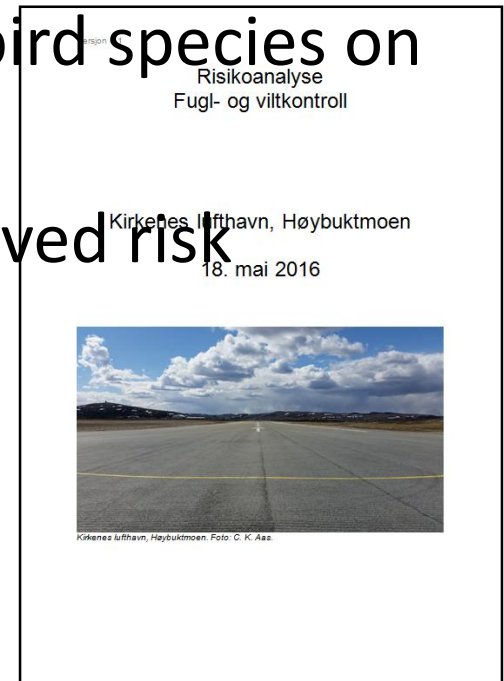


# Avinor – Activities since last meeting, results from Risk analysis bird – and wildlife control

- D. Paton's model «Bird Risk Assessment Model for Airports and Aerodromes» (2010) used with some adaptations
- This model is based on the presence of birds (rather than bird strike data), it classifies the bird species on the airport using a set of criteria
- May give a better picture of the perceived risk
- Pål, Espen, Christian



# Risk analysis bird – and wildlife control

- Outcome, example

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Consequence	Likelihood			
	4	3	2	1
6				
5	Greylag goose	Gr. Black-backed gull, Herring gull	Mallard	
4	White-tailed sea eagle, Grey heron	Common gull		
3		Curlew, Oystercatcher, Crow	Willow ptarmigan	
2				
1				

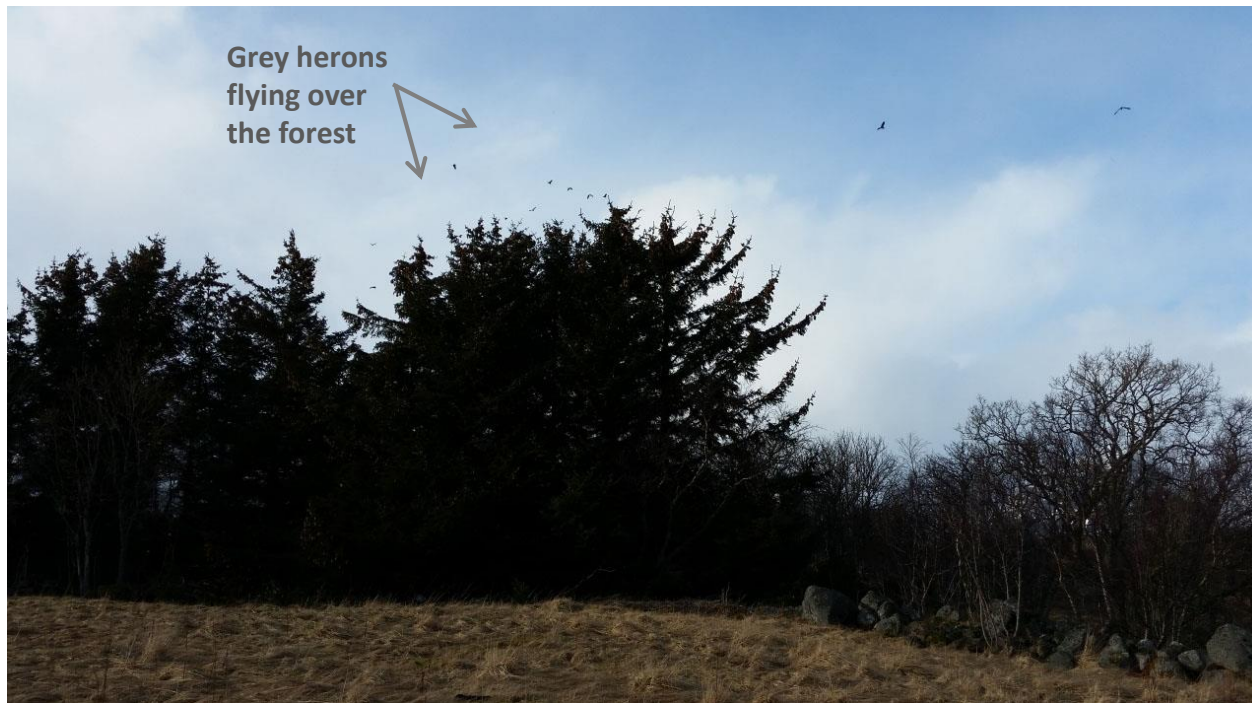
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# Bird control measures recommended

- Hares in the spring and grouses (**orange colour**) in the autumn are a risk at one medium-sized airport. We recommended the use of dogs (private ones) when there is no air traffic, and traps for the hares (approved by the Norwegian Environment Agency - NEA).
- The numbers of Whooper swans (**red colour**) have been increasing in recent years, and several pairs nest and stay in some small lakes around this small airport. Here we recommended an intensive scaring campaign (appr. by NEA) in two lakes just before the breeding period in order to prevent them from breeding.

# B/c measures recommended (2)

- One colony of Grey herons (**orange**) is located in a coniferous forest 300-400 m from another small airport. The herons feed close to the runway. Recommendation: to cut down nests and trees to make the forest less attractive to the birds.

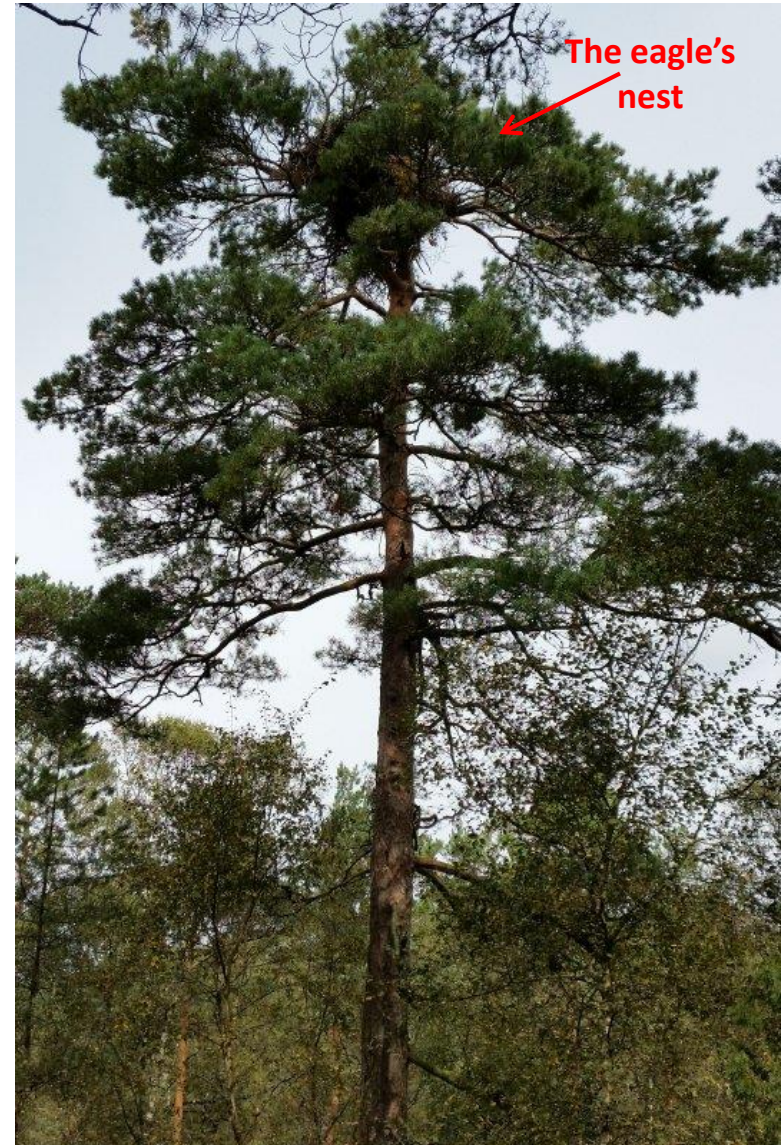


# B/c measures recommended (3)

- On yet another small airport the Common gulls (**orange**) pose a threat to the flight safety as 100 birds may gather in periods. A megaphone with distress calls was recommended as a supplement to other measures.
- Whooper swans (**red**) cross the runway on one medium-sized airport at irregular intervals and between different lakes. We recommended several actions: i) shooting, ii) puncturing eggs, iii) document the swans using a data logging program, iv) record every RWY crossing, and v) put into action a «swan-check» in the tower before aircraft movements.

# B/c measures recommended (4)

- White-tailed sea eagles (**orange**) are often observed over and next to the runway on one of the large airports. One pair of eagles are nesting in a tree close to the airport. We recommended to cut down the nest or the tree and to disturb the eagles on this site before breeding next spring.
- Greylag geese (**red**) occur in large flocks (50-100 birds) during migration, they rest and feed *on* and *next to* one small airport. In addition they breed on small isles and islets to the south. Recommendation: use of dogs to search for eggs.



# B/c measures recommended (5)

- Geese (**red**), mainly Greylag –, are considered the biggest bird risk at this small airport, especially during migration. Geese inside the fence are recommended shot if not scared away otherwise. The ATC should show vigilance towards geese passing over, and the ATC are advised on the arrival times of the geese.
- On this medium-sized airport, the starlings (**orange**) gather in hundreds every autumn, and one bird strike here in 2010 with a B737 involved several hundred starlings. The starlings rest in some trees on a neighbouring property. We recommended the trees to be cut.
- **Recommendation followed!**

# B/c measures recommended (6)

- The Pink-footed goose (**red**) rest in large numbers close by this large airport every spring and autumn. Several recommendations were made: i) a dedicated bird observer during peak weeks, ii) dialog with hunting neighbours to ensure that hunting take place during daylight only, iii) that TWR and ground personnel pay special attention to the migrating route and to include this in local procedures.
- On another small airport, the gulls (**red**) are present all year and especially in bad weather. Flock size may be 100. Fishing boats attract the gulls. Use of handheld laser was recommended as well as making contacts with local boat rental companies and a fish factory in order to reduce spilling of fish.





- On this small northern airport, gulls and eiders (both red) gather in more than 100 individuals in the sea at the end of a pipe from a local fish company. It was recommended that the pipe was prolonged to move the problem birds further away from the airport.
- **This has been done, and the problems are almost gone!**