

***AVIATION SAFETY
AND
NATURE PROTECTION***

Case study: THE WHITE STORK IN POLAND

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Polish Wildlife Strike Committee



AVIATION SAFETY AND THE WHITE STORK

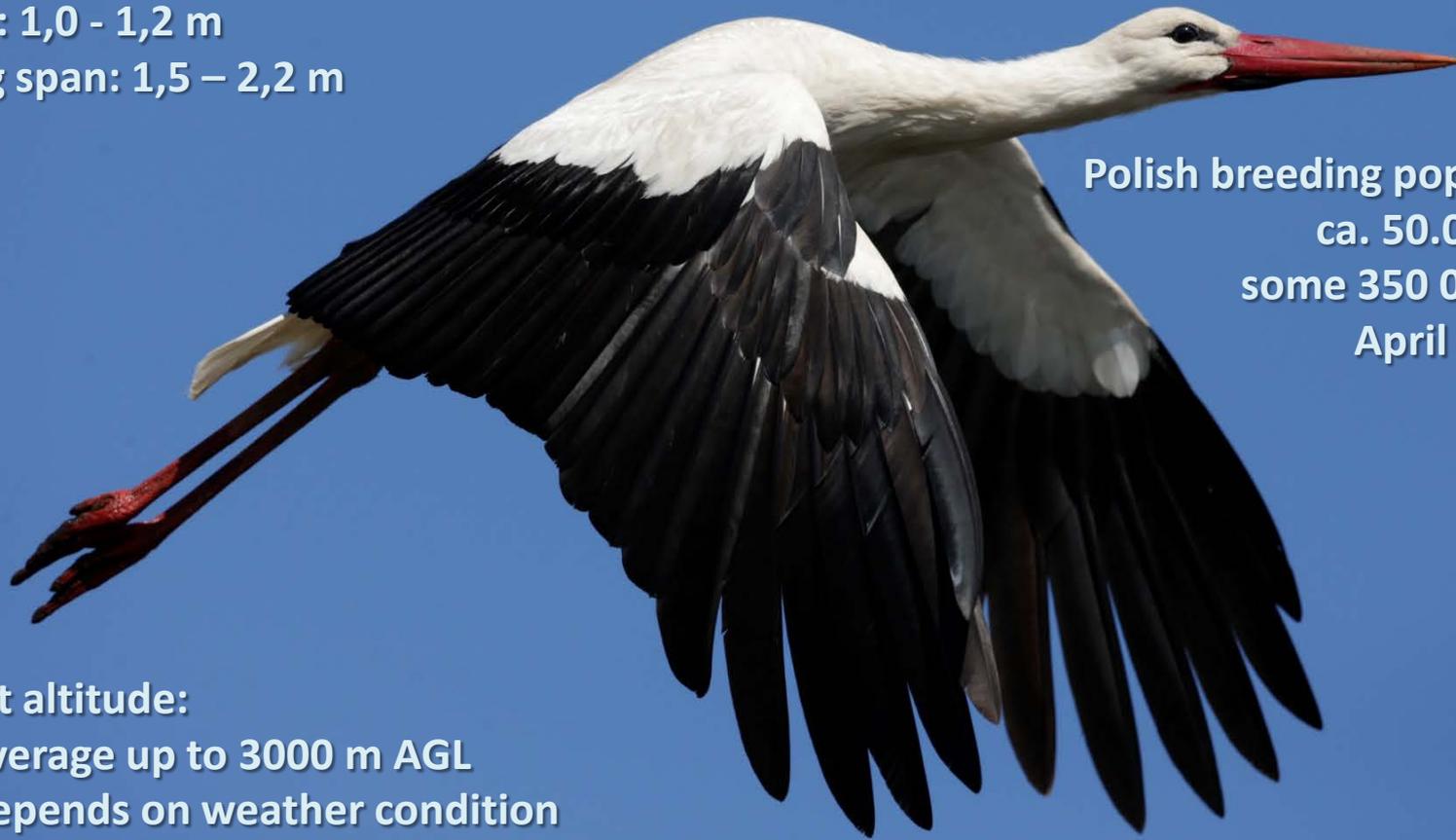
Size:

weight: 2,3 – 4,5 kg

length: 1,0 - 1,2 m

high: 1,0 - 1,2 m

wing span: 1,5 – 2,2 m



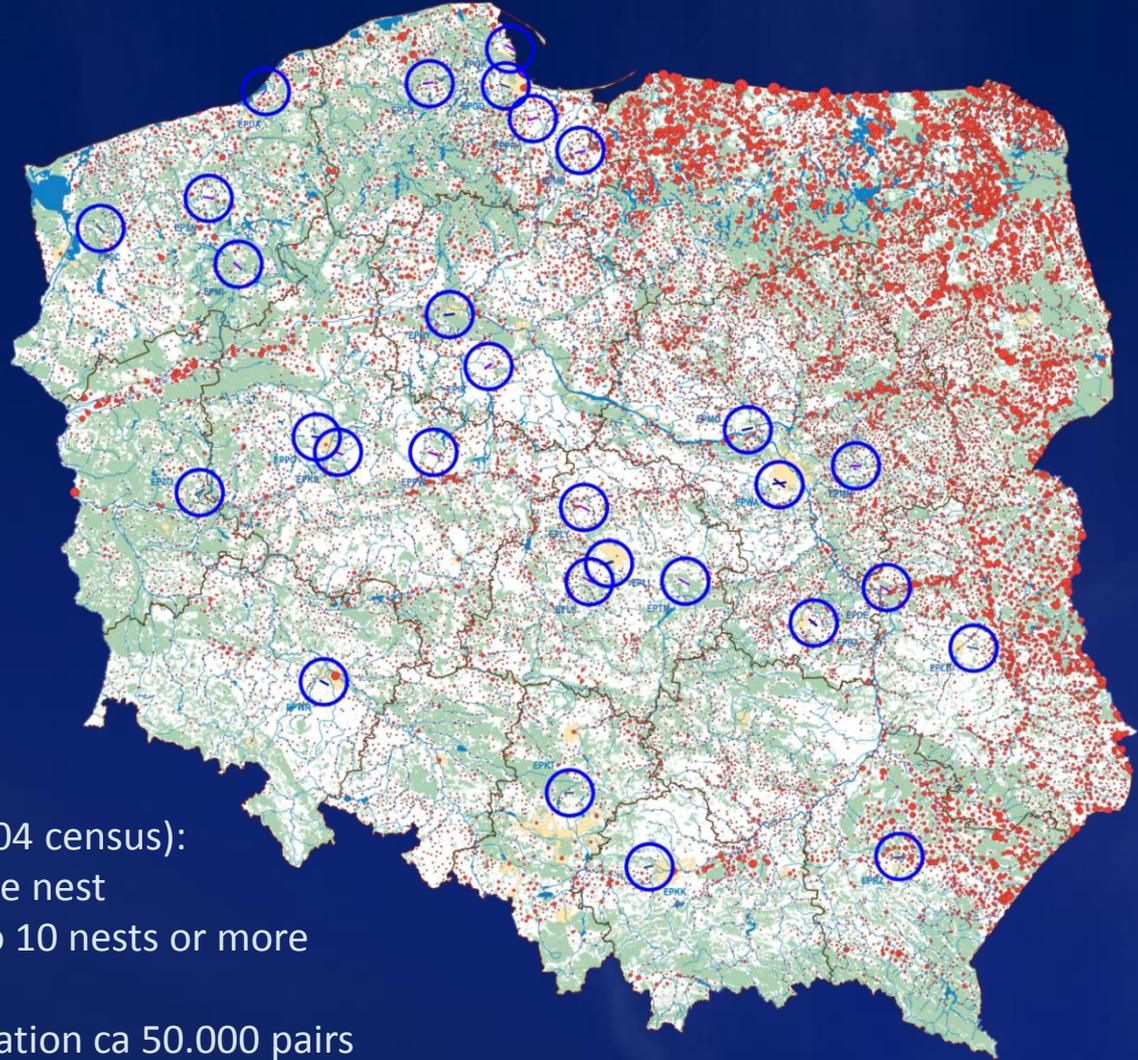
Polish breeding population:
ca. 50.000 pairs
some 350 000 birds
April - August

Flight altitude:

- average up to 3000 m AGL
- depends on weather condition

AVIATION SAFETY AND THE WHITE STORK

Airports and airbases
13 km safety zone



White Stork nests (2004 census):

- one small dot – one nest
- bigger dots – up to 10 nests or more

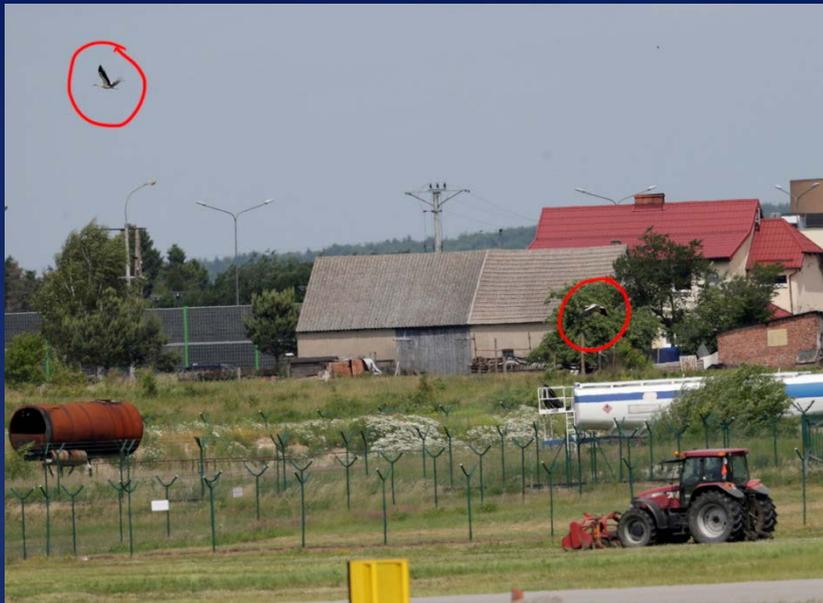
Polish breeding population ca 50.000 pairs

Guziak R., Jakubiec Z. (red.). 2006.

AVIATION SAFETY AND THE WHITE STORK

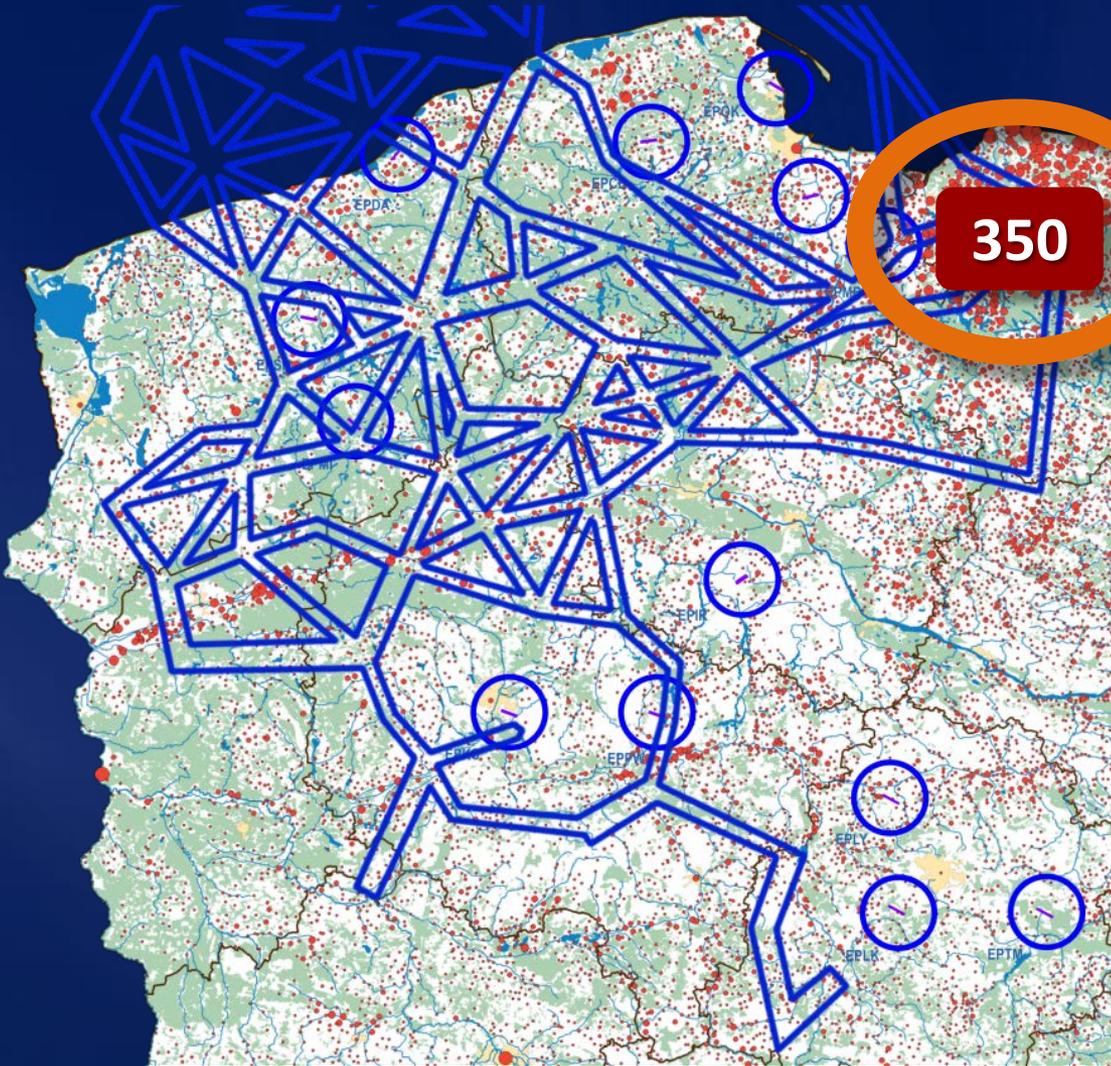
White Stork on and around aerodromes April-August

Aerodromes



Aerodrome vicinity

AVIATION SAFETY AND THE WHITE STORK



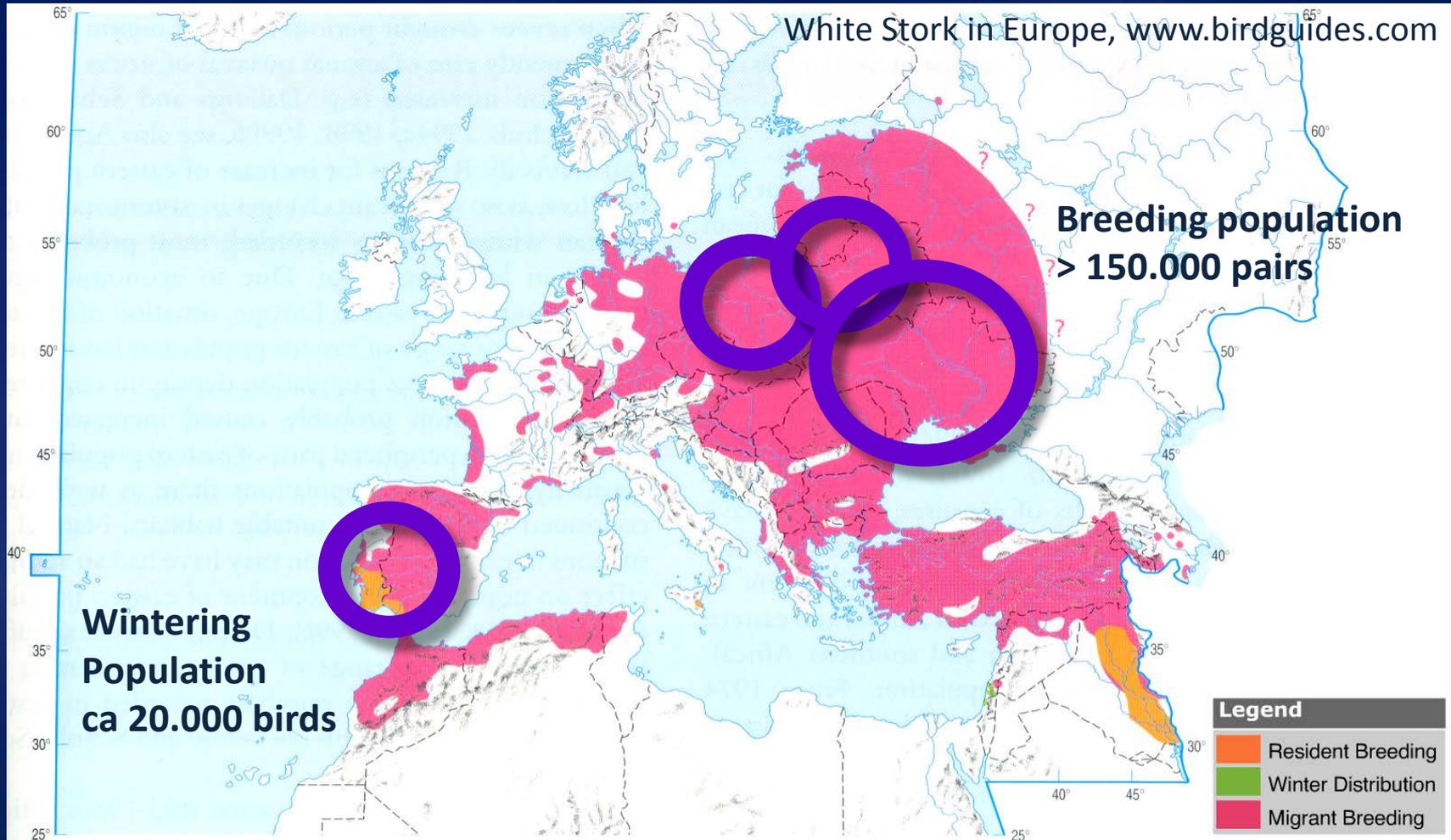
Military aviation:
airbases and MRT



25-30 White Storks
per 1 km MRT

LL MRT (Low Level Military Routes)
492 ft (150 m) to 1000 ft (303 m)

AVIATION SAFETY AND THE WHITE STORK



AVIATION SAFETY AND THE WHITE STORK

Civil aviation

in Poland 2009-2014 6 incidents and 3 occurrence with White Storks:

3 bird strikes (one serious with MAYDAY, costs > 1 mln Euro)

1 near miss (bird flew into vortices, found dead on runway)

5 with effect on flight (mostly aborted landings)

Military aviation

in last 20 years at least 2 bird strike with substantial damage



AVIATION SAFETY AND THE WHITE STORK

Niclas Ekander, NOVAIR bird strikes 2006

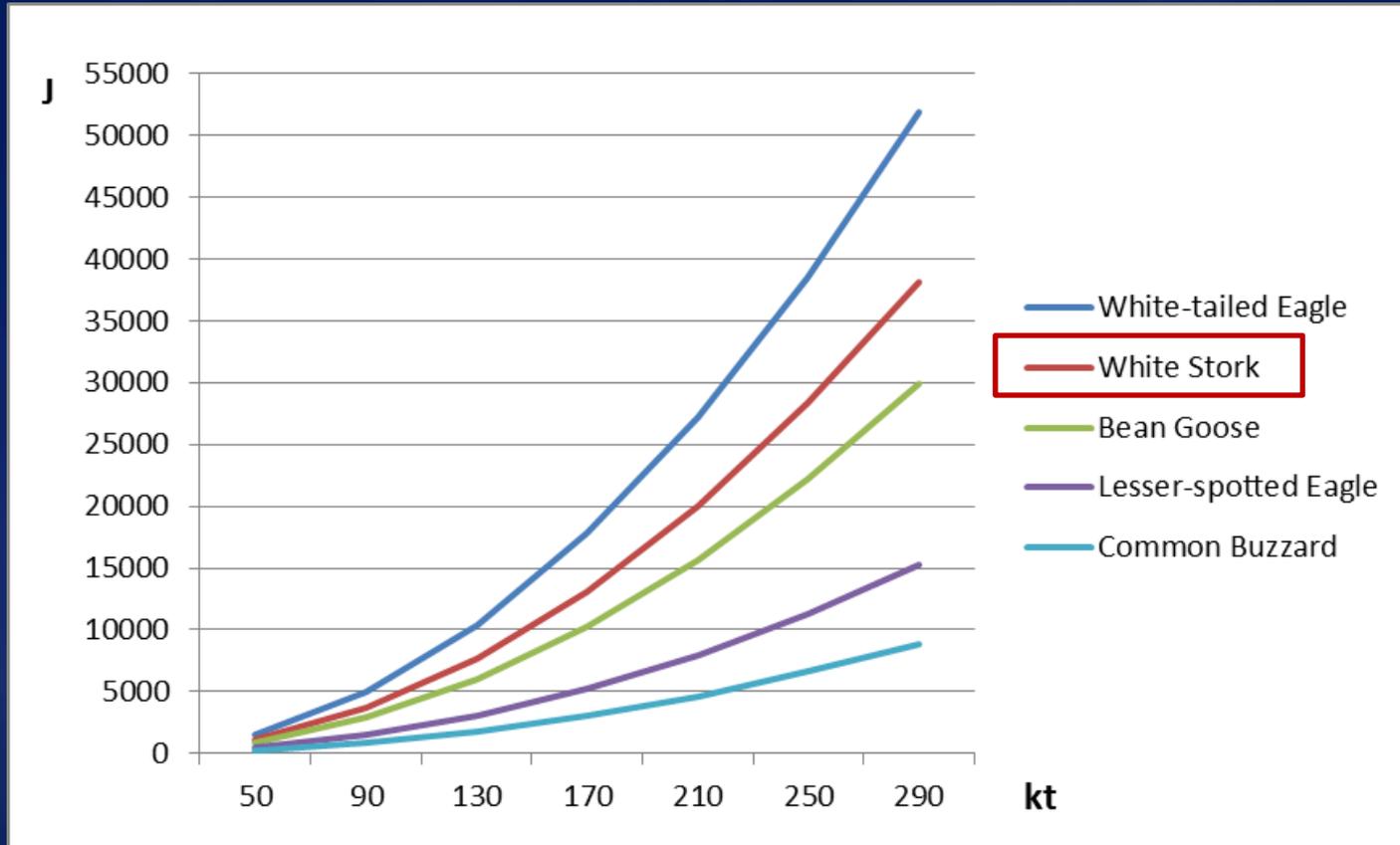


17 August 2006
White Stork flock , Airbus A330-200
Climbing after take off from Burgas
bird strike at ca 2100 m AGL

Fot. Joakim Hellberg

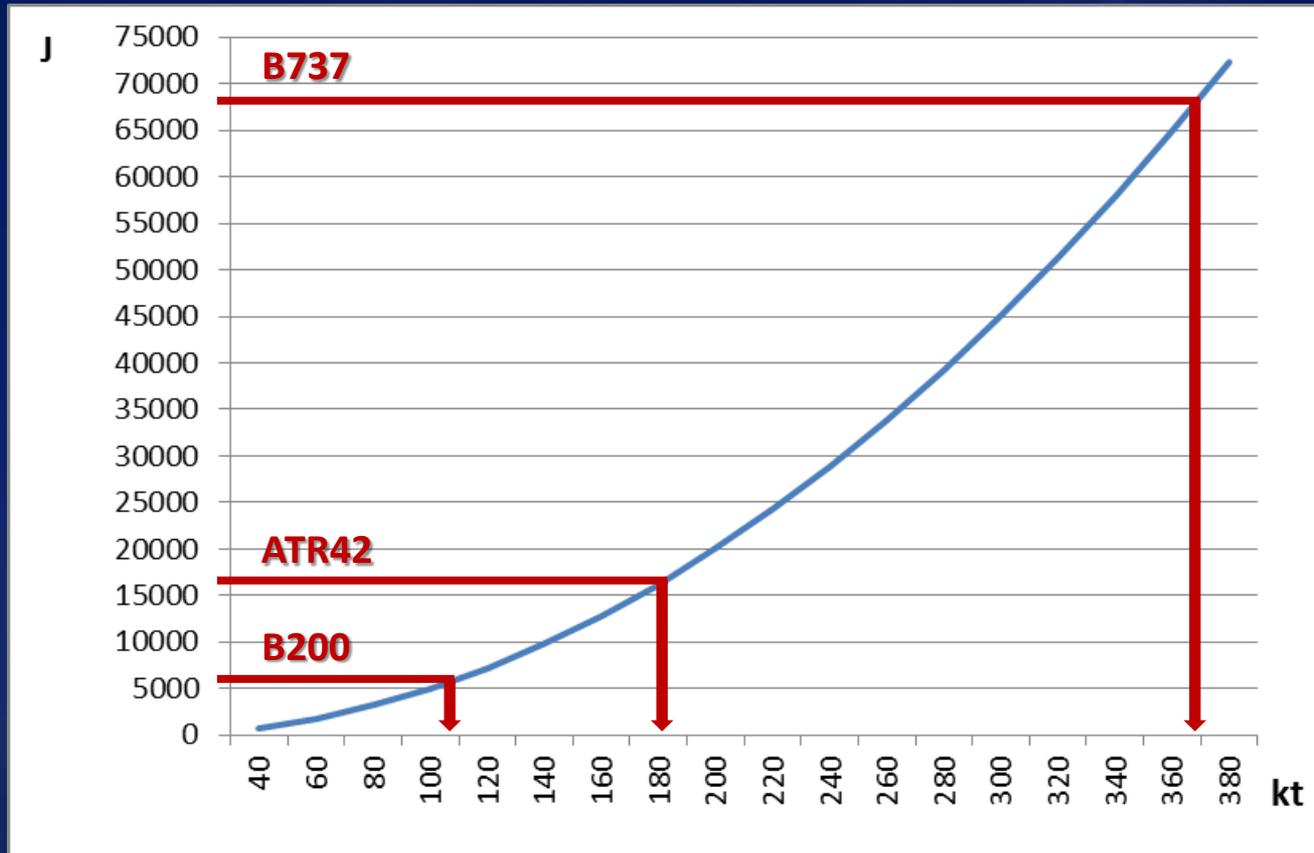
AVIATION SAFETY AND THE WHITE STORK

White Stork bird strike, impact energy



AVIATION SAFETY AND THE WHITE STORK

Impact energy, White Stork bird strike



Critical energy levels (J) according to: European Certification Specification CS-23 (Beech200 windshield), CS-25 (B737, ATR42 structure and windshield)

AVIATION SAFETY AND THE WHITE STORK

Negative impact on aviation

Aerodrome Safety



YES

NO

Negative impact on White Stork

General Aviation



YES

YES/NO

Commercial Aviation



YES

NO

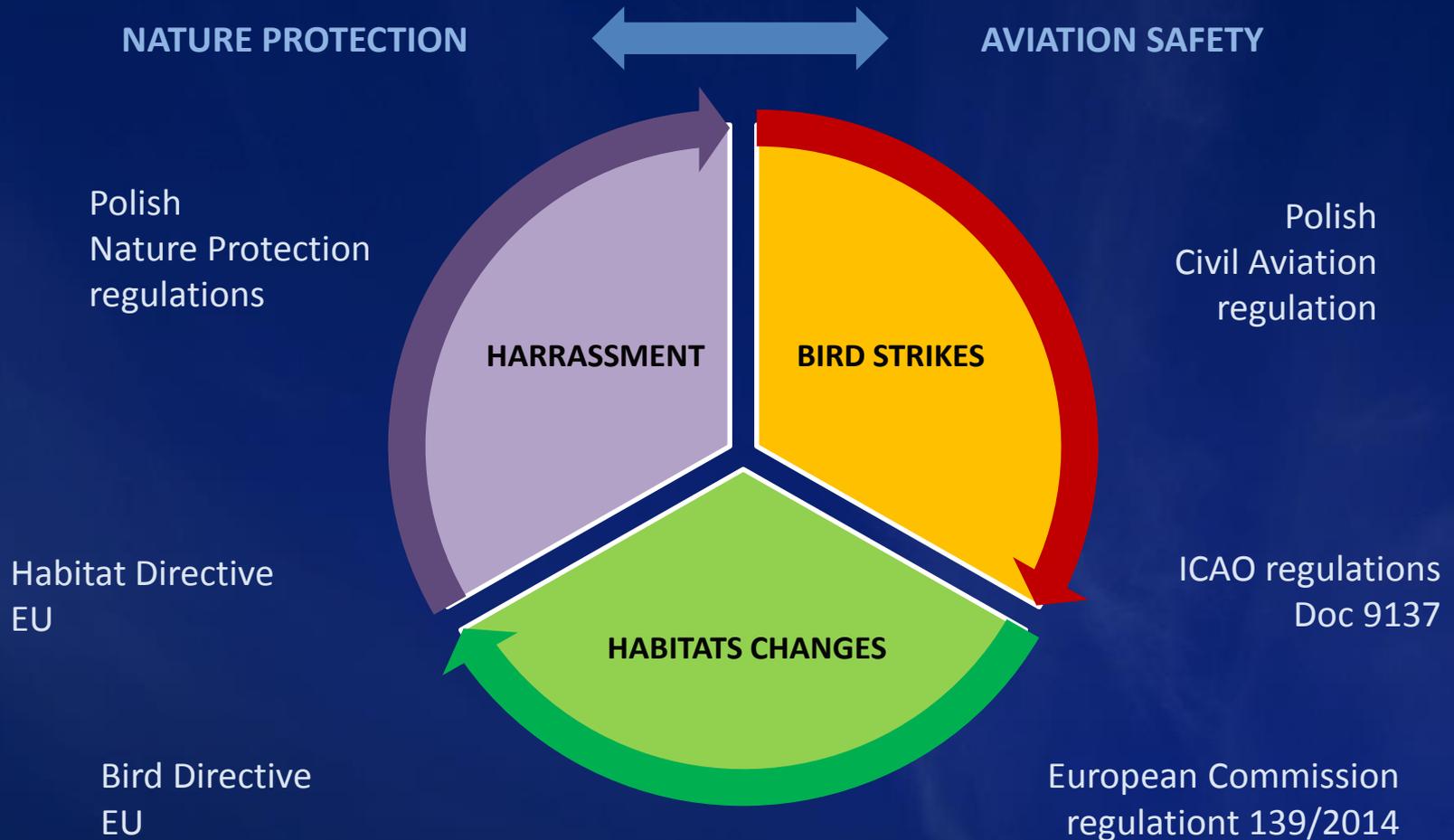
Military Aviation



YES

NO/YES

AVIATION SAFETY AND THE WHITE STORK



AVIATION SAFETY AND THE WHITE STORK

DIRECTIVE 2009/147/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the conservation of wild birds

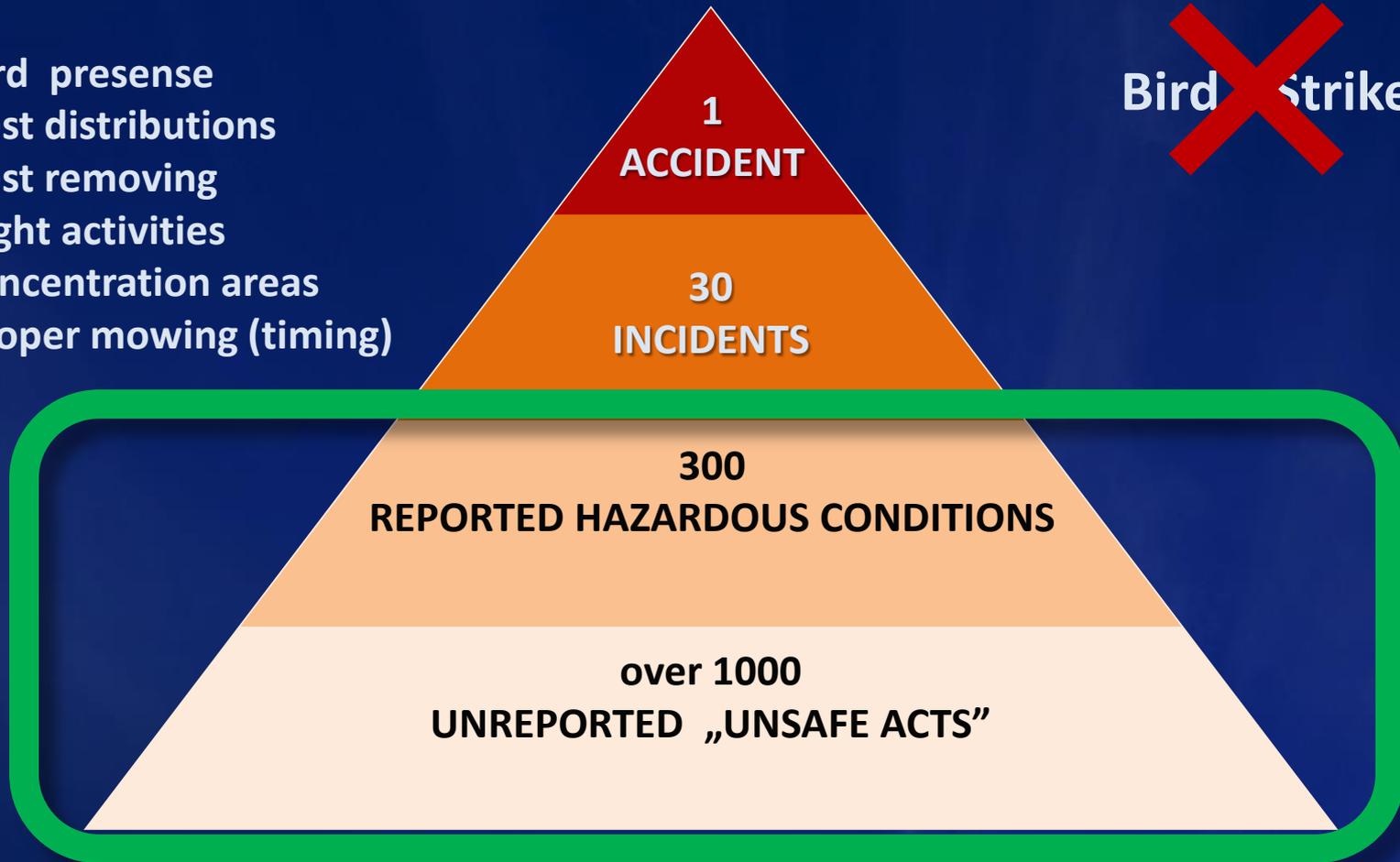
Article 9

1. Member States may derogate from the provisions of Articles 5 to 8, where there is no other satisfactory solution, for the following reasons:
 - (a) — in the interests of public health and safety,
 - **in the interests of air safety,**
 - to prevent serious damage to crops, livestock, forests, fisheries and water,
 - for the protection of flora and fauna;

AVIATION SAFETY AND THE WHITE STORK

- bird presense
- nest distributions
- nest removing
- flight activities
- concentration areas
- proper mowing (timing)

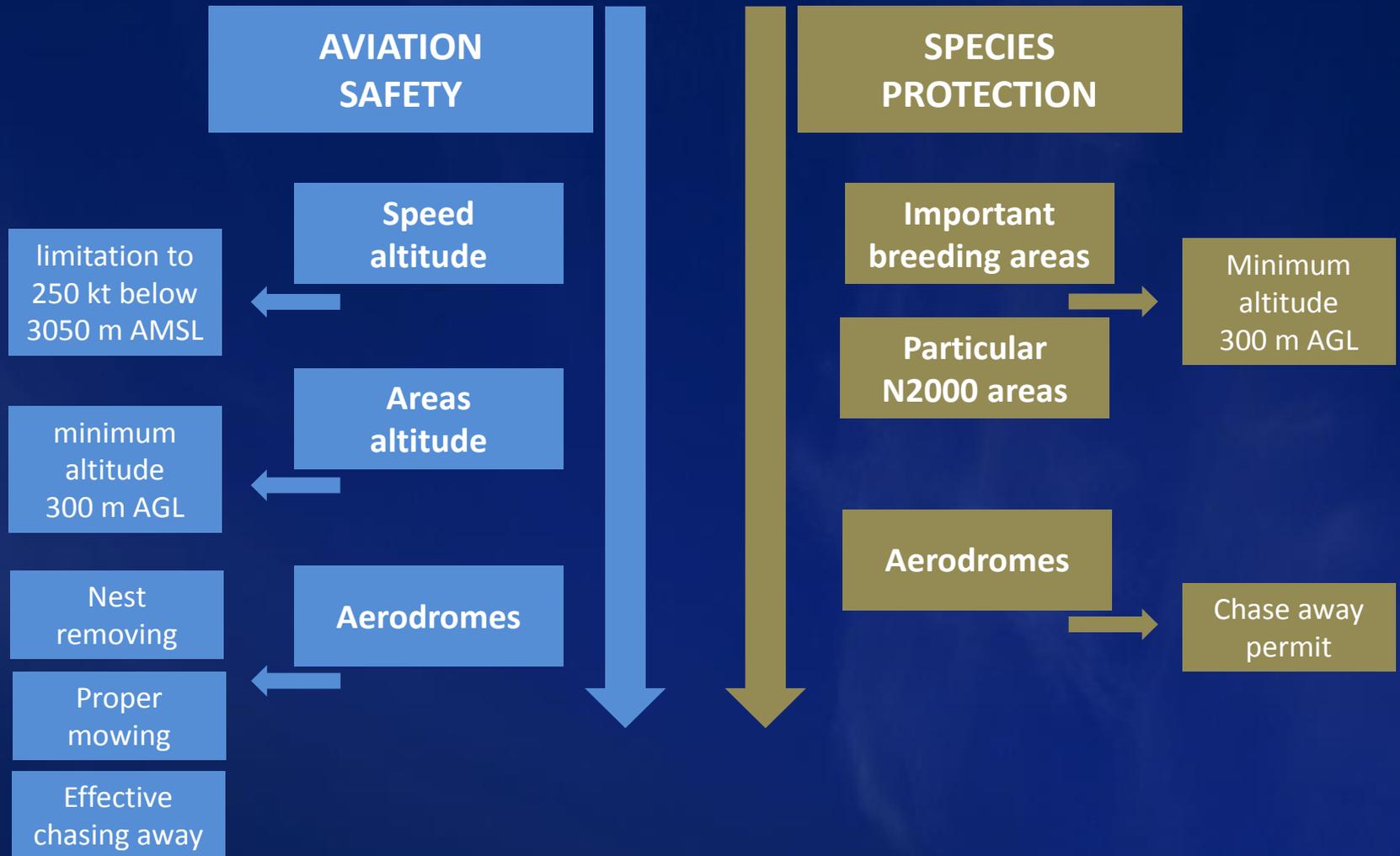
~~Bird Strike~~



SAFETY TRINGLE (Heinrich's)

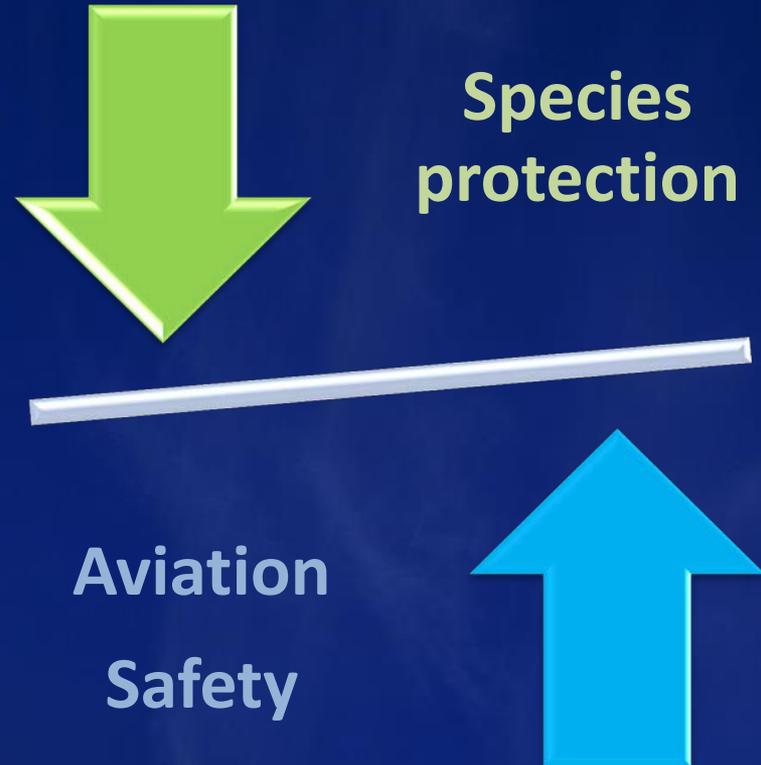
AVIATION SAFETY AND THE WHITE STORK

JOINT EFFORT PROCEDURES



AVIATION SAFETY AND THE WHITE STORK

TO FIND AND MAINTAIN THE BALANCE



Thank you for your attention

Questions?



Dr. Michał Skakuj

Photographs:

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