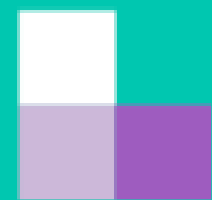
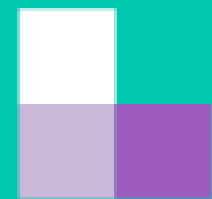


Community Noise Report

Sandridge

May - August 2018



London
Luton
Airport

Introduction

As part of the ongoing noise monitoring programme, London Luton Airport deployed a portable noise monitoring terminal in Sandridge.

The purpose of the monitoring programme is to understand the typical noise levels created in the local community, for Sandridge it specifically related to departing aircraft during westerly operations on our MATCH departure route.

The noise monitor was located in Belsize Close, 500m from the center of Sandridge village between the 15th May to 14th August 2018.

The monitor was located under the westerly Match/Detling departure route, with aircraft taking approximately 22 track miles before reaching the monitor. The altitude at the monitor was 360ft above mean sea level.

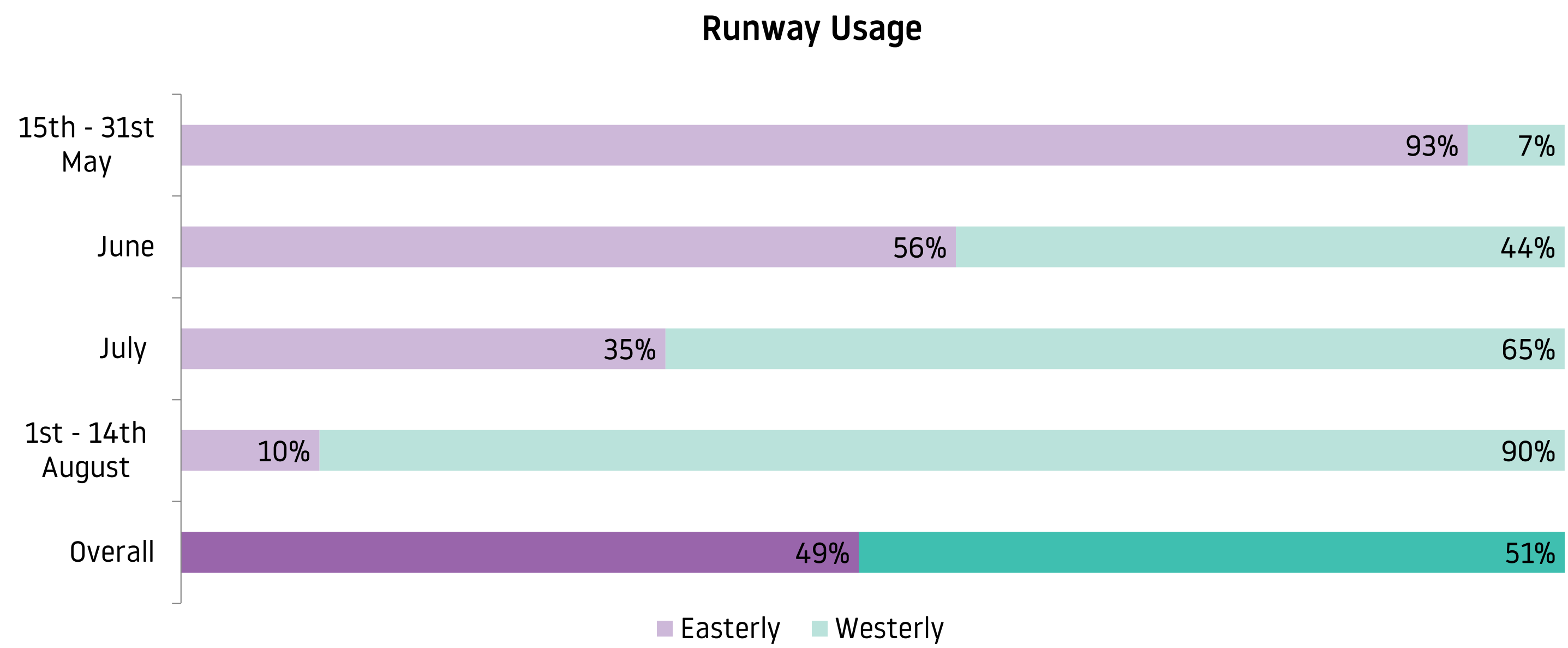
Aircraft noise and tracks recorded were extracted from LLA's noise and track-keeping system. This document evaluates the lateral and vertical positioning of aircraft near the monitor as well as the noise recorded at ground level.



LLA Operations During the Monitoring

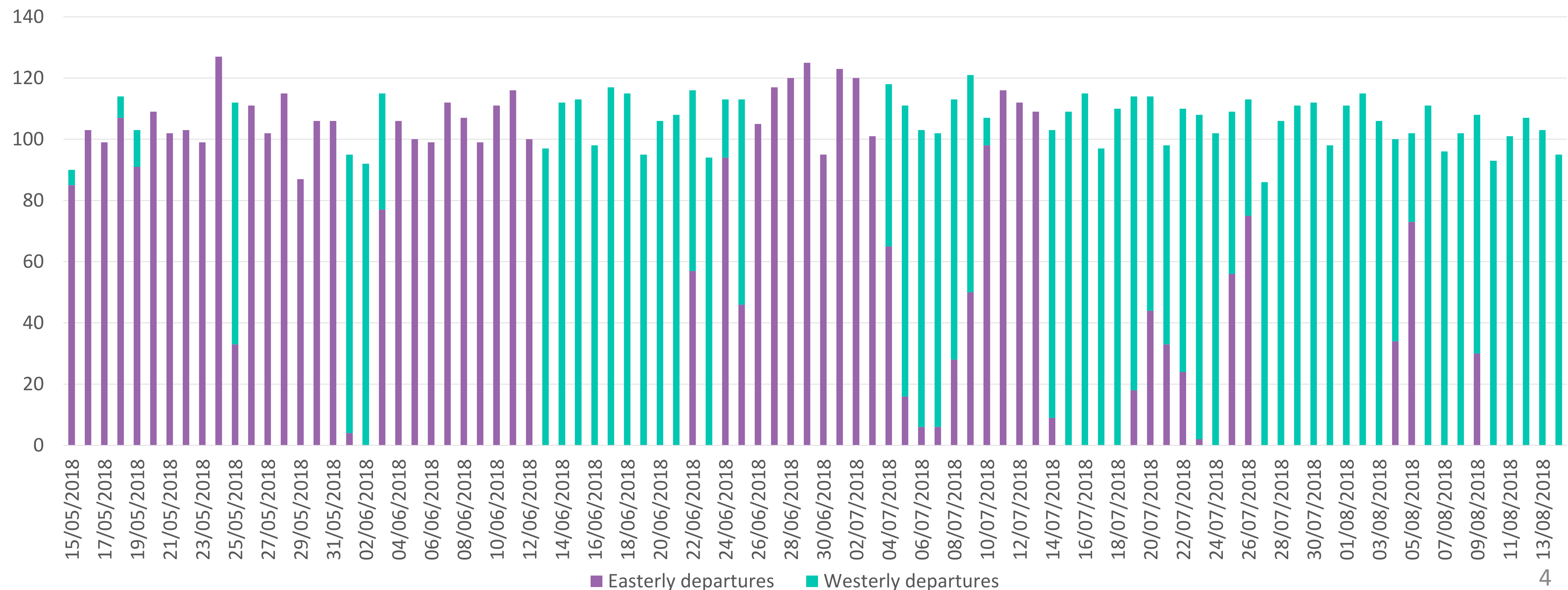
During the period of monitoring the direction of operation was 49% Easterly and 51% Westerly. The 5 year average for this time of year is 32% Easterly and 68% Westerly therefore residents would have experienced less days of aircraft activity than in previous years.

9,848 aircraft departed on the MATCH westerly departure route whilst the monitor was located in Sandridge.



Daily Movements During Monitoring Period

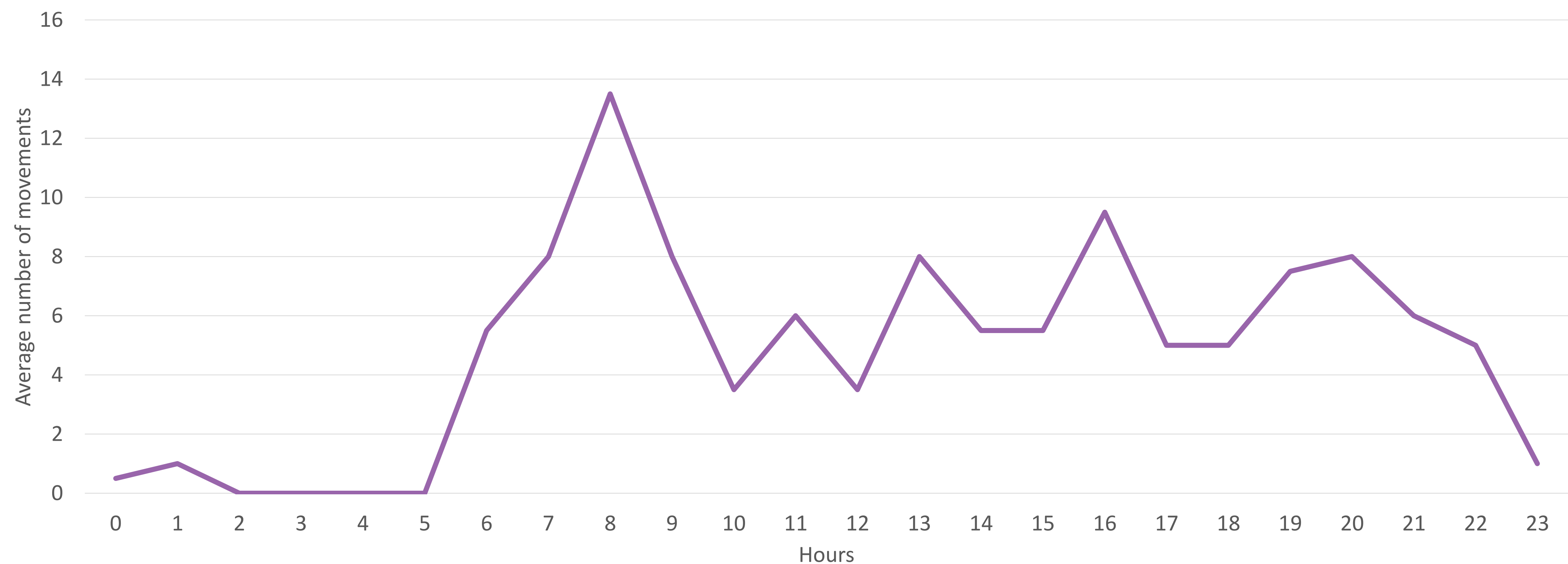
The chart below shows the number of daily movements for aircraft departing on the Match Departure route with a split between Easterly and Westerly operations. For those days where there are Easterly and Westerly operations, this indicates that during the day we switched runway operations. Due to the location of Sandridge, all flights that departed on our MATCH route whilst on Westerly operations would have flown nearby the monitor and therefore captured data. During the monitoring period there were 33 days of Easterly operations and therefore no flights passed near the monitor on these dates.



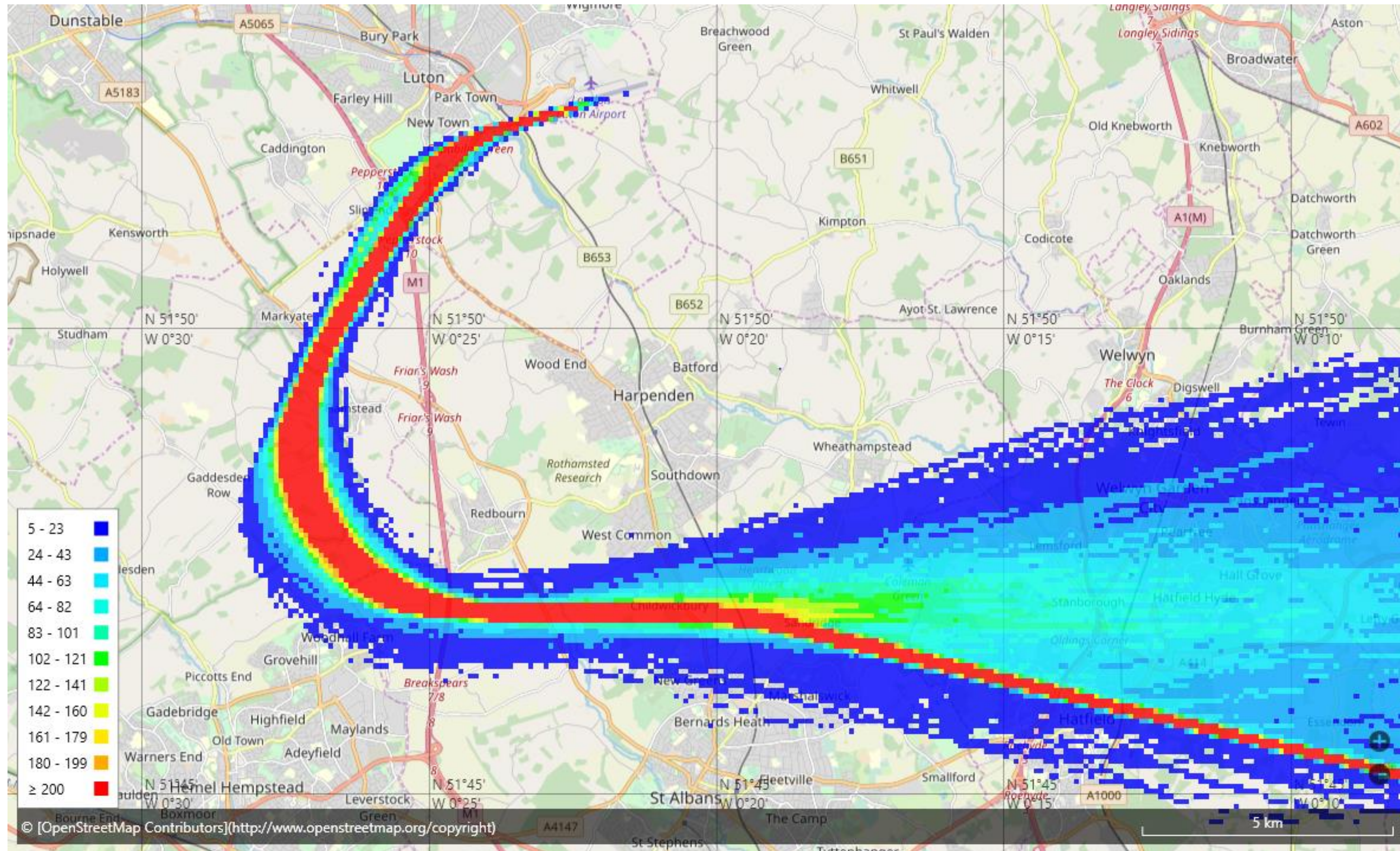
Operations during the monitoring period

The graph below represents the average number of departures during the monitoring period. During the peak periods, local residents of Sandridge may notice more aircraft in the airspace. We saw peak periods early morning, lunchtime and evening after which we see a steady decline from 20:00 as we approach the night period.

During the night period of 23:00 – 06:00 we saw an average of 3 departures compared to 4 for the previous year showing a small decrease in night time operations.



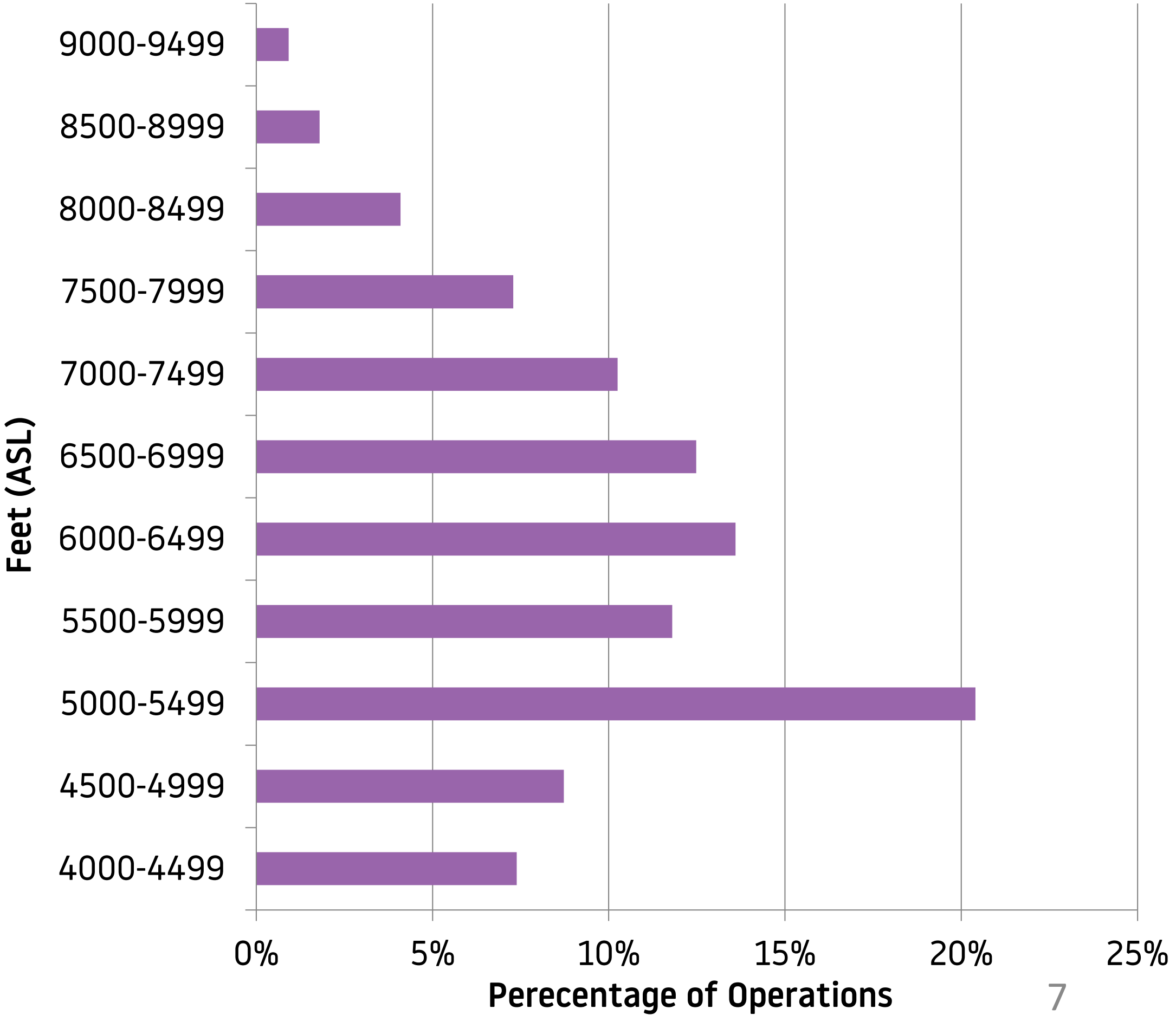
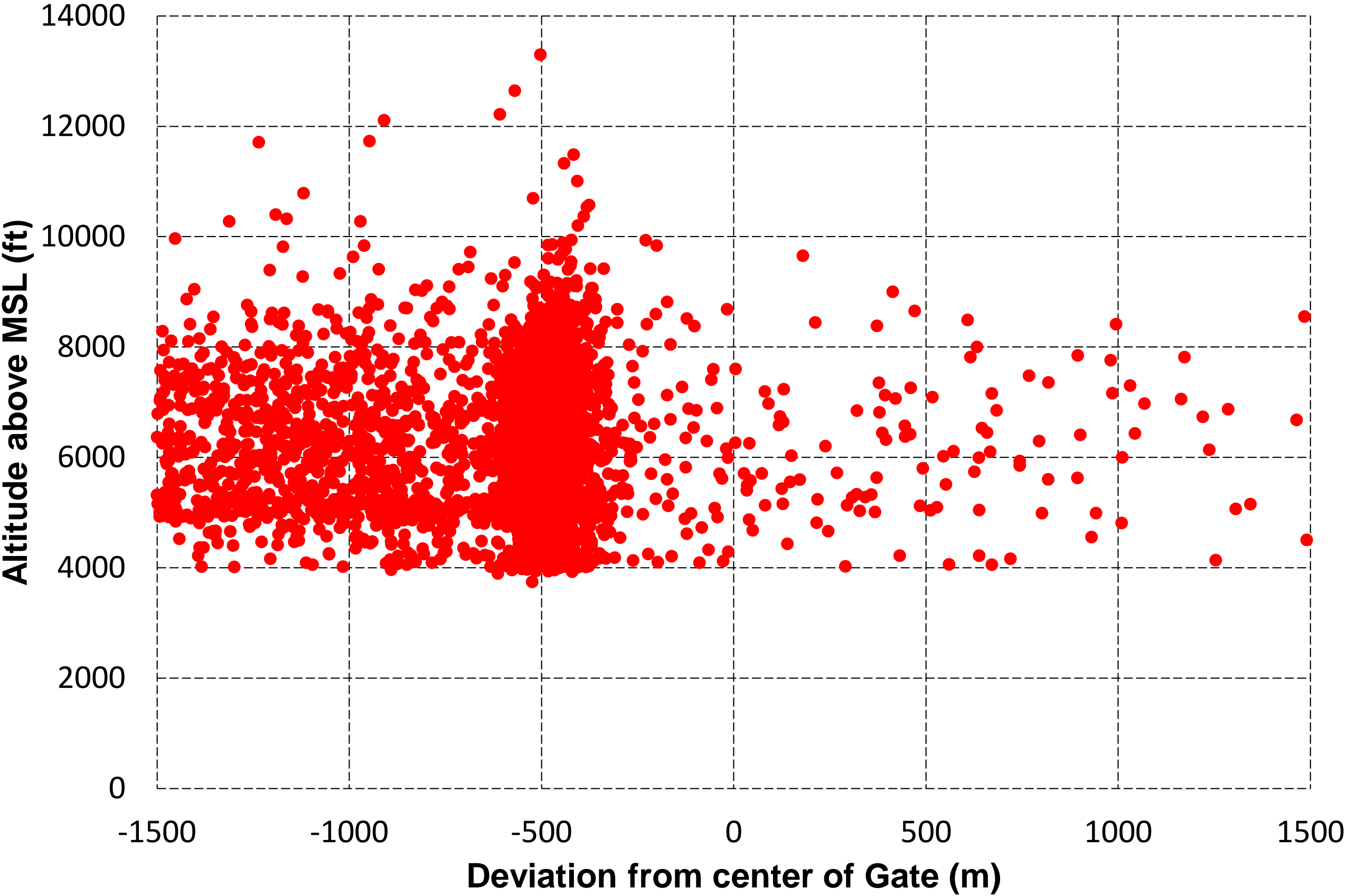
Aircraft Tracks During the Monitoring Period



The plot density map shows the 4,640 flight tracks that passed near the monitor during the monitoring period.

Altitude analysis During Monitoring Period 2018

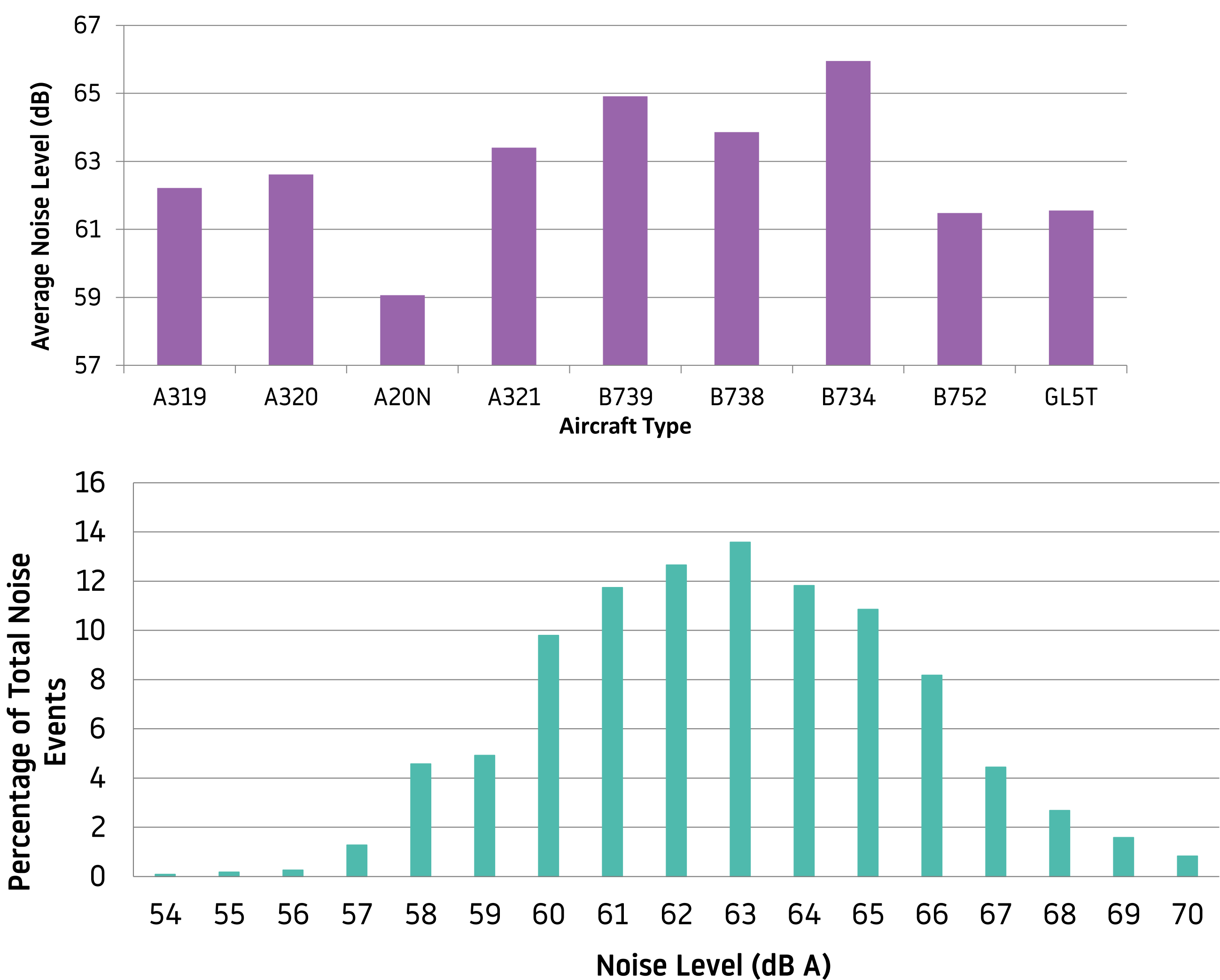
Altitude analysis shows the vertical and lateral dispersion of aircraft between 15th May – 14th August 2018. The chart below shows that 50% of all flights were above 6000ft when passing through the gate. The average altitude of aircraft in the area is 6140ft above mean sea level.



Noise Results During Monitoring Period 2018

During the monitoring period, noise results were gathered from various aircraft types, the most common aircraft types are shown in the table below.

Aircraft Type	Number of movements
A319	201
A320	1,119
A20N (A320 NEO)	17
A321	519
B739	30
B738	188
B734	24
B752	20
GL5T	24



Summary

- During the monitoring period, the airport was using westerly operations for 51% of the time, whereas the 5 year average for this time of year is almost 70%.
- The average altitude for the period was 6140ft which is in line with the monitoring conducted at a slightly earlier time in 2017
- The results gathered by the noise monitor show a slight increase in decibels for the average Lasmax compared to the monitoring conducted in 2017 but still lower than those gathered from the 2014 monitoring. The average has increased by less than 2dB which is considered to be an imperceptible change as the human ear is not capable of distinguishing noise levels with a change of less than 3dB.
- In 2018 temperatures during the period of monitoring were particularly high and aircraft climb performance is negatively affected in higher temperatures, as the average latitude has largely remained unchanged it is likely that the slight increase in decibels is due to aircraft working slightly harder to maintain the altitudes. Other factors that could be contributing factors are weight of aircraft and Air Traffic Control procedures.
- The main aircraft types seen during the monitoring period were A320 and A321's.

Glossary of Terms

Westerly Operations: As aircraft take off and land into the wind, westerly operations refers to the time when the wind is blowing from the west and aircraft follow the departure routing in the direction of Sandridge.

SID: Standard instrument departure, is the published route that an aircraft must follow on departure.

Aircraft Movement: A single aircraft departing or arriving at the airport.

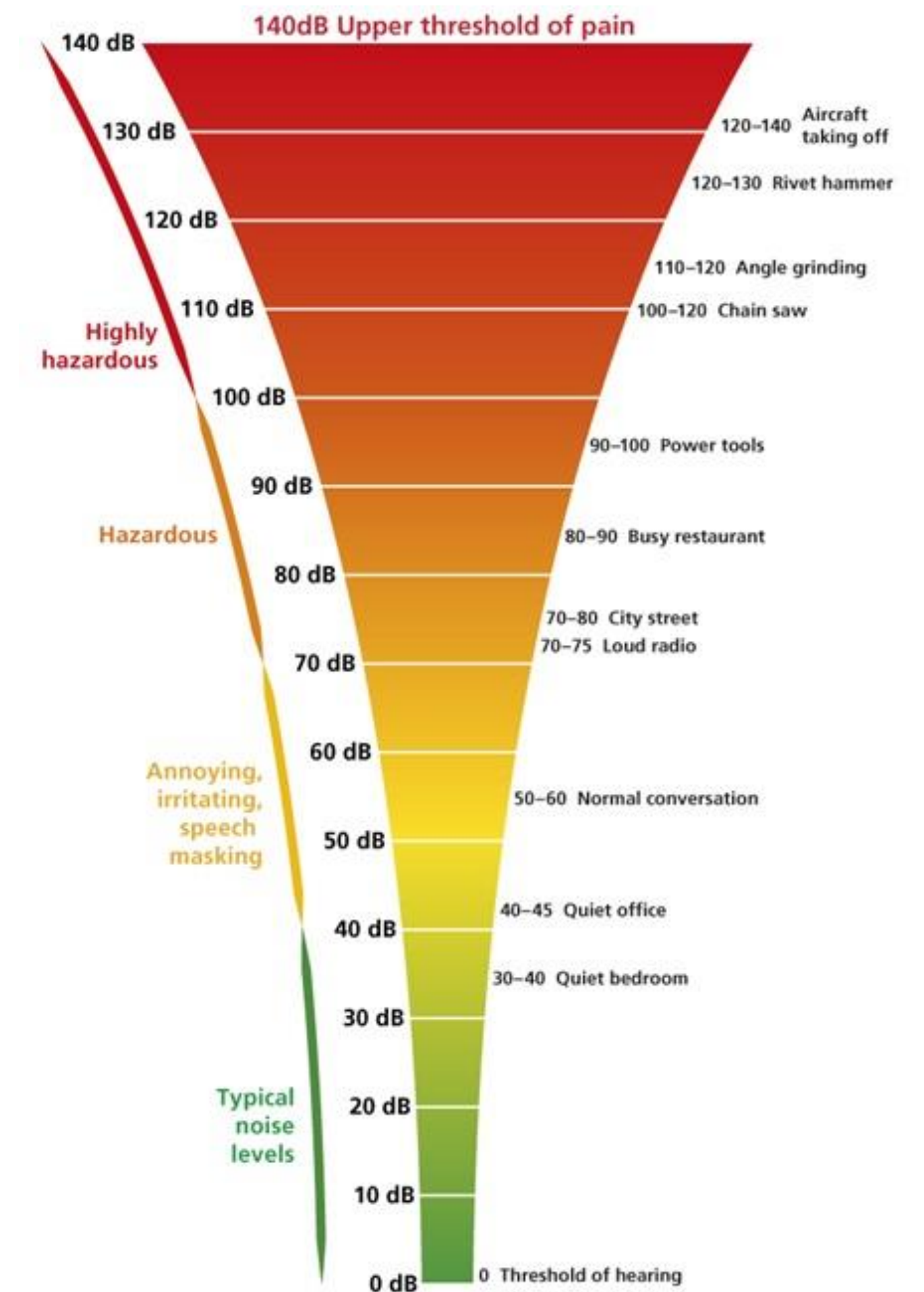
Gate Analysis: A 3km gate which is drawn across an area and will gather information about every aircraft passing through the gate area.

Noise Event: A single event is the period from when an aircraft approaches the monitor until when the aircraft is leaving the area.

Decibel (dB): The unit used to measure noise (typically 50-60dB is equivalent to a normal conversation level).

LasMax: A unit of measure and is the maximum noise level from a single aircraft passing over the noise monitor.

LAeq (16hr day): the average noise level during the day (a 16-hour day) during the summer period. The measure of noise is given in decibels (dB). This averaged decibel measurement 'LAeq', is the most common international measure of aircraft noise, it means 'equivalent continuous noise level'.



Source: iosh.co.uk