



Noise and Night Flights

A major problem across Europe

Noise is a major problem across Europe. The World Health Organisation is very concerned about it. It's experts recommended maximum noise levels which all EU have signed up to.

"Noise, irrespective of its source – road, rail or air traffic, industry, or neighbourhood activities – remains a key issue in most European countries."
the European Commission (EC 2001)

More than one third of people in the European Union are exposed to unacceptably high levels of noise at night, according to the World Health Organisation. The principal causes of this noise are road traffic and aircraft. During the day more than half the people in the European Union experience excessive levels of noise.

The World Health Organisation recommended levels:

- **At night**
For a good night's sleep, the average noise level should not exceed 30 decibels, with no single noise event being louder than 45 decibels. All night flights currently exceed these levels.
- **During the day**
Annoyance levels vary with different people's reactions to different noises, but people start to get moderately annoyed by aircraft or traffic noise during the day when it averages out at 50 decibels and severely annoyed when it averages 55 decibels.
- **Damage to hearing**
A person's hearing can be damaged by a noise event of over 110 decibels or when, over a period of years, noise averages out over a 24 hour period at more than 70 decibels.

The World Health Organisation (WHO 2000) puts the growth in noise pollution down to four key things

- the growth in population;
- the fact that more people live in cities;
- the rapid developments in new technology; and the expansion of airports and the building of new roads.

The effects of noise on a person's health

Long-term exposure (5-30 years) to air or traffic noise levels averaging out between 65 and 70 decibels can increase blood pressure levels and increase the risk of hypertension.

Sleep disturbance can lead to sleepiness, fatigue, hypertension, greater risk of heart and respiratory problems, poor performance at work or in school, greater difficulty in concentrating and thinking clearly, an increased likelihood of accidents, depression, anxiety and drug and alcohol abuse. This is particularly the case if people become annoyed about the impact night flights are having on their health and quality of life

Children in schools or living under flight paths chronically under-perform. 0.1 – 2.5% extra pupils in the last 4 classes of primary schools around Schiphol Airport have a relatively low test result for reading comprehension due to aircraft noise exposure (RIVM 2005).

Over 3.6 million people exposed

There are over 3.6 million people in the EU exposed to high levels of noise from night flights. (Accession countries, those joining after 2002, not included, the EU defines a night flight as an aircraft using an airport between 23.00 hours and 07.00 hours.)

The numbers affected at the top 15 airports

1. London/Heathrow , 504,000, 14%
 2. Berlin/Tegel, 360,000, 10%
 3. Paris/CDG , 216,000, 6%
 4. Lisbon, 180,000, 5%
 5. Paris/Orly, 180,000, 5%
 6. Hamburg, 180,000, 5%
 7. Frankfurt, 144,000, 4%
 8. Madrid/Barajas, 144,000, 4%
 9. Brussels, 144,000, 4%
 10. Naples, 108,000, 3%
 11. Birmingham, 108,000, 3%
 12. Cologne/Bonn, 108,000, 3%
 13. Berlin/Tempelhof, 108,000, 3%
 14. Manchester, 108,000, 3%
 15. Düsseldorf, 72,000, 2%
- (% of the European total of night flights)
(EC 2005)

There are over 600,000 night flights using airports in the EU each year.

The busiest 15 airports account for around 350,000 of these flights

1. Paris/CDG – France
2. Frankfurt/Main - Germany
3. London/Heathrow - UK
4. Brussels - Belgium
5. Madrid Barajas - Spain
6. Amsterdam - Netherlands
7. Cologne/Bonn - Germany
8. London/Gatwick - UK
9. London/Stansted - UK
10. Athens/Spata - Greece
11. Manchester - UK
12. Palma de Mallorca - Spain
13. Liege - Belgium
14. Rome/Fiumicino - Italy
15. East Midlands - UK

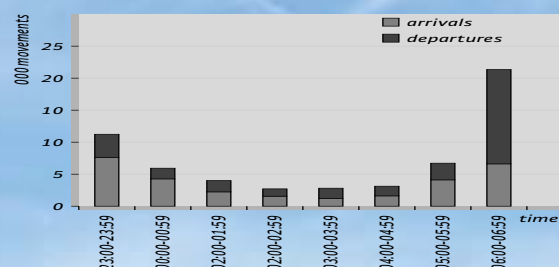
Over the coming years things are set to get worse. Eurocontrol forecasts that the total number of flights (day and night) using Europe's airports will grow at 3.4% a year over the next five years. This growth will off-set any improvements there will be in the noise from individual aircraft.

Noise figures used are an underestimate:

The figures the European commission uses and that are used in this factsheet (EC 2005), are based on an earlier unpublished study carried out for the European Commission by Anotec in 2002.

- I. The study did not include airports in countries that have become Member States since the study was completed in 2002.
- II. The study did not include airports with less than 50,000 flights per year.

- III. The study did not assess the impact of vibration. Vibration contributes to the noise impact of air traffic.
- IV. The study did not assess impact of low frequency noise. Aircraft noise includes a component of low frequency.
- V. The study did not consider ground noise. The operation of night flights means that there will be ground activity during the night period.
- VI. and, most importantly, the study averaged out aircraft noise over the night (23.00 hours – 07.00 hours). But, across Europe, 78% of all aircraft movements, and therefore 78% of all aircraft noise, occur between 23.00-01.00 hours and between 05.00-07.00 hours, as the graph shows



"Hourly distribution of night flight movements in Europe in 2003 (EU 2005, Assessing the Economic Costs of Night Flight Restrictions)"

Therefore, many more than 3.6 million people will experience noise disturbance during the first two hours and the last two hours of the night period.

More information

Other briefing sheets on night flights produced by GreenSkies and UECNA:

- Night Flights – the Economic Effect of Restrictions and Bans
- Night Flights – an EU responsibility?
The briefing sheets form a Night Flights Pack. If you would like the Pack or any of the briefing sheets, please contact GreenSkies or UECNA.

References

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Graphic design: Sandro Kortekaas BNO, www.kortekaas-vormgeving.nl
Printing: Tienkamp en Verhey, printed waterfree offset on soya-based inks

