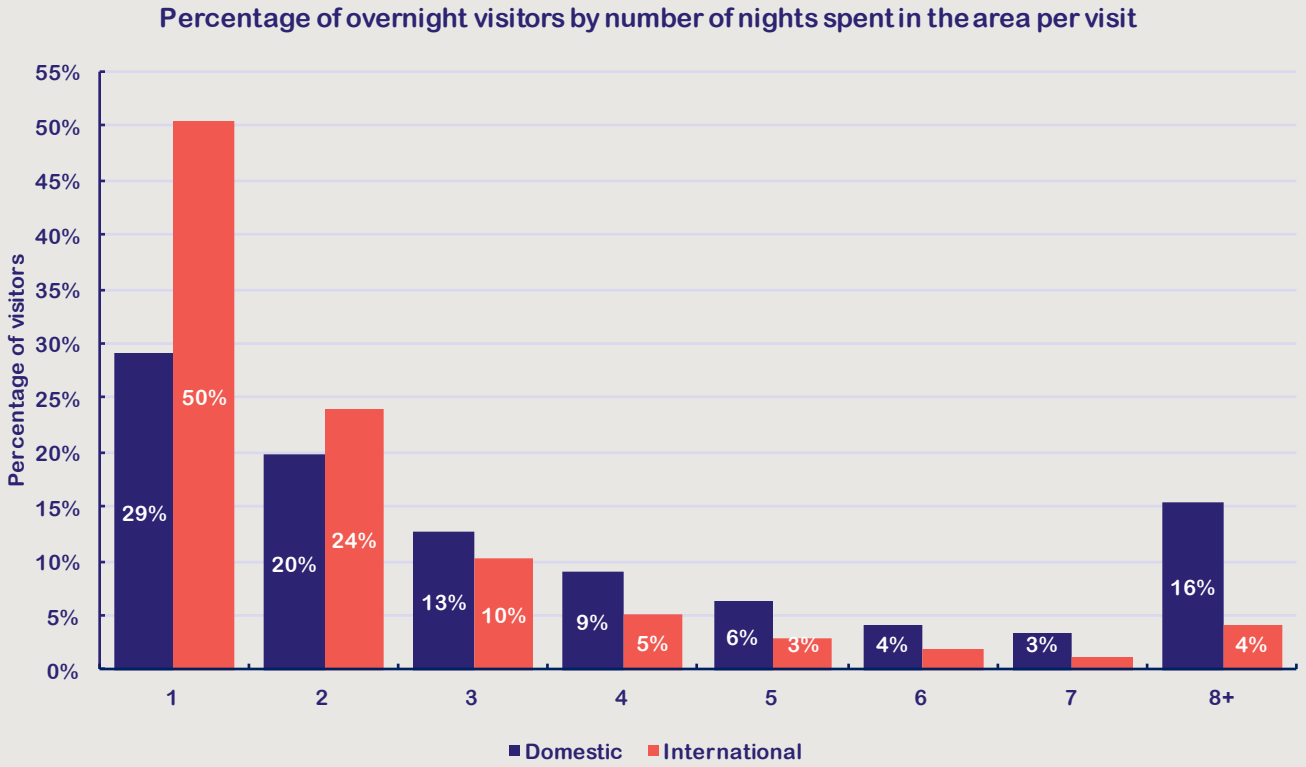
19

TYPE OF VISIT



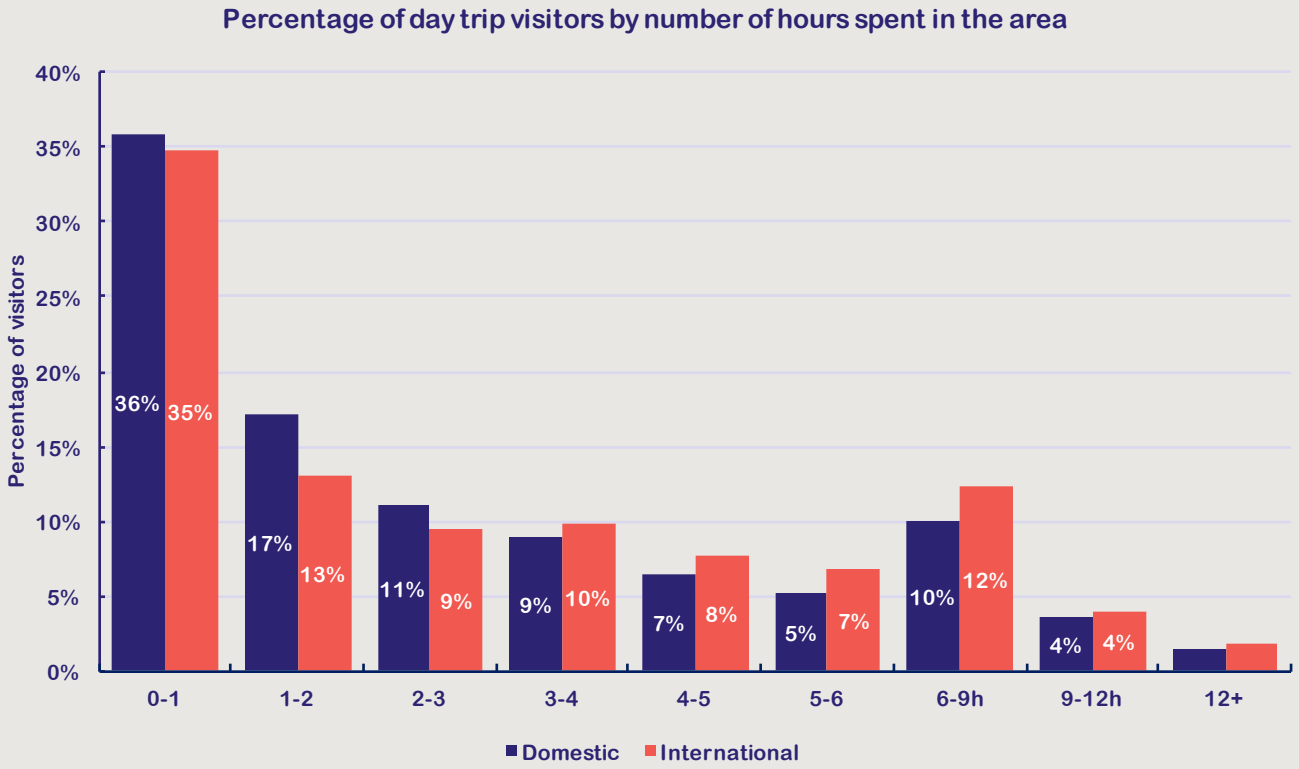
- Some visitors have multiple overnight visits as well as day trips
- However the majority of visitors journeyed only for a day
- Of these 39% were domestic and 49% were internationals
- The next highest visitor type was a 1 overnight visit (not considering duration of stay)
- Domestic visitors have a greater tendency for multiple visits

NUMBER OF NIGHTS SPENT IN AREA FOR OVERNIGHT VISITORS



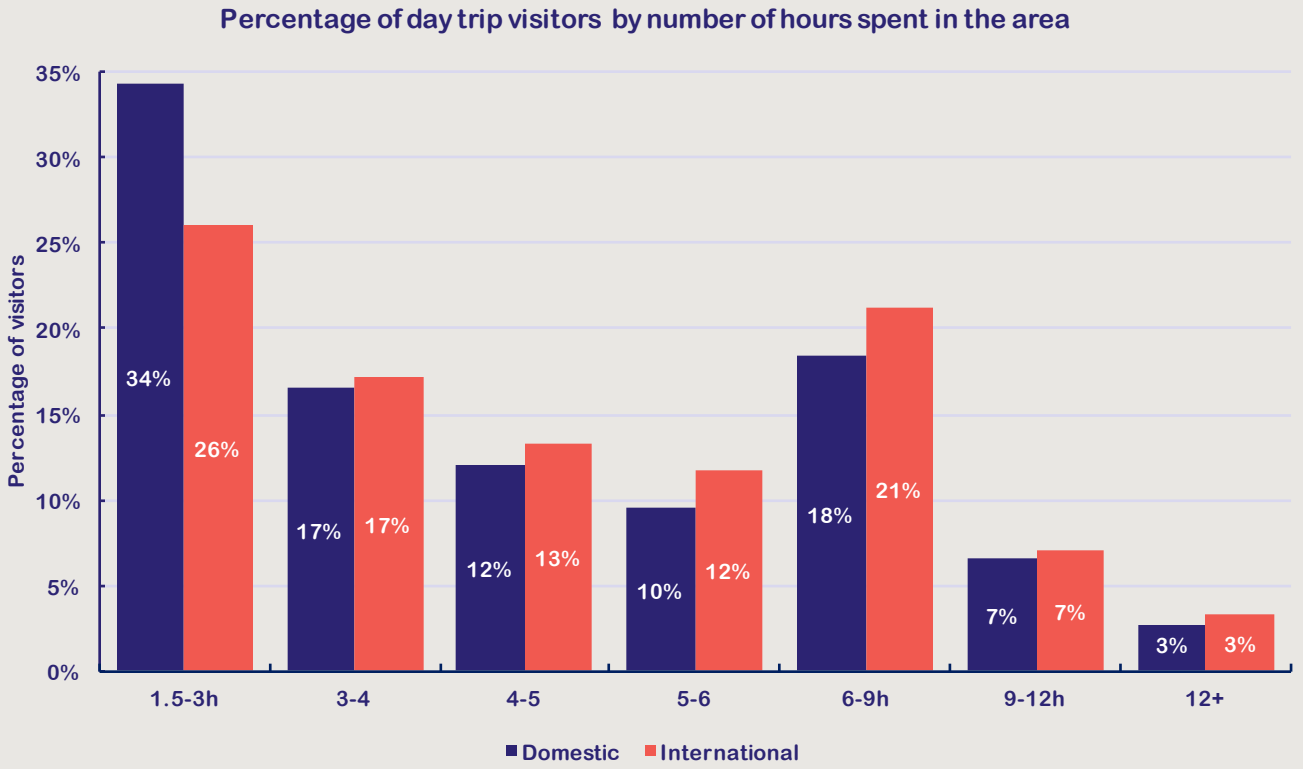
- Domestic visitors that stayed overnight in the area tend to spend greater days in the area during in each visit
- 16% of domestic visitors spent more than a week on the same visit

NUMBER OF HOURS SPENT IN AREA FOR DAY TRIP VISITORS



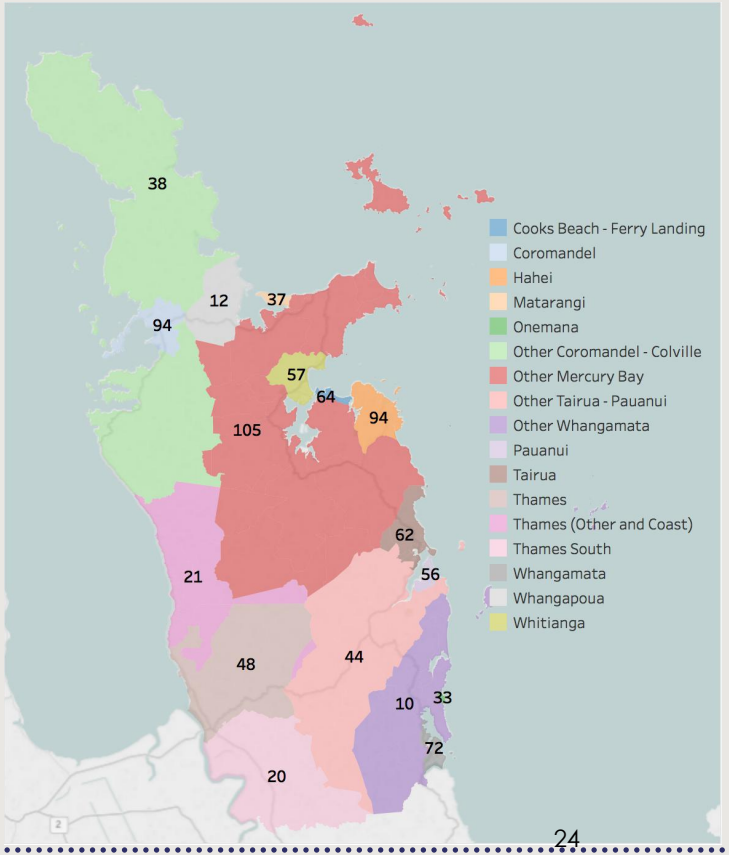
- Approximately a third of day trip visitors spend only one hour in the area
- International visitors tend to spend greater total hours than domestic visitors in the area

NUMBER OF HOURS SPENT IN AREA FOR DAY TRIP VISITORS



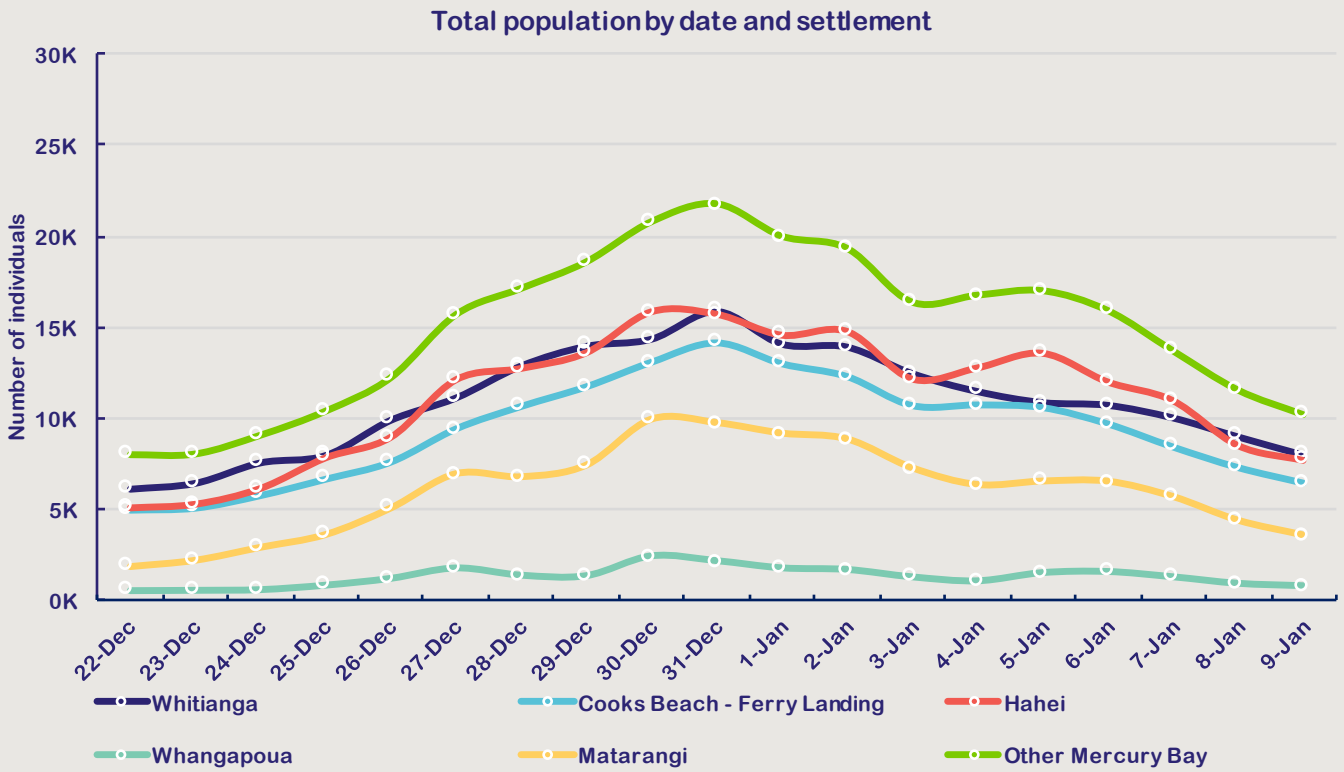
- Day trips with a duration less than 90 minutes were excluded for better accuracy
- Most of day trippers spent between 90 min to 3 hours in the area followed by the 6 to 9 hour band
- International visitors tend to have longer duration of stays than domestic visitors

NUMBER OF INDIVIDUALS BY SETTLEMENT IN THOUSANDS



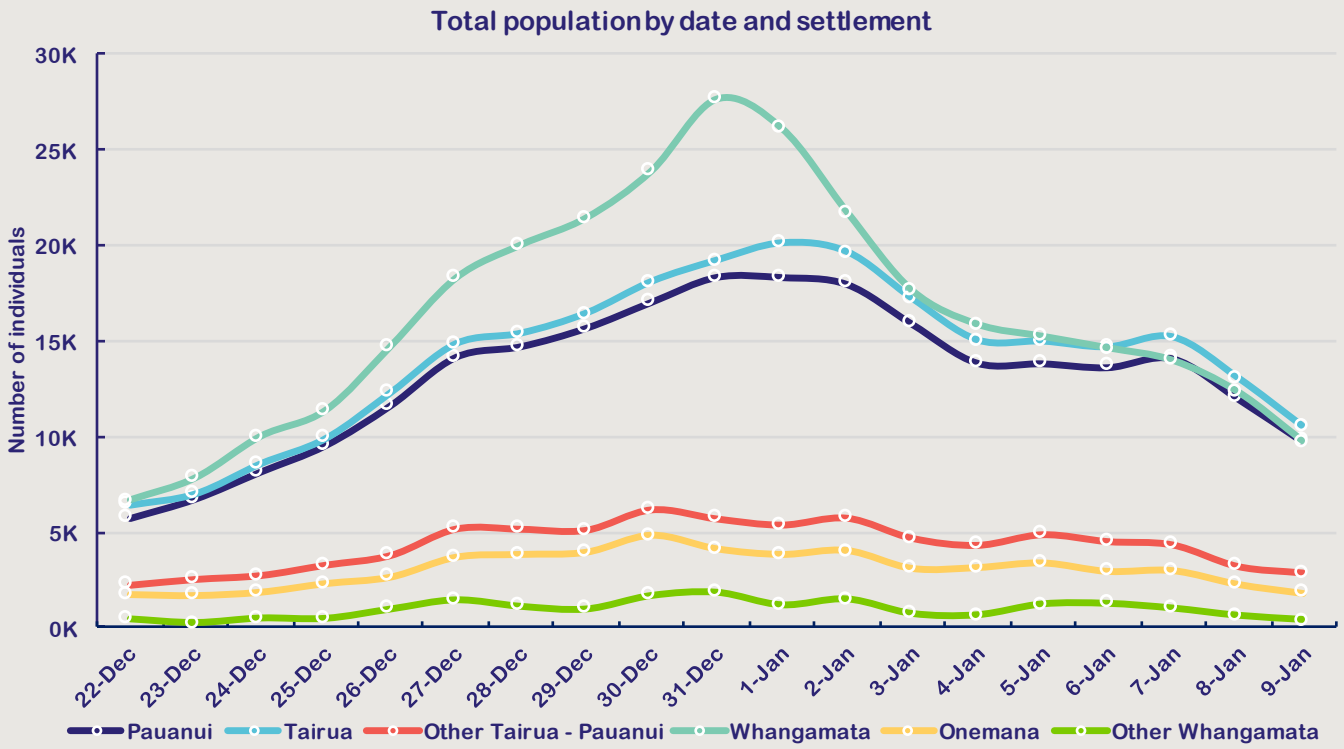
- Settlement numbers are only related to visitors who spent at least 90 minutes in that settlement
- The map shows the number of individuals seen during the whole period in each settlement
- Other Mercury Bay (105K), Coromandel and Hahei (both with 94K) attracted the highest number of visitors
- Other Whangamata and Whangapoua were the least visited settlements

NUMBER OF VISITS BY DATE AND SETTLEMENT GROUP (1/3)



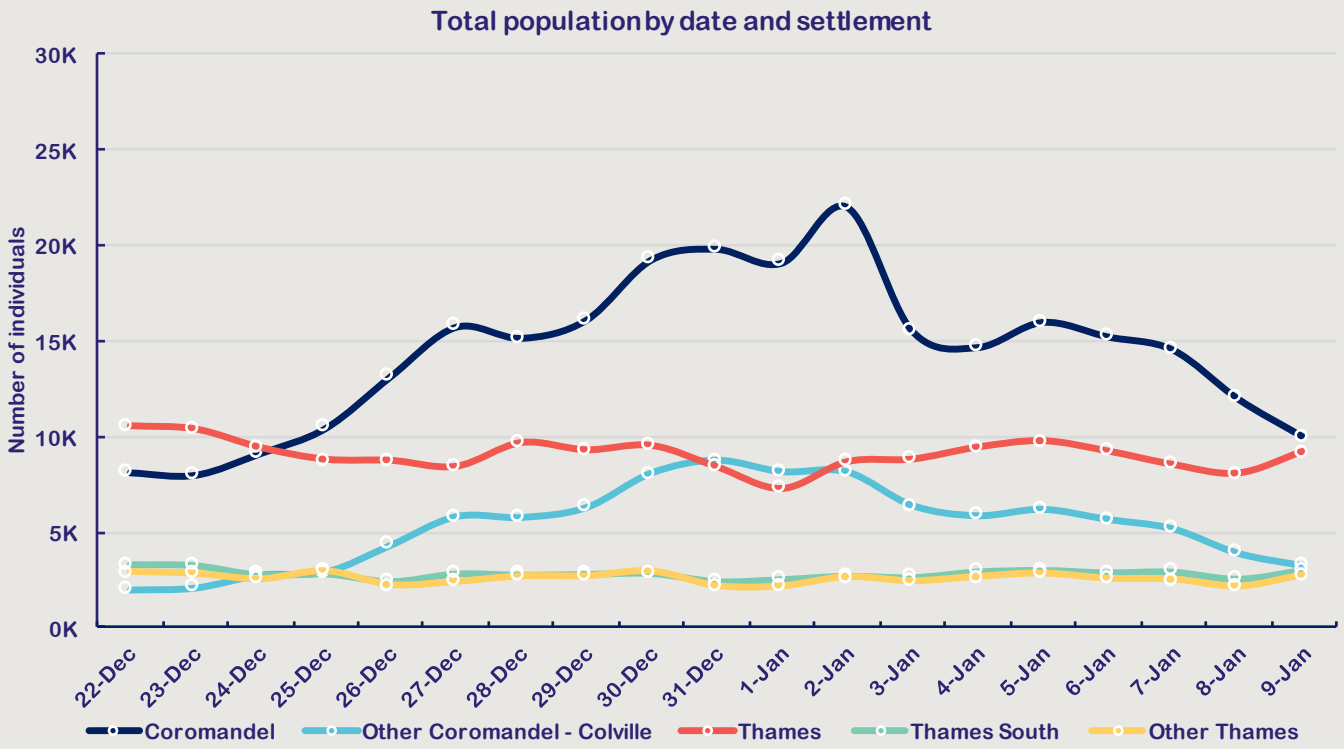
- Some visitor could be in more than one settlement during the same day
- Almost all settlements had a visitors peck on 30th and 31st of December

NUMBER OF VISITS BY DATE AND SETTLEMENT GROUP (2/3)



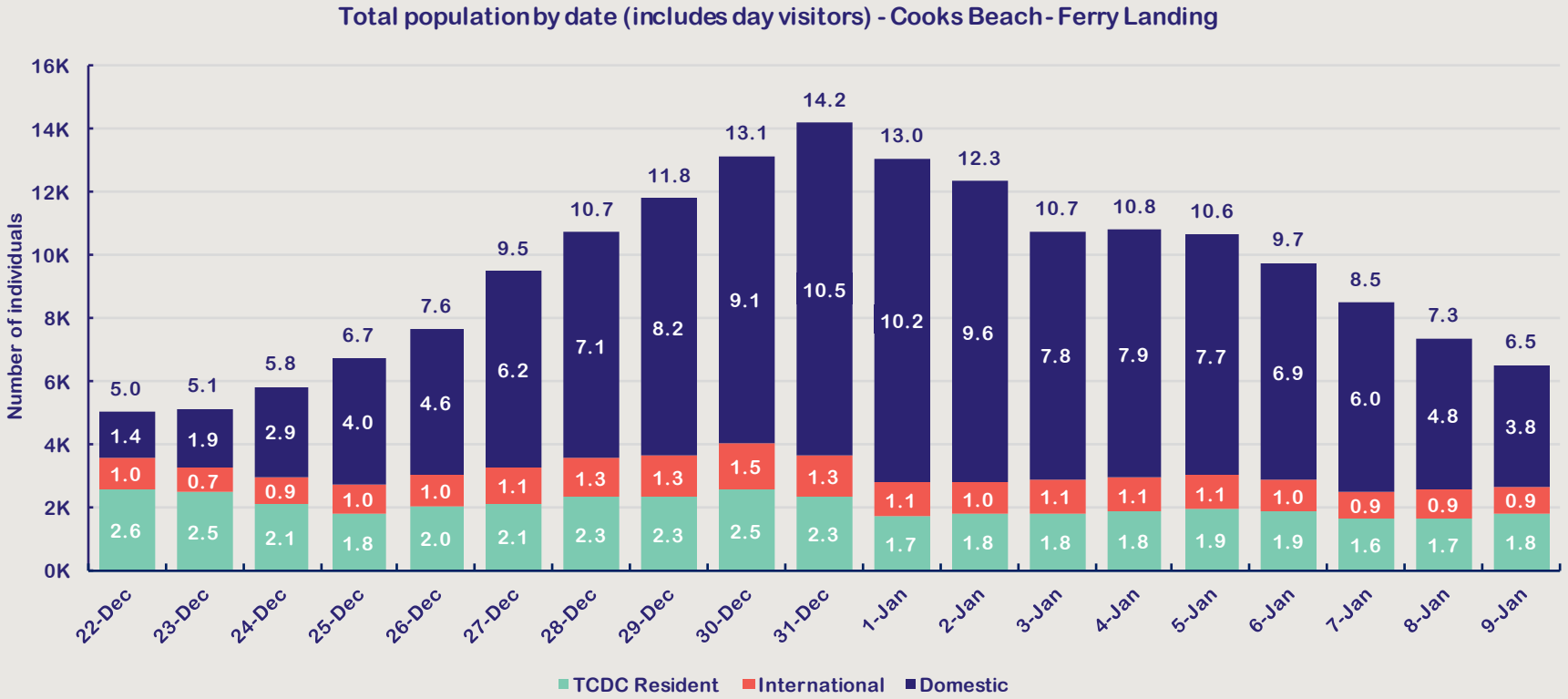
- Same visitor were seen in more than one settlement during the same day
- Whangamata shows the highest peak of all settlements on the 31st of December
- Other Whangamata however is the least visited settlement

NUMBER OF VISITS BY DATE AND SETTLEMENT GROUP (3/3)

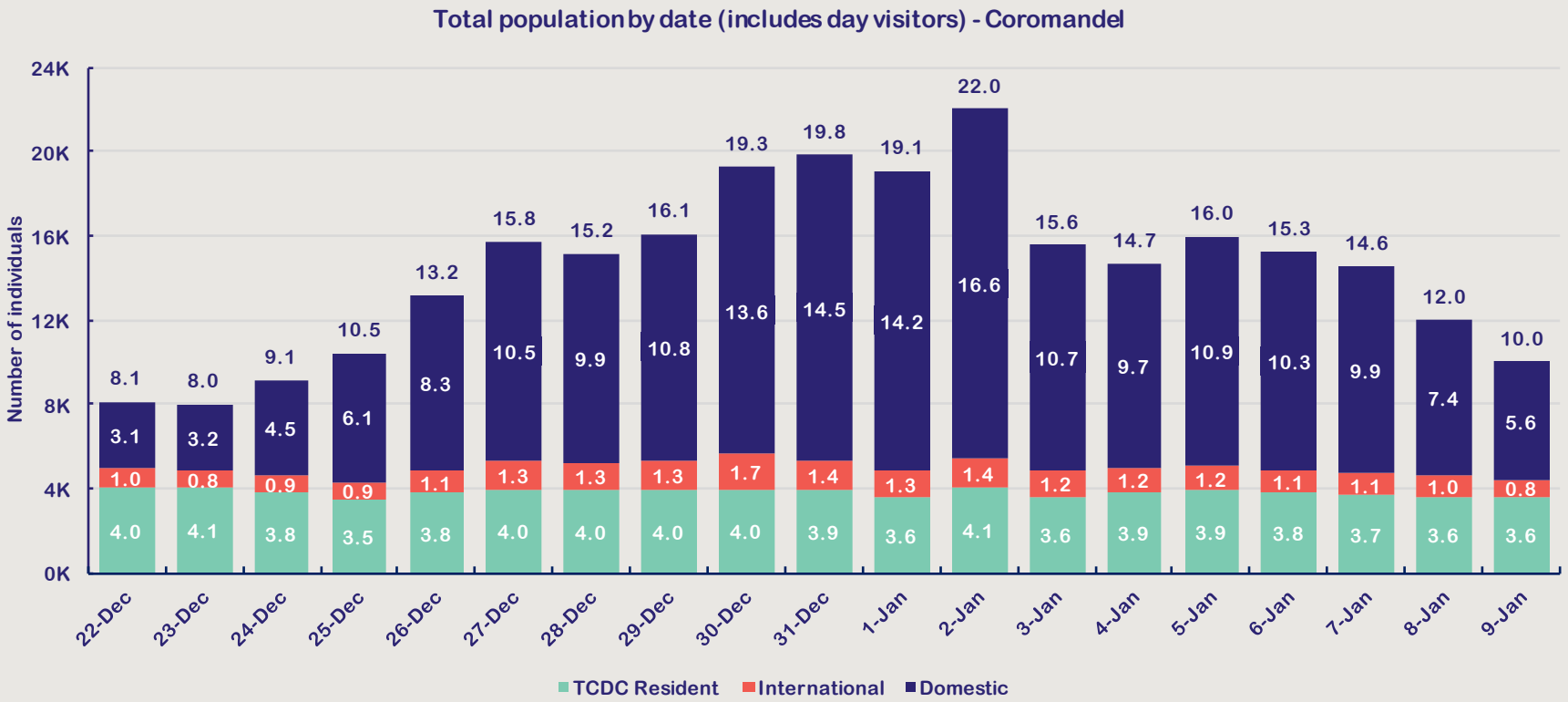


- Some visitor could be seen in more than one settlement during the same day
- Thames is the only settlement with a peak before Christmas
- Coromandel had a peak on the 2nd of January probably due to the annual Keltic Fair

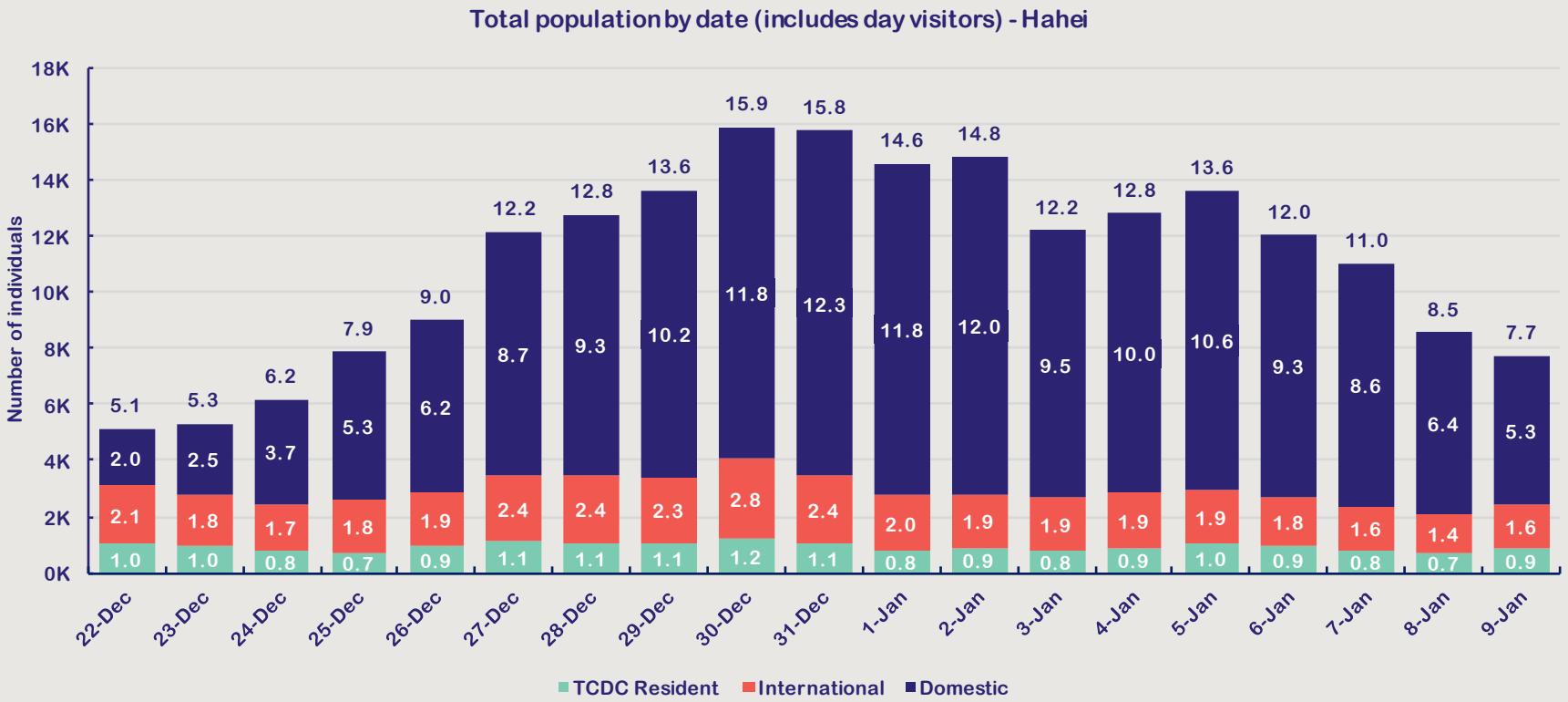
NUMBER OF VISITS BY DATE AT COOKS BEACH – FERRY LANDING



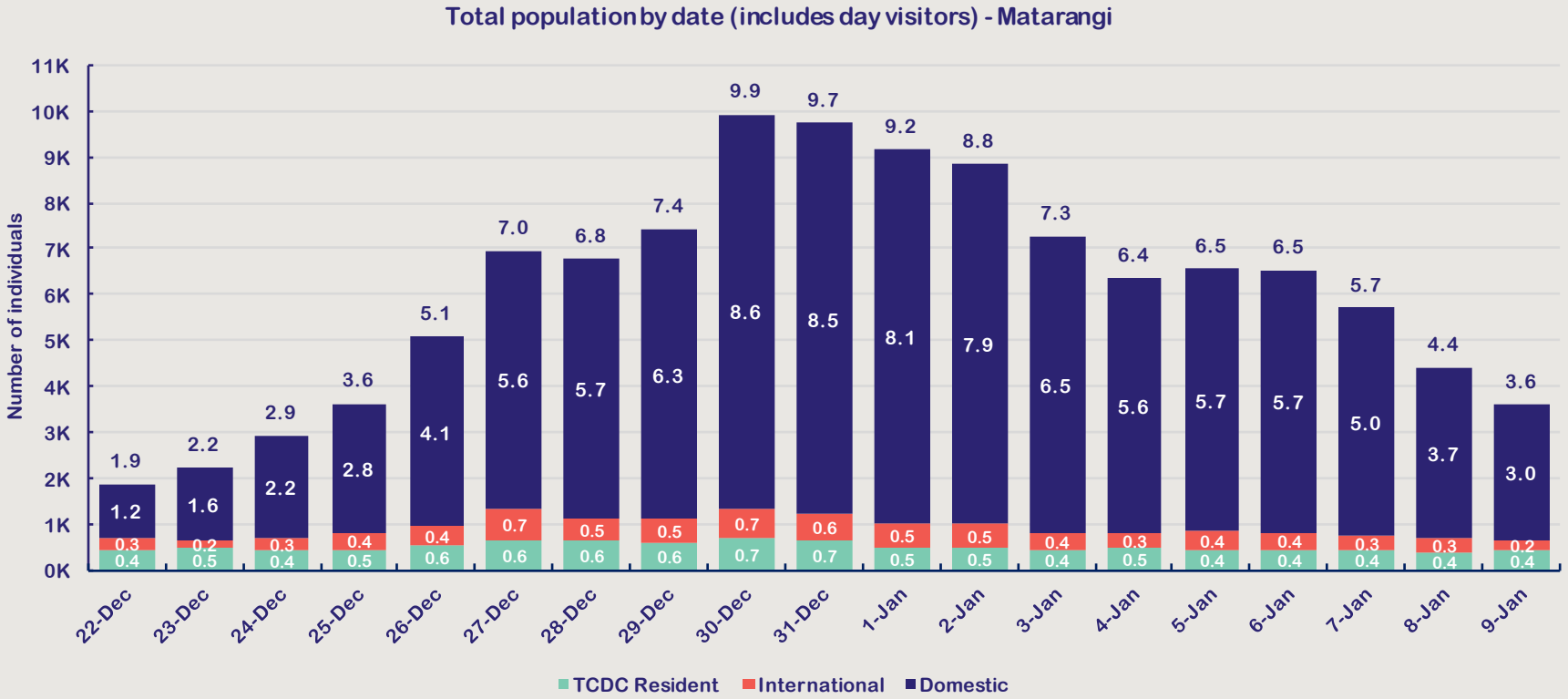
NUMBER OF VISITS BY DATE AT COROMANDEL



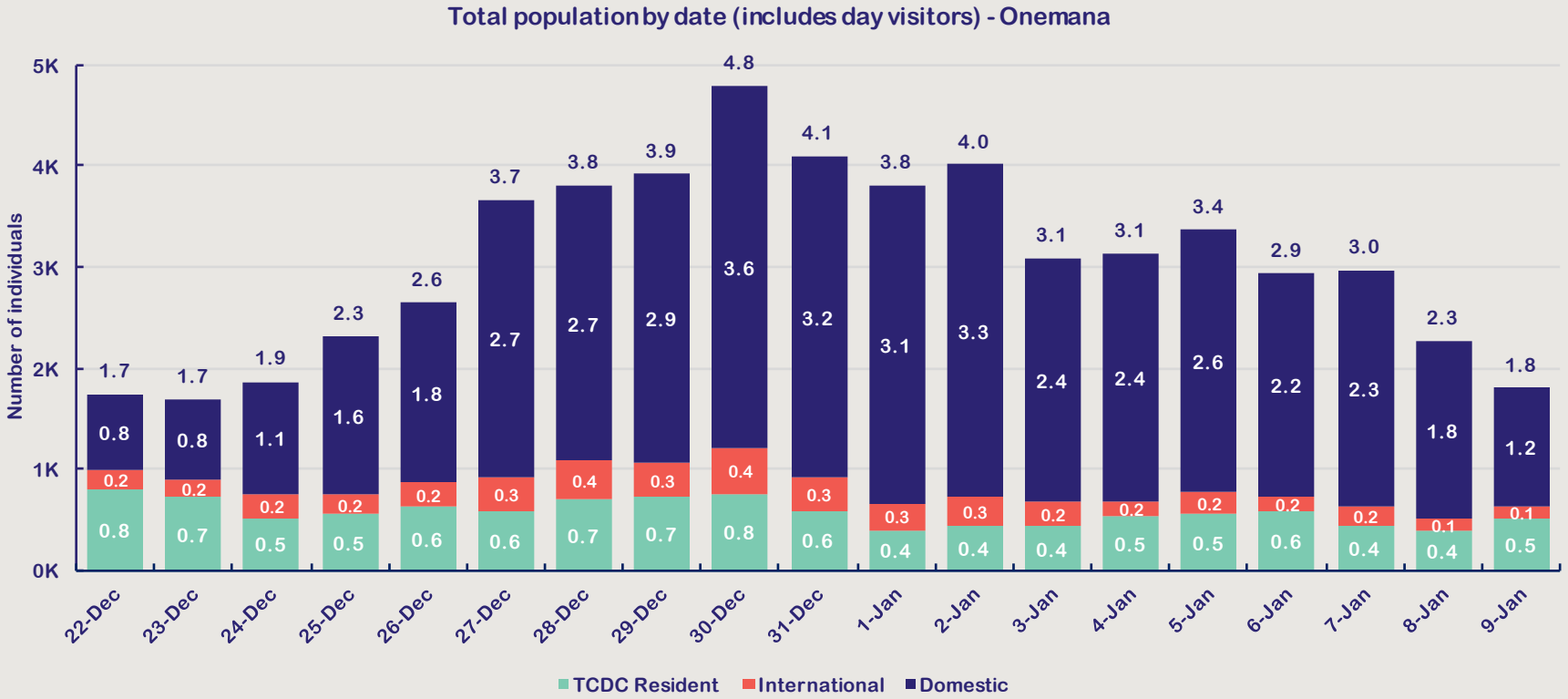
NUMBER OF VISITS BY DATE AT HAHEI



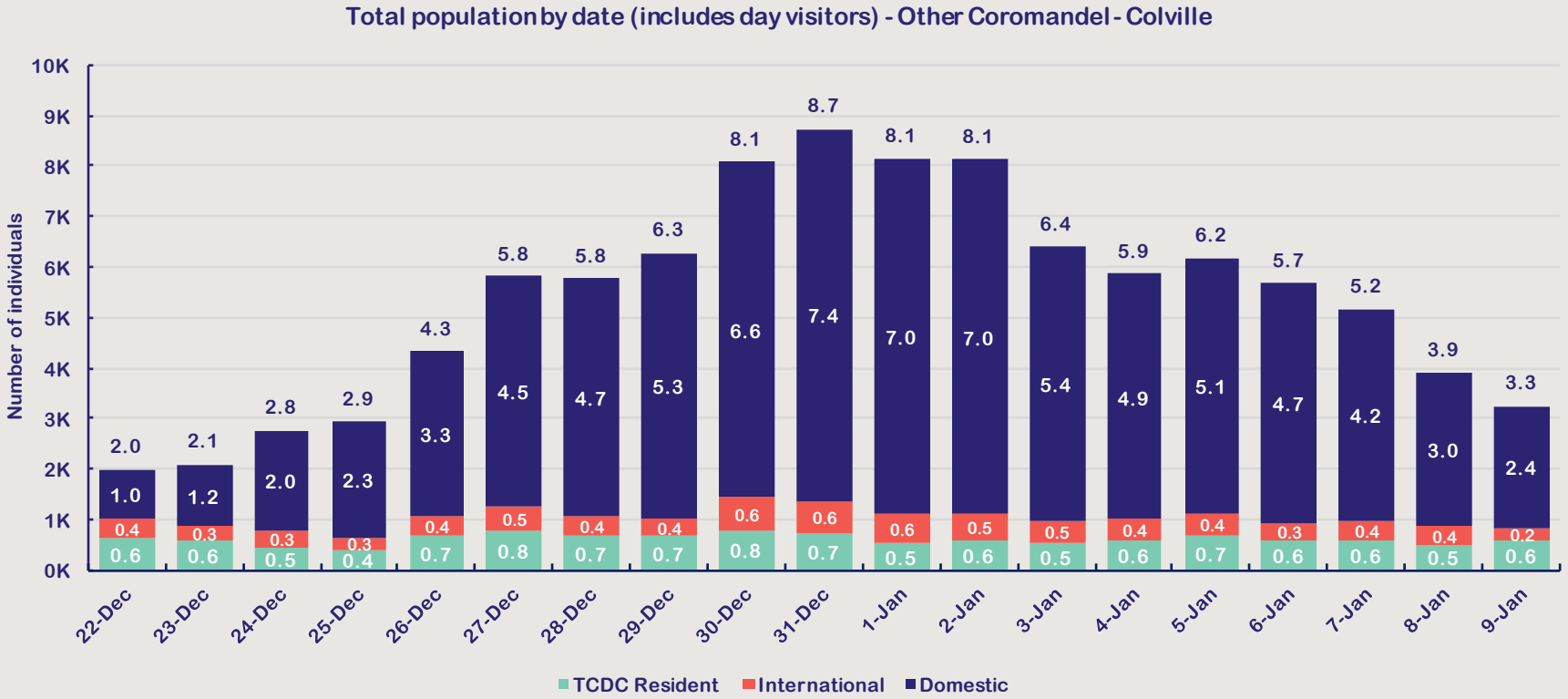
NUMBER OF VISITS BY DATE AT MATARANGI



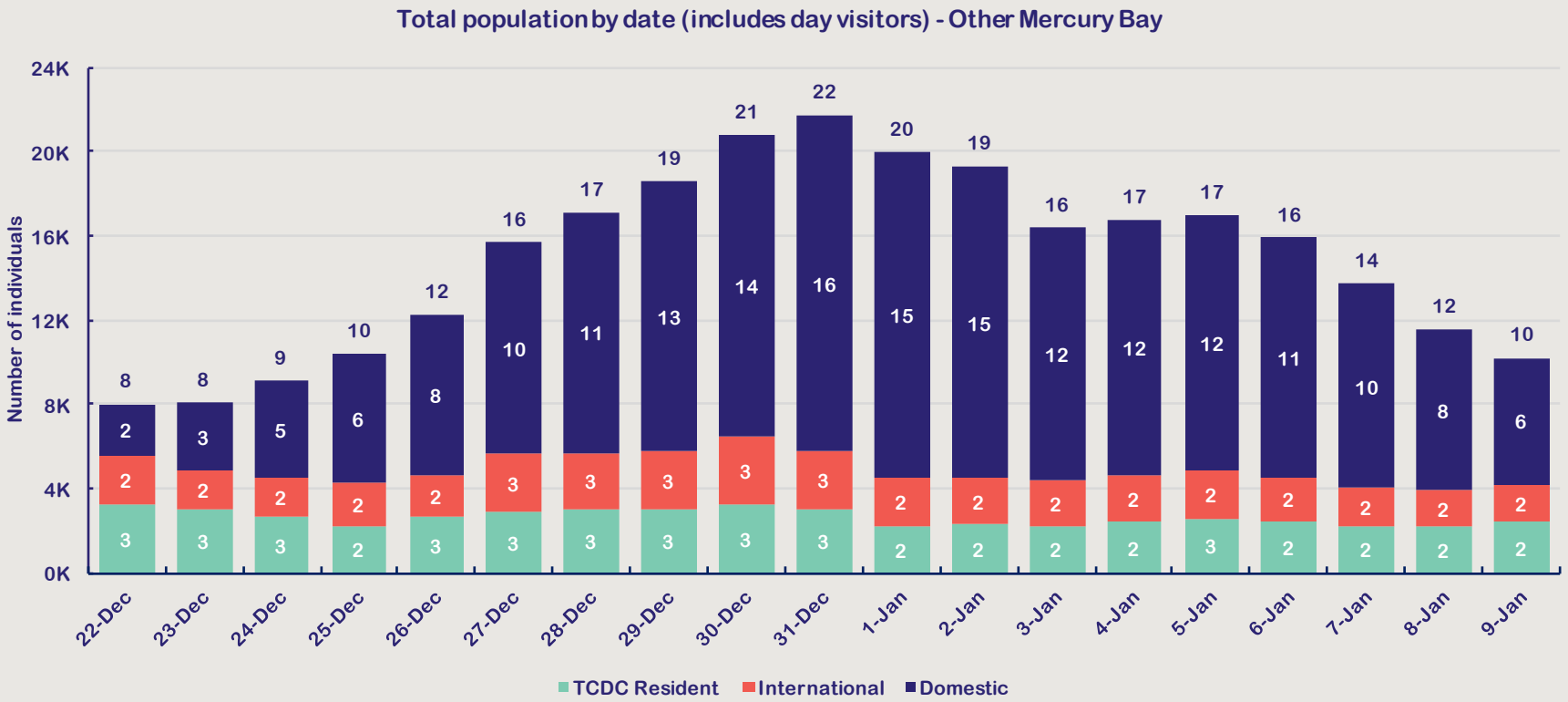
NUMBER OF VISITS BY DATE AT ONEMANA



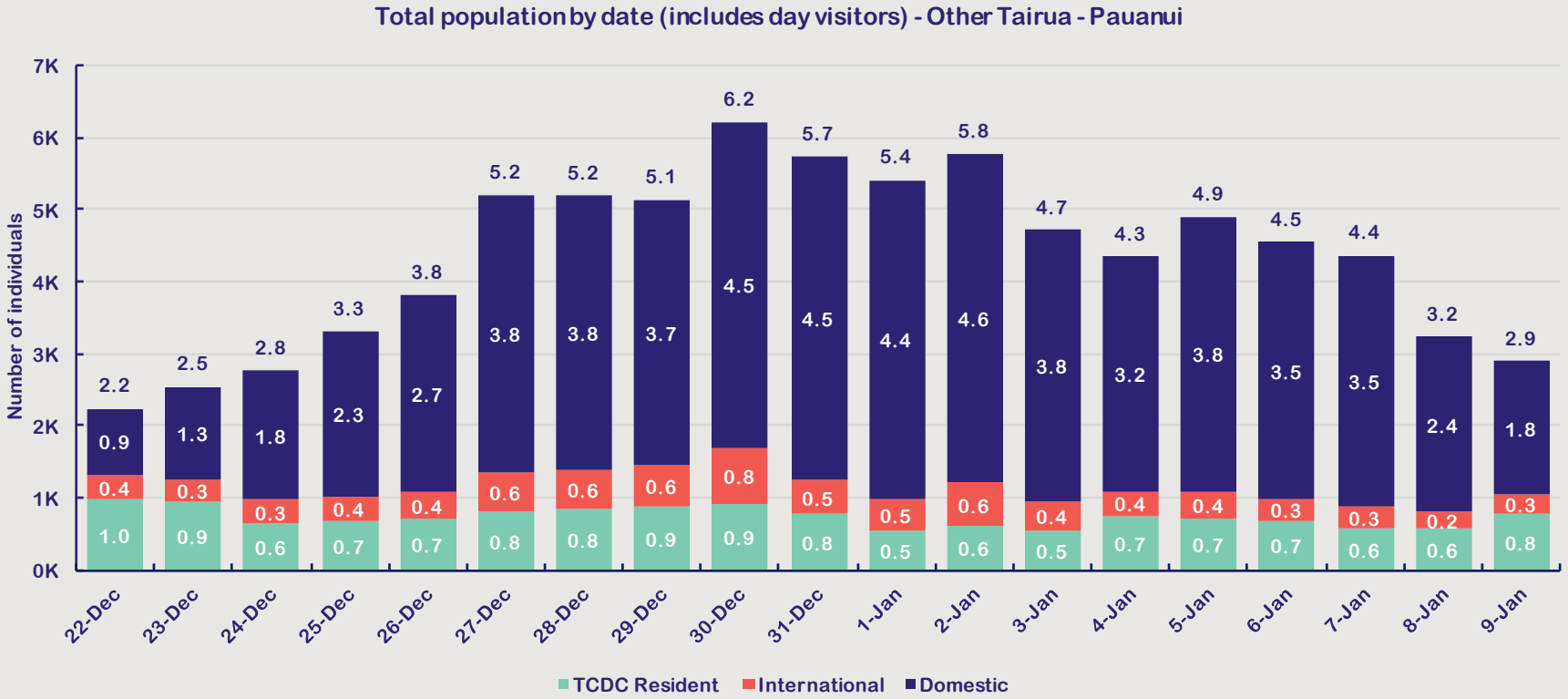
NUMBER OF VISITS BY DATE AT OTHER COROMANDEL - COLVILLE



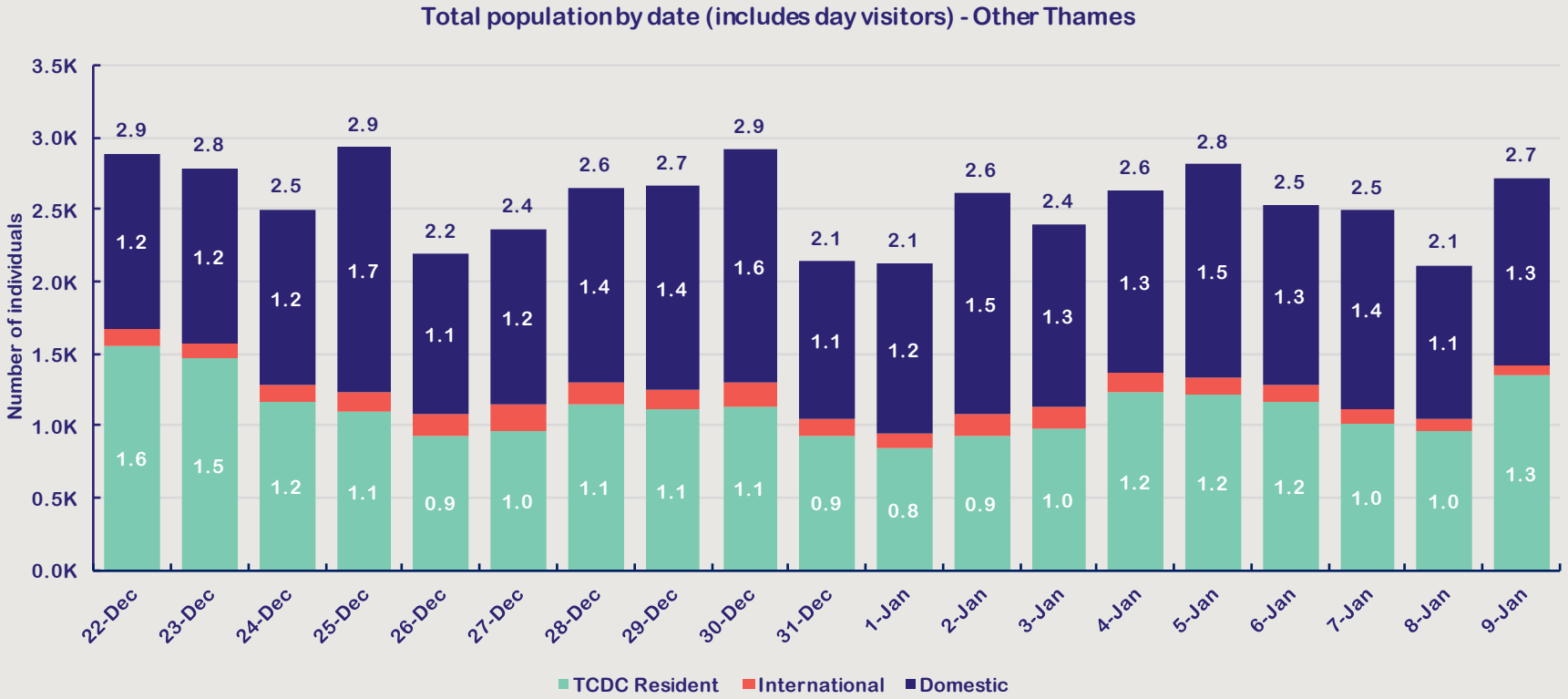
NUMBER OF VISITS BY DATE AT OTHER MERCURY BAY



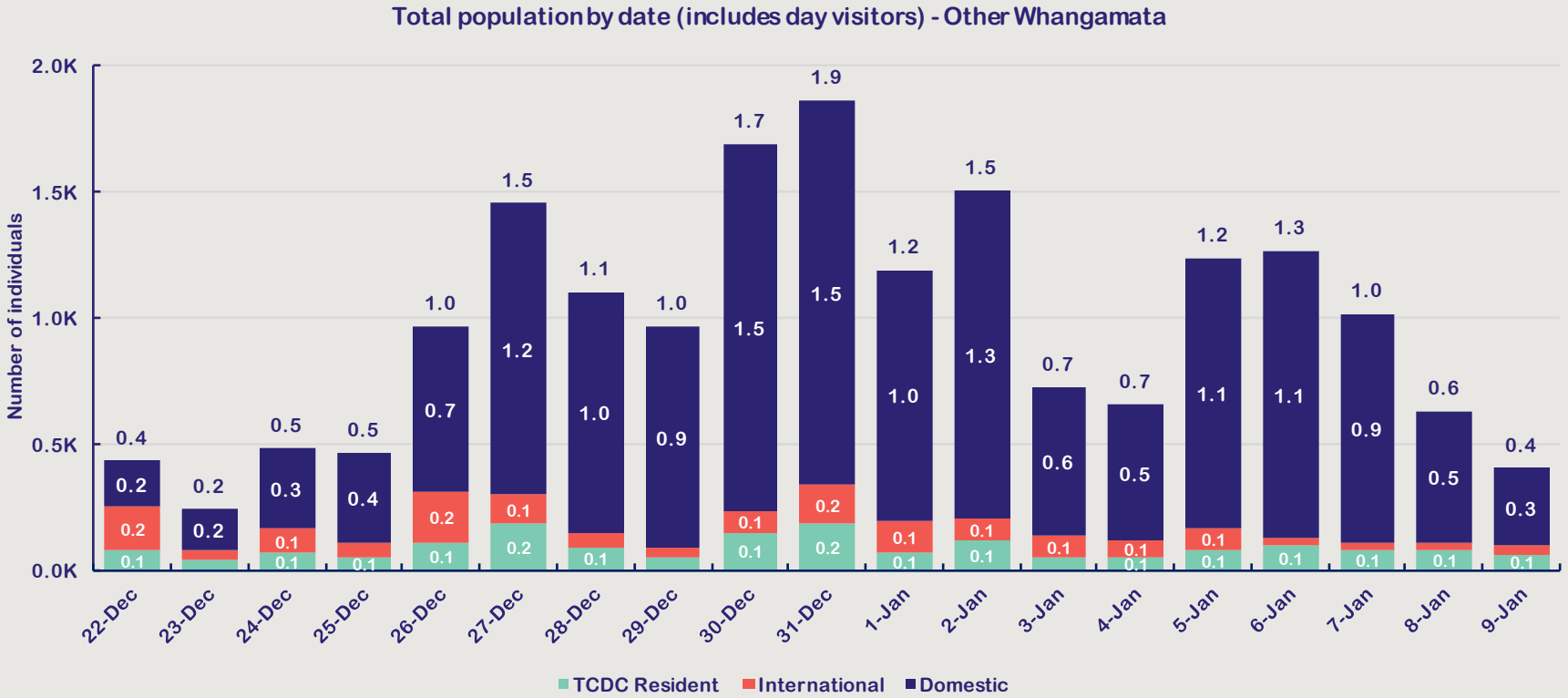
NUMBER OF VISITS BY DATE AT OTHER TAIRUA - PAUANUI



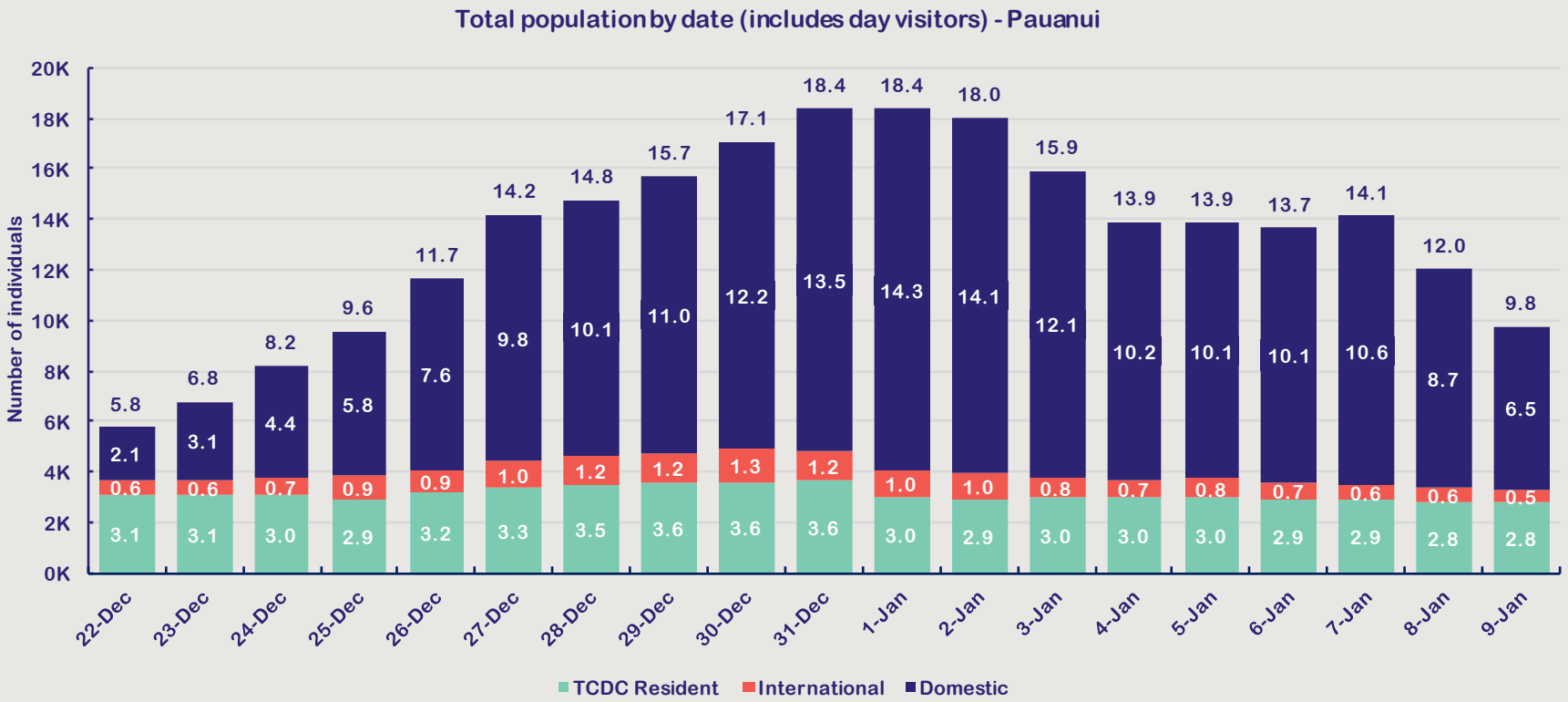
NUMBER OF VISITS BY DATE AT OTHER THAMES



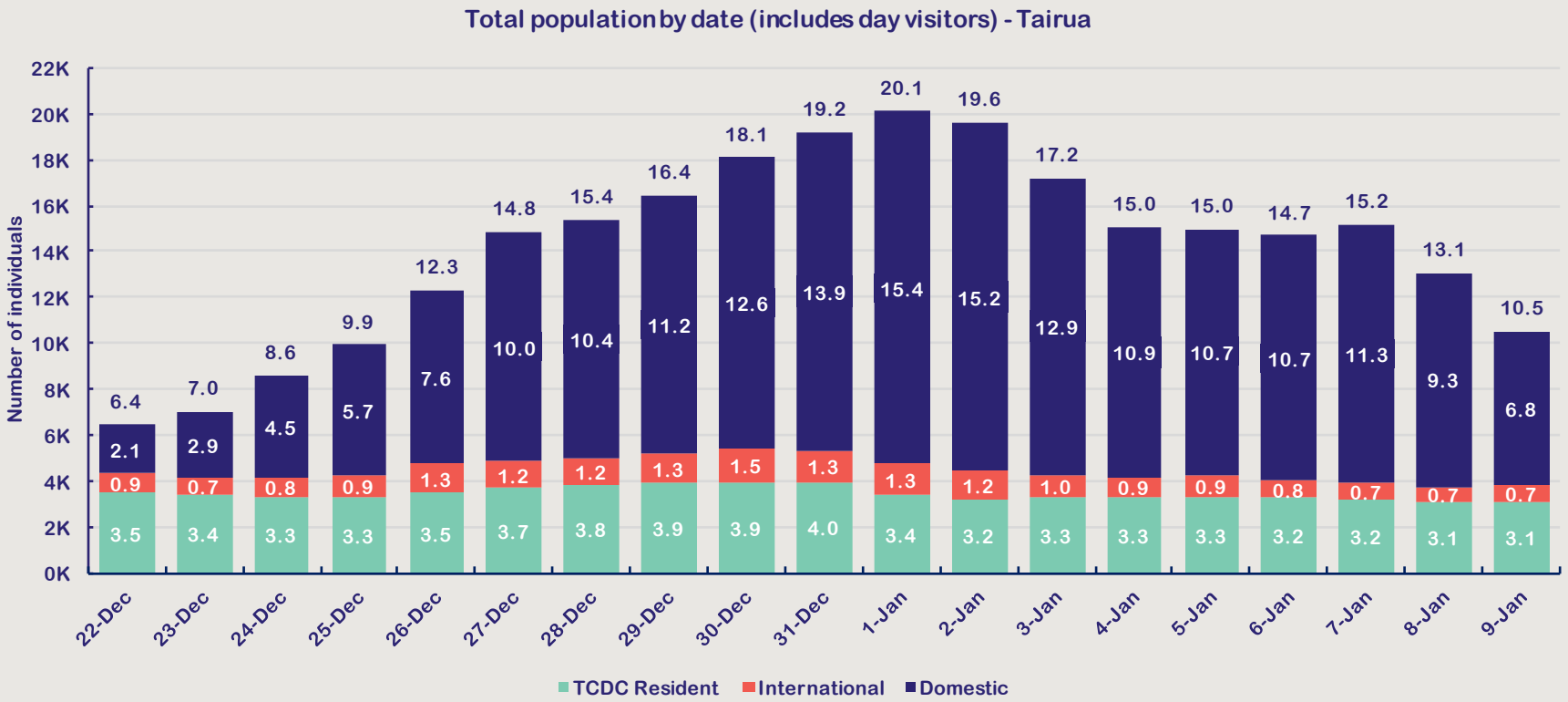
NUMBER OF VISITS BY DATE AT OTHER WHANGAMATA



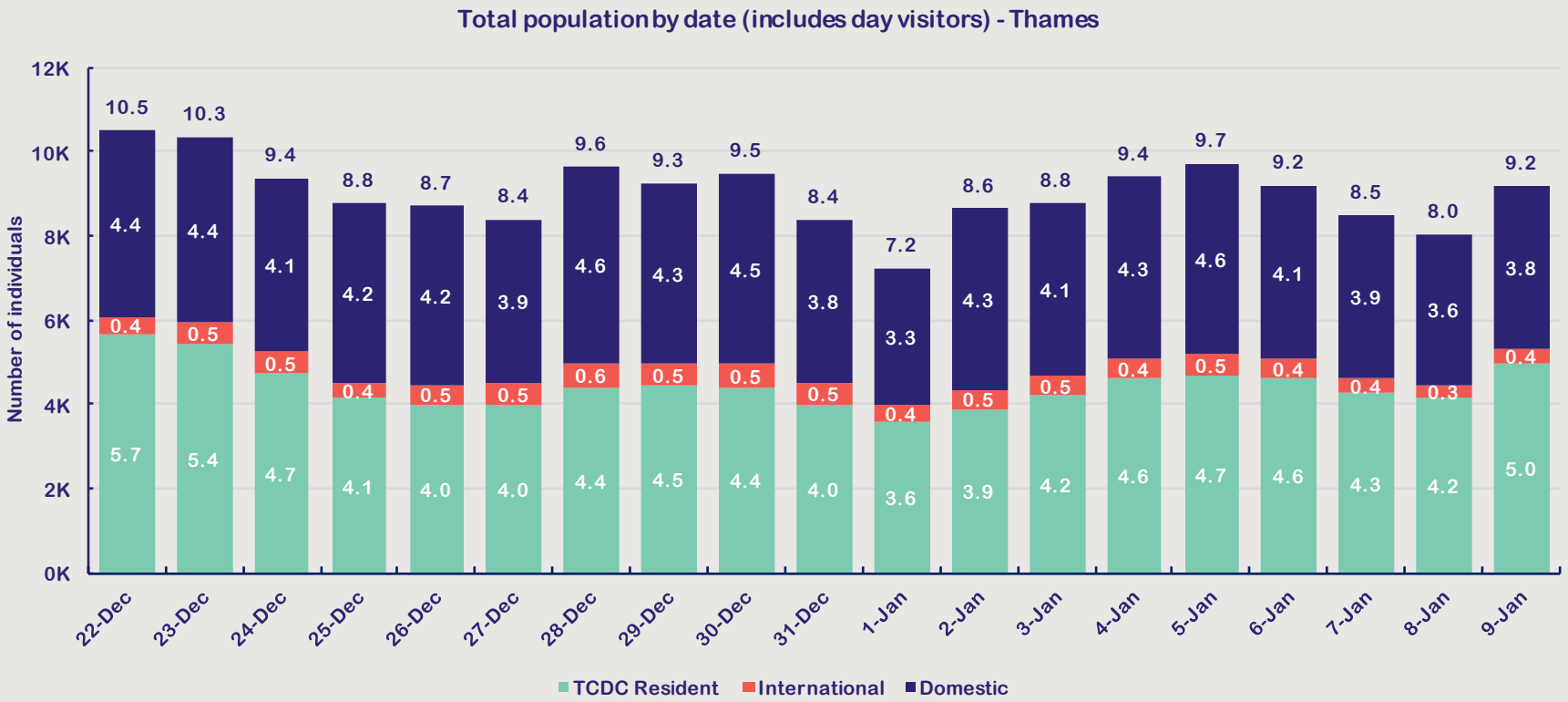
NUMBER OF VISITS BY DATE AT PAUANUI



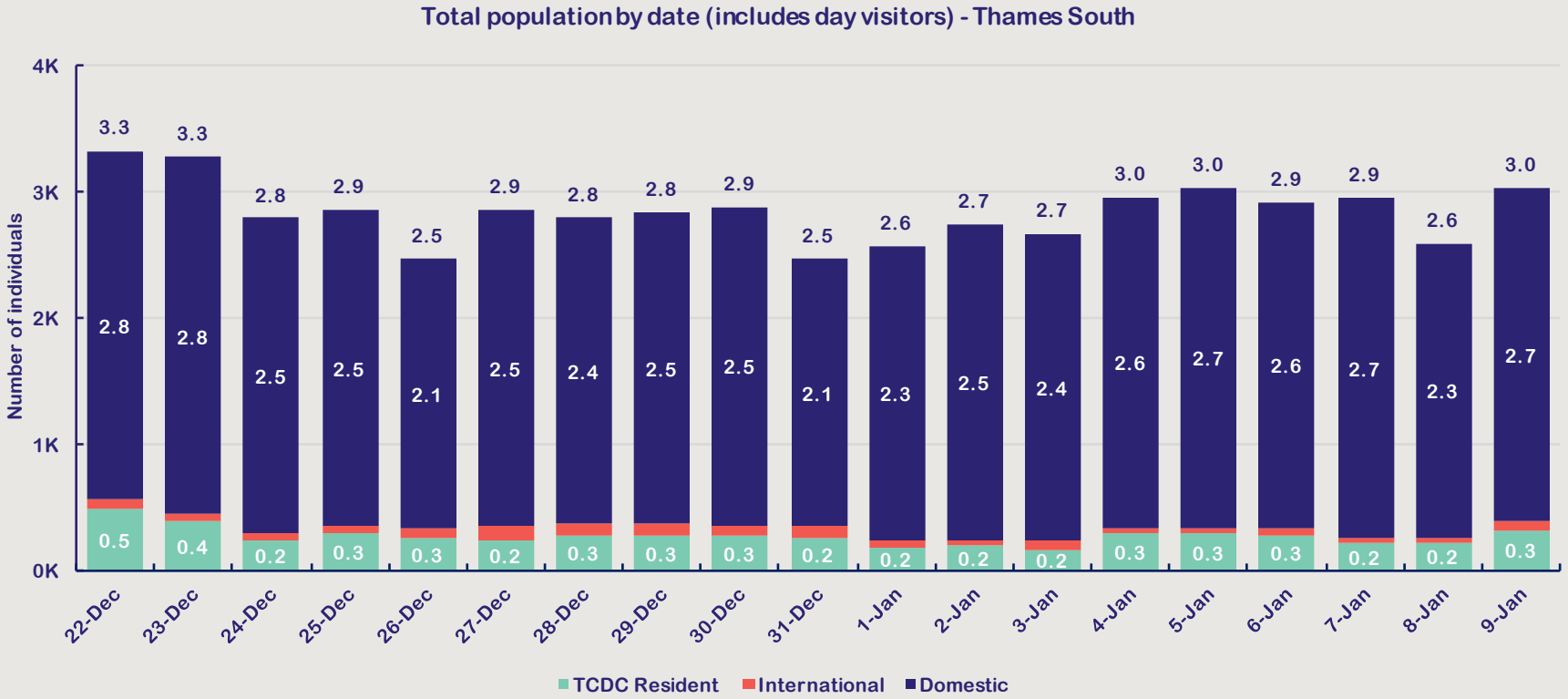
NUMBER OF VISITS BY DATE AT TAIRUA



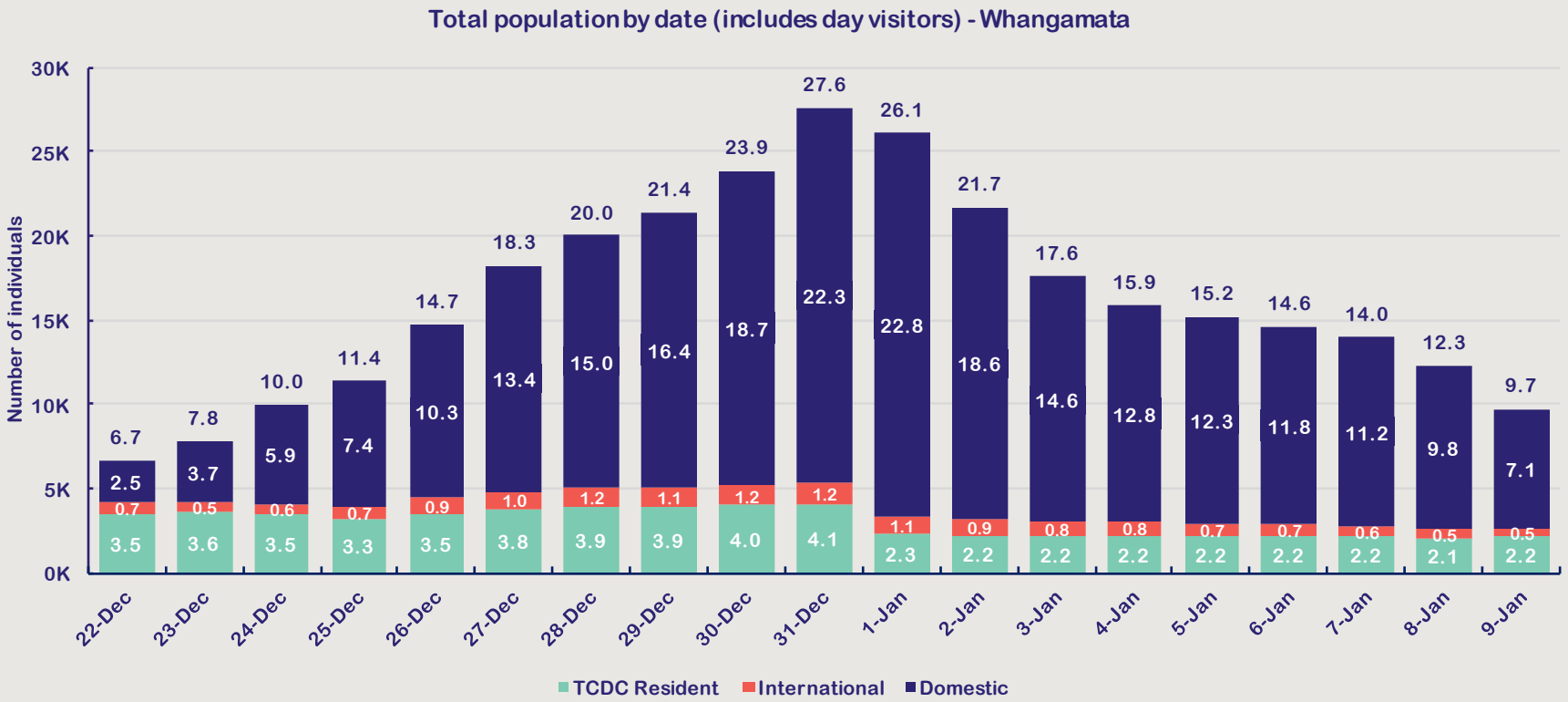
NUMBER OF VISITS BY DATE AT THAMES



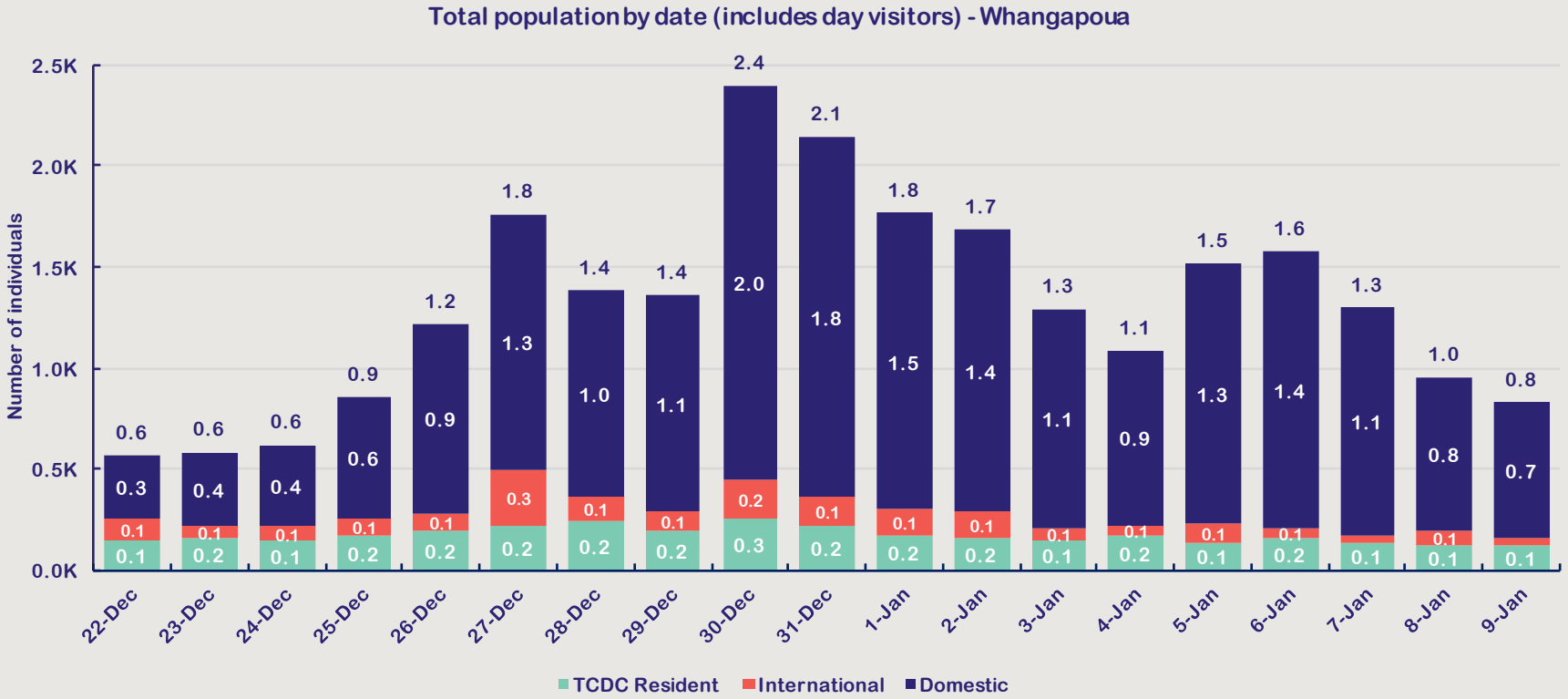
NUMBER OF VISITS BY DATE AT THAMES SOUTH



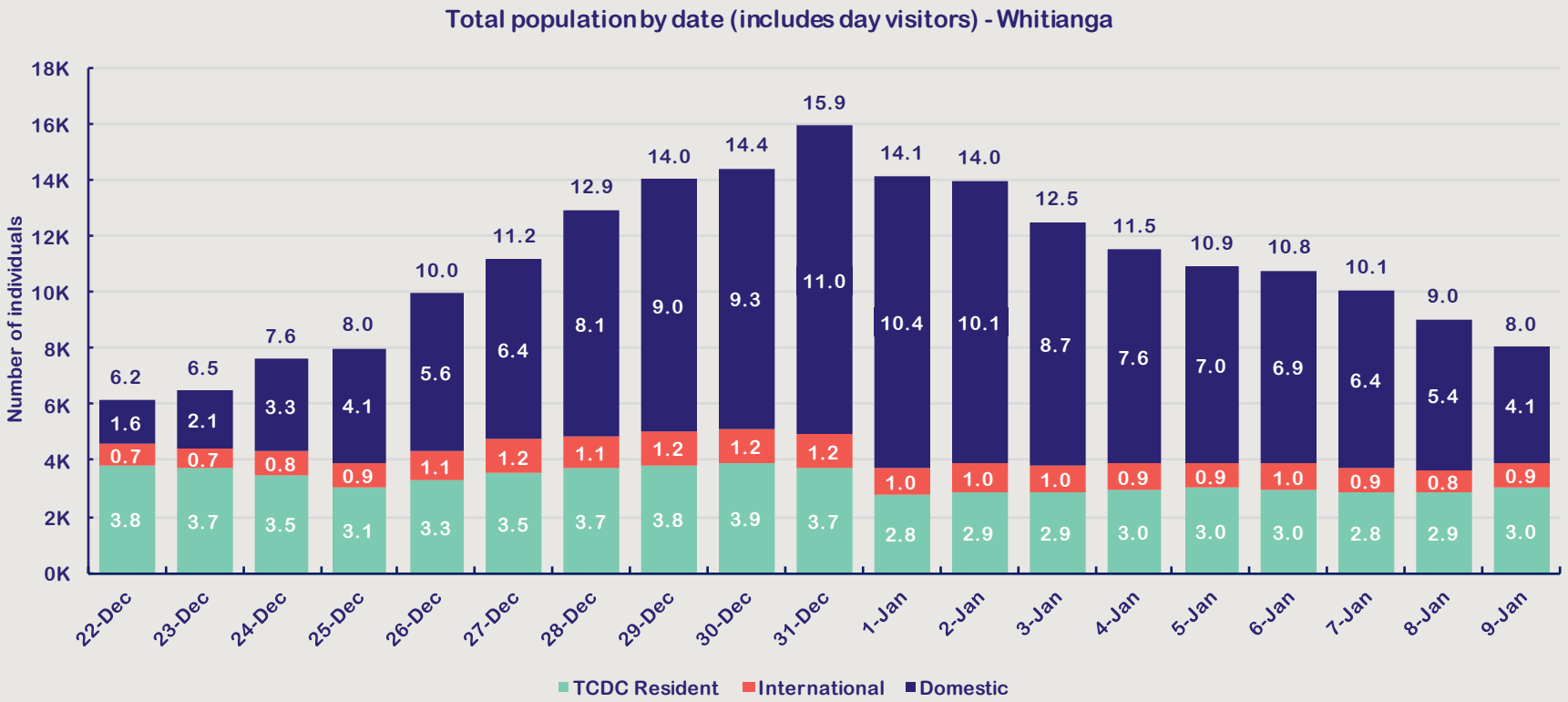
NUMBER OF VISITS BY DATE AT WHANGAMATA



NUMBER OF VISITS BY DATE AT WHANGAPOUA



NUMBER OF VISITS BY DATE AT WHITIANGA



Appendix

Methodology

Legal Disclaimer

METHODOLOGY – ASSUMPTIONS & PARAMETERS

Qrious were commissioned to analyze the attendance at Thames-Coromandel District during peak season from 22nd December 2016 to 9th January 2017.

We know that 80% of all phone users now have smartphones, smartphones are continually polling our network which provides us with rich data. On average a mobile phone is polling our cellular towers on more than 20 separate occurrences per day.

Residents were identified using Qrious home location logic. The resident must be living in the area at December 2016 and January 2017.

To identify visitors to the *area* Qrious used the following filter.

- Only active SIM cards which had at least one *network event* in the *area of interest* (shown on slide #3).

METHODOLOGY – UNDERLYING DATA

All *italic words* in the report have special meaning which is described in further slides.

Qrious collects the data for active Spark New Zealand or Skinny Mobile GSM network users.

We collect data if and only if the GSM network was used by a device, this we call a *network event*. Each *network event* has two main characteristics: time when it started and geographical coordinates of the cell tower which had served the *network event*.

All the data collected is anonymous and aggregated. Qrious don't have access to any types of personal identifiable information, e.g. phone number, address, sex or age.

For each cell tower we have coverage maps of an area which is served by the cell tower. This information combined with a number of data science techniques allow Qrious to provide aggregated SIM card movements and a number of characteristics of these movements. Roaming data helps to segment SIM cards between international and domestic.

Home location for each *domestic identified visitor* was defined by statistical methods applied to the historical information about the identified visitor's movements around New Zealand.

METHODOLOGY – TERMINOLOGY (1/2)

For the purpose of the report we use the following terms.

Network event – cellular network usage by a device with an active SIM card for voice call, text message or Internet connection.

Area of interest or area – Area where we are analyzing using *Network events*.

Identified visitor – Owner of an active SIM card identified in the *area of interest* during the period of analysis.

Domestic identified visitor – An *identified visitor* with a New Zealand SIM card (Spark New Zealand, Skinny Mobile, 2 degrees etc.).

International identified visitor – An *identified visitor* with an international SIM card.

Overnight visit – When multiple *network events* for an *identified visitor* happen in sequential days when the analysis takes place. For example if an *identified visitor* made a call on 21st then sent a text message on 22nd and was on Facebook on 23rd of December, this would count to be an *overnight visit* to the *area* with one night of duration – on 22nd and 23rd December, because 21st of December is outside of period of analysis.

Day trip – When one or multiple *network events* for an *identified visitor* happen during the analysis but there was no events on the previous or next day.

METHODOLOGY – TERMINOLOGY (2/2)

Arrival time – Each *identified visitor* will usually have multiple *network events* inside and outside the *area of interest* on a day, they can come and leave the *area* many times during a day staying there for different periods of time. *Arrival time* is the start time of the *identified visitor's* longest period of stay in the *area* during the day of *visit*. For example if an *identified visitor* arrived at 8am, spent 30 minutes in the *area* for coffee then went to work, then came back at 5pm and spent 120 minutes in the area then his *arrival time* would be 5pm as it was the beginning of his longest stay in the *area* during the day.

Departure time – Time of a day when an *identified visitor* had the last *network event* in the *area* during that day.

Dwell time – The period of time between *arrival time* and *departure time* of an *identified visitor* in a particular day. It is only calculated for visitors with at least 2 events.

Region – New Zealand Regions being Northland, Auckland, Waikato, Bay of Plenty, Gisborne, Hawke's Bay, Taranaki, Manawatu-Wanganui, Wellington, Tasman, Nelson, Marlborough, West Coast, Canterbury, Otago and Southland.

Area unit – There are 2,020 Statistics New Zealand identified aggregations of 47,062 smaller meshblocks. They are non–administrative areas that are in between meshblocks and territorial authorities in size.

METHODOLOGY – LIMITATIONS

Qrious is only able to identify domestic SIM cards for Spark New Zealand and Skinny Mobile customers and international SIM cards of providers which have roaming agreements with Spark New Zealand. To provide information about the *domestic identified visitors* Qrious uses Spark and Skinny market share by *area unit* to extrapolate to usual residents in area. To provide information on *international identified visitors* Qrious uses stats New Zealand information on international visitors for extrapolation purposes.

If any person in the *area* during the analysis *period* doesn't have a device with an active SIM card or they did not register any *network events* connected to their SIM card, that person will not be counted as an *identified visitor*. However if that person's household contained another person with an active device, then the extrapolation would count them. This does means that a proportion of children and senior participants were not counted in this report.

This report provides information on the whole *area of interest* segregated into areas called settlements. In calculating total numbers, we assumed if a person visited a number of smaller areas within a settlement during the course of a day, we would count only one *visit* for that day. In other words, there can be only one *visit* per day per *identified visitor* in the *area of interest*. The exception is where a person could have travelled in more than one settlement during a day.

LEGAL DISCLAIMER

The data contained in this report is designed to provide incremental insights and some information in this document has, in certain cases been inferred using a range of methods including statistical extrapolation.

Qrious has conducted this analysis on a best effort basis and accepts no responsibility for the accuracy of the insights nor the follow on implications of decisions made.

Qrious and their employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

Cooks Beach/Ferry Landing

Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	323	380		1125	618		1743	5014
23/12/2016	63	42		1846	708		2553	5126
24/12/2016	83	23		2776	858		3633	5812
25/12/2016	337	88		3639	885		4524	6708
26/12/2016	176	62		4466	927		5393	7646
27/12/2016	344	131		5872	989		6861	9461
28/12/2016	156	113		6978	1152		8130	10690
29/12/2016	121	99		8040	1212		9252	11765
30/12/2016	239	155		8824	1367		10191	13110
31/12/2016	198	86		10307	1240		11547	14164
1/01/2017	270	133		9949	989		10938	13022
2/01/2017	346	66		9229	906		10135	12324
3/01/2017	160	90		7685	1021		8705	10736
4/01/2017	231	67		7631	1009		8640	10772
5/01/2017	198	64		7452	1000		8452	10627
6/01/2017	148	56		6767	909		7677	9736
7/01/2017	249	73		5746	791		6538	8473
8/01/2017	106	53		4729	803		5532	7346
9/01/2017	445	177		3398	675		4074	6497

Coromandel

Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	1229	390		1921	587		2507	8135
23/12/2016	467	59		2730	698		3428	8008
24/12/2016	422	72		4038	834		4872	9144
25/12/2016	1544	96		4575	777		5352	10461
26/12/2016	1634	161		6700	903		7602	13173
27/12/2016	1933	266		8530	1049		9580	15752
28/12/2016	841	115		9109	1155		10264	15174
29/12/2016	763	113		10057	1236		11294	16123
30/12/2016	1791	231		11841	1435		13275	19276
31/12/2016	1885	196		12616	1216		13832	19833
1/01/2017	1925	174		12321	1093		13414	19109
2/01/2017	2588	176		14014	1200		15214	22036
3/01/2017	771	111		9903	1130		11033	15561
4/01/2017	681	108		8992	1054		10046	14690
5/01/2017	1743	148		9163	1070		10232	16008
6/01/2017	1624	129		8715	973		9688	15252
7/01/2017	1735	79		8127	976		9103	14569
8/01/2017	1065	145		6290	875		7165	12007
9/01/2017	1290	201		4319	569		4888	10012

Hahei

Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	549	827		1469	1268		2737	5126
23/12/2016	89	130		2441	1669		4109	5328
24/12/2016	260	133		3463	1544		5007	6196
25/12/2016	1210	279		4087	1557		5644	7876
26/12/2016	524	254		5640	1642		7282	9008
27/12/2016	901	478		7781	1891		9672	12160
28/12/2016	411	363		8887	2054		10941	12781
29/12/2016	439	304		9791	2022		11813	13642
30/12/2016	509	447		11327	2389		13717	15890
31/12/2016	569	239		11738	2118		13856	15751
1/01/2017	667	273		11151	1737		12888	14601
2/01/2017	934	308		11058	1612		12670	14808
3/01/2017	391	243		9141	1652		10794	12196
4/01/2017	318	280		9641	1667		11307	12806
5/01/2017	624	218		10012	1731		11743	13609
6/01/2017	373	206		8956	1578		10534	12039
7/01/2017	641	175		7999	1378		9376	11012
8/01/2017	277	157		6170	1228		7398	8547
9/01/2017	727	514		4565	1067		5632	7732

Matarangi

Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	256	128		913	136		1049	1877
23/12/2016	114	23		1448	182		1630	2224
24/12/2016	61	13		2162	278		2440	2931
25/12/2016	253	26		2570	327		2897	3630
26/12/2016	192	21		3945	368		4313	5078
27/12/2016	389	121		5211	583		5794	6951
28/12/2016	143	42		5529	436		5965	6783
29/12/2016	133	28		6187	460		6647	7421
30/12/2016	433	50		8155	602		8757	9929
31/12/2016	379	39		8146	521		8668	9737
1/01/2017	286	61		7856	466		8322	9163
2/01/2017	348	40		7503	471		7973	8848
3/01/2017	199	46		6276	324		6600	7272
4/01/2017	116	24		5438	318		5756	6358
5/01/2017	279	20		5415	393		5808	6548
6/01/2017	358	14		5372	350		5722	6540
7/01/2017	248	10		4721	306		5026	5706
8/01/2017	118	73		3609	230		3839	4411
9/01/2017	451	31		2510	203		2713	3607

Onemana

Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	273	83		487	104		591	1744
23/12/2016	120	31		676	153		830	1694
24/12/2016	170	22		946	208		1154	1866
25/12/2016	413	57		1153	140		1294	2309
26/12/2016	155	72		1624	176		1800	2645
27/12/2016	460	128		2279	218		2497	3665
28/12/2016	264	128		2469	257		2725	3808
29/12/2016	298	94		2566	244		2810	3922
30/12/2016	331	139		3258	308		3566	4795
31/12/2016	302	64		2884	255		3139	4096
1/01/2017	391	78		2757	186		2943	3809
2/01/2017	479	83		2817	197		3014	4010
3/01/2017	263	77		2153	171		2323	3089
4/01/2017	194	27		2253	129		2382	3134
5/01/2017	484	49		2121	170		2291	3371
6/01/2017	195	47		2012	106		2118	2937
7/01/2017	449	62		1898	127		2024	2975
8/01/2017	174	24		1590	97		1687	2268
9/01/2017	244	55		925	76		1001	1801

Other Coromandel-Colville

Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	217	180		761	217		978	1993
23/12/2016	58	24		1190	227		1417	2095
24/12/2016	32	17		1957	314		2271	2771
25/12/2016	87	7		2195	244		2439	2924
26/12/2016	98	41		3162	349		3512	4325
27/12/2016	162	72		4377	435		4812	5807
28/12/2016	87	26		4602	375		4978	5766
29/12/2016	94	17		5163	351		5514	6279
30/12/2016	88	38		6561	600		7161	8075
31/12/2016	162	36		7206	589		7795	8738
1/01/2017	177	58		6851	539		7389	8143
2/01/2017	255	56		6785	442		7227	8135
3/01/2017	130	29		5277	426		5703	6391
4/01/2017	106	42		4755	368		5123	5854
5/01/2017	103	25		4962	423		5385	6186
6/01/2017	116	20		4614	314		4927	5664
7/01/2017	151	14		4058	363		4421	5175
8/01/2017	83	72		2967	283		3250	3905
9/01/2017	316	40		2103	198		2301	3251

Other Mercury Bay

Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	568	862		1884	1470		3354	8033
23/12/2016	154	93		3067	1723		4790	8075
24/12/2016	164	136		4415	1741		6156	9104
25/12/2016	877	245		5305	1733		7039	10423
26/12/2016	412	201		7204	1779		8983	12255
27/12/2016	686	513		9381	2235		11615	15706
28/12/2016	324	429		11092	2227		13319	17139
29/12/2016	337	260		12503	2461		14964	18592
30/12/2016	471	473		13835	2745		16580	20792
31/12/2016	442	260		15562	2450		18012	21768
1/01/2017	608	338		14833	2004		16837	19994
2/01/2017	840	289		14028	1873		15900	19331
3/01/2017	408	239		11565	1940		13505	16384
4/01/2017	410	236		11695	2037		13731	16764
5/01/2017	528	221		11600	2064		13664	17010
6/01/2017	363	226		10995	1874		12869	15929
7/01/2017	602	196		9112	1566		10678	13725
8/01/2017	301	245		7368	1479		8847	11572
9/01/2017	889	592		5110	1236		6345	10225

Other Tairua-Pauanui

Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	333	134		467	587		807	2241
23/12/2016	153	76		229	1131		1379	2546
24/12/2016	224	76		300	1558		1818	2751
25/12/2016	660	121		781	1607		1852	3298
26/12/2016	275	90		365	2457		2738	3810
27/12/2016	674	221		895	3164		3507	5198
28/12/2016	353	175		528	3431		3822	5185
29/12/2016	316	129		445	3367		3820	5134
30/12/2016	501	217		719	4008		4572	6207
31/12/2016	421	90		511	4069		4445	5730
1/01/2017	538	131		668	3875		4212	5407
2/01/2017	687	174		861	3876		4304	5768
3/01/2017	405	104		509	3347		3652	4710
4/01/2017	272	90		362	2972		3234	4340
5/01/2017	583	90		673	3224		3510	4899
6/01/2017	371	65		436	3178		3423	4538
7/01/2017	648	112		761	2840		3033	4361
8/01/2017	236	47		283	2195		2382	3228
9/01/2017	526	115		642	1313		1470	2887

Other Thames

Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	372	30		402	841		929	2890
23/12/2016	124	11		135	1101		1192	2790
24/12/2016	266	13		279	961		1062	2501
25/12/2016	476	27		503	1223		1334	2927
26/12/2016	219	23		242	888		1015	2190
27/12/2016	291	36		327	930		1076	2362
28/12/2016	267	25		292	1085		1210	2650
29/12/2016	344	24		368	1075		1187	2662
30/12/2016	310	36		346	1300		1429	2912
31/12/2016	192	15		206	903		999	2138
1/01/2017	287	23		309	898		979	2124
2/01/2017	471	33		504	1062		1180	2613
3/01/2017	239	19		259	1025		1157	2397
4/01/2017	179	16		196	1086		1204	2628
5/01/2017	497	11		508	975		1084	2807
6/01/2017	292	8		300	959		1065	2531
7/01/2017	391	19		410	981		1072	2491
8/01/2017	300	12		312	772		836	2115
9/01/2017	505	23		528	788		847	2717

Other Whangamata

Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	372	30		402	841		929	2890
23/12/2016	124	11		135	1101		1192	2790
24/12/2016	266	13		279	961		1062	2501
25/12/2016	476	27		503	1223		1334	2927
26/12/2016	219	23		242	888		1015	2190
27/12/2016	291	36		327	930		1076	2362
28/12/2016	267	25		292	1085		1210	2650
29/12/2016	344	24		368	1075		1187	2662
30/12/2016	310	36		346	1300		1429	2912
31/12/2016	192	15		206	903		999	2138
1/01/2017	287	23		309	898		979	2124
2/01/2017	471	33		504	1062		1180	2613
3/01/2017	239	19		259	1025		1157	2397
4/01/2017	179	16		196	1086		1204	2628
5/01/2017	497	11		508	975		1084	2807
6/01/2017	292	8		300	959		1065	2531
7/01/2017	391	19		410	981		1072	2491
8/01/2017	300	12		312	772		836	2115
9/01/2017	505	23		528	788		847	2717

Pauanui

Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	502	177		1579	378		1956	5766
23/12/2016	120	34		2953	614		3567	6779
24/12/2016	183	31		4260	675		4936	8195
25/12/2016	469	50		5296	838		6134	9585
26/12/2016	161	29		7436	892		8329	11678
27/12/2016	435	101		9377	943		10320	14204
28/12/2016	259	91		9861	1067		10928	14762
29/12/2016	287	54		10703	1103		11805	15724
30/12/2016	482	119		11698	1177		12874	17080
31/12/2016	277	57		13265	1148		14413	18385
1/01/2017	381	70		13947	943		14890	18375
2/01/2017	548	79		13522	953		14474	18014
3/01/2017	261	46		11878	793		12671	15931
4/01/2017	183	30		10010	713		10724	13895
5/01/2017	369	39		9776	717		10493	13863
6/01/2017	202	41		9860	618		10477	13659
7/01/2017	566	35		10079	547		10626	14121
8/01/2017	191	19		8488	540		9027	12022
9/01/2017	637	110		5822	400		6222	9762

Tairua

Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	534	438		971	1586		2022	6446
23/12/2016	134	33		167	2778		3435	7034
24/12/2016	191	37		229	4273		5039	8596
25/12/2016	432	80		513	5249		6088	9914
26/12/2016	216	99		316	7346		8533	12308
27/12/2016	496	146		642	9520		10537	14847
28/12/2016	264	118		381	10137		11186	15396
29/12/2016	239	62		301	11004		12255	16438
30/12/2016	429	133		561	12198		13584	18081
31/12/2016	324	40		364	13559		14849	19186
1/01/2017	536	209		745	14826		15956	20088
2/01/2017	579	96		675	14635		15714	19628
3/01/2017	260	71		331	12650		13585	17205
4/01/2017	196	76		272	10679		11477	15043
5/01/2017	459	54		513	10274		11166	14977
6/01/2017	307	67		374	10363		11063	14681
7/01/2017	631	63		694	10687		11311	15197
8/01/2017	252	32		285	9068		9709	13078
9/01/2017	551	114		666	6211		6756	10541

Thames

Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	1400	94		3020	323		3343	10516
23/12/2016	713	40		3685	469		4154	10349
24/12/2016	751	32		3377	494		3871	9384
25/12/2016	911	36		3333	350		3683	8769
26/12/2016	785	69		3450	394		3844	8710
27/12/2016	786	64		3084	485		3569	8400
28/12/2016	834	62		3809	528		4338	9640
29/12/2016	864	34		3443	470		3913	9264
30/12/2016	820	56		3716	476		4192	9490
31/12/2016	713	90		3132	434		3566	8379
1/01/2017	652	40		2616	321		2936	7241
2/01/2017	982	61		3297	400		3696	8642
3/01/2017	657	53		3432	422		3854	8777
4/01/2017	671	40		3669	387		4056	9401
5/01/2017	1000	42		3560	429		3990	9737
6/01/2017	809	35		3331	391		3722	9203
7/01/2017	867	53		2991	334		3325	8500
8/01/2017	1001	26		2584	280		2864	8049
9/01/2017	1561	83		2283	277		2561	9187

Thames South

Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	687	29		2081	40		2121	3322
23/12/2016	517	2		2318	51		2369	3269
24/12/2016	363	7		2126	52		2178	2785
25/12/2016	585	2		1923	47		1970	2855
26/12/2016	302	19		1829	61		1890	2462
27/12/2016	616	23		1895	78		1973	2850
28/12/2016	460	12		1969	71		2040	2788
29/12/2016	450	24		2012	78		2090	2830
30/12/2016	428	9		2091	81		2172	2876
31/12/2016	287	26		1839	68		1907	2465
1/01/2017	408	12		1918	54		1972	2567
2/01/2017	510	18		1986	34		2021	2736
3/01/2017	368	19		2068	52		2120	2665
4/01/2017	366	10		2248	43		2291	2952
5/01/2017	462	15		2231	37		2269	3028
6/01/2017	447	17		2127	44		2171	2910
7/01/2017	591	4		2103	40		2143	2946
8/01/2017	341	12		1986	33		2018	2588
9/01/2017	833	21		1817	40		1857	3030

Whangamata

Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	585	228		1898	424		2322	6673
23/12/2016	191	22		3482	498		3980	7828
24/12/2016	311	30		5590	573		6163	9998
25/12/2016	504	43		6934	630		7565	11364
26/12/2016	425	92		9844	850		10694	14724
27/12/2016	665	85		12773	923		13696	18281
28/12/2016	559	86		14408	1065		15473	20017
29/12/2016	604	69		15784	1043		16827	21428
30/12/2016	699	57		18026	1101		19127	23884
31/12/2016	730	49		21608	1158		22766	27636
1/01/2017	1104	137		21673	925		22598	26107
2/01/2017	908	69		17663	847		18510	21735
3/01/2017	449	60		14184	758		14942	17630
4/01/2017	523	66		12289	762		13050	15862
5/01/2017	683	50		11661	671		12332	15230
6/01/2017	473	54		11294	611		11906	14629
7/01/2017	629	25		10601	564		11166	13972
8/01/2017	436	28		9342	461		9803	12325
9/01/2017	969	104		6120	375		6494	9741

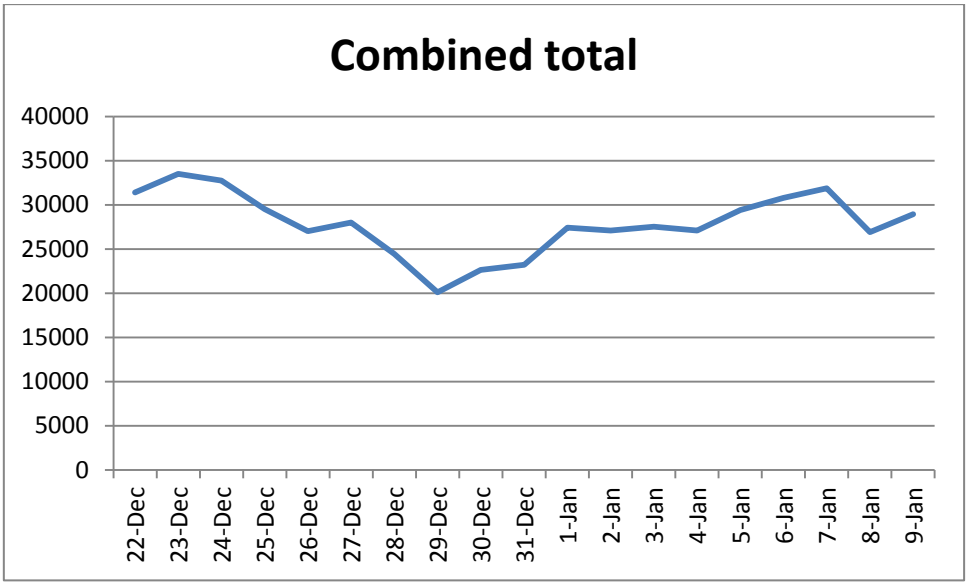
Whangapoua

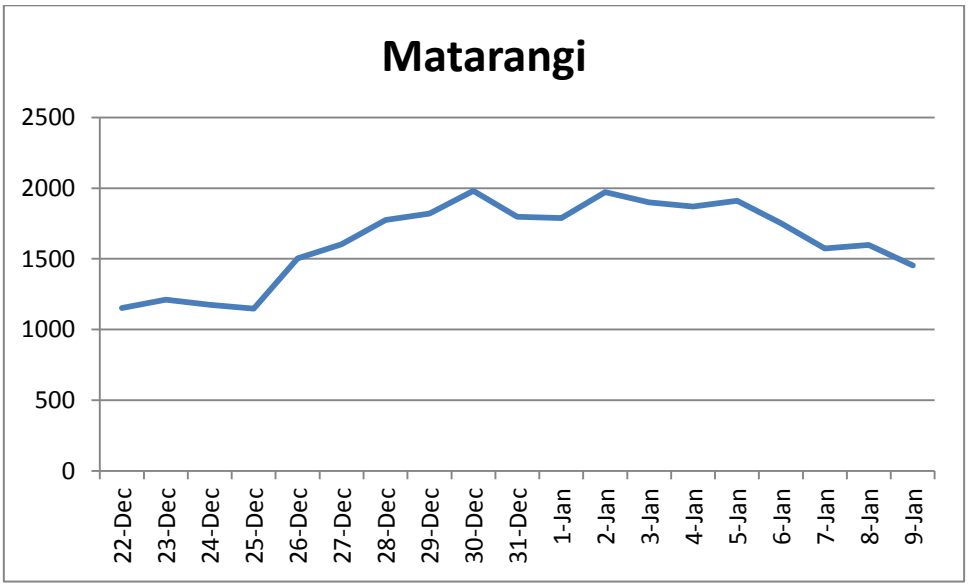
Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	109	84		202	27		229	566
23/12/2016	104	12		264	51		315	584
24/12/2016	41	2		363	73		436	620
25/12/2016	186	12		412	83		494	856
26/12/2016	120	17		814	74		888	1215
27/12/2016	267	75		999	206		1205	1761
28/12/2016	88	34		926	96		1022	1381
29/12/2016	105	9		964	88		1052	1357
30/12/2016	308	43		1650	146		1796	2400
31/12/2016	287	30		1501	106		1608	2145
1/01/2017	150	42		1317	87		1405	1766
2/01/2017	204	26		1194	100		1295	1683
3/01/2017	143	16		941	48		989	1292
4/01/2017	57	8		806	49		855	1085
5/01/2017	206	22		1085	65		1150	1516
6/01/2017	299	8		1070	44		1113	1575
7/01/2017	171	6		950	36		986	1297
8/01/2017	82	48		673	29		701	954
9/01/2017	219	13		450	21		471	826

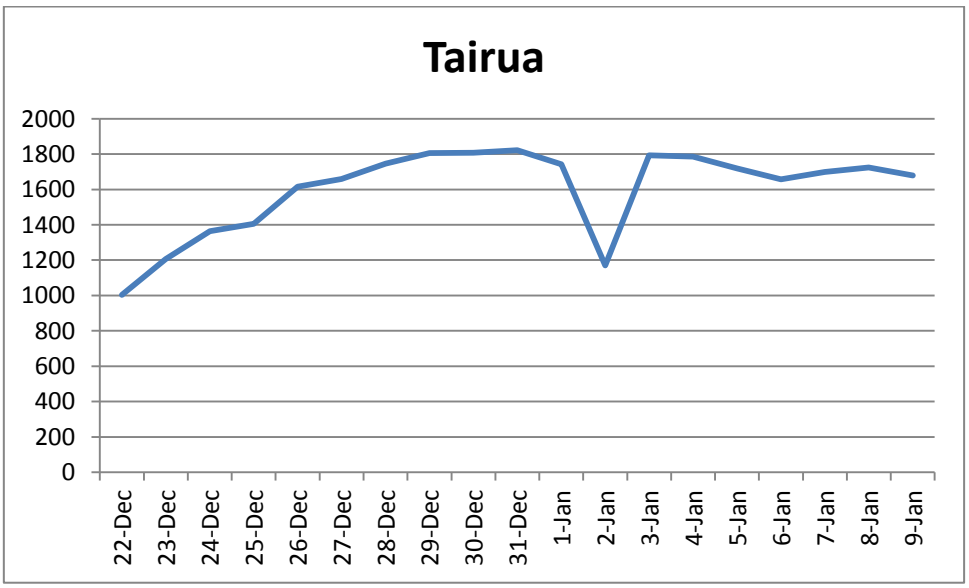
Whitianga

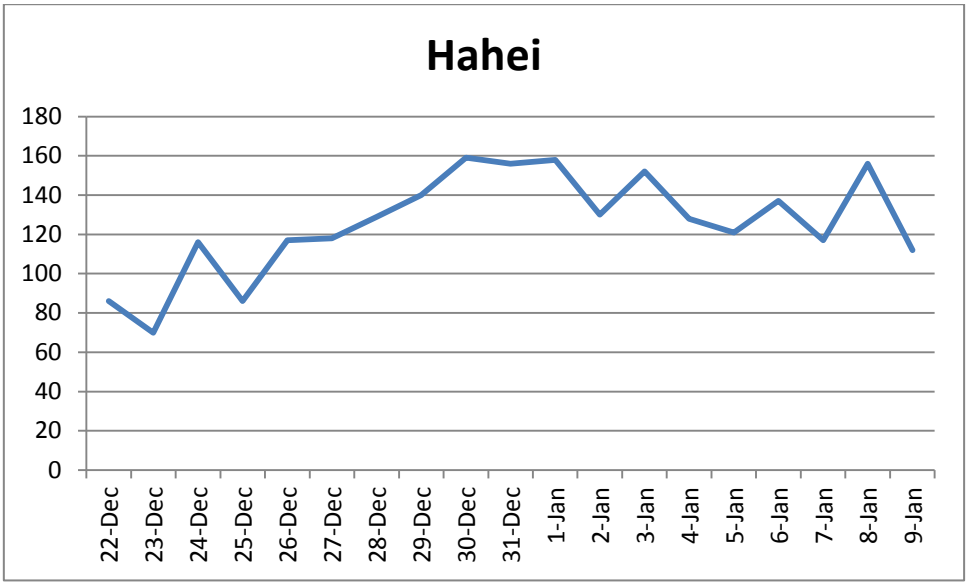
Date	*Domestic Day visitors*	*International Day visitors*	*Resident Day Visit*	*Domestic Overnight*	*International Overnight*	*Resident Overnight*	*Overnight Population*	*Total Population*
22/12/2016	337	227		1251	506		1757	6163
23/12/2016	23	7		2042	687		2729	6488
24/12/2016	26	8		3264	816		4080	7613
25/12/2016	108	7		3985	859		4844	8019
26/12/2016	81	24		5531	1044		6575	9959
27/12/2016	184	30		6249	1180		7430	11184
28/12/2016	77	18		8042	1063		9105	12945
29/12/2016	121	16		8857	1182		10039	14024
30/12/2016	143	9		9146	1179		10324	14419
31/12/2016	127	15		10886	1177		12063	15943
1/01/2017	178	16		10226	938		11164	14143
2/01/2017	111	12		9971	1007		10978	13985
3/01/2017	97	6		8603	956		9559	12527
4/01/2017	115	9		7535	921		8456	11539
5/01/2017	70	11		6960	880		7840	10930
6/01/2017	79	17		6794	938		7732	10779
7/01/2017	104	17		6281	837		7118	10088
8/01/2017	51	4		5354	758		6112	9042
9/01/2017	402	143		3715	766		4481	8043

Water Take for Peak Period 22 December 2016 - 9 Janaury 2017





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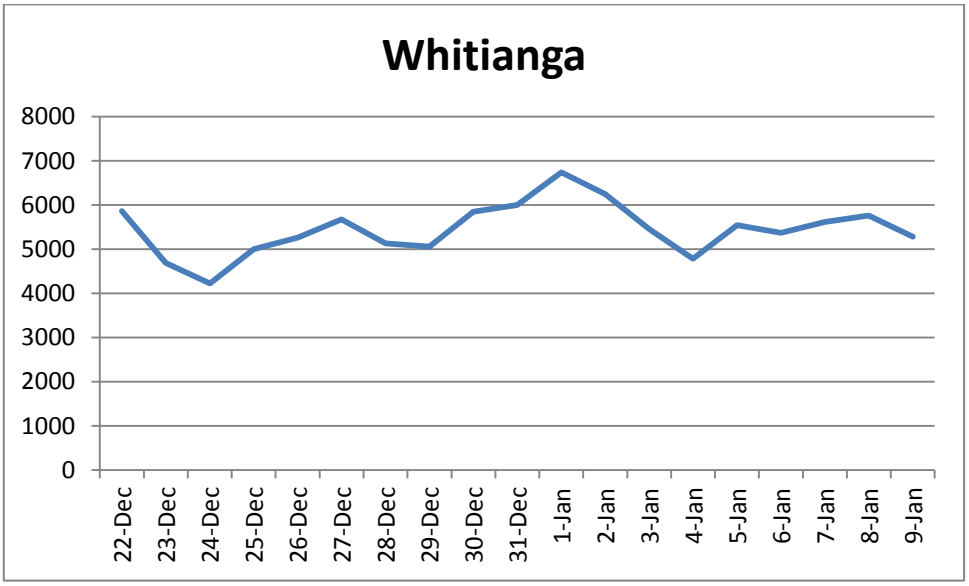
6-Jan
7-Jan
8-Jan
9-Jan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28-Dec
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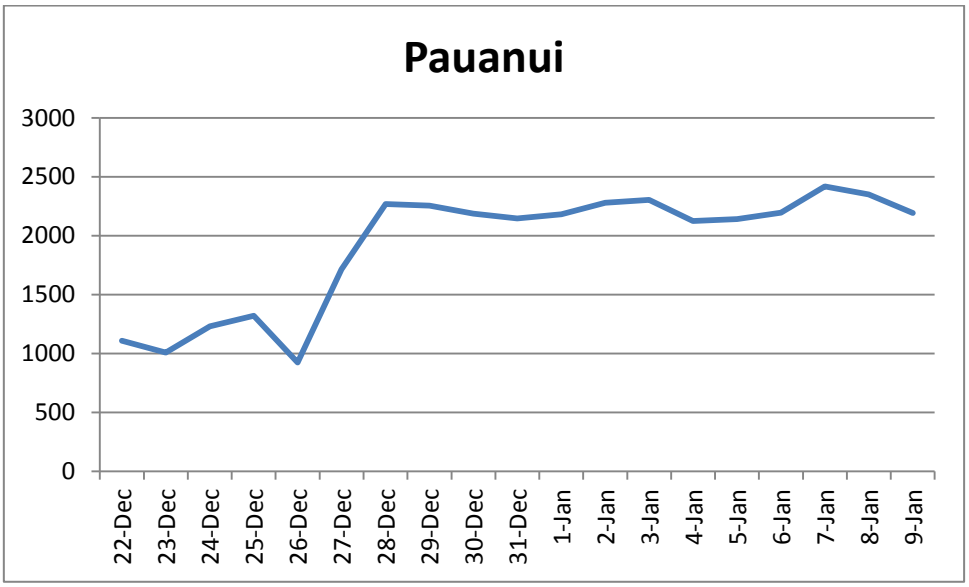
9-Jan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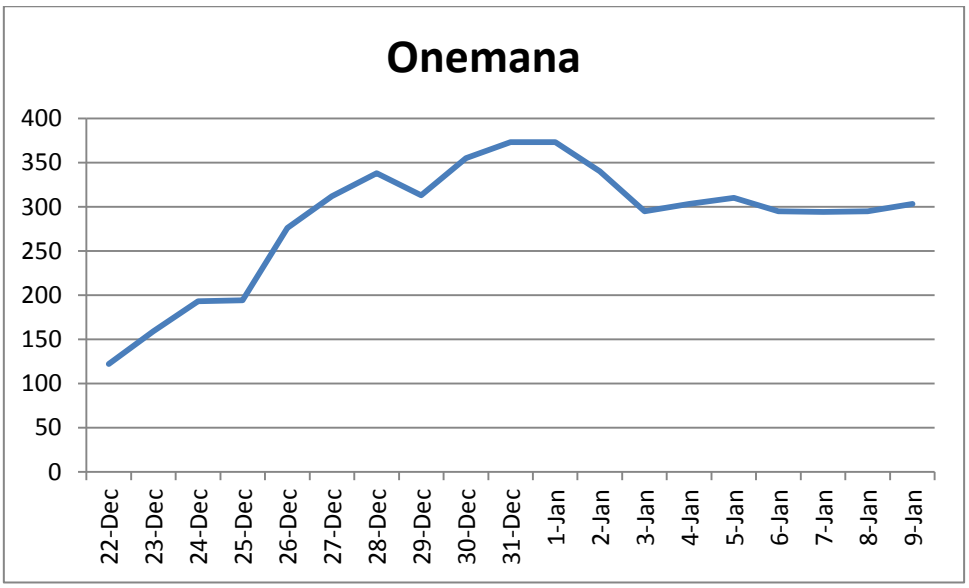
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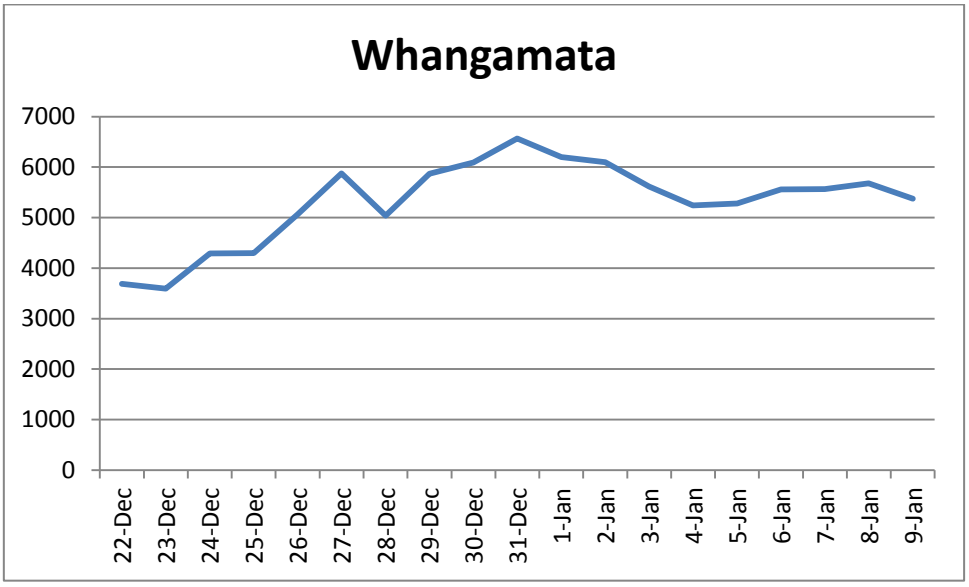
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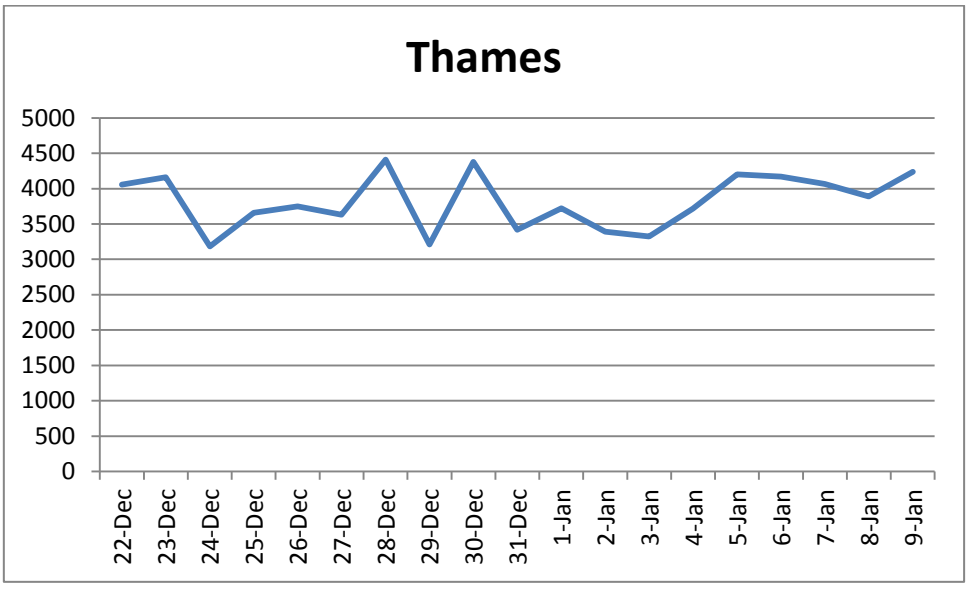
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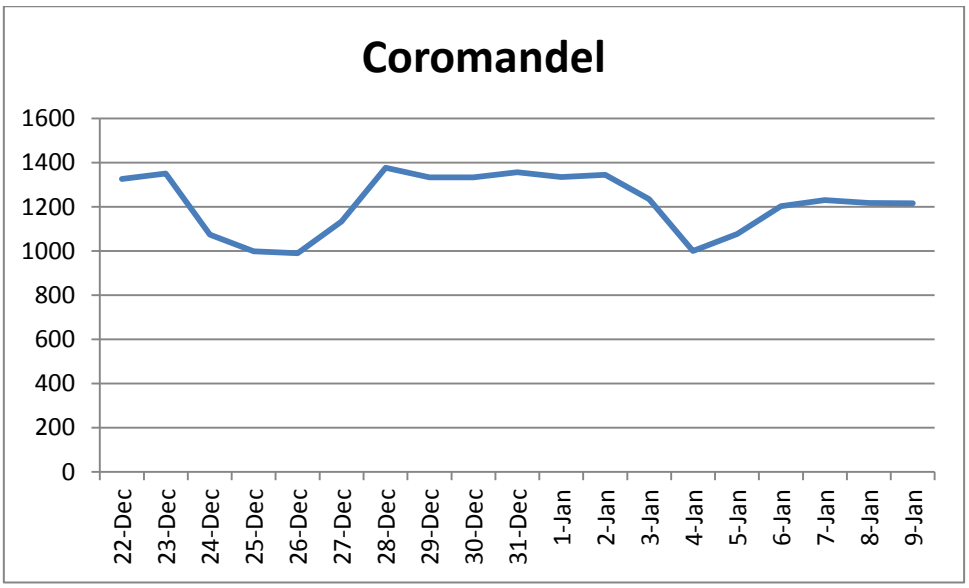
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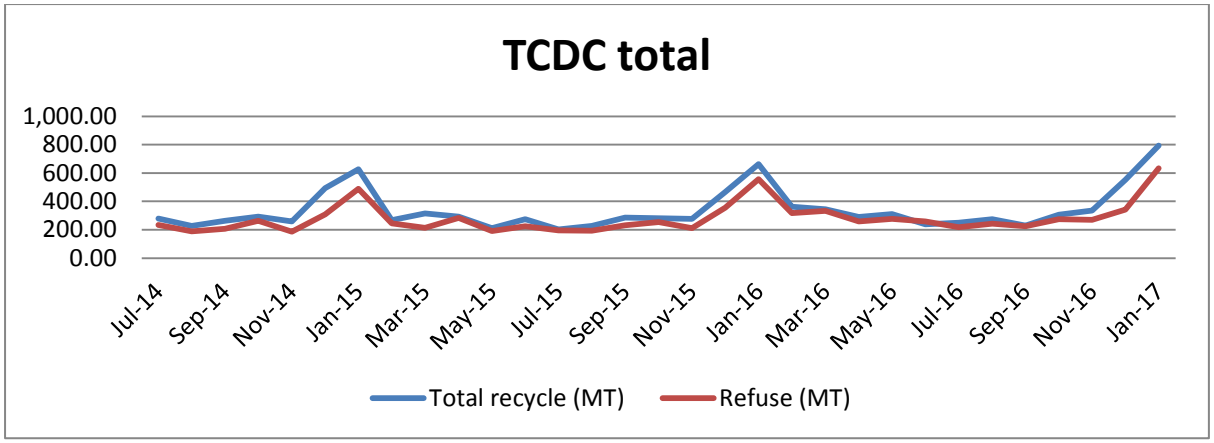
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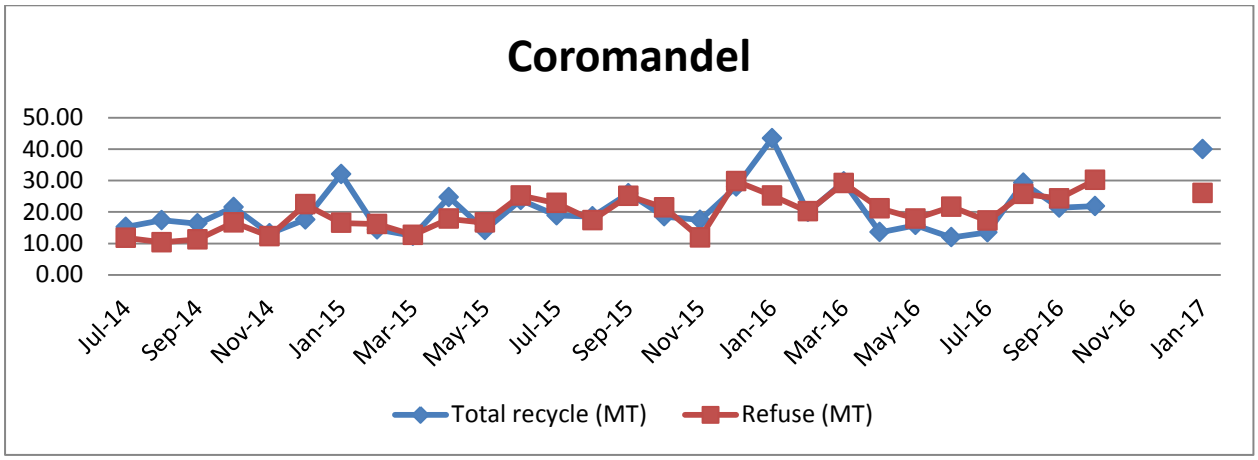
Nov-16
Jan-17
Total recycle (MT)
Refuse (MT)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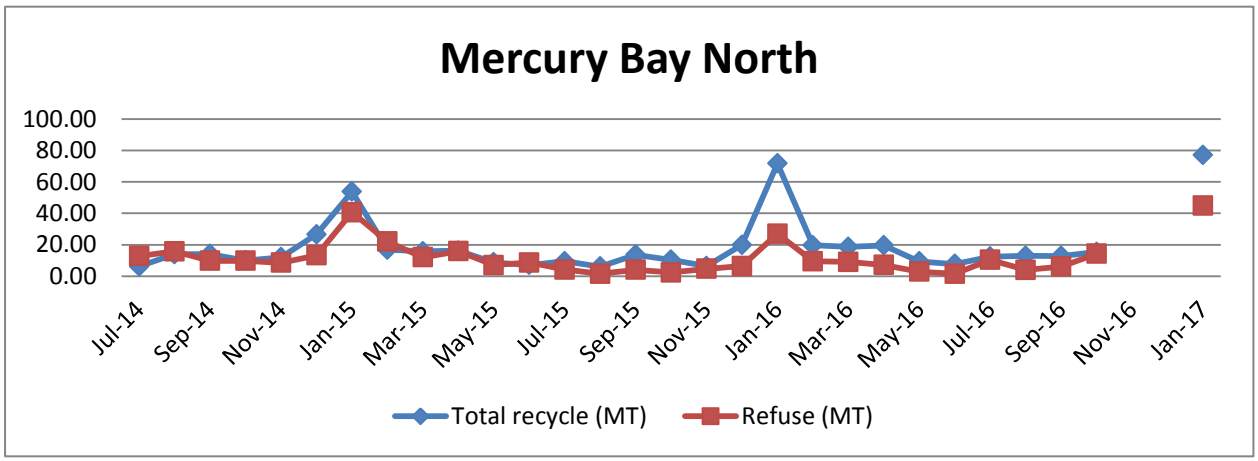
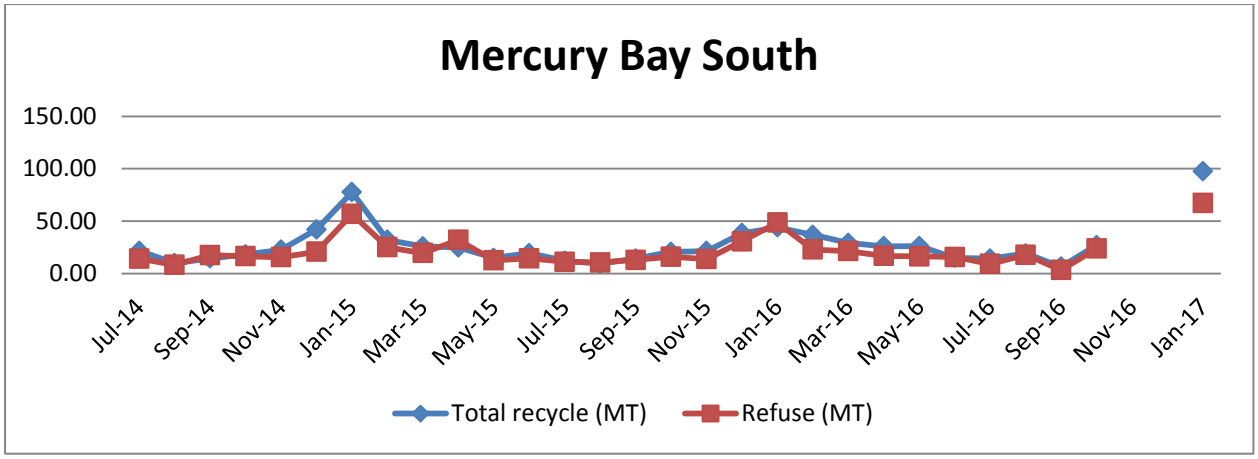
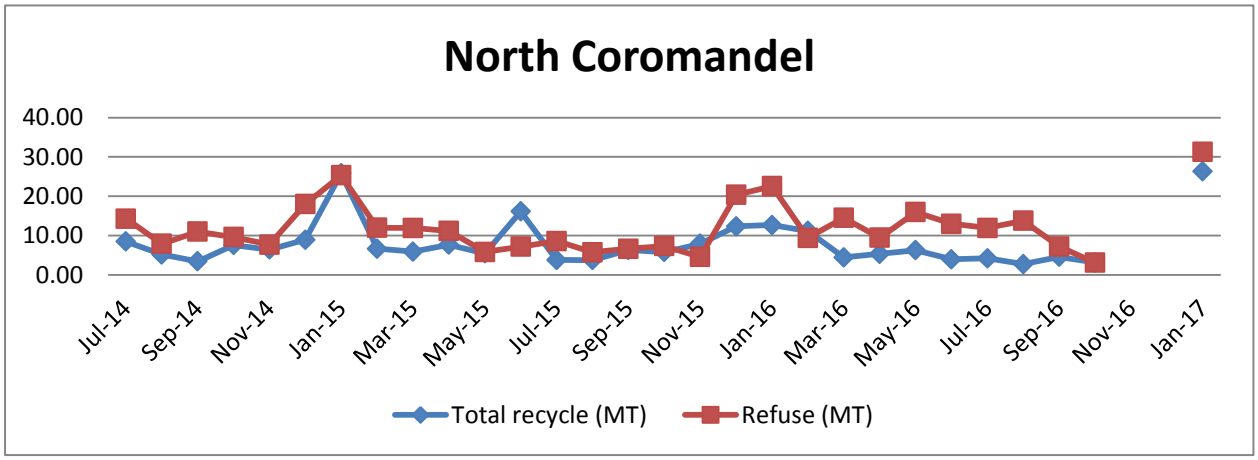
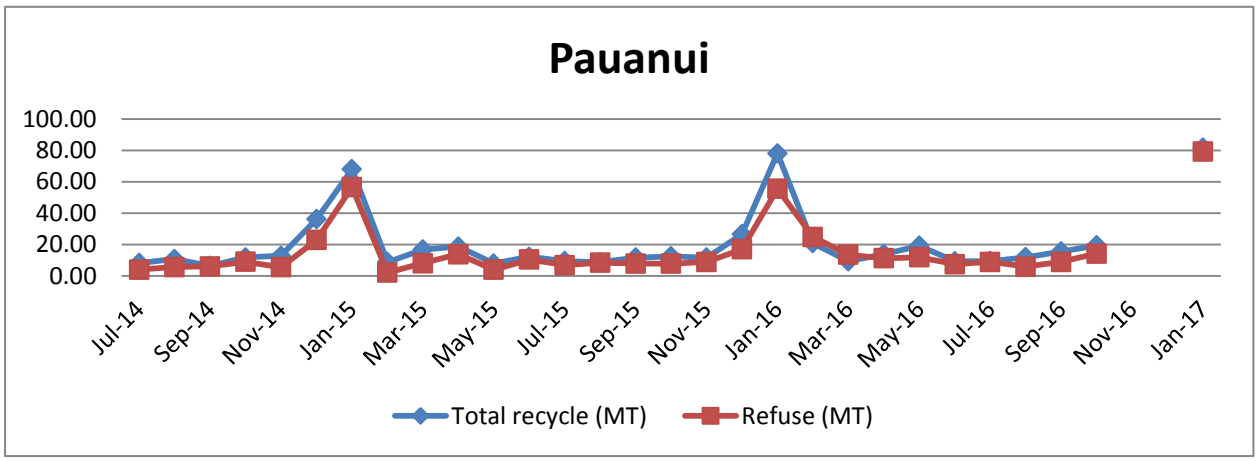
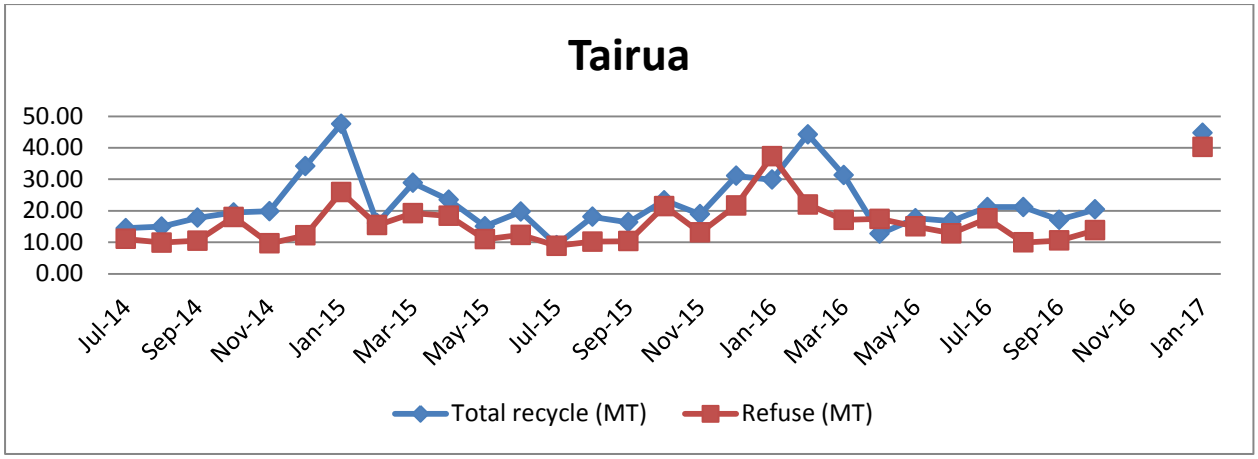
Mar-16
May-16
Jul-16
Sep-16
Nov-16
Jan-17
Total recycle (MT)
Refuse (MT)

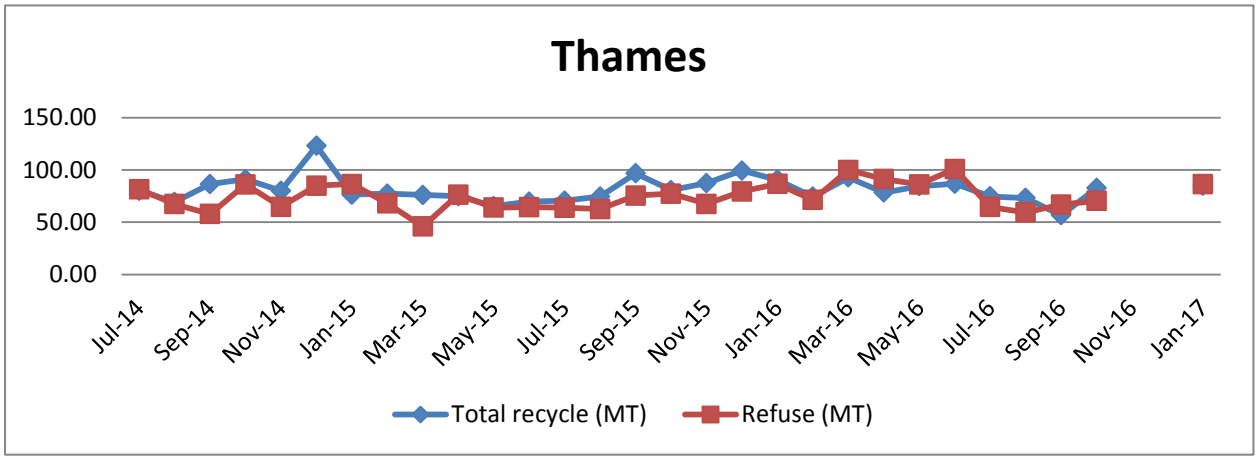

Mercury Bay North
100.00
80.00
60.00
40.00
20.00
0.00
Jul-14
Sep-14
Nov-14
Jan-15
Mar-15
May-15
Jul-15
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
Jan-17
Total recycle (MT)
Refuse (MT)

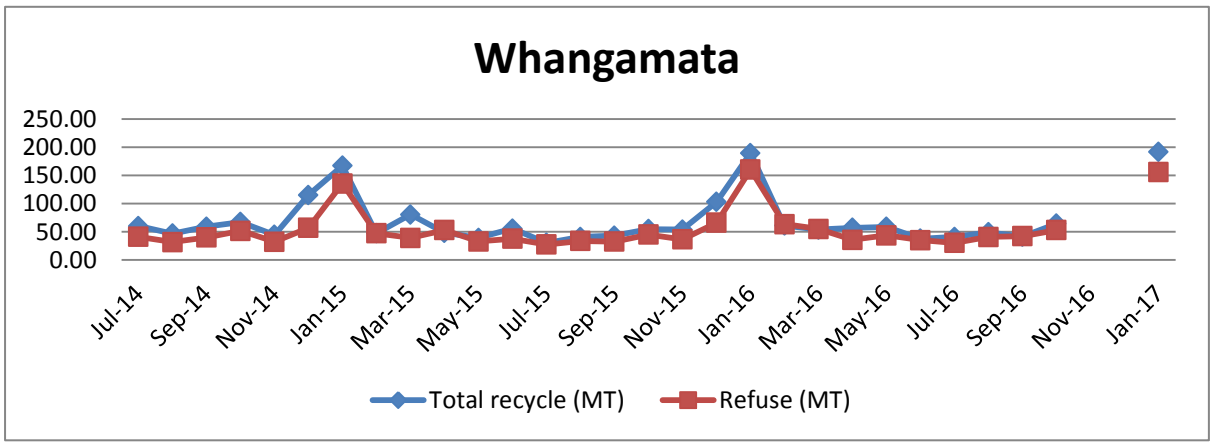

Mercury Bay South
150.00
100.00
50.00
0.00
Jul-14
Sep-14
Nov-14
Jan-15
Mar-15
May-15
Jul-15
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
Jan-17
Total recycle (MT)
Refuse (MT)

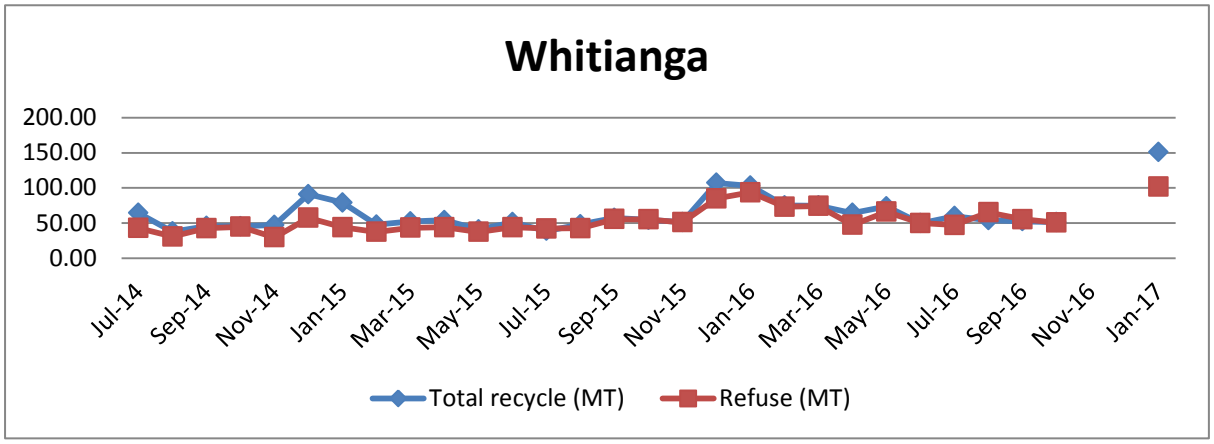

North Coromandel
40.00
30.00
20.00
10.00
0.00
Jul-14
Sep-14
Nov-14
Jan-15
Mar-15
May-15
Jul-15
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
Jan-17
Total recycle (MT)
Refuse (MT)


Pauanui
100.00
80.00
60.00
40.00
20.00
0.00
Jul-14
Sep-14
Nov-14
Jan-15
Mar-15
May-15
Jul-15
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
Jan-17
Total recycle (MT)
Refuse (MT)


Tairua
50.00
40.00
30.00
20.00
10.00
0.00
Jul-14
Sep-14
Nov-14
Jan-15
Mar-15
May-15
Jul-15
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
Jan-17
Total recycle (MT)
Refuse (MT)


Thames
150.00
100.00
50.00
0.00
Jul-14
Sep-14
Nov-14
Jan-15
Mar-15
May-15
Jul-15
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
Jan-17
Total recycle (MT)
Refuse (MT)

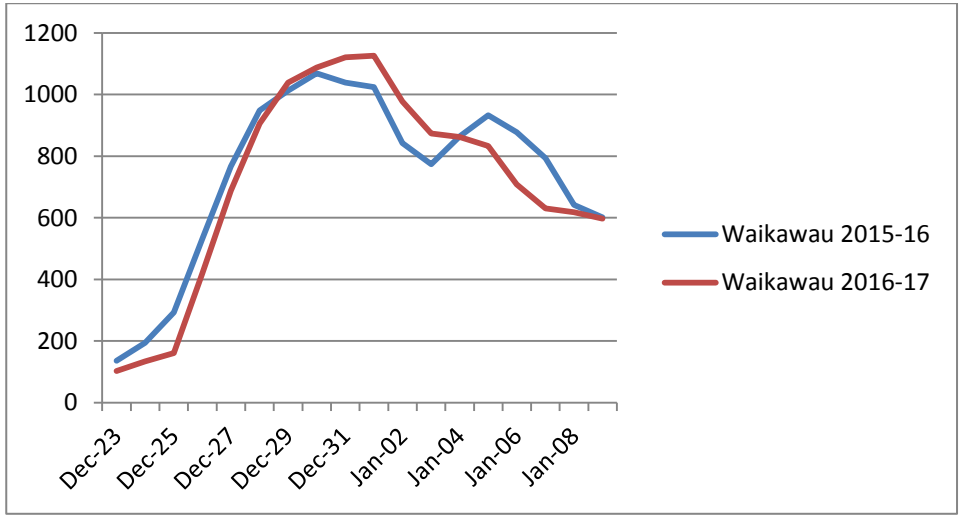

Whangamata
250.00
200.00
150.00
100.00
50.00
0.00
Jul-14
Sep-14
Nov-14
Jan-15
Mar-15
May-15
Jul-15
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
Jan-17
Total recycle (MT)
Refuse (MT)


Whitianga
200.00
150.00
100.00
50.00
0.00
Jul-14
Sep-14
Nov-14
Jan-15
Mar-15
May-15
Jul-15
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Jul-16
Sep-16
Nov-16
Jan-17
Total recycle (MT)
Refuse (MT)

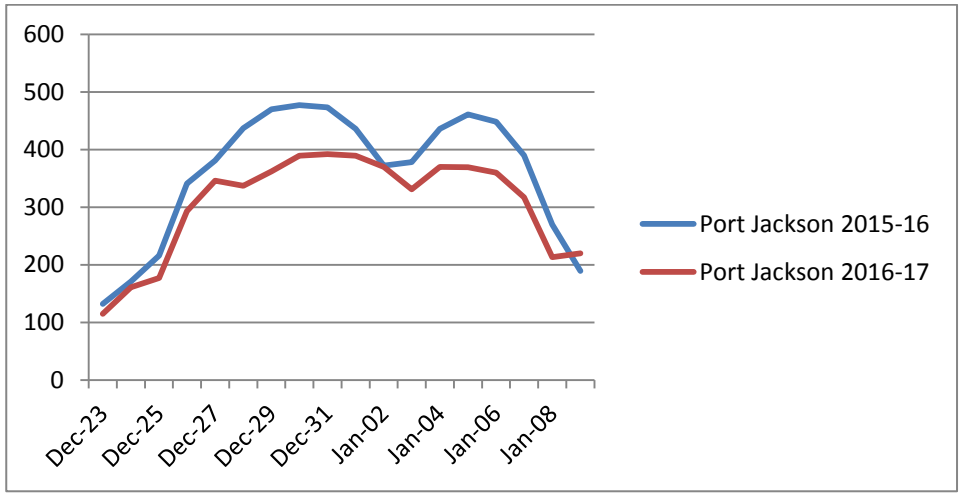
Department of Conservation Campgrounds (North of Coromandel)

2016-17	December									January								
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Waikawau	103	134	161	419	687	906	1039	1087	1121	1126	977	873	862	833	708	630	618	597
Port Jackson	115	161	177	293	346	337	362	389	392	389	370	331	370	369	360	317	213	220
Stony Bay	14	29	38	56	83	128	209	332	329	291	190	156	137	127	115	85	72	92
Fantail Bay	11	18	19	48	68	70	60	65	64	57	42	39	45	38	42	20	1	9
Fletcher Bay	33	50	67	83	181	202	211	268	309	299	239	160	164	130	106	76	44	33
Total	276	392	462	899	1365	1643	1881	2141	2215	2162	1818	1559	1578	1497	1331	1128	948	951

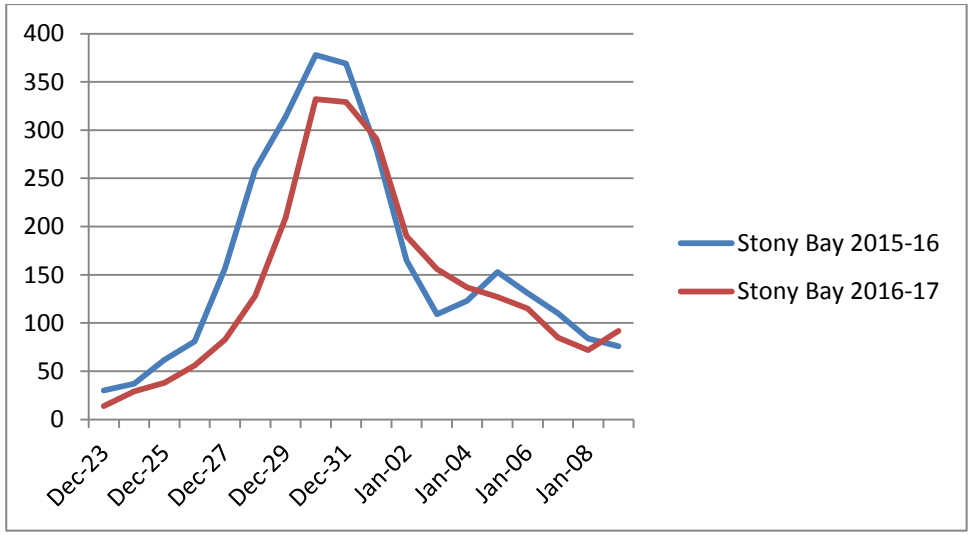
Waikawau Campground



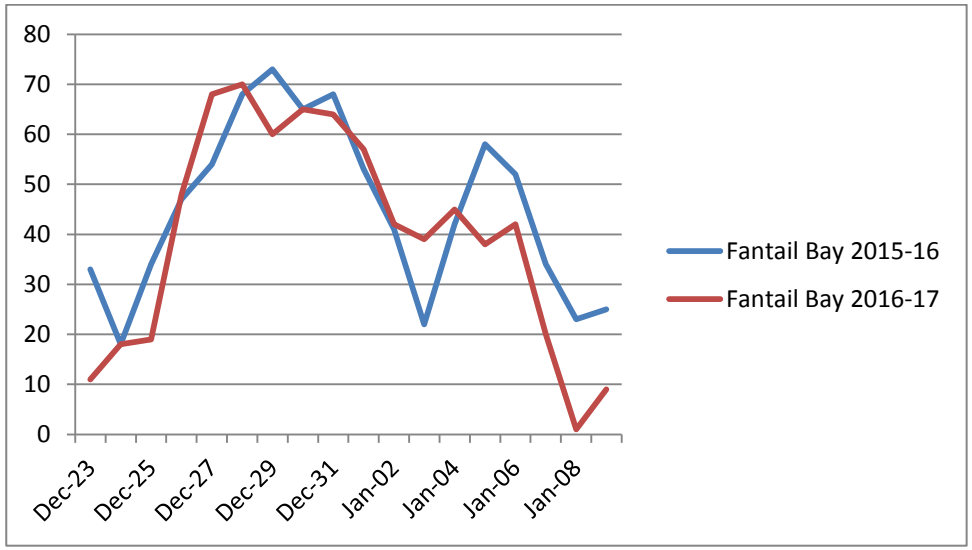
Port Jackson



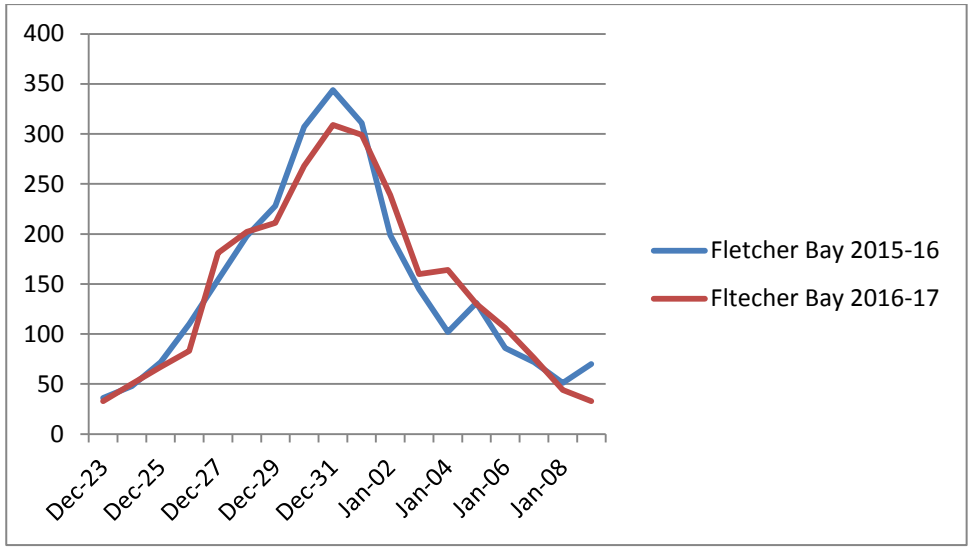
Stony Bay



Fantail Bay



Fletcher Bay



NZTA Traffic Count - Hikuai - 1.3km from Kitahi Road

	December 2016									January 2017								
	23	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Eastbound	4312	4309	4525	5983	6104	5313	4842	6650	5121	3093	4108	3354	3777	4087	4435	3507	2430	2911
Westbound	2138	1961	2222	2656	3823	3496	3777	4070	2725	5152	6707	6167	4696	4404	4957	4876	5941	4128
Total	6450	6270	6747	8639	9927	8809	8619	10720	7846	8245	10815	9521	8473	8491	9392	8383	8371	7039
*Estimated total people**	13545	13167	14169	18142	20847	18499	18100	22512	16477	17315	21630	19994	17793	17831	19723	17604	17579	15349

**Average number of people-per-vehicle*
The people-per-vehicle survey was carried out at the Kopu Bridge on 29 December 2009. The survey had a sample size of approximately 2,000 vehicles and a margin of error of 2% applies to the survey. The survey determined that on average, there were 2.1 people-per-vehicle during the summer peak period, as compared to an average of 1.6 people-per-vehicle at off-peak times