

ATC Advisory System for the Prevention of Bird Strikes

Metz, Isabel; Ellerbroek, Joost; Mühlhausen, T; Kügler, D.; Hoekstra, Jacco

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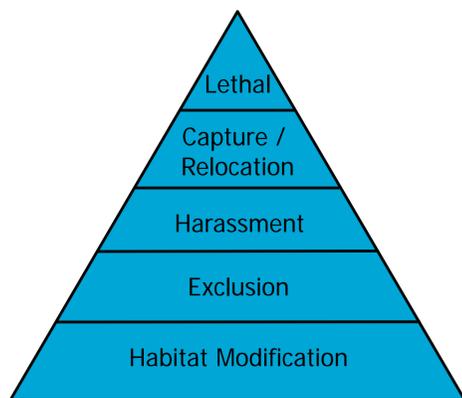
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ATC Advisory System for the Prevention of Bird Strikes

Isabel Metz, Joost Ellerbroek, Thorsten Mühlhausen, Dirk Kügler, Jacco M. Hoekstra

Current Bird Strike Hazard Mitigation Measures at Airports



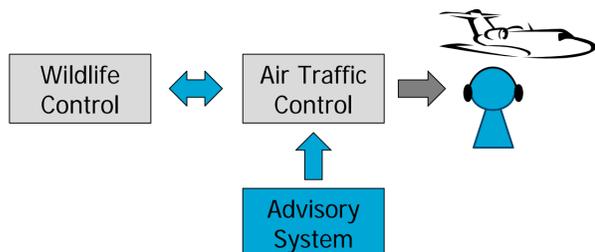
- carried out exclusively by the Wildlife Control Unit
- habituation to the measures
- geographically limited

Current Information Flow at Airports



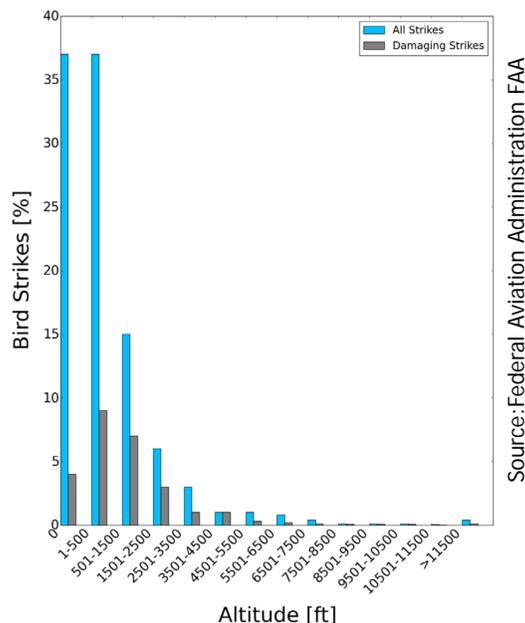
→ ATC receives general information on high bird densities

Intended Information Flow Airports



→ ATC receives detailed information on current and predicted bird movements

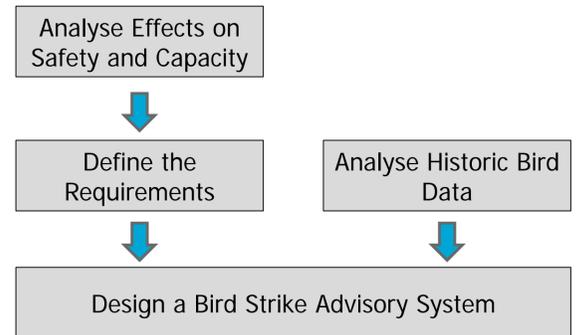
Current Situation



Source: Federal Aviation Administration FAA

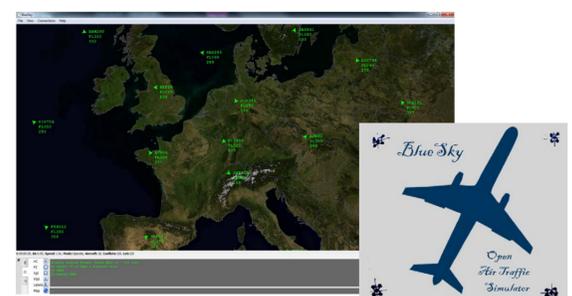
- delays and operational impacts
- costs of ca. one billion US\$ per year for commercial aviation worldwide
- increasing risk due to increasing bird populations and rising air traffic
- **a threat to aviation safety**

Approach

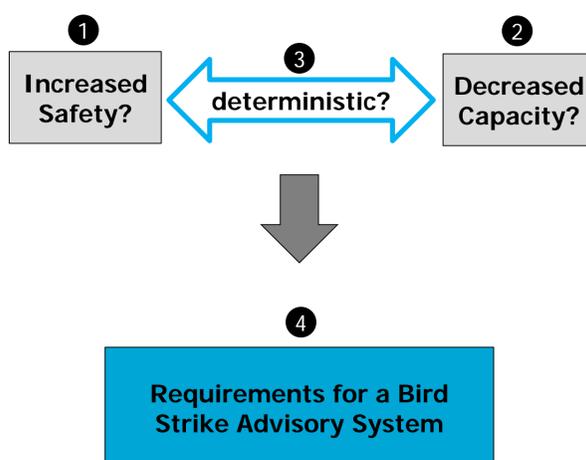


Method

fast-time simulations using the BlueSky Open Air Traffic Simulator



Four Main Research Questions

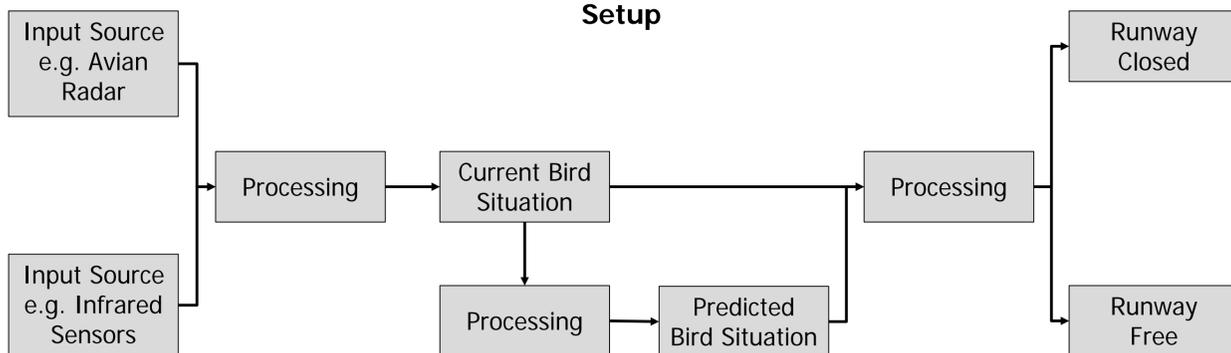


Scenario Screenshot

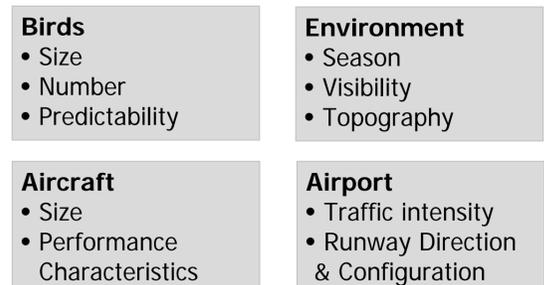


air traffic in green, bird traffic in yellow

Setup

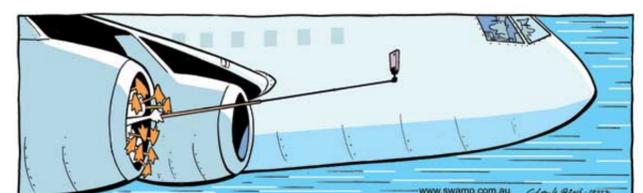


Simulation Variables



Key Literature

- Dolbeer, R. (2013). The history of wildlife strikes and management at airports. In *Wildlife in airport environments. Preventing animal-aircraft collisions through science-based management* (pp. 1-6). Baltimore, MD, USA: The John Hopkins University Press.
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