



This annual bulletin provides statistics on military low flying training activity conducted in the UK Low Flying System (UKLFS) for the Financial Year (FY) 2016/17 (i.e. 1 April 2016 to 31 March 2017). Further detailed statistics 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 2016/17 there were 29,720 hours of military low flying within the UKLFS. Operational low flying accounted for 0.6% of all LF activity
- There were 29,554 hours of routine LF activity, of which fixed-wing activity accounted for 30.6% and rotary-wing 69.4%.
- Of the routine LF activity, 75.3% was conducted during day light hours and 24.7% during night time hours.
- Flying within TVAA accounted for 1.7% of all flying in the UKLFS.
- There were 1,291 low flying complaints received by the Ministry of Defence Low Flying Complaints and Enquiries Unit.

The intensity of activity varies by area; LFAs 1, 9 and 2 rank higher than other day areas and NRR1, NRR2 and NRR5 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.

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Background quality report: [Link to 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

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Supplementary tables containing all data presented in this publication can be found at [Excel tables](#)

Introduction

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; for helicopters and light propeller driven aircraft the relevant level is below 500 feet MSD.

The Day UKLFS comprises 19 LFAs, 3 Tactical Training Areas (TTAs) and the Thames Valley Avoidance Area (TVAA). The Night UKLFS is different than that 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>

In November 2015, a new recording system for Low Flying was introduced and therefore figures in this report cannot be compared with previously published reports¹. It is intended to include comparison information in future publications.

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. Low flying is a perishable skill perfected 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.

¹ Low flying statistics for FY12/13 can be found [Link here](#)

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 crews, the public 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>

All flying activity in the UKLFS must be specifically authorised and, in most situations, 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. LFOF hastens flying unit returns but in FY16-17 there was a 4% shortfall in returns. This therefore has an impact on the accuracy of the statistical data provided.

Further information can be found in the [Background quality report](#)

Low flying activity

Total low flying in UKLFS

The combination of both routine and operational low flying hours is 29,720 hours of low flying within the UK Low Flying System for the FY 2016-17.

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. Due to their role, helicopters may operate down to ground level.

Total Low Flying	Routine Low Flying (hours)	Operational Low Flying (hours)	Total hours
2016-2017	29,554	166	29,720

Routine low flying

In the FY 2016/17, fixed-wing activity accounted for 30.6% and rotary-wing 69.4% of routine low flying activity. The amount of routine low flying conducted in the FY 2016/17, shown in hours flown, is given in the table below:

Routine Low Flying	Fixed Wing (hours)	Rotary Wing (hours)	Total hours
2016-2017	9,054	20,500	29,554

Day low flying

In the FY 2016/17, fixed-wing activity accounted for 32.3% and rotary-wing 67.7% of day time low flying activity. The amount of routine day time low flying conducted in the FY 2016/17, shown in hours flown, is given in the table below:

Day Low Flying ¹	Fixed Wing (hours)	Rotary Wing (hours)	Total hours
2016-2017	7,190	15,074	22,264

¹Routine- excludes operational

Night low flying

In the FY 2016/17, fixed-wing activity accounted for 25.6% and rotary-wing 74.4% of night time low flying activity. The amount of night time low flying conducted in the FY 2016/17, shown in hours flown, is given in the table below:

Night Low Flying	Fixed Wing (hours)	Rotary Wing (hours)	Total hours
2016-2017	1,864	5,426	7,290

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

Operational low flying

Operational low flying accounted for 0.6% of all LF activity. The amount of operational low flying conducted in the FY 2016/17, shown in hours flown, is given in the table below:

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

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 2016/17, which was 1.7% of all LF activity, shown in hours flown, is given in the table below:

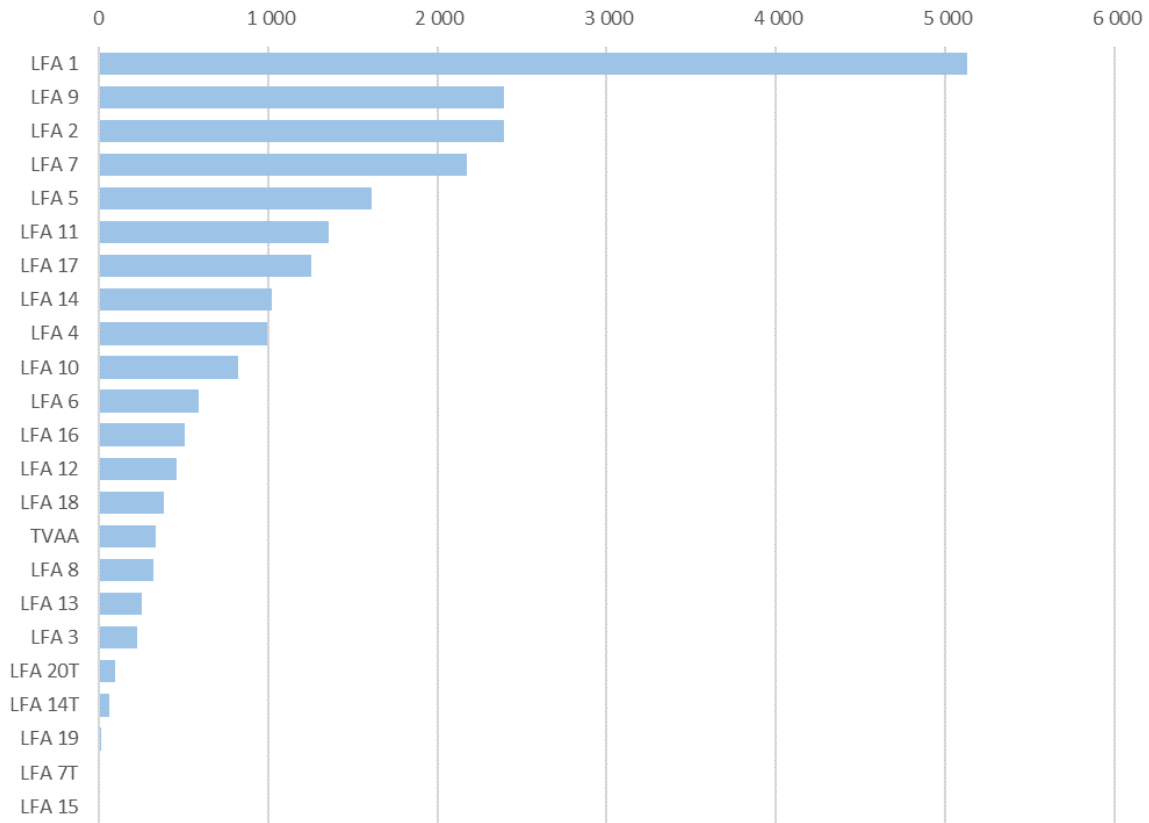
TVAA Low Flying	Fixed Wing	Rotary Wing	Total
2016-2017	66	428	494

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

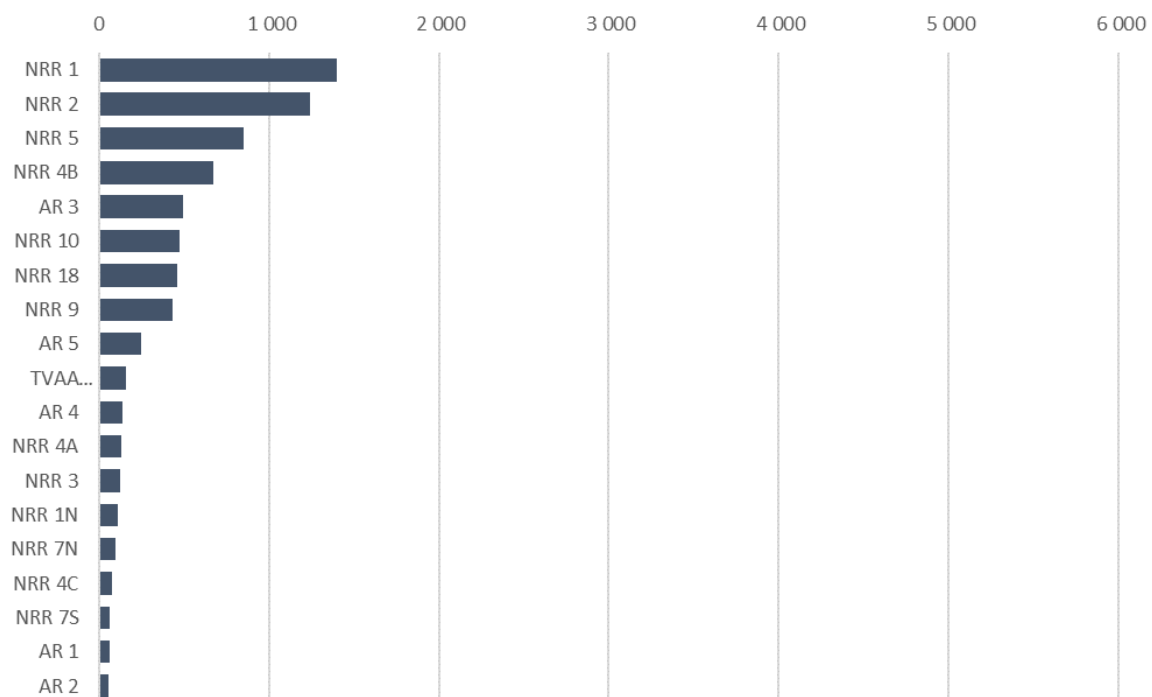
Low flying activity and rating

The Charts below show the hours flown, day and night, ranked by LFA.

LOW FLYING - DAYTIME HOURS



LOW FLYING - NIGHTTIME HOURS



The intensity of low flying activity varies by area, LFAs 9, 2 and 1 rank higher than other day areas and NRR2, NRR1 and NRR5 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.

Complaints

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 1,291. This represents 23 hours per complaint. The total includes only those complaints recorded centrally by the LFCEU.

The total number of complaints together with flying hours per complaint for each LFA can be found in the accompanying [Excel tables](#). The number of flying hours per complaint varies for each LFA depending on flying intensity. No adjustment has been made for repeat complaints.

The total number of complaints received about operational low flying during FY16/17 was 14 for the 3 tactical training areas.

Low flying compensation payments

The total compensation amount paid by the MOD relating to military low flying for the period 1 April 2016 to 31 March 2017 was £473K. This includes all costs relating to the claim such as legal and other professional costs.

Glossary

AGL	Above Ground Level
AMSL	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.
AR	Allocated Region. An area in the Night UK Low Flying System used mainly by fast jets and transport aircraft.
Air Traffic Zones	Where aircraft are/can be provided with an Air Traffic Control Service.
CADS	Centralised Aviation Data Service. Bookings into the UK Low Flying System are made on this system which is the source for low flying statistics.
Danger Areas	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.
Daytime hours	See night time hours
FOI	Freedom of Information
FY	Financial Year. The Ministry of Defence FY runs from 1 April to 31 March.
LF	Low Flying
LFA	Low Flying Area – maps showing the day and night time areas are at Annex A and B.
LFCEU	Low Flying Complaints and Enquiries Unit. This Unit is based at RAF Wittering and deals with low flying complaints from members of the public.
LFOF	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.
MATZ	Military Air Traffic Zone where aircraft are/can be provided with an Air Traffic Control Service.
MSD	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.

NRR

Night Rotary Region. An area in the Night UK Low Flying System used mainly by helicopters.

Night time hours

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.

OLF

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.

Restricted Areas

These include, National prohibited and restricted areas, military prohibited and restricted areas and Provost Marshall prohibited and restricted areas e.g. nuclear power stations.

TTA

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: <https://www.gov.uk/government/publications/operational-low-flying-training-timetable>

TVAA

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 form Low Flying Operations Flight to enter the TVAA. Rotary Wing and light aircraft may enter the TVAA not below 500ft AGL

UKLFS

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

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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If you require information which is not available within this or other available publications, you may wish to submit a Request for Information under the Freedom of Information Act 2000 to the Ministry of Defence. For more information, see:

<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

