

L. Bach &
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Impacts on bats - the European experience -

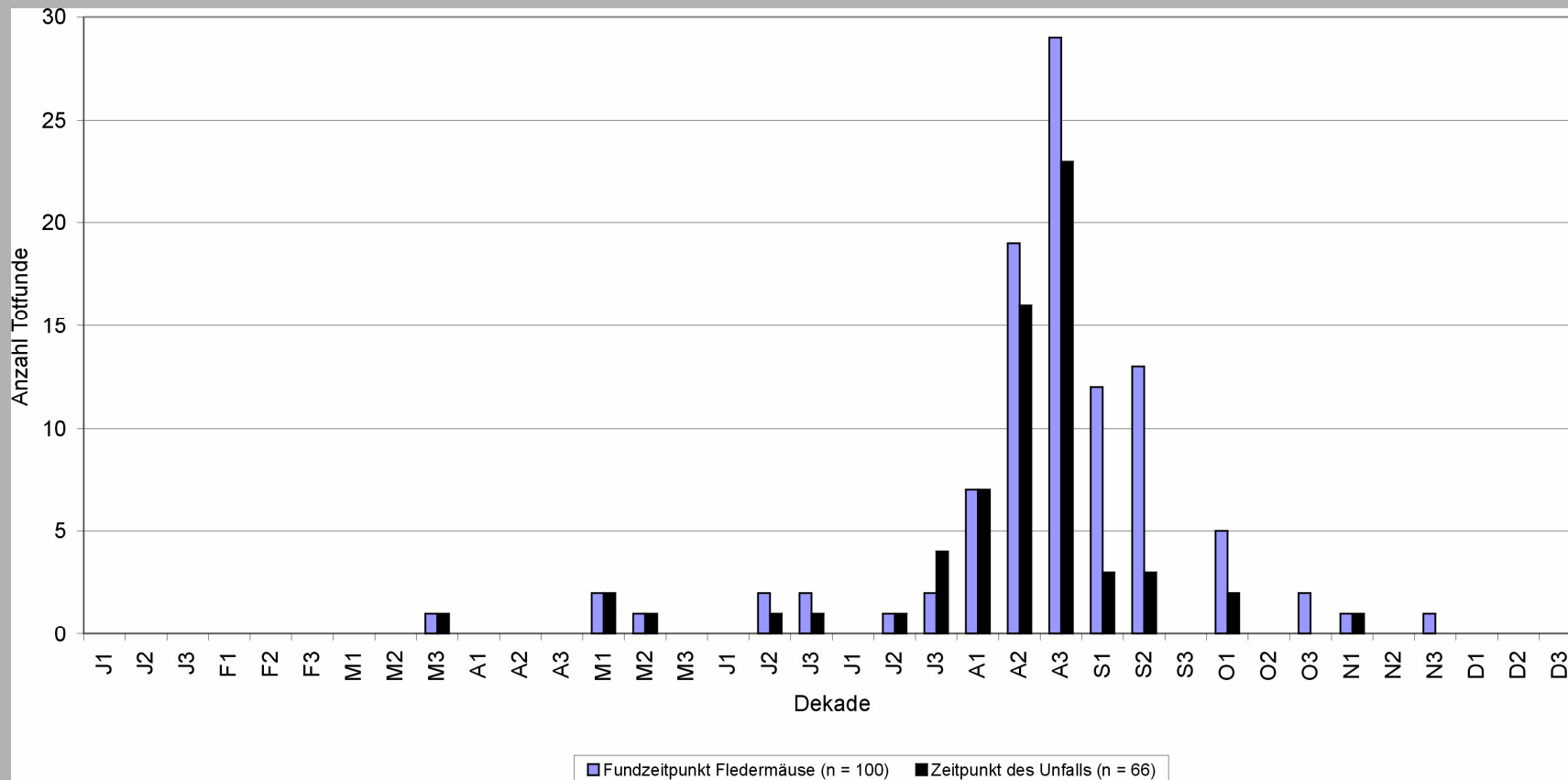


problems

- **bat collision with blades**
- **avoiding behaviour of bats** (no new results)

Bat collision

- bat collisions mainly occur in late summer/autumn.



seasonal distribution of bat collisions in Germany

(after Dürr unpubl.)

but

Freiburg, Germany (2004 & 2005):

- main peak in beginning of August

Roskopf, Germany (2005):

- (ca. 41 %) of fatalities before 15th of July

Bouin, France (2005):

- (32 %) of bat mortality in May and before Mid July
- high number of fatalities in September and October

knowledge

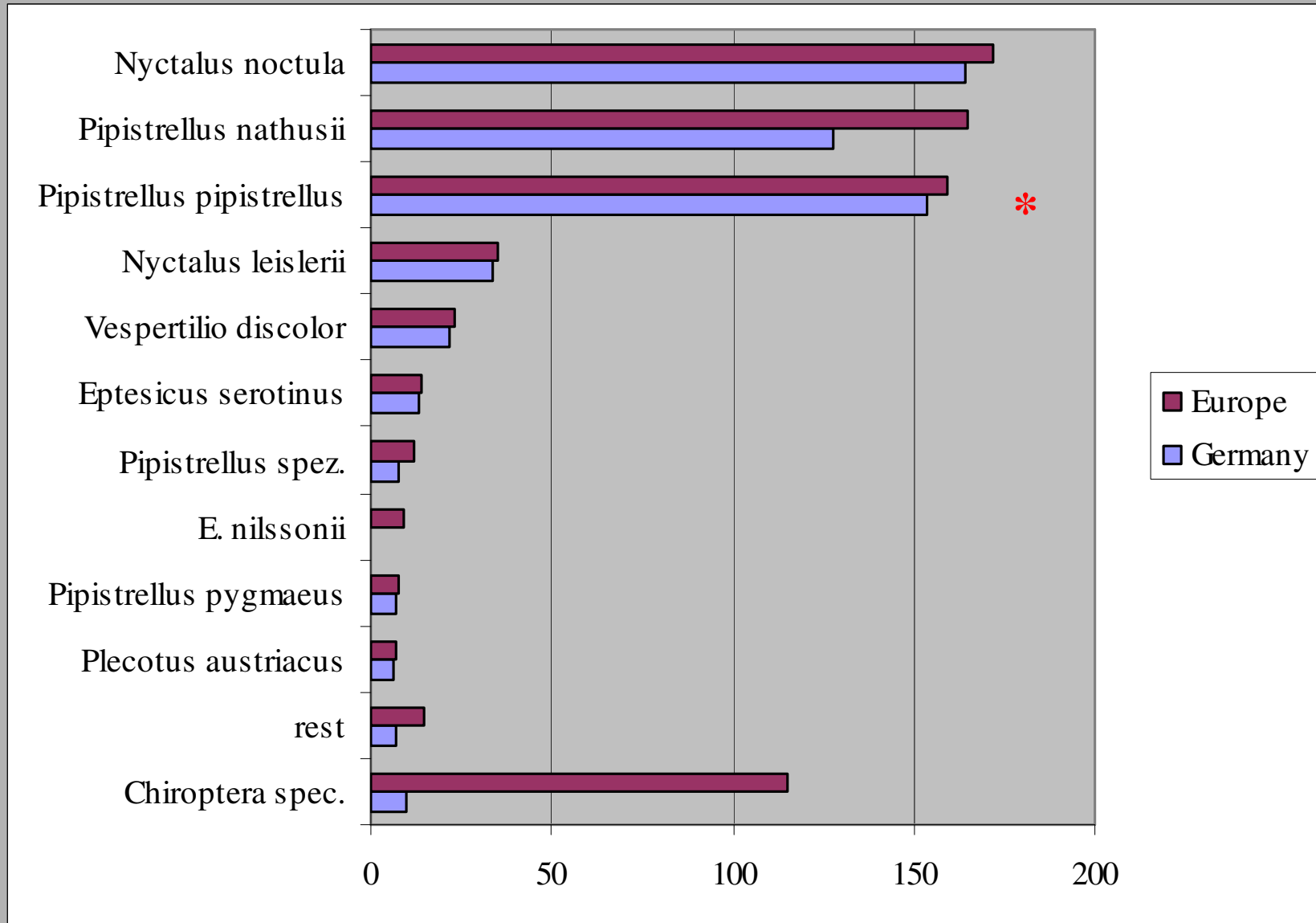
- bat collisions mainly occur in late summer/autumn.
- Mainly migrating species are affected (Leisler's bats, Noctules, Nathusius' bats)

but

- closeby or within forests, local bat populations can be affected (Pipistrelle bats)

knowledge

20 bat species are affected by collisions (incl. 4 Myotis, 2 Plecotus)



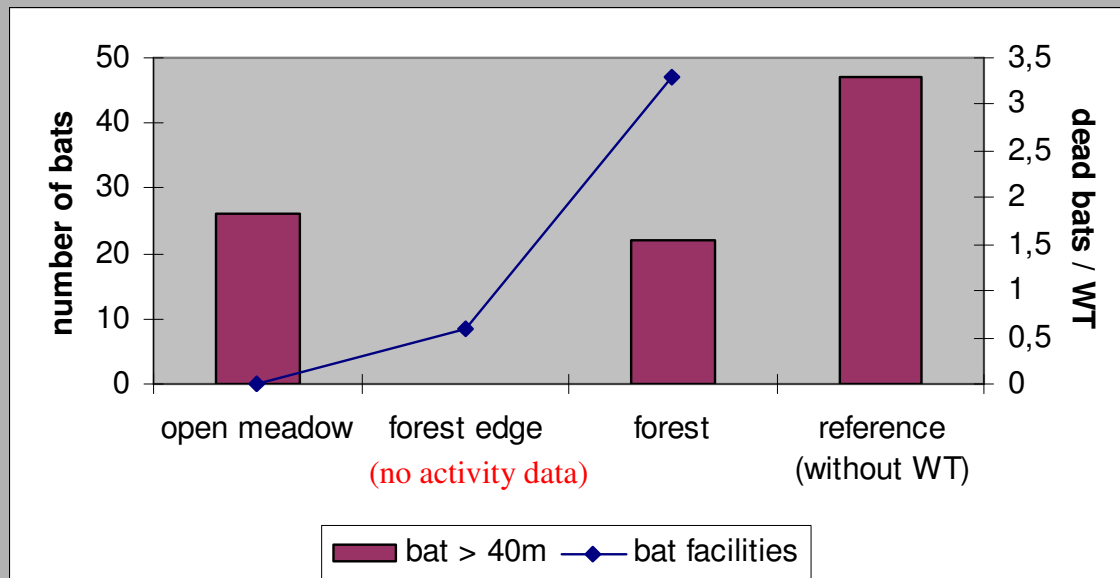
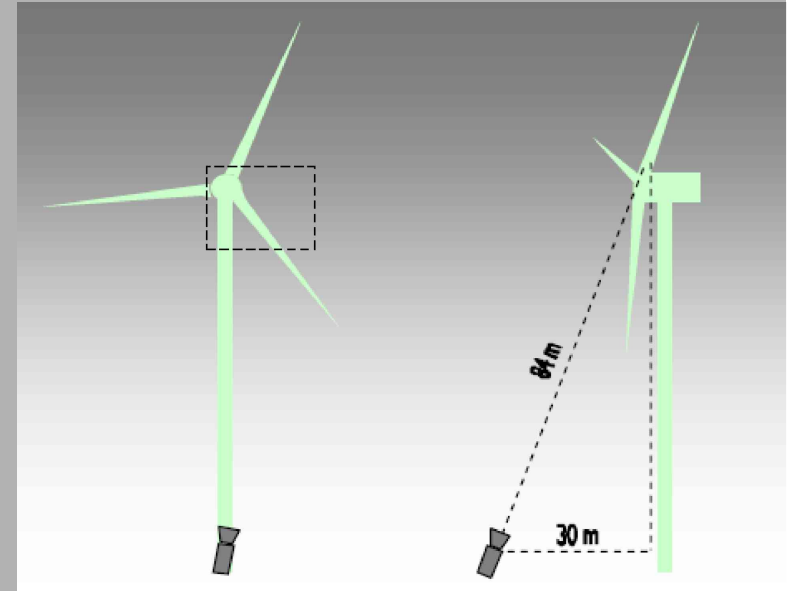
knowledge

- bat collisions occur mainly in late summer/autumn.
- Mainly migrating species are affected (Leisler's bats, Noctules, Nathusius' bats)

but

- closeby or within forests, local bat populations can be affected (Pipistrelle bats)
- there is evidence that bat mortality increases with decreasing distance to forests and forest edges

thermal imaging camera



knowledge

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- Mainly migrating species are affected (Leisler's bats, Noctules, Nathusius' bats)
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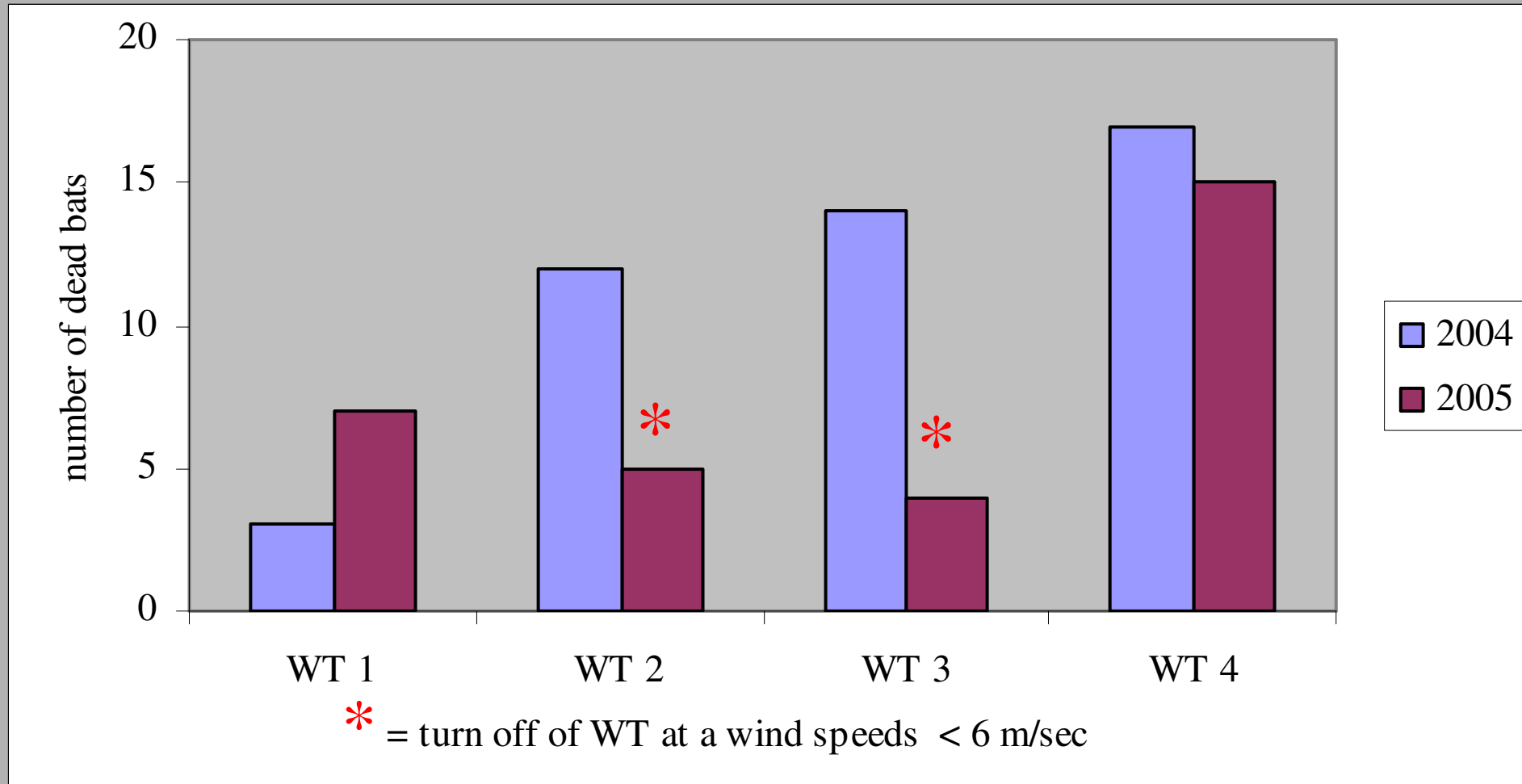
and

- collisions closeby or within forests occur up to wind speeds of 11 m/sec.

bats and wind

- Roßkopf: 95 % of the bat activity at < 6.5 m/sec.
- Freiburg: 1/3 of the bat activity between 7.5 and 11 m/sec.
- Öland (Sweden):
 - bats flew regularly towards the sea at wind speeds of up to 7.5 m/sec.
 - *P.pygmaeus* flew out to the sea at wind speeds up to 9 m/sec.!

Roskopf

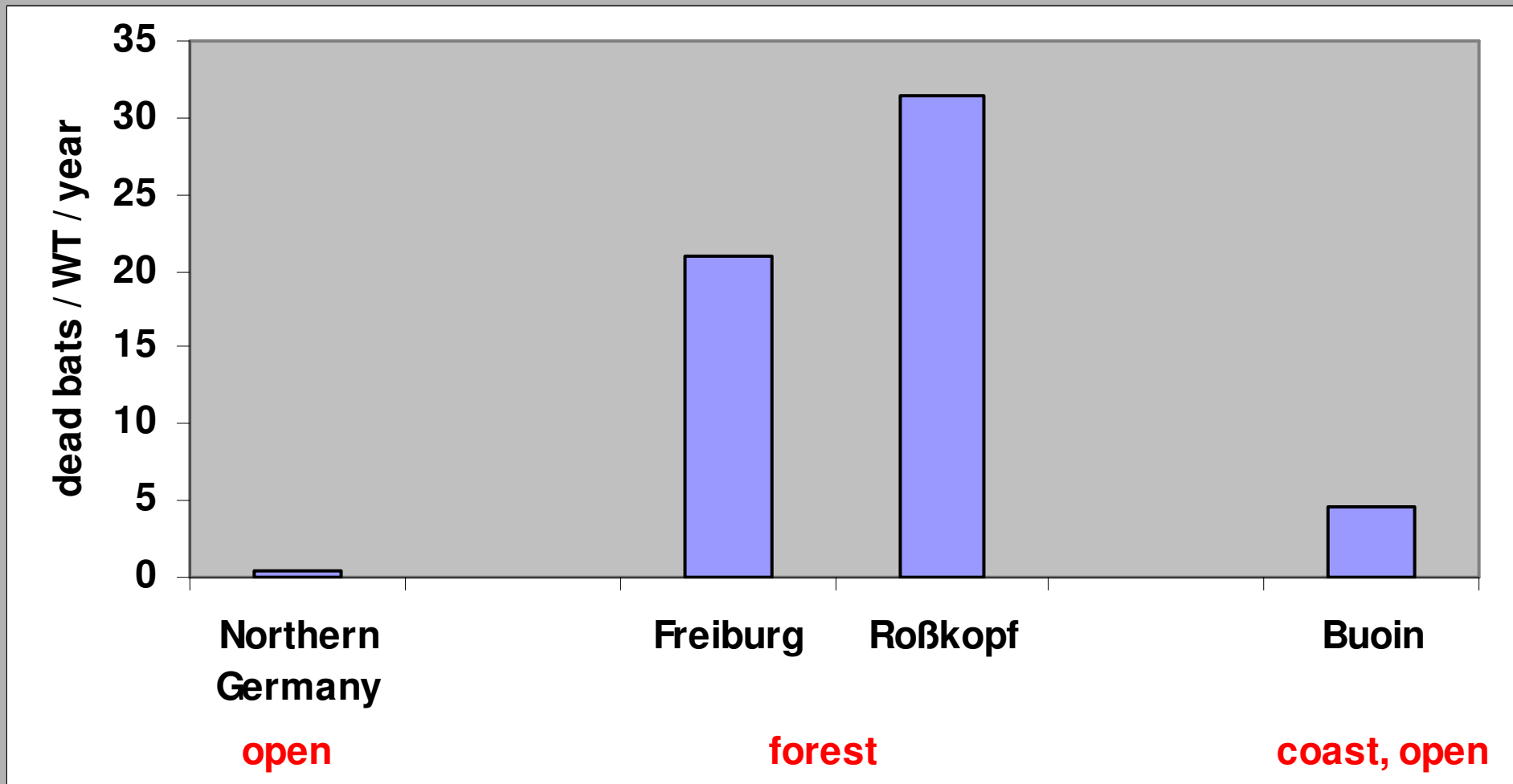


Turn off of WT at a wind speeds $< 6 \text{ m/sec}$ lead to a clear reduction of mortality

It is not allowed to accept the intentional killing or the risk of collision of bats !

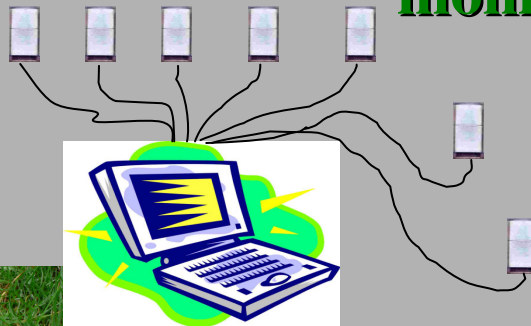
**(judgement of European Court of Justice against Germany
from 10th of January 2006)**

collision mortality is highly variable



question: what is acceptable?

monitoring methods



automatical registration systems

(AnaBat, real time recording, time-expansion recording, etc.)
to investigate bat activity



good results

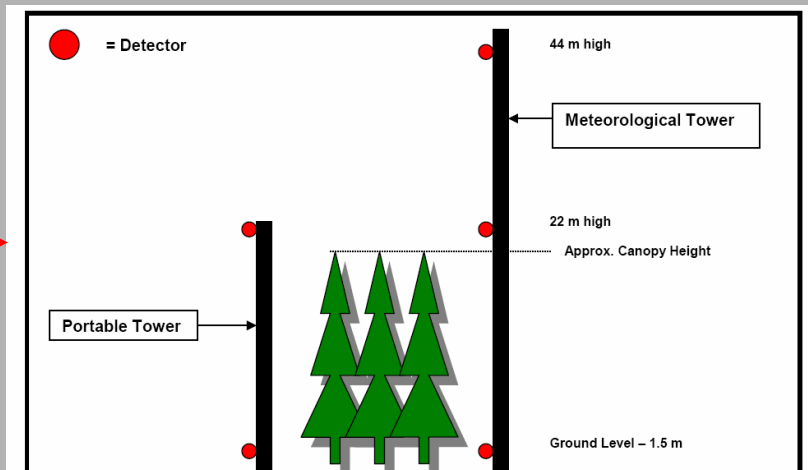
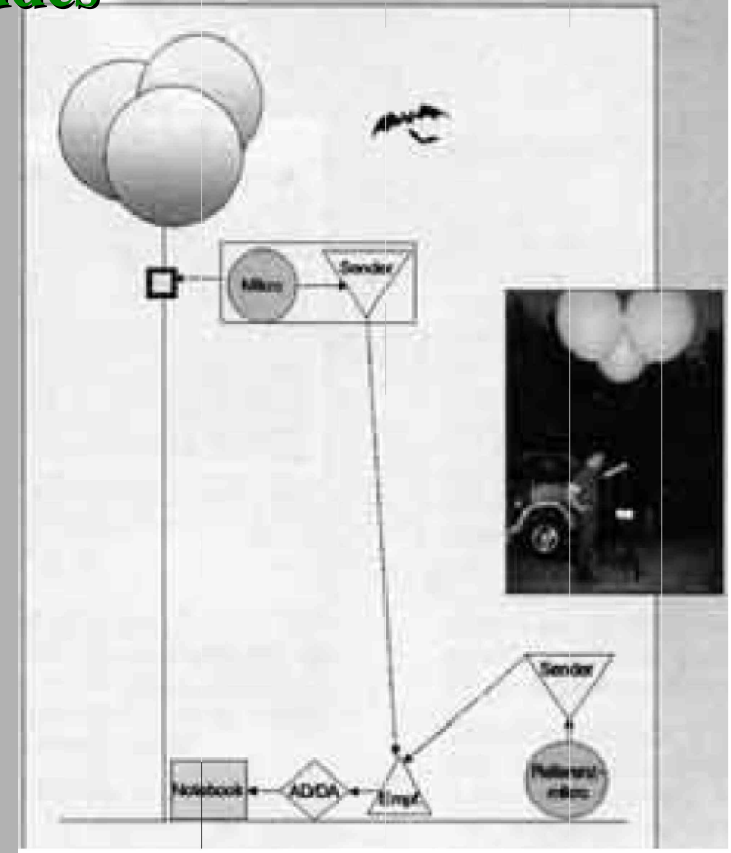
thermal imaging camera

to observe bat behaviour & collisions

expensive but good results



EIA survey methods in high altitudes



acknowledgements



Ingemar Ahlén
Robert Brinkmann
Tobias Dürr
Ulf Rahmel
etc.