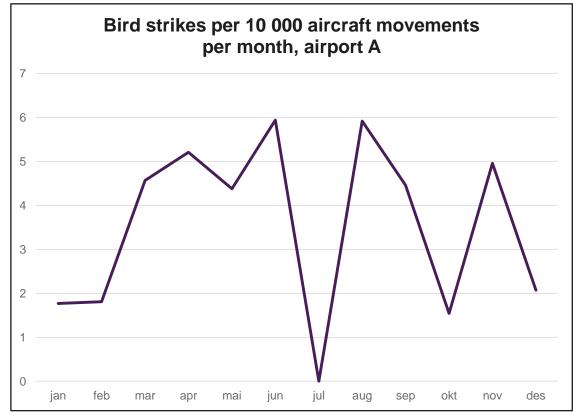


- Plan for 2018:
  - Also include aircraft movements in the statistics
  - Example:



- Identification of bird remains, by
  - photo (most often)
  - feather id, macroscopically
  - feather id, microscopically
  - feather/flesh remains, DNAidentification
    - possible at Natural History Museum, DNA-lab



- Almost all Avinor airports have received a tablet to record observations and scaring methods
  - Documentation
  - More detailed knowledge
  - Risk analyses



- Risk analyses (5 airports/year)
  - Model: Paton (2010)
- Ornithological visits (5 airports/year
  - own design





**Reference**: Paton, D.C. 2010. Bird Risk Assessment Model for Airports and Aerodromes. University of Adelaide, 15 pp.

- Norwegian aviation bird committee ("Norsk fly/fuglutvalg"; every year)
- Bird control seminar, 2-days (every 2 years)
- Yearly report bird control (every airport)
- Local Flight safety meetings (0-4/year)
- Mandatory e-learning course on bird identification and bird control





- Contact with the Norwegian Environment Agency about the goose problem – many thousand geese pass some airports spring and autumn
  - An international management plan: 60 000 Pink-footed geese (*Anser brachyrhynchus*), but today: ca. 88 000 Pink-footed geese
  - Barnacle geese (*Branta leucopsis*) are internationally protected!
  - A special goose-scaring project will be initiated at Trondheim airport, Værnes soon...
- The Norwegian Environment Agency (NEA) issues permissions to shoot birds when all possible scaring fails
- The same applies for mammals which are a threat to the flight safety (an application has been forwarded to NEA)

- Airports are encouraged to update AIP, under the airport's text pages, chapter «AD 2.23 Other», in relation to birdstrike risk and presence of birds
- Example from one medium busy Norwegian airport:
  - Flocks of gulls can occur at and near AD. Especially in the period May-October and during rain.
  - Flocks of geese are passing over AD to the north during spring migration in MAR-APR. During late AUG to NOV they migrate south.
  - Eagles sometimes fly over and near AD.
  - Flocks of smaller birds, such as thrushes, Starlings and Snow buntings, may occur at times.
  - Birds breeding inside the airport, are Lapwing, Oystercatcher and Curlew.
  - Measures to reduce birds include car patrols, fireworks, handheld lasers and shooting.

- One problem, occurring at a few Norwegian airports, is the swarming of thousands of Garden Chafers (*Phyllopertha* horticola; a type of beetle) each summer (Aas et al 2008). The beetles attract large number of gulls, Common – and Black-headed gulls, which feed massively on them.
- Plans for 2018 include:
  - Turn around the soil (since the Garden chafers larvae feed on grass roots in sandy grass)
  - [We create the sandy grass ourselves!]
  - Spraying with the parasite
    Heterorhabditis bacteriophora
    to attack the larvae in the soil
- Do any other Nordic countries have the same problem with Garden chafers? Any experiences?







**Reference**: Aas, C.K., Olstad, T., Drageset, O.-M., Haukeland, S., Kleppestø, D.O. & Rukke, B.A. 2008. A biological battle against the thousands of Garden Chafers (Phyllopertha horticola) that attract large numbers of gulls (Larus sp.) during the summer season at Rygge Air Station, Norway. IBSC 29, Brasilia 24-28 November 2008.