

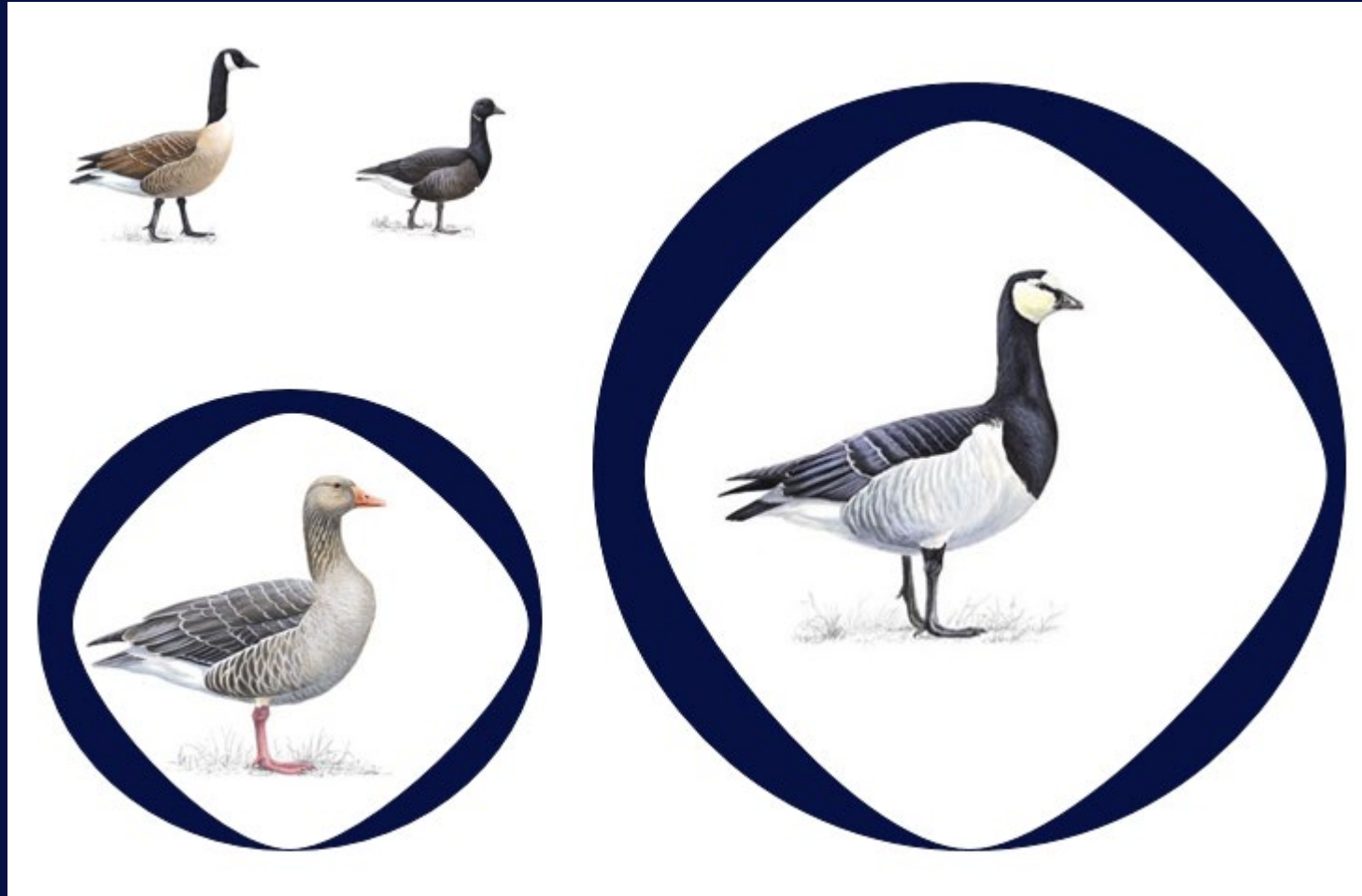
Problems with geese in Copenhagen Airport, Denmark



CPH Introduction



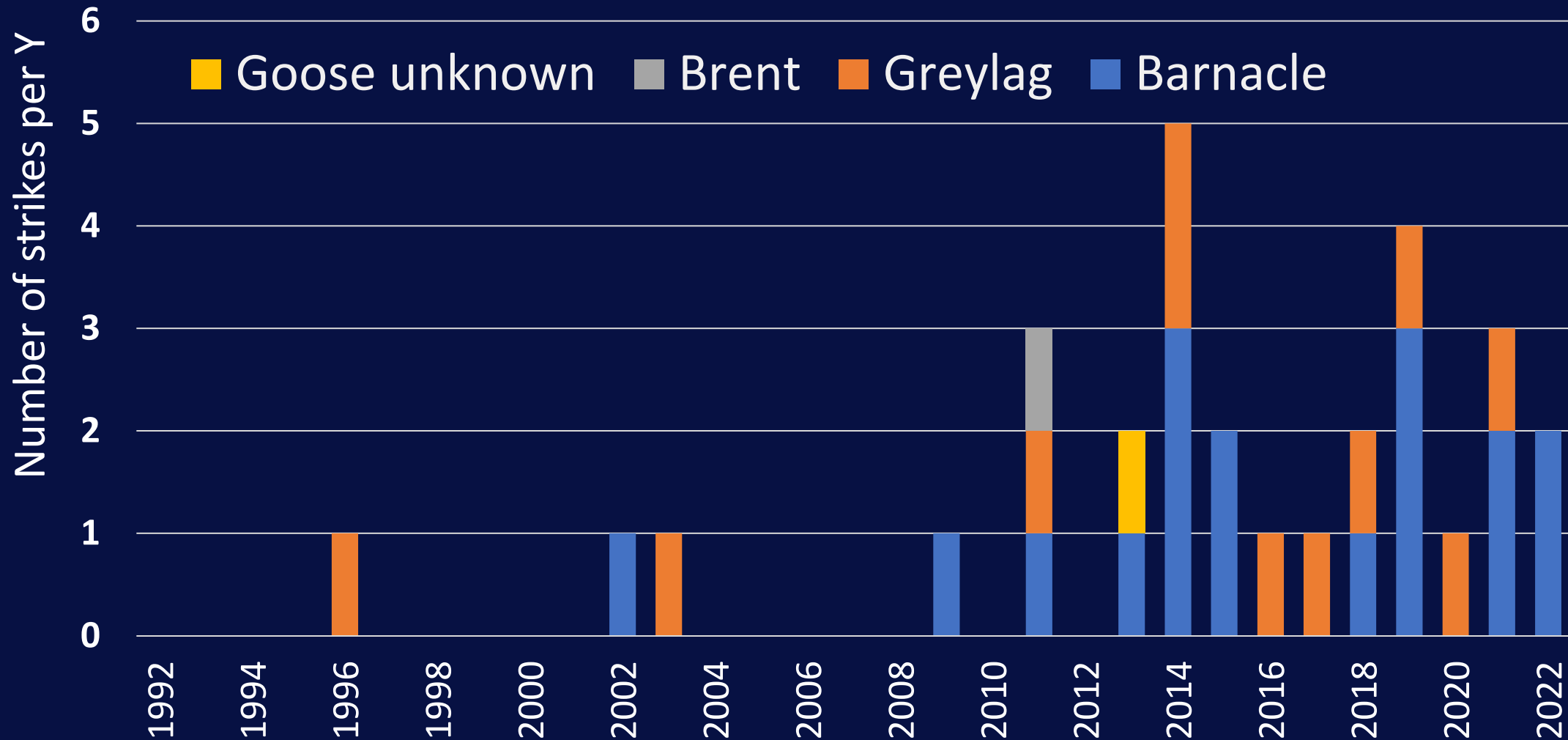
The species involved



Number of geese (all species) recorded at CPH 1993-2022

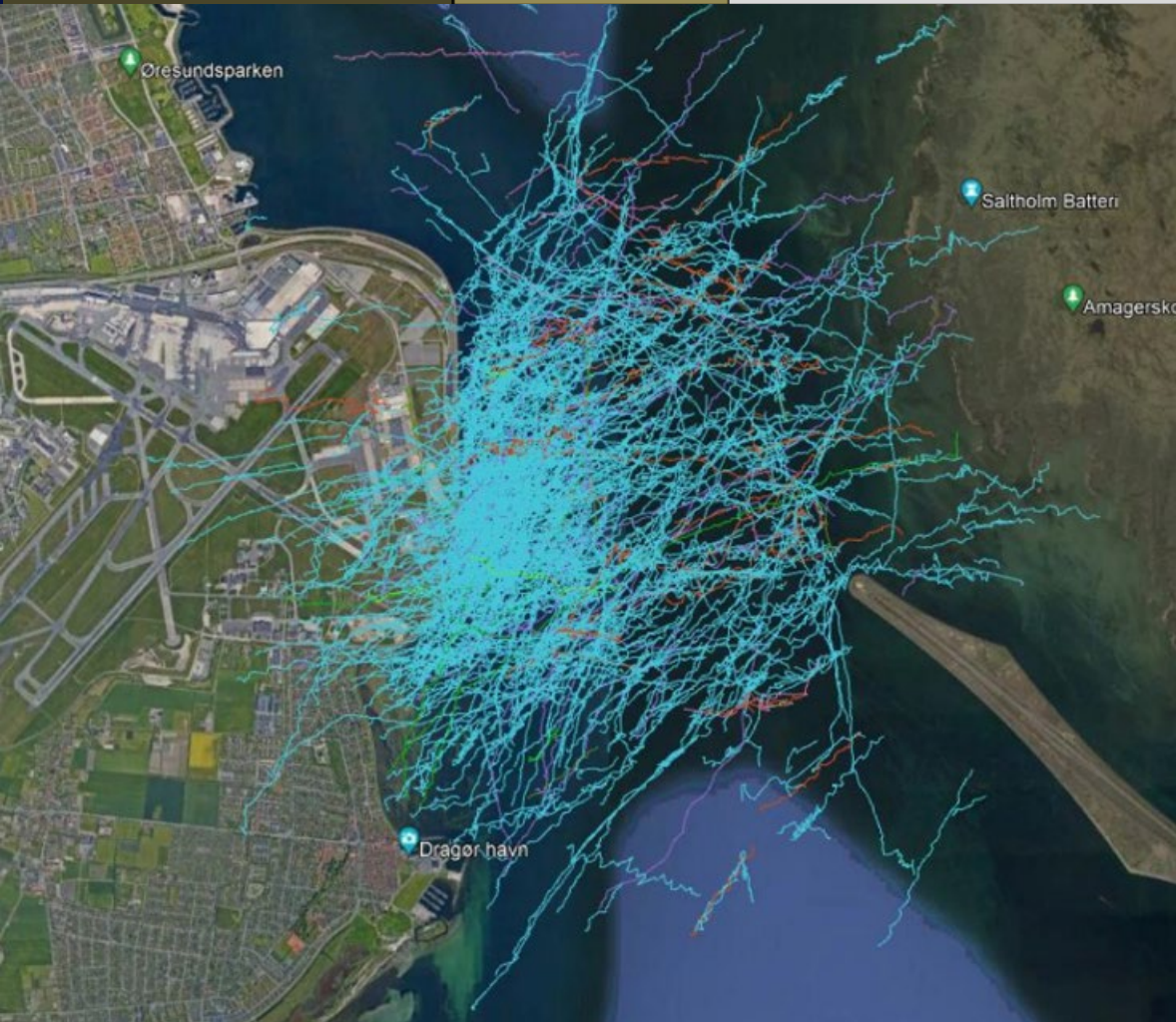


Goose strikes CPH 1992 -2022



<u>Barnacle Goose</u>	Russian/Baltic migrants	passage roosting (in the vicinity) wintering (in the vicinity)
<u>Greylag Goose</u>	Baltic migrants	passage roosting (in the vicinity) wintering (in the vicinity)

Problems and solutions



Radar tracking
Barnacle Geese
Sep. – Oct. 2022

1769 tracks
287.718 ind.

Barnacle Goose

Russian/
Baltic
migrants

passage
roosting (in the vicinity)
wintering (in the vicinity)

Greylag Goose

Baltic
migrants

passage
roosting (in the vicinity)
wintering (in the vicinity)

Problems and solutions



Greylag Goose



Local breeders	rural urban staging juveniles
40,000 moulting geese Saltholm	passage pre/postmoult roosting

Problems and solutions



Risk Mitigation

- Inside the airport
- Outside the airport

Inside the airport

Active management performed by the airport Wildlife Controller Unit (WLC)

- The WLCs scare (using pyrotechnics) or shoot geese when they settle on the airfield
- The WLCs use pyrotechnics to direct migrating flocks of geese away from aircraft flight corridors if possible
- The WLCs warn pilots of crossing flocks of geese via radio contact to TWR (pilots delay take-off until the flock passes)
- The WLCs ensure that warnings are issued to pilots about crossing flocks of geese on ATIS (Automatic terminal information service)

Inside the airport

Passive management performed by the airport Field Maintenance Service (FMS)

- FMSs allow the grass to grow more than 20 cm before cutting it down to 15 cm. This grass height is much higher than the Barnacle Goose prefers
- The FMS is reseeding the existing grass with endophyte containing seeds of Tall Fescue and Ryegrass that act as a feeding deterrent (e.g., taste aversion) by causing post-ingestion distress in geese

Inside the airport

Reseeding with endophyte containing grass seeds

- Continuous program 40 ha reseeded annually
- Tall Fescue and Ryegrass (80% and 20%)
- Quantity of seeds 400 kg/ha
- Artificial fertilizers: 300 kg/ha



Outside the airport

Limitations and possibilities

- CHP has no authority to dictate changed goose-friendly use of private and public lands outside the airport
- Only by negotiation and/or with financial compensation CHP can achieve desired changes that can prevent attractive conditions for geese

Outside the airport

Initiatives launched

CPH has arranged for local landowners to be allowed to shoot Barnacle, Greylag and Canada Geese all year round on the agricultural land around the airport

For CPH, Aarhus University is investigating opportunities to improve and intensify the hunting of geese in the agricultural areas outside the airport. This project is ongoing in collaboration with local landowners and hunters

Outside the airport Initiatives launched

CPH is in the process of investigating options to change crop selection on the agricultural areas outside the airport to more goose-unfriendly crops.

This includes the ability to plow the land within 48 hours after harvest

Outside the airport

Initiatives launched

For CPH, an investigation has been carried out of the possible amount of discharge of Nitrogen into the aquatic environment as a result of changed crop selection

CPH is in negotiations with the environmental authorities how to reduce the Nitrogen discharge from changed types of crops

Conclusion

- We are facing with goose populations that are constantly increasing in number
- At the same time, the geese show surprising opportunism when it comes to exploiting new resources in time and space
- Geese are posing a major threat to air traffic over large parts of the world
- And at Copenhagen Airport, geese are by far the biggest threat to flight safety all year round

Conclusion

- Successful solutions require more knowledge about the geese both in general and especially with regard to local conditions
- Knowledge of the origin and occurrence of these populations and their use of the areas around the airport requires further investigation.
- Otherwise, our risk assessments of geese versus flight safety may be fraught with error, and we risk acting blindly
- It is therefore important to fill in the gaps in our knowledge

Thank you