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South Atlantic Natural Capital Assessment: Understanding the value of land-based tourists in the Falkland Islands.



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Review table

Name	Reviewed by	Date
Version 1	Ness Smith	20/01/19
Version 2	Tara Pelembe, Paul Brickle	23/01/19
Version 3	FIG	16/04/19
Version 4		

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Introduction

This study was conducted by the South Atlantic Environmental Research Institute (SAERI) and its findings contribute evidence to a programme of natural capital assessment (NCA) being implemented by the UK Joint Nature Conservation Committee (JNCC) and conducted by SAERI in the UK South Atlantic Overseas Territories. Funded by the Foreign and Commonwealth Office (FCO) managed Conflict, Stability and Security Fund (CSSF), the work sits under its Environmental Resilience programme which includes objectives to integrate natural capital considerations into economic and social development planning.

Two consultation workshops were held in the Falkland Islands in February and July 2017 and resulted in priority areas being identified by on-island key stakeholders for further study. This analysis of land-based tourism was one of these priority areas. Particular thanks go to the Falkland Islands Advisory Group, Stephanie Middleton at FITB and Kevin Millington from Acorn Tourism Development Consultants for their help in preparing this report and to FIGAS for generously sharing their database with the NCA team.

Background

Tourism has become an important part of the Falkland Islands' economy which accounted for 4.3% of its GDP in 2016, and increase from 3.6% in 2014 (Figure 1). Government statistics follow United Nations World Tourism Organization (UNWTO) definitions and categorise visitors into leisure, visiting friends and relatives (VFR), business and transit. The 2017 Annual Tourism Report shows that there were 57,496 cruise visitors and 1,884 land-based leisure tourists for the 2017/18 season, both up on the previous year. Cruise ship passengers spent an average of £56.41 whilst on the Islands, amounting to an expenditure of £3.2 million.

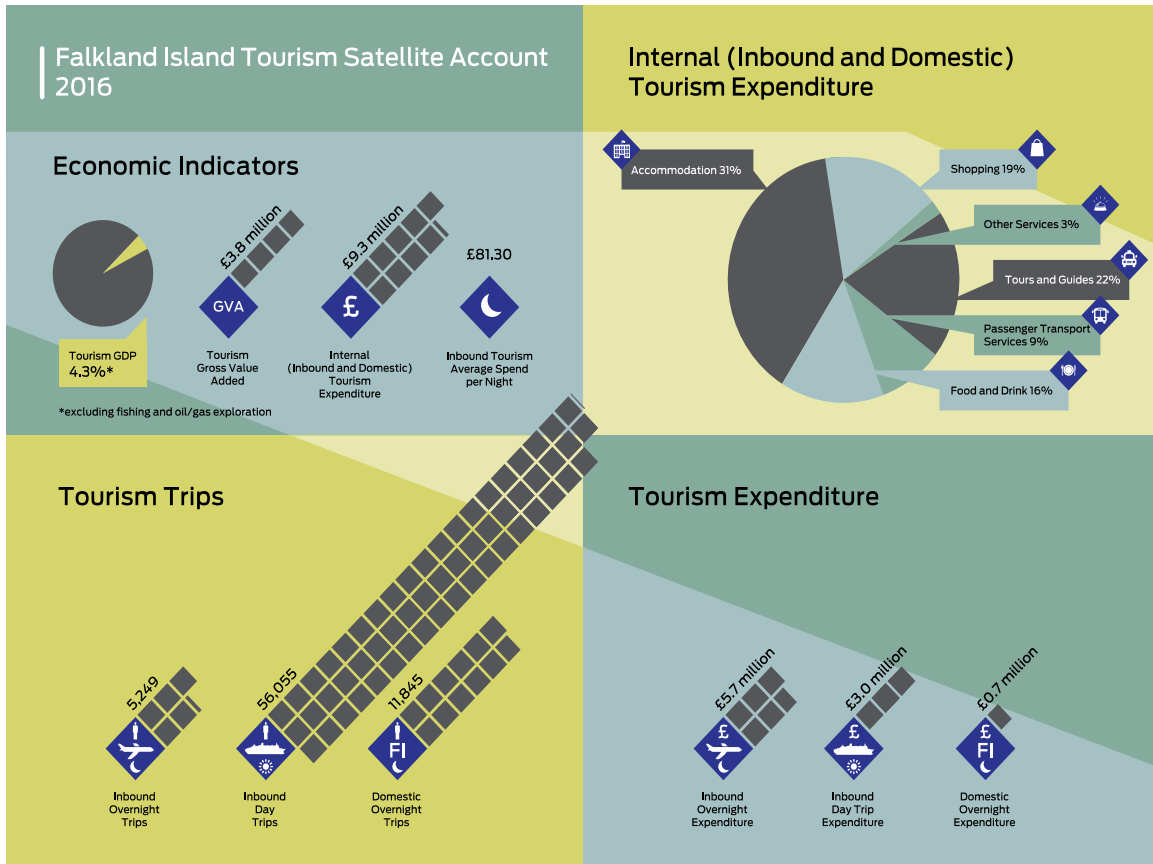


Figure 1: Falkland Islands Tourism Satellite Account, 2016. Source: Tourism Satellite Account report, 2016. FITB and Acorn Tourism Development Consultants.

Land-based leisure visitors, however, spent an average of just over 10 nights on the Falkland Islands with an average spend of £155.17 per night, resulting in a total spend of just under £3 million. This Figure is 28.3% up from the previous season and equates to 46% of all tourist expenditure in 2017. These Figures highlight the importance of land based leisure tourists to the Falkland Islands economy, despite their relatively low numbers.

The country of origin of land-based leisure tourists has shown significant change over the last ten years, with UK visitors dropping from a peak of 2,335 in 2007 to 584 in 2017. In the same time period Argentinian visitors have risen from 1 to 565. Other key points of origin are the USA, Germany and France (Figure 2).

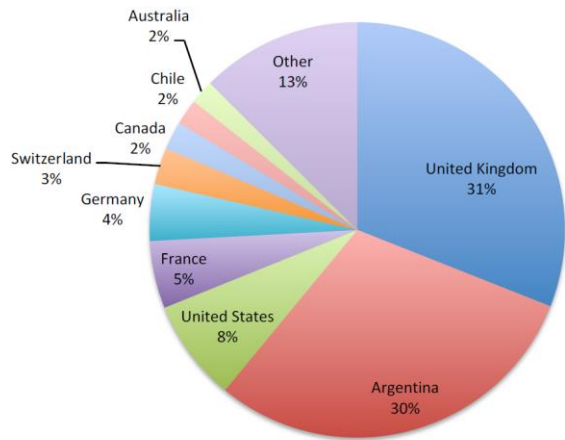


Figure 1: Country of origin for land-based leisure tourists to the Falkland Islands in 2017. Source; International Leisure Tourism Statistics Report, 2017. FITB.

Understanding the value of land-based tourists

Workshops held in 2017 highlighted tourism as a priority area for the natural capital assessment. The Falkland Islands Governments' 'Islands Plan, 2018-2022' sets out that FIG will 'Lead the development of a long term strategy and work with the industry to ensure the right infrastructure and economic conditions to support growth', which includes increasing accommodation and progressing the waterfront development plan. Workshop participants expressed concerns about the long-term sustainability of tourism, and people were keen to explore the trade-offs between quality versus quantity of visitors.

Following a series of meetings, it was established that Falkland Islands Tourism Board (FITB) already compile high quality tourism statistics. In addition to a cruise visitor survey, FITB also gathers information on the number, purpose of visit, country of origin and expenditure of visitors, accommodation occupancy, number of passengers carried by FIGAS and ferries, yacht visits and domestic expenditure. This is compiled into publically available [quarterly and annual statistics reports](#), and a Tourism Satellite Account is also produced (Figure 1).

Data on land based tourists are, however, particularly difficult to obtain as the tourists usually only spend a day or two in Stanley and the remainder of their time in Camp. Bed occupancy rates in Camp are not always reported and it is challenging to conduct exit interviews at MPA, where most land based tourists enter and leave the country. Given the economic importance of this category, there was a desire to better understand the value of land based tourists. Ideally a survey would have been conducted but, with existing difficulties in data collection and not wanting to impact on the MPA exit surveys, it was agreed with FITB not to pursue further primary data collection. A member of the NCA Falkland Islands Advisory Group therefore suggested that the Falkland Islands Government Air Service (FIGAS) might hold data which could reveal patterns of land based tourists' behaviour and which would therefore act as a proxy for value.

FIGAS is an essential part of the Falklands transport infrastructure and way of life. Its flights are becoming increasingly seasonal with land based tourists and local passengers making up most of its traffic. Passenger numbers have been increasing annually at a rate of 8.1% (Figure 3) and, for every flight, information on passenger names, residential status and

destination is recorded. The fleet consists of five Britten-Norman BN-2B planes although only two are currently in service for passenger flights.

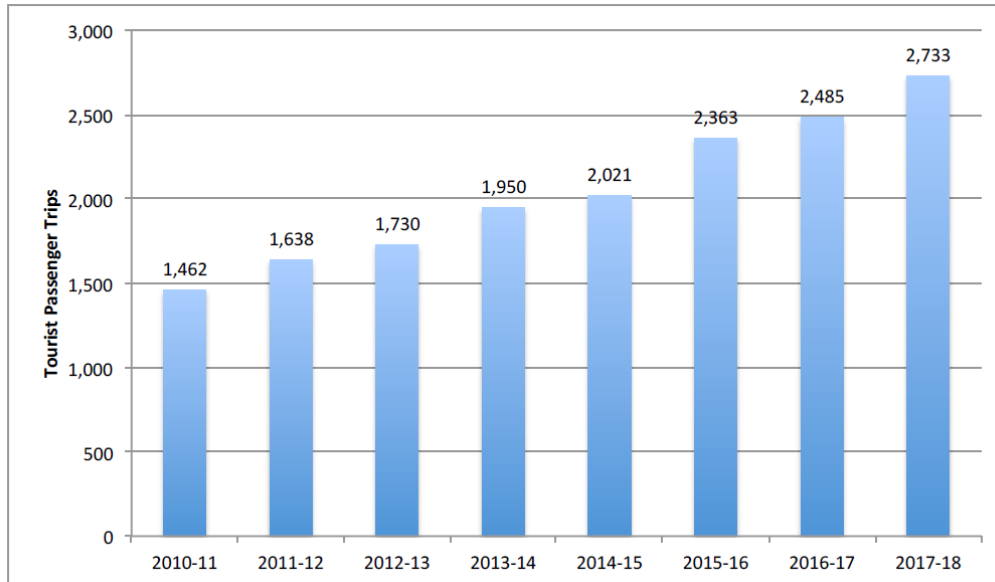
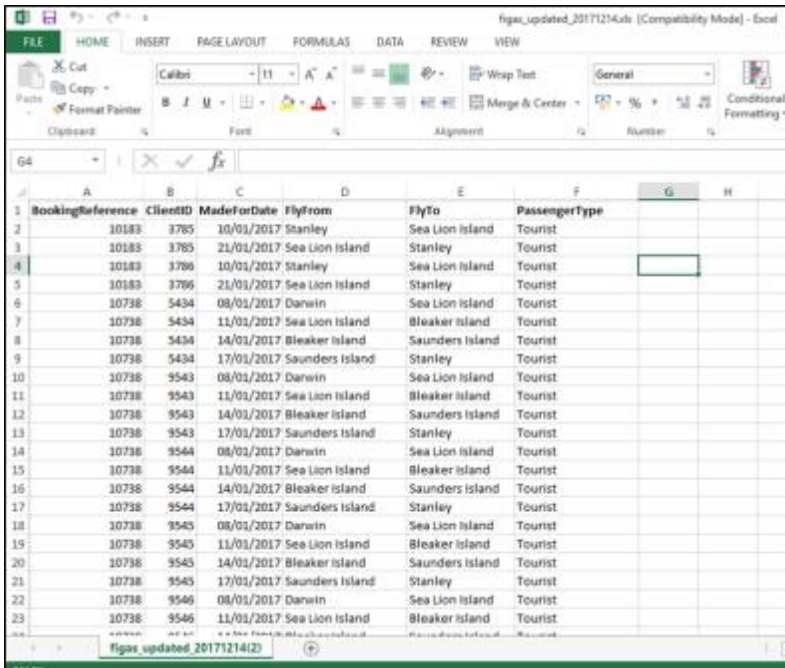


Figure 3: Number of leisure passenger trips 2010-2018. Source; International Leisure Tourism Statistics Report, 2017. FITB.

Methods

Data provided from FIGAS to FITB had, in the past, been highly aggregated and both organisations were not sure if it would be possible to break down those data to the level required. Raw data were provided by Synergy, who manage the database for FIGAS, in February 2018 and in the format below:



Data were manipulated in a new Excel spreadsheet to enable formatting prior further analyses, which included the determination of number of nights spent at each location per flight. Data were reordered under the following fields:

BookingReference	Reference to the individual booking. Allows number of flights per individual/year to be determined
ClientID	ID linked to a specific individual. Allows repeat bookings from the same person to be linked.
PassengerType	Residential status designation of the ClientID. Four categories; Stanley Resident, Camp Resident, Tourist and Temporary Resident.
Nights	Number of nights spent by each ClientID for each flight/trip undertaken.

Data were then manually cleaned to remove:

- Values that did not correlate to a flight.
- Trips from which there was only one leg of the journey. Missing legs may have been due to time of year data were received; i.e. it's possible the first part of the trip was taken in 2016.
- Trips by the same person in one direction only. It is important to note that as it's possible for residents to drive to settlements on West Falkland via the ferry, and tourists are able to drive on East Falkland, it is not always possible to capture round trips from FIGAS data alone.
- Multiple flights where it is unclear how many nights were spent at each location on the trip; i.e. where the person may have driven between two locations.
- Flights taken by a ClientID assigned with two or more PassengerType identifications. If only one variation was found, the predominant PassengerType was taken and data were retained.

The cleaned data were imported to PostgreSQL spatial database and queried to determine the following information:

- Total number of passengers
- Total number of flights taken per passenger type
- Total nights spent per trip per passenger type
- Average nights spent per trip per passenger type
- Total number of trips made per quarter per passenger type

This information was then mapped in QGIS. To ensure actual values were not disclosed, normalised data – i.e. relative values – were used.

Results

Mapped results are available through the IMS-GIS centre and are set out below. Please note that returns of '0-0' indicate no flight was made, but enables mapping of individual airstrips/airports.

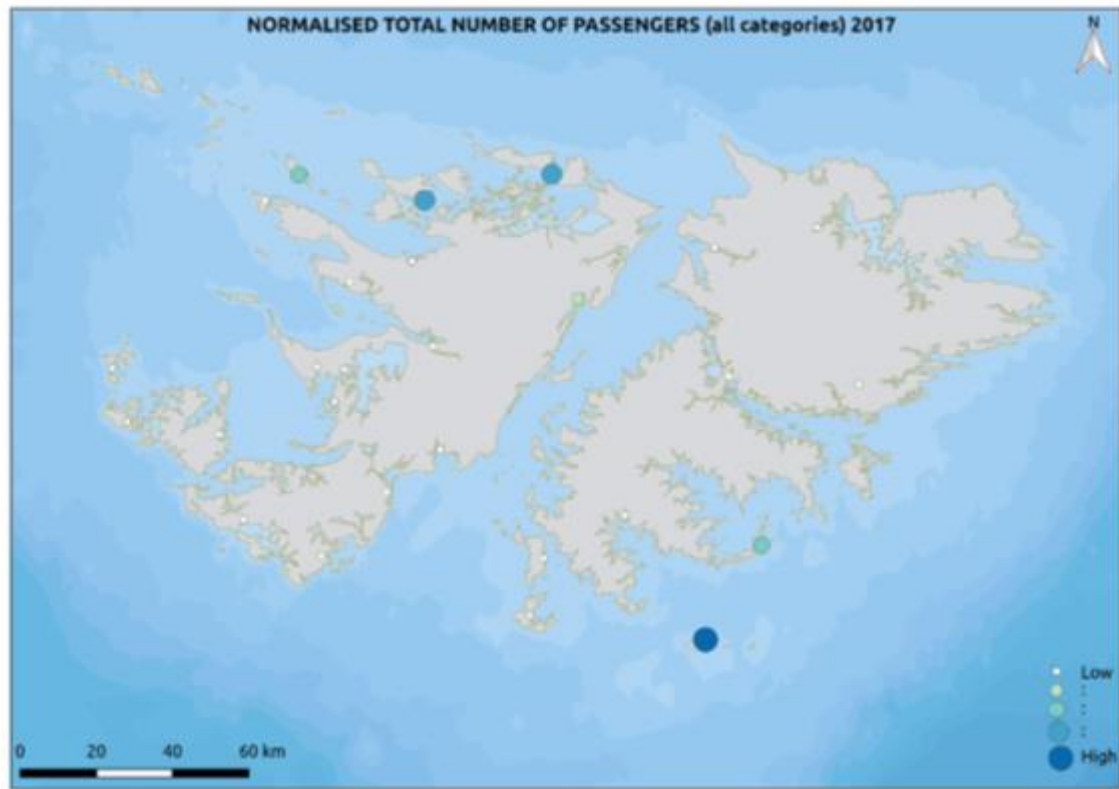
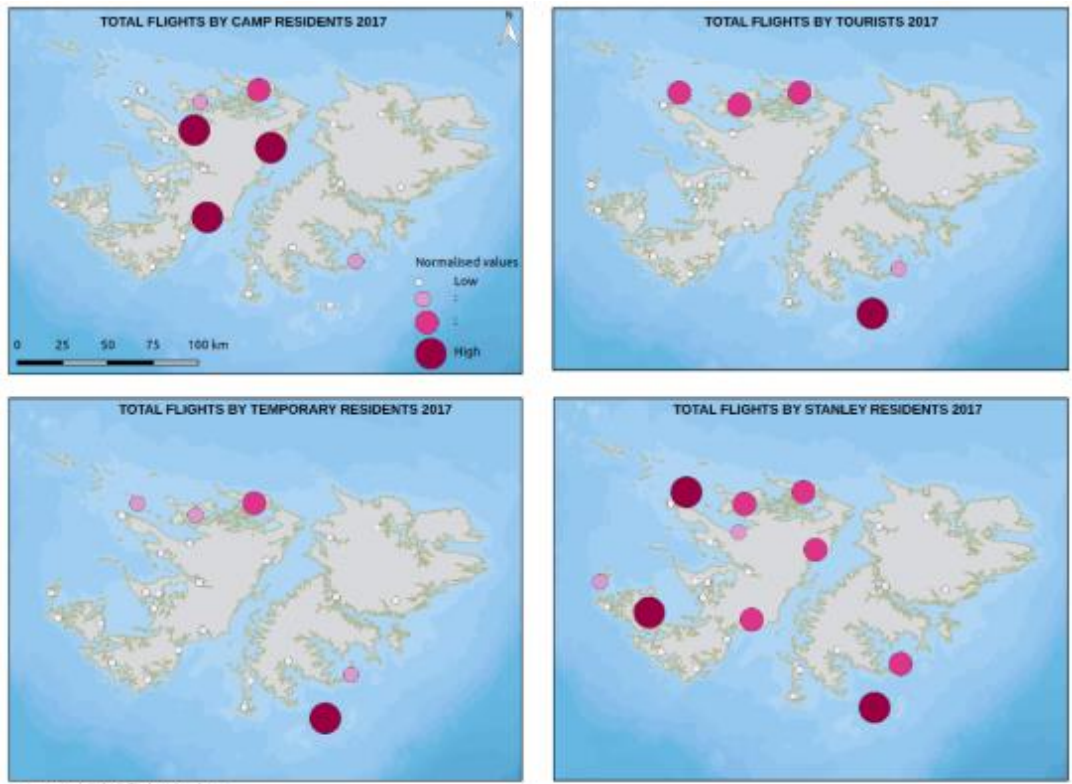
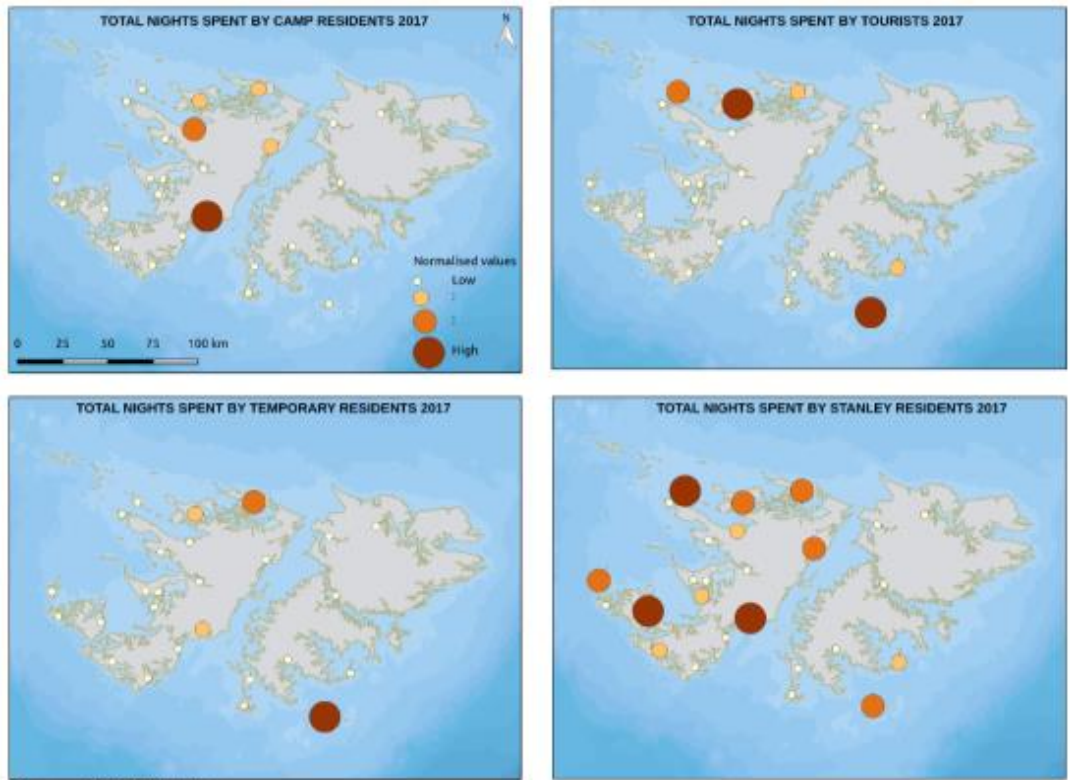


Figure 4: Total number of passengers carried by FIGAS in 2017



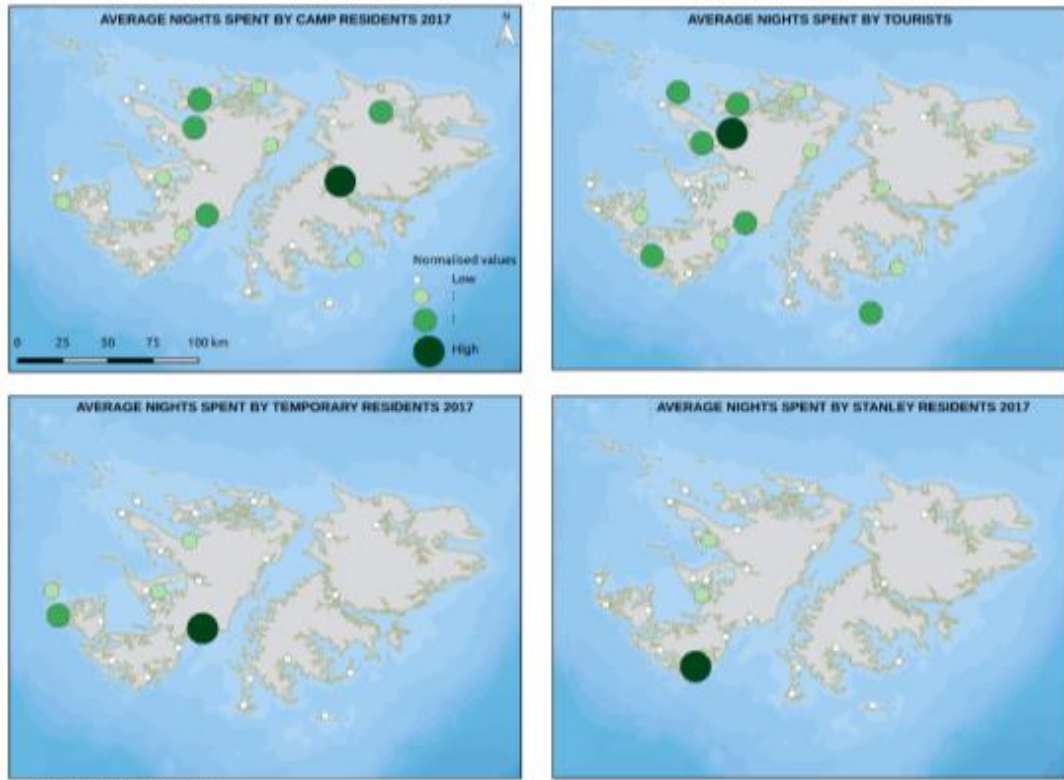
Data source: FIGAS flights database

Figure 5: Total FIGAS flights in 2017 per passenger type



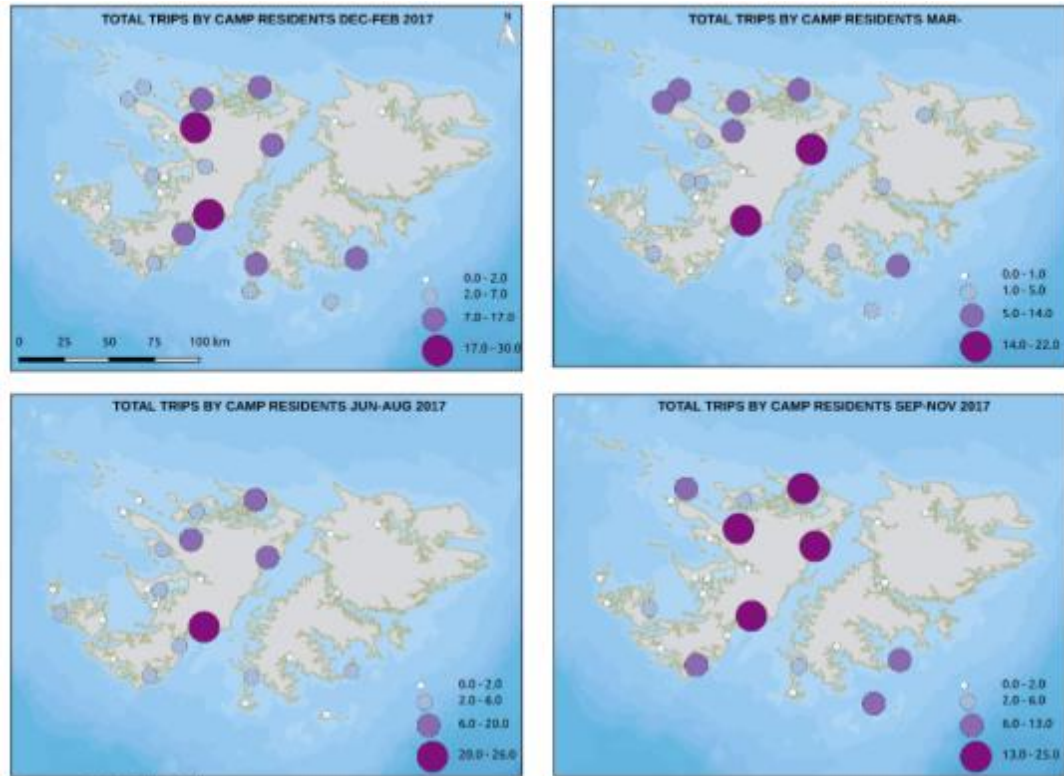
Data source: FIGAS flights database

Figure 6: Total nights spent per trip in 2017 per passenger type



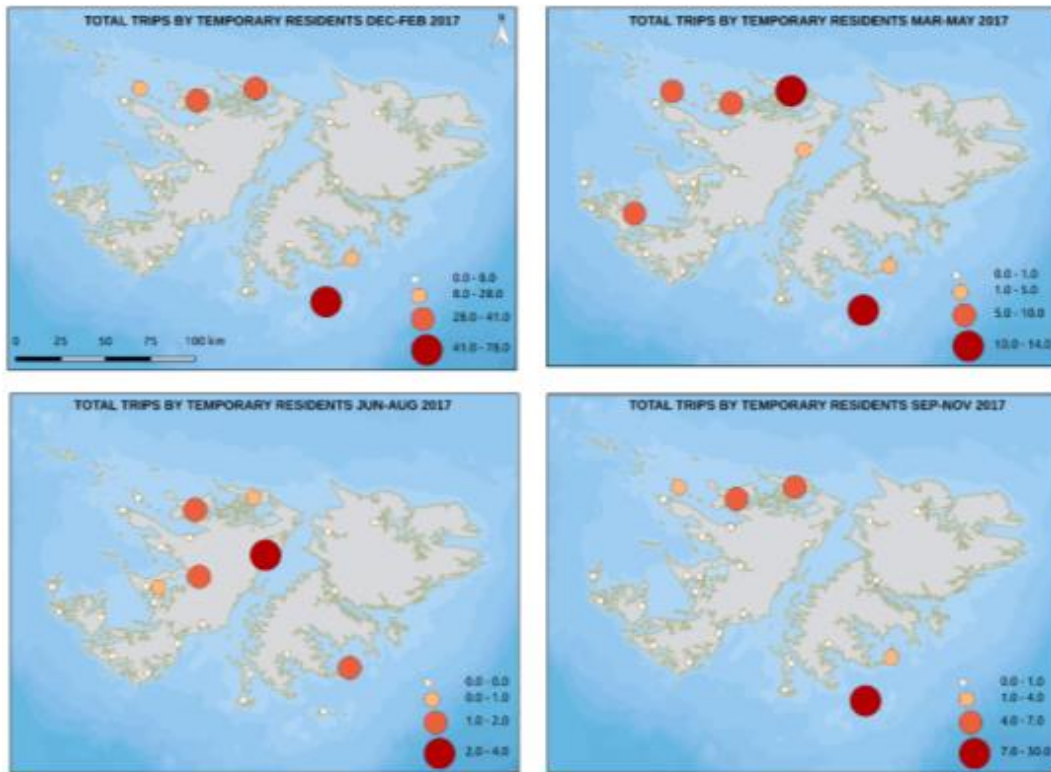
Data source: FIGAS flights database

Figure 7: Average nights spent per trip in 2017 per passenger type



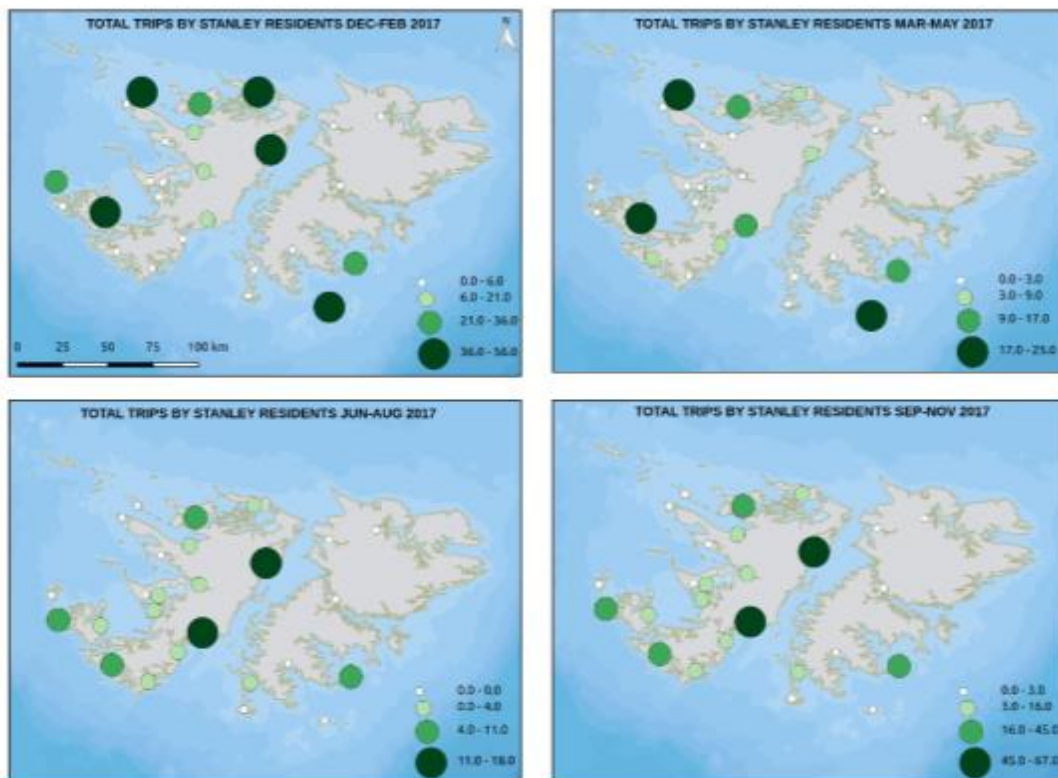
Data source: FIGAS flights database

Figure 8: Total number trips by Camp residents in 2017 per quarter



Data source: FIGAS Flights database

Figure 9: Total number trips by temporary residents in 2017 per quarter



Data source: FIGAS Flights database

Figure 10: Total number trips by Stanley residents in 2017 per quarter



Figure 11: Total number flights, total and average nights spent by land based tourists in 2017

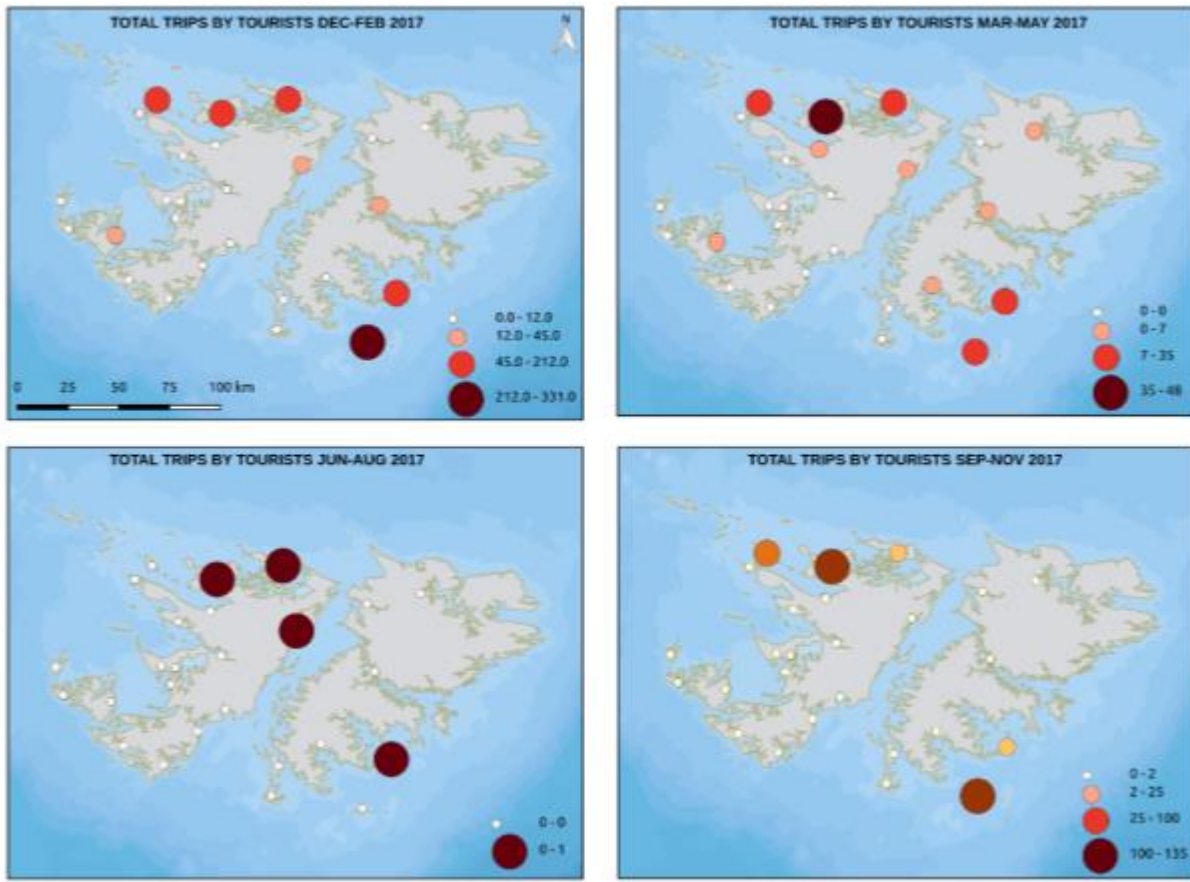


Figure 12: Total number trips by land based tourists in 2017 per quarter

Conclusions and recommendations

Cleaning and mapping FIGAS data has revealed clear patterns amongst all four passenger types. Focusing on land based tourists it can be seen that they favour islands over mainland destinations and West Falkland over East Falkland - taking more trips to and spending longer on the former (Figure 11). Four islands emerge as being the most visited; Sea Lion, Pebble, Saunders and Carcass (Figures 11 & 12). Visits to Sea Lion Island clearly coincide with important wildlife events such as the elephant seal breeding season and higher presence of orca at this time, as well as breeding penguin colonies (Figure 12). This also holds true for temporary and Stanley residents (Figures 9 & 10). Correlations between other Islands and

wildlife presence is less clear. It should be noted however that tourism in the Falkland Islands is highly seasonal (summer being peak season) and this also coincides with peak wildlife activity making it difficult to draw strong conclusions without further analysis. The mapping exercise also highlights the contribution which Stanley and temporary residents make to the Falkland Islands economy through trips to popular tourism destinations (Figures 9 & 10). This is particularly noticeable in the off-peak tourism season, providing valuable income during the quieter months.

Building on what has already been achieved, further work is recommended:

- FIGAS continues to develop a consistent approach to categorising passenger type, and to note if someone's residential status has changed. This will lead to a more accurate analysis and save time in data cleaning.
- Training in the spatial database in PostgreSQL, which links to QGIS, is conducted. This has already been developed and will enable a semi-automated process to be run.
- FITB to use the data to help plan future marketing activities around popular destinations, FIG to target infrastructure improvements and developments and for FIGAS to better plan for future demand.
- Resulting maps are overlaid in QGIS with environmental data such as annual seabird counts, seabird round-island census and marine mammal locations. This will enable more accurate correlations between wildlife and popular tourist sites to be determined – i.e. which species attract tourists the most - as well as identify any correlations between the number of tourists and changes in wildlife numbers, which can be used as an indicator of change.
- FIGAS mapped data are compared to existing accommodation occupancy data to determine accuracy of methods. This will validate methods and also potentially highlight where occupancy data are missing.
- A more in-depth survey of land based tourists over peak season which would assess where and how long tourists are staying, and which elicits information on why they chose to visit the Falkland Islands and the key attributes they value. This would make an ideal MSc project which could be facilitated through SAERI.
- An environmental impact analysis of tourism which should include cruise ship impacts such as carbon emissions and diffuse pollution, as well as terrestrial impacts such as off-roading to reach wildlife sites (earth observation techniques would work well), waste management, visual and cultural impacts.