



This annual bulletin provides statistics on military low flying training activity conducted in the UK Low Flying System (UKLFS) for the Financial Year (FY) 2017/18 (i.e. 1 April 2017 to 31 March 2018). Further detailed statistics and comparisons with earlier years can be found in the [Excel Tables](#).

The overall levels of Low Flying (LF), Operational Low Flying (OLF) and complaints are contained within this report. In addition, statistics are given for the 19 Low Flying Areas (LFAs), 3 Tactical Training Areas (TTAs), 13 Night Rotary Regions (NRRs), 5 Allocated Regions (ARs) and the Thames Valley Avoidance Area (TVAA).

### Key Points and Trends

- In the FY 2017/18 there were 29 150 hours of military low flying within the UKLFS, a decrease of 1.9 per cent compared to 29 720 hours in FY 2016/17.
- There were 29 024 hours of routine LF activity in FY 2017/18, of which about a quarter, 6 798 hours was fixed-wing activity, and three quarters was rotary-wing, 22 227 hours. Overall routine LF activity fell by 1.8 per cent, fixed-wing fell by 24.9 per cent and rotary-wing increased by 8.4 per cent compared to the previous year.
- Of the routine LF activity in FY 2017/18, 23 272 hours, 80.2 per cent was conducted during day light hours. Routine day LF activity increased by 4.5 per cent compared to the previous year, fixed wing activity fell by 13.4 per cent and rotary wing increased by 13.1 per cent.
- Routine LF activity at night, 5 752 hours in FY 2017/18, fell by 21.1 per cent compared to the previous year. Fixed wing activity fell by 69.4 per cent and rotary wing by 4.5 per cent.
- Operational low flying accounted for 126 hours in FY 2017/18, 0.4 per cent of all LF activity.
- The amount of fixed wing activity has decreased, particularly at night, due to the drawdown of the C-130 and Tornado fleets, and as more fixed wing training is being conducted at medium and high level than has historically been the case.
- The amount of rotary wing activity has increased, due to the introduction of new air systems, and an increase in pre-deployment training in support of operations overseas.
- There were 1 307 low flying complaints received by the Ministry of Defence Low Flying Complaints and Enquiries Unit in FY 2017/18.

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**Background quality report:** [Background Quality Report](#)

Would you like to be added to our **contact list**, so that we can inform you about updates to these statistics and consult you if we are thinking of making changes? You can subscribe to updates by emailing [DefStrat-Stat-WDS-Pubs@mod.uk](mailto:DefStrat-Stat-WDS-Pubs@mod.uk)

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## Introduction

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Military fixed wing, including Tucano aircraft, are assessed to be low flying below 2,000 feet Minimum Separation Distance (MSD) i.e. the distance that must be maintained between any part of an aircraft in flight and the ground, water or any object; helicopters and light propeller driven aircraft are assessed to be low flying when below 500 feet MSD. Due to their role helicopters may operate down to ground level.

The Day UKLFS consists of 19 Low Flying Areas (LFAs), 3 Tactical Training Areas (TTAs) and the Thames Valley Avoidance Area (TVAA). The Night UKLFS is different from that used by day; it comprises 13 NRRs (located in the south of the country and predominately used by rotary aircraft), 5 ARs (mostly located in the north of the country and predominantly used by fixed wing aircraft) and the TVAA (N). The report aims to provide interested parties with the usage of the UKLFS in total and the volume of low flying within day and night low flying areas. Day and night low flying maps are at Annex A and B.

Low flying is permitted across the majority of the UK except for major built-up areas (cities, towns and larger settlements with a population of over 10,000), civil airports and certain key industrial and medical sites.

Further information on low flying can be found on the Gov.uk website at the following link:

<https://www.gov.uk/low-flying-in-your-area/overview>

Statistics on military low flying training for 2016-2017 are available on the Gov.uk website, and at the following link

<https://www.gov.uk/government/statistics/the-pattern-of-military-low-flying-across-the-uk-20162017>

There is a continuing requirement for UK Armed Forces to operate successfully in the low-level environment. To ensure that UK forces are capable of meeting the operational task, low flying training is conducted in the UK before aircrew deploy to operational theatres. Responsiveness alone is not enough; it must be backed up by a credible and practised military capability and it is on this foundation of military readiness that the need to train regularly is built. Low flying is a perishable skill that can only be perfected and maintained through rigorous training and continuous practise in a realistic environment. Low flying

skills are used to protect the Nation, to assist in peace-keeping and to provide humanitarian support.

Military aircrew train at low level within a clear regulatory framework that sets out what activities they are authorised to conduct, and what limitations are placed on those activities. The safety of the public, crews, and aircraft is of paramount concern. The regulations and limitations are designed to ensure that training is appropriate for the operational task, and is conducted so that all risks to life are mitigated to a level that is both tolerable and as low as reasonably practicable, with minimum potential for disturbance to the public. Low flying regulations can be found at the following link:

<https://www.gov.uk/government/publications/regulatory-article-ra-2330-low-flying>

Foreign military forces, including the UK-based United States Air Force Europe units, may fly within the UKLFS under the principle of reciprocity, and must comply with the same regulatory framework as UK aircraft.

All flying activity in the UKLFS must be specifically authorised and the vast majority booked in advance as part of aircrew planning to avoid conflict with other aircraft. Flying units are required to subsequently provide booking returns with actual times and low flying areas utilised. Detailed information on routes flown is not provided to LFOF.

Further information can be found in the [Background Quality Report](#)

## Low Flying

### Total low flying in UKLFS

The combination of both routine and operational low flying hours is 29,150 hours of low flying within the UK Low Flying System for the FY 2017-18, a decrease of 1.9 per cent compared to the previous year.

Operational Low Flying only takes place in 3 TTAs where fixed wing aircraft can operate between 250 feet MSD and 100 feet MSD. Routine low flying for fixed wing aircraft is from 250 feet MSD to 2,000 feet MSD.

Total Low Flying	Routine Low Flying (hours)	Operational Low Flying (hours)	Total hours
2016-2017	29 554	166	29 720
2017-2018	29 024	126	29 150

### Routine low flying

The amount of routine low flying, shown in hours flown, is given in the table below.

In FY 2017/18, fixed-wing activity accounted for 23.4 per cent and rotary-wing 76.6 per cent of the 29 024 hours of routine LF activity.

Total routine LF activity fell by 1.8 per cent, fixed-wing activity fell by 24.9 per cent. The draw-down of the C130 (Hercules) fleet may account for some of this decrease in activity, and whilst the number of aircraft in the A400M fleet will increase to ensure that the capability remains, at the moment the amount of low flying training and tasking is small compared with C-130 levels. The amount of activity has also decreased due to fixed wing aircraft conducting more training at medium and high level than has historically been the case, and the drawdown of the Tornado GR 4 fleet.

Rotary-wing activity increased by 8.4 per cent compared to the previous year. The continuation of operations throughout the last year, and a new requirement for the UK to support operations in Mali, have required an increase in pre-deployment training, involving tactical low flying training within the UKLFS. Large exercises over the past year have also focused more training within the United Kingdom, rather than overseas. Some of the increase in rotary wing activity is also due to the introduction of Juno and Jupiter air systems at RAF Shawbury, in addition to continuing activity from Squirrel and Griffin air systems, whilst they are phased out.

Routine Low Flying	Fixed Wing (hours)	Rotary Wing (hours)	Total hours
2016-2017	9 054	20 500	29 554
2017-2018	6 798	22 227	29 024

## Day low flying

Of the routine LF activity in FY 2017/18, 80.2 per cent was conducted during day light hours. The amount of routine day time low flying conducted in the FY 2017/18, shown in hours flown, is given in the table below.

In FY 2017/18 fixed-wing activity accounted for 26.8 per cent and rotary-wing of 73.2 per cent of day time low flying hours.

Routine day LF activity increased by 4.5 per cent compared to the previous year, fixed wing activity fell by 13.4 per cent and rotary wing increased by 13.1 per cent.

Day Low Flying 1	Fixed Wing (hours)	Rotary Wing (hours)	Total hours
2016-2017	7 190	15 074	22 264
2017-2018	6 228	17 045	23 272

1Routine- excludes operational

## Night low flying

The amount of night time low flying conducted in the FY 2017/18, shown in hours flown, is given in the table below. Night time activity accounted for 19.8 per cent of routine low flying.

In FY 2017/18, fixed-wing activity accounted for 26.8 per cent and rotary-wing 73.2 per cent of night time low flying activity.

Routine LF activity at night, fell by 21.1 per cent compared to the previous year. Fixed wing activity at night fell significantly by 69.4 per cent, due in part to the draw-down of the C-130 and Tornado fleets. Rotary wing activity fell by 4.5 per cent.

Night Low Flying	Fixed Wing (hours)	Rotary Wing (hours)	Total hours
2016-2017	1 864	5 426	7 290
2017-2018	570	5 182	5 752

The day and night low flying periods vary depending on the time of year.

## Operational low flying

The amount of operational low flying conducted in the FY 2017/18, shown in hours flown, is given in the table below.

Operational low flying accounted for 0.4 per cent of all LF activity. The substantial decrease of activity within 14T in the statistics for 17/18 in comparison with 16/17 is due to the draw-down of the Tornado GR4 fleet, as this area was frequented during 16/17 by the last Tornado GR4 squadrons operating out of RAF Lossiemouth.

Operational Low Flying	LFA 7(T) Wales (hours)	LFA 14(T) Scotland (hours)	LFA 20(T) Borders (hours)	Total hours
2016-2017	4	65	98	166
2017-2018	4	31	91	126

Planned operational low flying is published on the Gov.uk website at the following link:  
<https://www.gov.uk/government/publications/operational-low-flying-training-timetable>

### TVAA (Thames valley avoidance area)

The Thames Valley Avoidance Area covers the Greater London area where special restrictions are imposed on military flying due to population density and aerial congestion. The amount of day and night low flying conducted in the TVAA in the FY 2017/18, which was 2.0 per cent of all LF activity, shown in hours flown, is given in the table below.

TVAA Low Flying	Fixed Wing	Rotary Wing	Total
2016-2017	66	428	494
2017-2018	22	557	579

Further statistics for day and night time low flying activity for individual areas can be found in the accompanying [Excel Tables](#)

## Low flying activity by area

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The Charts below show the hours flown, day and night, ranked by LFA for FY2017/18, compared to FY2016/17.

The intensity of low flying activity varies by area, LFAs 1 and 2 rank higher than other day areas and NRR1 and NRR2 greater than other night areas. This reflects the geographical location of air bases and types of aircraft. Rotary wing aircraft by their nature (speed, range, etc.) are less likely to go 'further afield' and more likely to conduct sorties in the local area, due to the availability of airspace and fuel options.

Rotary wing activity in LFA 11, LFA 12, and NRR 4 also includes activity due to joint operations conducted over a fortnight, twice per year. These areas have also seen more usage due to the development of mission specific training in different areas in order to avoid consistently flying the same route, particularly at night.

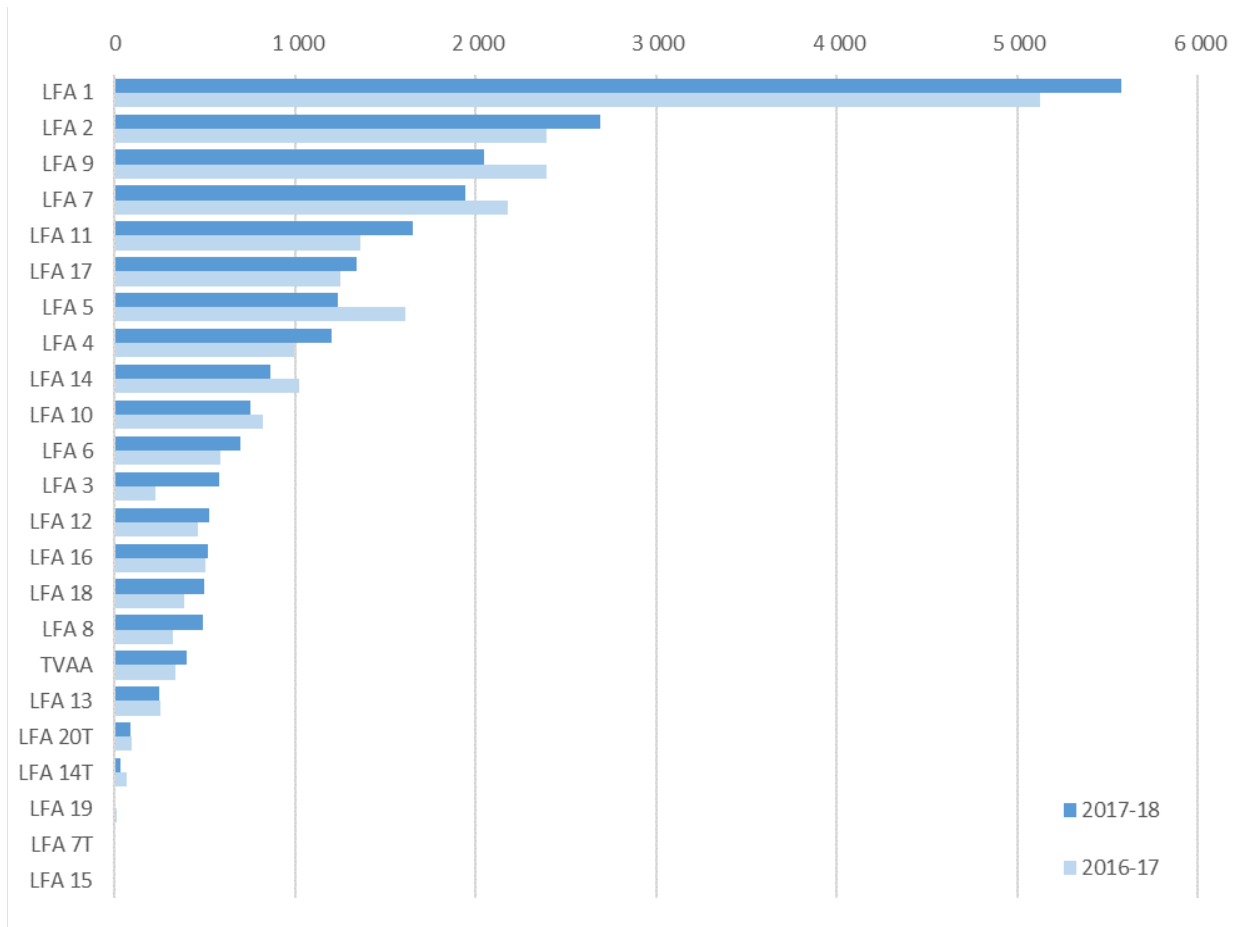
LFA 2 has also seen an increase in activity due to operational requirements, including in support of Op SHADER, which have led to an increase in pre-deployment training activities, along with efficiencies within the Chinook force, meaning that sorties are being conducted closer to home, allowing more time to complete training objectives using less fuel.

Following a review of training, it was noted that night mountain flying training was needed, consequently NRR 7 has seen more low flying rotary wing training to address this omission.

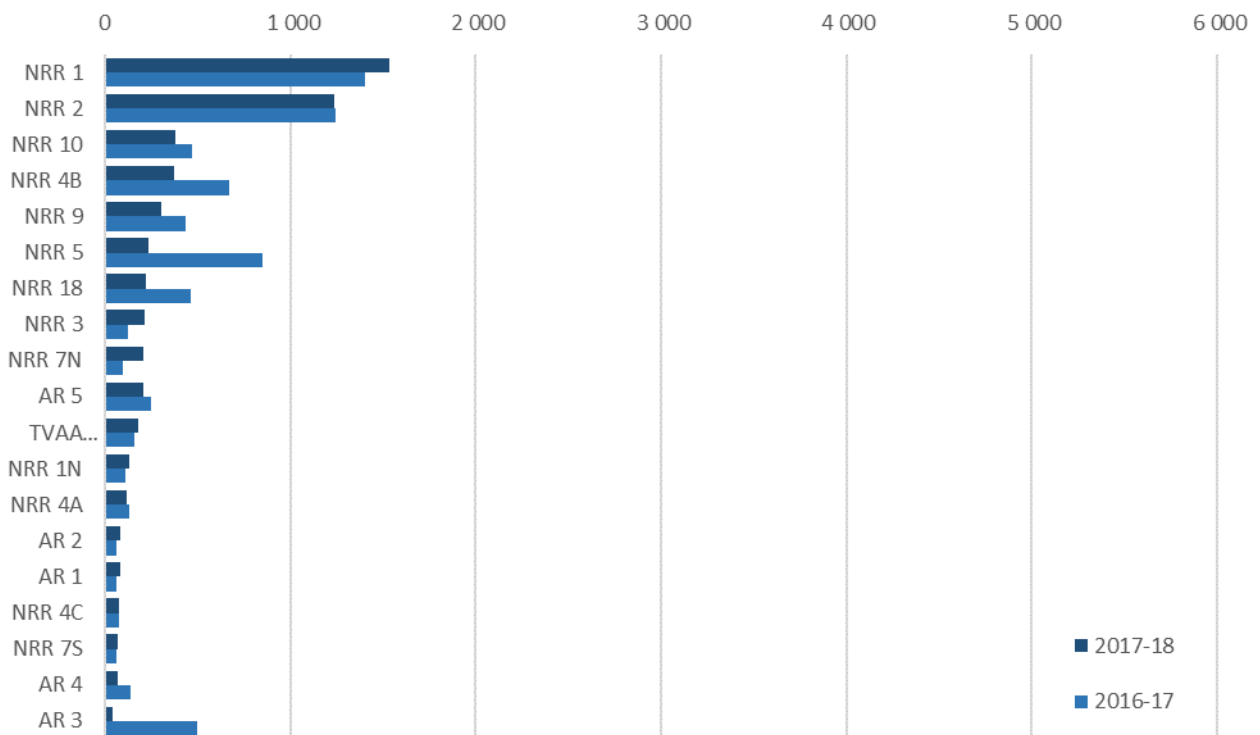
The draw-down of the C-130 aircraft has led to a reduction in low flying fixed wing activity in AR3 and NRR4, with the draw-down of the Tornado fleet also affecting the amount of fixed wing low flying, particularly in 14T. More flying training is now conducted at medium and high level, which also accounts for the general decrease.

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### LOW FLYING – DAY TIME HOURS FY 2017/18 and FY 2016/17



### LOW FLYING – NIGHT TIME HOURS FY 2017/18 and FY 2016/17





## Complaints

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The total number of low flying complaints received in this financial year by the Ministry of Defence Low Flying Complaints and Enquiries Unit (LFCEU) was 1 307, a small increase (1.2 percent) from 1 291 in FY 2016/17. This total includes only those complaints recorded centrally by the LFCEU.

	Complaints	Flying Hours per complaint
2016-2017	1 291	23
2017-2018	1 307	22

The number of complaints and the flying hours per complaint for each LFA can be found in the accompanying [Excel Tables](#)

The total number of complaints received about operational low flying during FY 2017/18 was 6 for the 3 tactical training areas.

## Low flying compensation payments

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The total compensation amount paid by the MOD relating to military low flying for the period 1 April 2017 to 31 March 2018 was £440k, compared to £473k in FY 2016/17. This includes all costs relating to the claim such as legal and other professional costs.

## Glossary

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<b>AGL</b>	Above Ground Level
<b>AMSL</b>	Above Mean Sea Level. To illustrate the difference between AGL and AMSL, if an aircraft is flying 2 000 feet above a mountain that is 5 000 feet high, it would be flying at 2 000 feet AGL and 7 000 feet AMSL.
<b>AR</b>	Allocated Region. An area in the Night UK Low Flying System used mainly by fast jets and transport aircraft.
<b>Air Traffic Zones</b>	Where aircraft are/can be provided with an Air Traffic Control Service.
<b>CADS</b>	Centralised Aviation Data Service. Bookings into the UK Low Flying System are made on this system which is the source for low flying statistics.
<b>Danger Areas</b>	A danger area is an airspace of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times such as the Salisbury Plain Training Area where live firing can take place.
<b>Daytime hours</b>	See night time hours
<b>FOI</b>	Freedom of Information
<b>FY</b>	Financial Year. The Ministry of Defence FY runs from 1 April to 31 March.
<b>LF</b>	Low Flying
<b>LFA</b>	Low Flying Area – maps showing the day and night time areas are at Annex A and B.
<b>LFCEU</b>	Low Flying Complaints and Enquiries Unit. This Unit is based at RAF Wittering and deals with low flying complaints from members of the public.
<b>LFOF</b>	Low Flying Operations Flight, the role of which is the day to day management of the UKLFS. LFOF administers low flying bookings and extracts statistical data from CADS.
<b>MATZ</b>	Military Air Traffic Zone where aircraft are/can be provided with an Air Traffic Control Service.
<b>MSD</b>	Minimum Separation Distance i.e. the distance that must be maintained between any part of an aircraft in flight and the ground, water or any object. It does not apply to the separation between aircraft in the same formation.
<b>NRR</b>	Night Rotary Region. An area in the Night UK Low Flying System used mainly by helicopters.
<b>Night time hours</b>	Night low flying commences within the night low flying system from sunset plus 30 minutes at N5400 E or W00000 on the 15th of each month. Night flying ends at sunrise minus 30 minutes at the same position and date.

<b>OLF</b>	Operational Low Flying i.e. where aircraft can fly between 250 feet and 100 feet MSD. This takes place in the three TTA when these are activated.
<b>Restricted Areas</b>	These include, National prohibited and restricted areas, military prohibited and restricted areas and Provost Marshall prohibited and restricted areas e.g. nuclear power stations.
<b>TTA</b>	Tactical Training Area. OLF can only take place in these areas which are activated when required. TTA activation times can be found on the Gov.uk website: <a href="https://www.gov.uk/government/publications/operational-low-flying-training-timetable">https://www.gov.uk/government/publications/operational-low-flying-training-timetable</a>
<b>TVAA</b>	Thames Valley Avoidance Area covers an area that encompasses London Gatwick, London Heathrow, London Luton, London Stansted, London city and Southend airports. Fixed Wing military aircraft require permission from Low Flying Operations Flight to enter the TVAA. Rotary Wing and light aircraft may enter the TVAA not below 500ft AGL
<b>UKLFS</b>	UK Low Flying System. The UKLFS covers the open airspace of the whole of the UK and surrounding overseas areas from the surface to 2000 feet above ground or mean sea level.

## Further Information

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### Rounding

Where rounding has been used, totals and sub-totals have been rounded separately and so may not equal the sums of their rounded parts.

### Revisions

Corrections to the published statistics will be made if errors are found, or if figures change as a result of improvements to methodology or changes to definitions. When making corrections, we will follow the Ministry of Defence [Statistics Revisions and Corrections Policy](#). All corrected figures will be identified by the symbol “r”, and an explanation will be given of the reason for and size of the revision. Corrections which would have a significant impact on the utility of the statistics will be corrected as soon as possible, by reissuing the publication. Minor errors will also be corrected, but for convenience these corrections may be timed to coincide with the next annual release of the publication.

### Contact Us

If you have questions about the statistics contained in this document you can contact us as follows

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### Statistical point of Contact

Defence Statistics welcome feedback on our statistical products. If you have any comments or questions about this publication or about our statistics in general, you can contact us as follows:

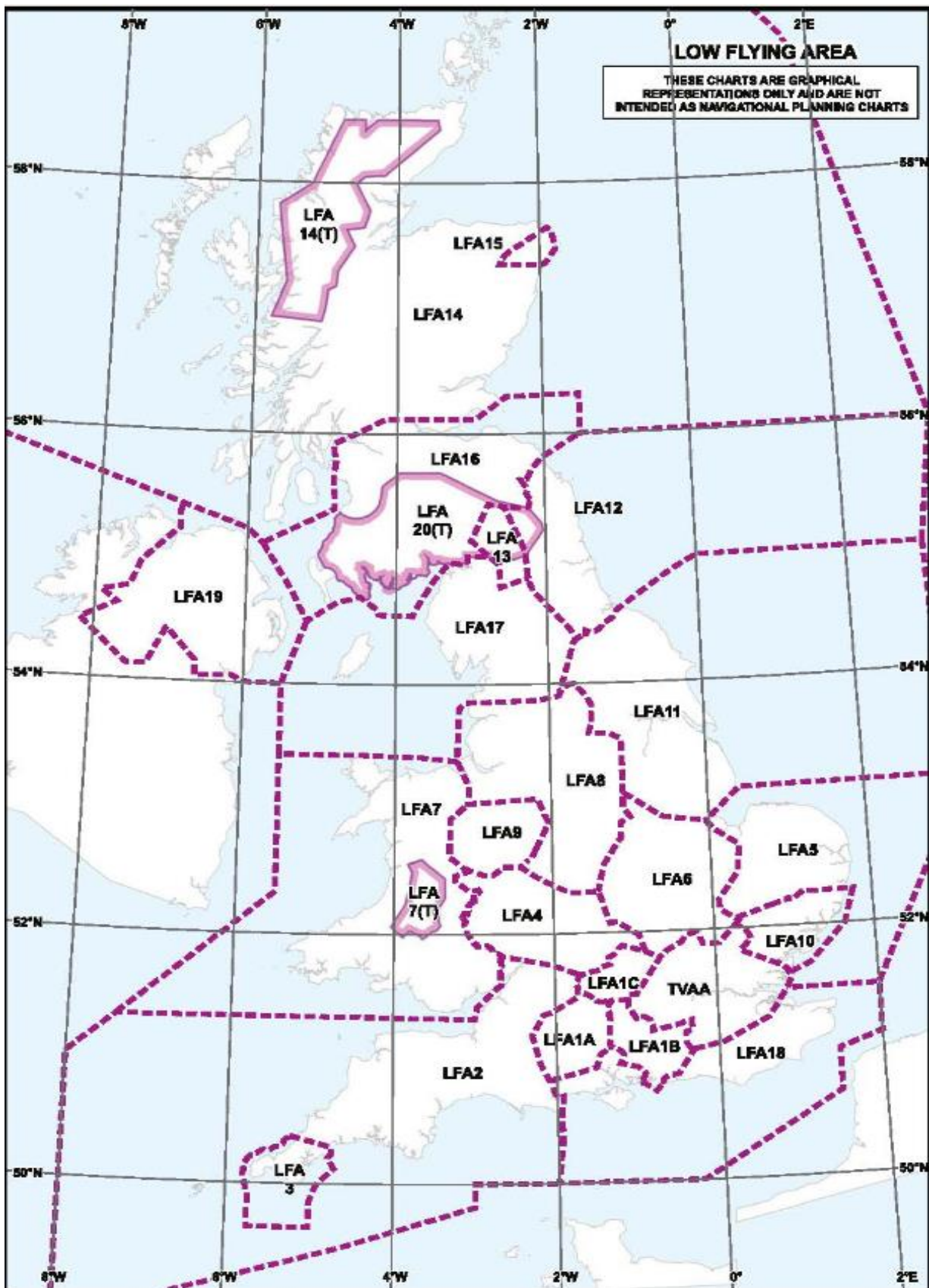
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<https://www.gov.uk/make-a-freedom-of-information-request/the-freedom-of-information-act>

For general MOD enquiries, please call: 020 7218 9000

Day Low Flying Areas



# Night Low Flying Areas

