Toolkit for national management

SUSTAINABLE WATERBIRDS HARVESTING AND CONSERVATION TRAINING WORKSHOP
LIFE16/NAT/BG000847 "LIFE for Safe Flight" Project

June 2022

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Bulgarian Society for the Protection of Birds

AEWA Red-breasted Goose International Working Group

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Content

- Harvest regulation – seasons, zones, methods. A model.
- Monitoring – bag stats., wing survey (pops and demographic), population monitoring
- Research – ad hoc projects
- (Adaptive management – involvement of stakeholders)

… mostly based on Danish experiences

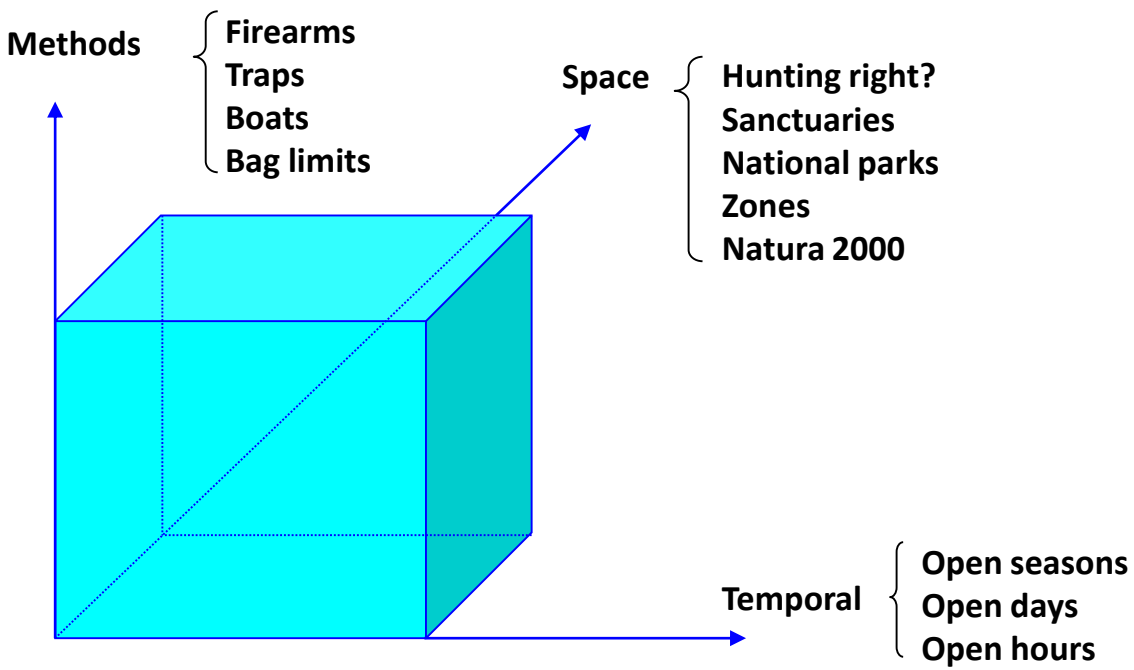
Harvest management tools

Most harvest and hunting management tools can be considered in the three dimentions:

- Temporal: **When** we hunt.
- Space: **Where** we hunt.
- Method: **How** we hunt.

The volume of the box can be regarded as the legal **harvest potential.**

The dimentions may vary from one country/region to another.



”Temporal” tools

Open seasons (for specified species, Annex II):

European Union ”birds directive”, art. 7:

”*..species to which hunting laws apply are not hunted during the* ***rearing season*** *or during the various* ***stages of reproduction***”.

“*In the case of migratory species, they shall see in particular that the species to which hunting regulations apply are not hunted during their* ***period of reproduction*** *or during their* ***return to their rearing grounds***”.

Open hours (no international regulation):

In many countries: No shooting at night.

Example: Denmark

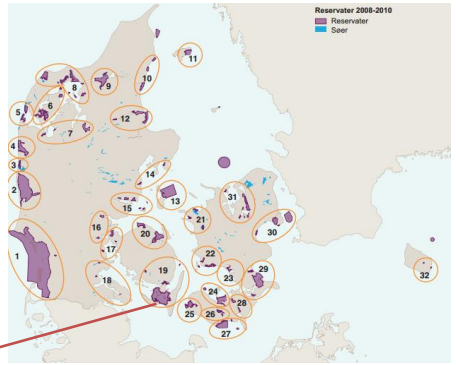
- Hunting general:1 September – 31 January (max period).
- Geese and dabling ducks: 1 September – 31 December/31 January.
- Diving ducks: 1 October – 31 January.

- Waterbirds hunting allowed from 1,5 hour before sunrise to 1,5 hour after sunset.

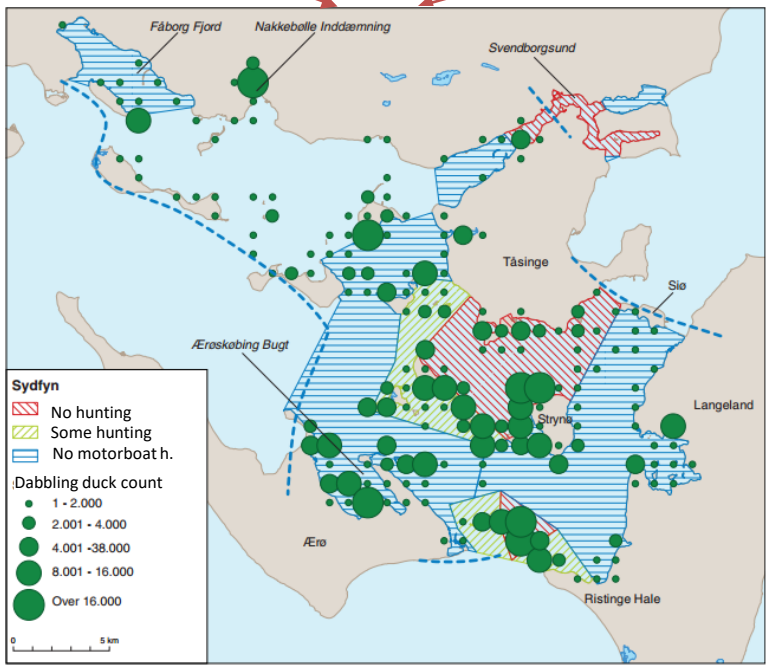
”Spatial” tools

Example: Denmark

- 30+ sanctuaries with hunting regulations
- No hunting regulations particularly in Natura 2000
- No hunting regulations particularly in national parks



- Zoning is common



<u>Hunting right essential and always connected to areas:</u>

- Owner rights
- Community rights
- Club rights

} differs from country to country

Regulations may be on:

- Special protected areas (Natura 2000)
- Sanctuaries/reserves/national parks
- Zones around such areas

”Method” tools

Examples: Most European countries.

- These provisions fulfilled, some more restrictive.
- However, some court cases are pending.

Illegal hunting methods :

European Union ”Birds Directive”, Art. 8, Annex 4:

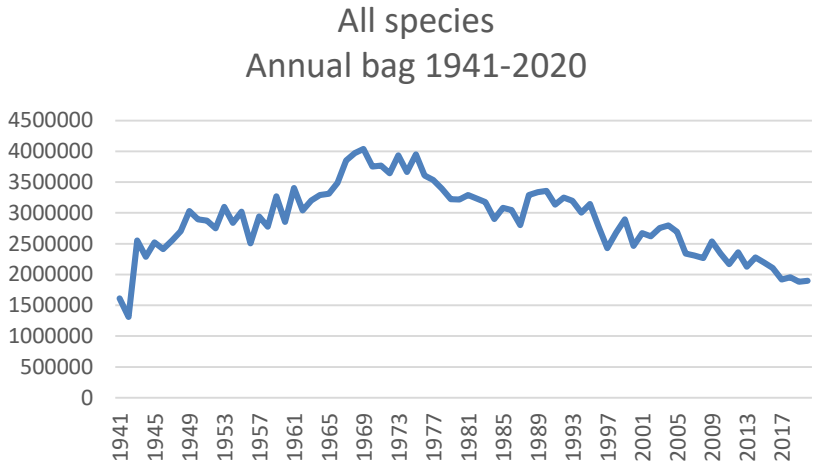
- Snares [except…], limes, hooks, live birds which are blind or mutilated used as decoys, tape recorders, electrocuting devices,
- artificial light sources, mirrors, devices for illuminating targets, sighting devices for night shooting comprising an electronic image magnifier or image converter,
- explosives,
- nets, traps, poisoned or anaesthetic bait,
- semi-automatic or automatic weapons with a magazine capable of holding more than two rounds of ammunition,
- aircraft, motor vehicles,
- boats driven at a speed exceeding five kilometres per hour. On the open sea, Member States may, for safety reasons, authorise the use of motor-boats with a maximum speed of 18 kilometres per hour.

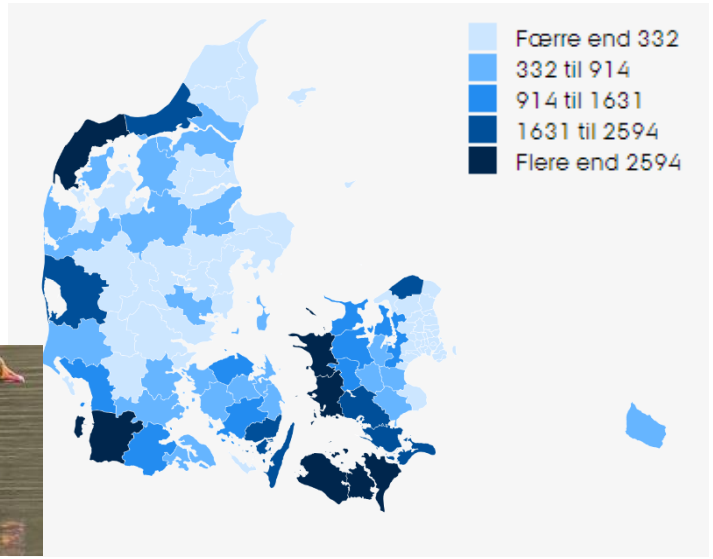
Derogations are possible.

Monitoring harvest

”The Danish game bag statistic”

- Data base with information on numbers of harvested game animals of 63 species.
- Mandatory, annual report from all hunters
- Data series since 1941/42
- Annual and per municipality (98)





Bag statistics: strengths and weaknesses

Strengths:

- Big data set
  - All hunters
  - National
  - Long time series
- Contact to individual hunters as a basis for further research (questionnaires)
- Low cost ”per data”

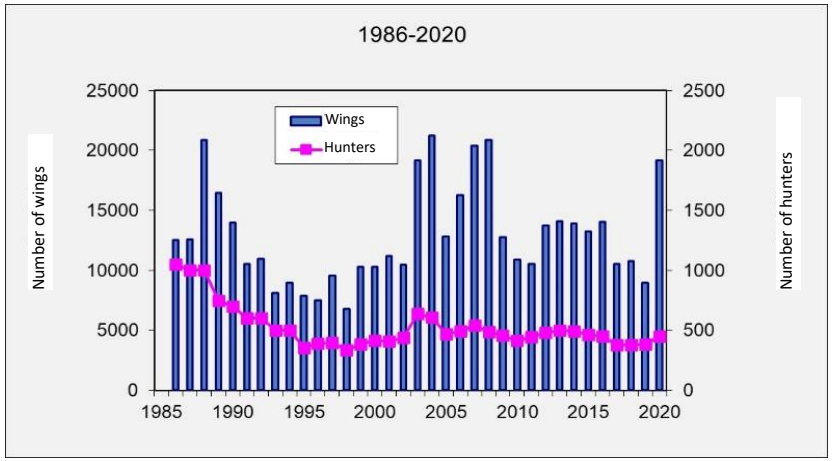
Weaknesses:

- Missing and biased reporting
- No seasonal breakdown
- No sex and age breakdown

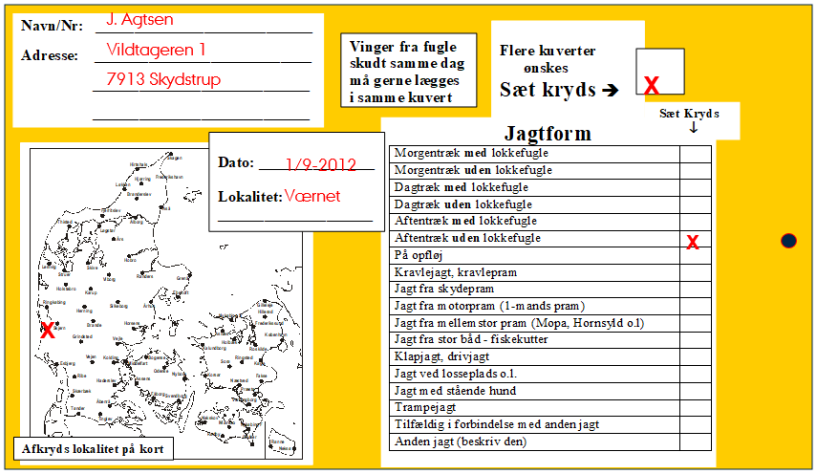
THEREFORE (next slide)

Wing survey

- Since 1979 (N=350,000)
- Voluntary
- Data base with information on 28 species of waterbirds (15 ducks, 5 geese, 3 gulls, 2 waders, 1 coot)
- Gives information on:
  - Sex
  - Age (young or older)
  - Date of harvest
  - Location of harvest
  - Hunting form

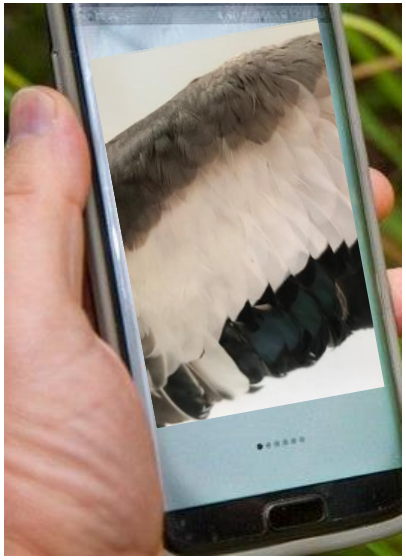


Wing envelope to be posted



Hotspot collection

Digital technology



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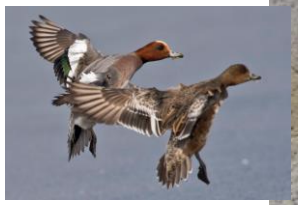
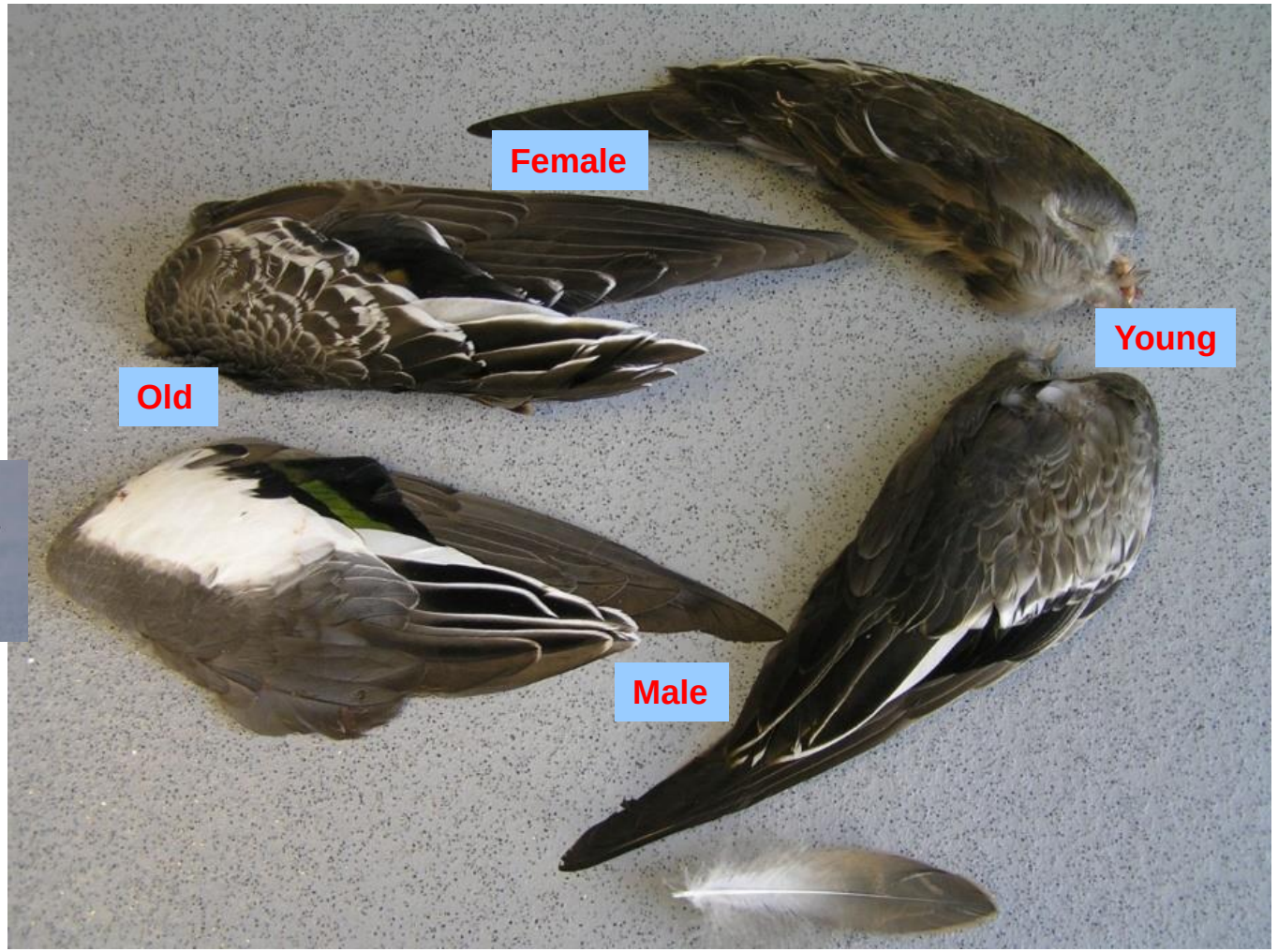
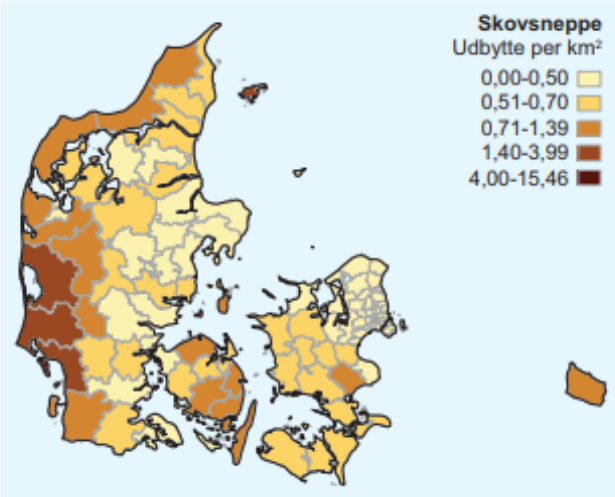
Assesment of species, sex, and age





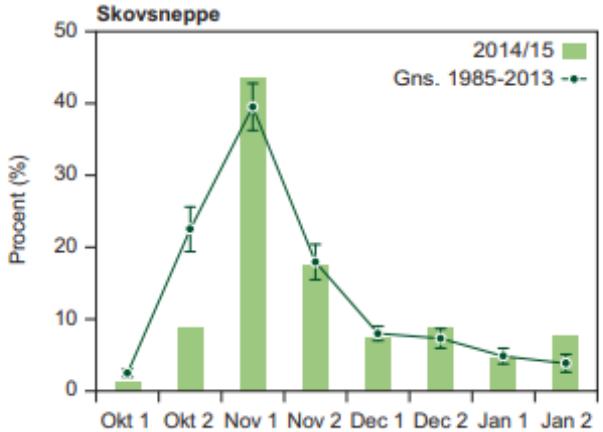
Wigeon (*Anas penelope*)

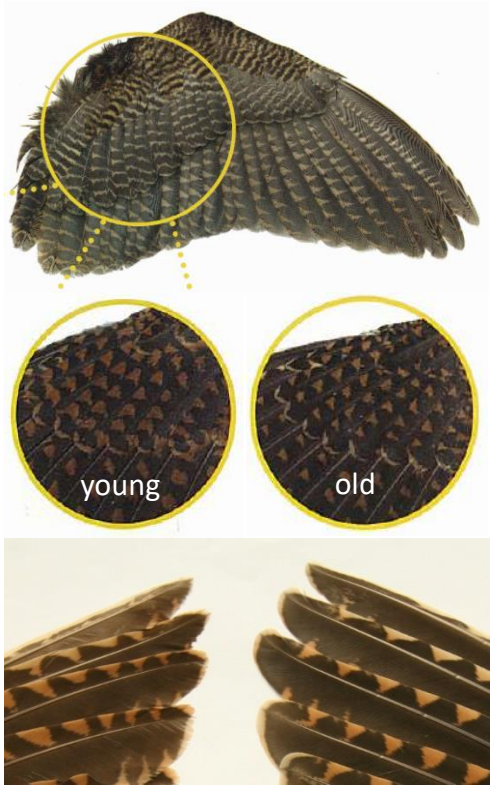
Woodcock (*Scolopax rusticola*)



Figur 3.1.35.2. Geografisk fordeling af jagtudbyttet af skovsneppe vist som gennemsnitligt udbytte på kommuneplan i sæsonerne 2010/11-2014/15.

Seasonal distribution





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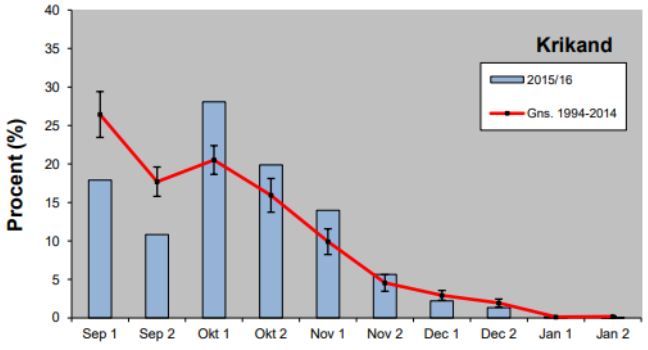
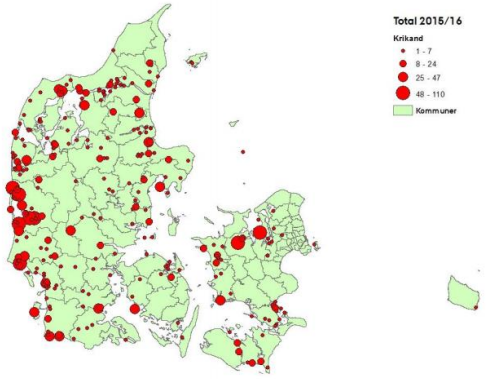
Teal (*Anas crecca*)

Tidsmæssig fordeling – *Temporal distribution*

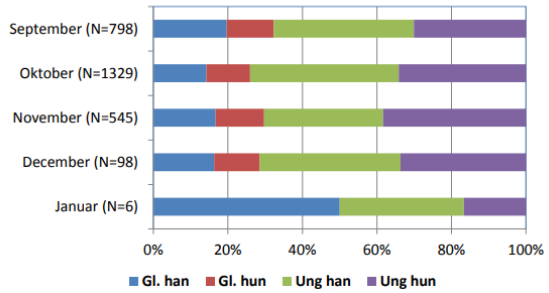


Antal og fordeling- *Number and distribution*

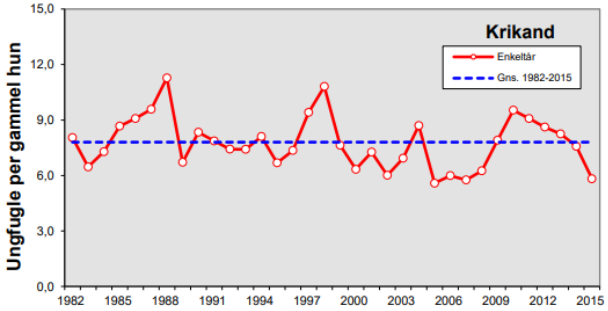
Der blev indsendt 2.779 vinger af krikand i 2015/16.



Køns- og alderssammensætning – *Sex and age composition*

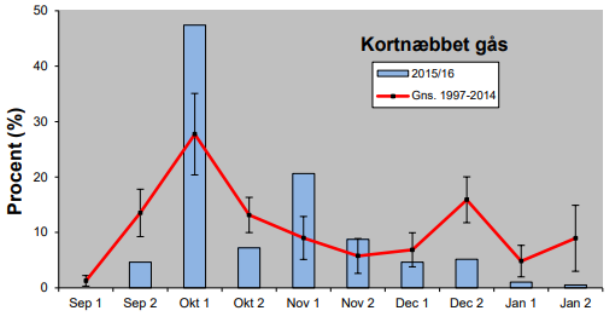


Ynglesucces – *Reproductive success*



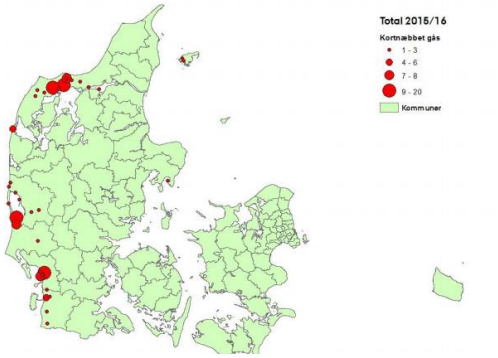
Pink-footed Goose (*Anser brachyrynchus*)

Tidsmæssig fordeling – *Temporal distribution*

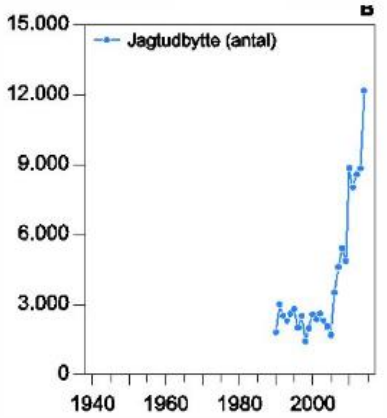


Antal og fordeling – *Number and distribution*

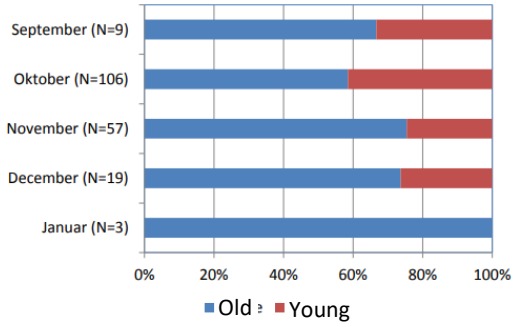
Der blev indsendt 194 vinger af kortnæbbet gås i 2015/16.



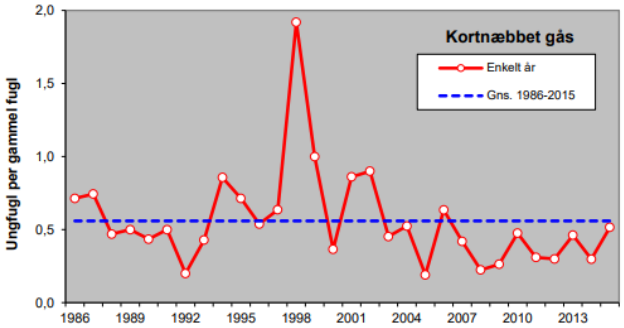
Annual bag

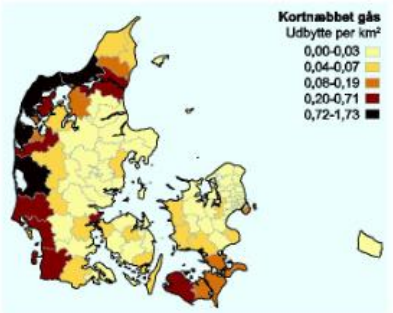


Alderssammensætning – *Age composition*



Ynglesucces – *Reproductive success*





Figur 3.1.32.2. Geografisk fordeling af jagtudbyttet af kortnæbbet gås vist som gennemsnitligt udbytte på kommuneplan for sæsonerne 2012/13 - 2014/15.

Wing survey: strengths and weaknesses

Strengths:

- Detailed data
- Relatively long data series
- Contact to individual hunters as a basis for further research (questionnaires)

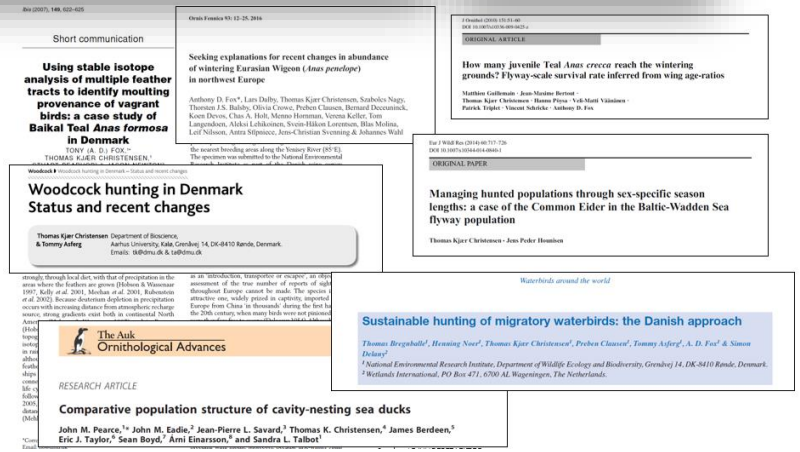
Weaknesses:

- Few participating hunters
- Small samples of some species (bias)
- Resource demanding
- Poor postal service
- Less suitable in large countries

Publication

Reports
Research and scientific
Public access:

http://fauna.au.dk/



Used by :

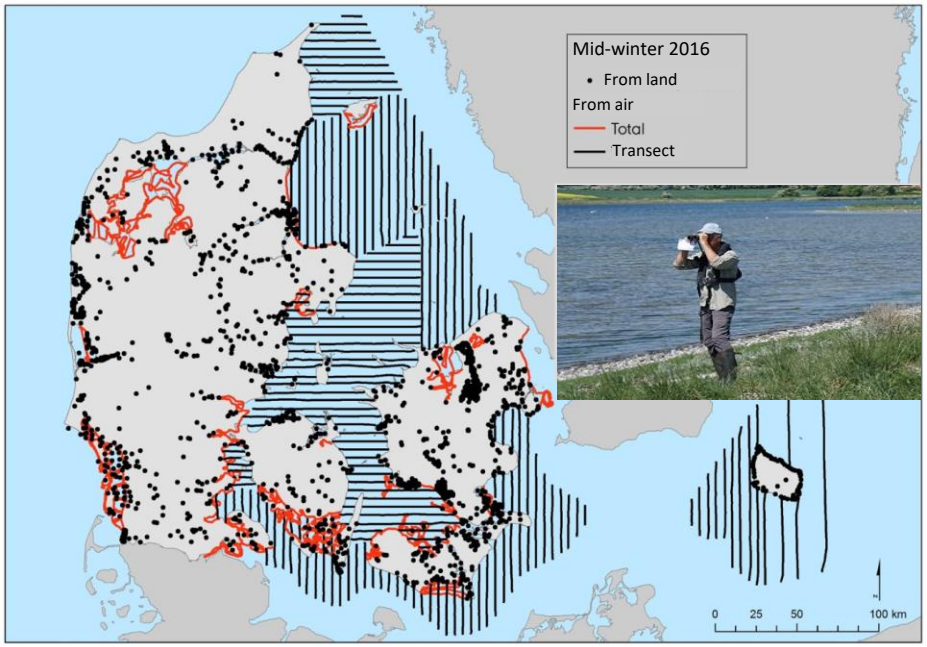
Public authorities (Ministries, Agencies, Municipalities)
Private (hunters and game managers)
NGOs (hunters, ornithologists etc.)

Population survey

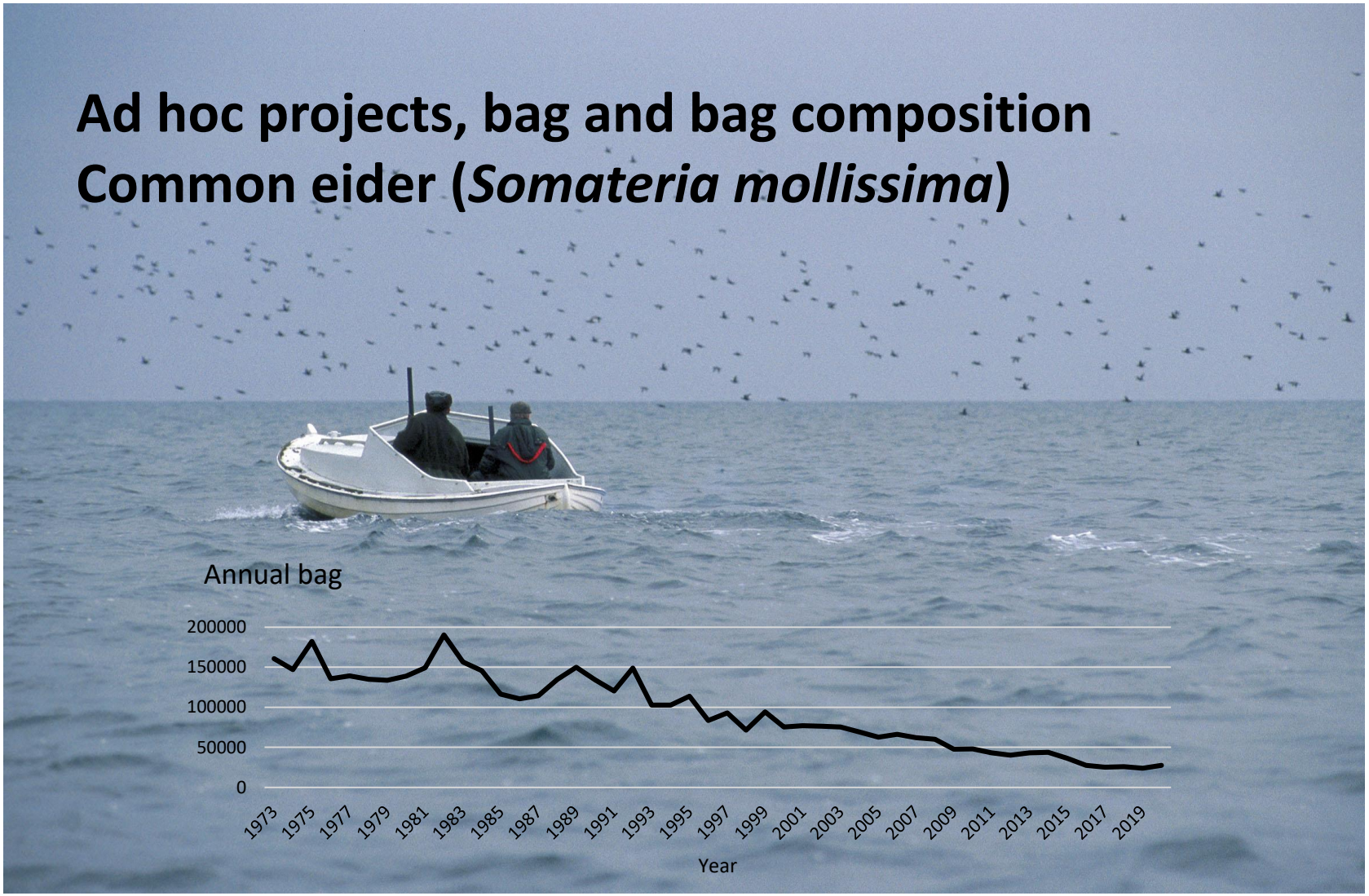
Mid-winter counts:

- Internationally coordinated since 1967
- Country-wide every third year (map).
- Reduced counts between these years.

- Spot counts from land
- Transect or total counts from air

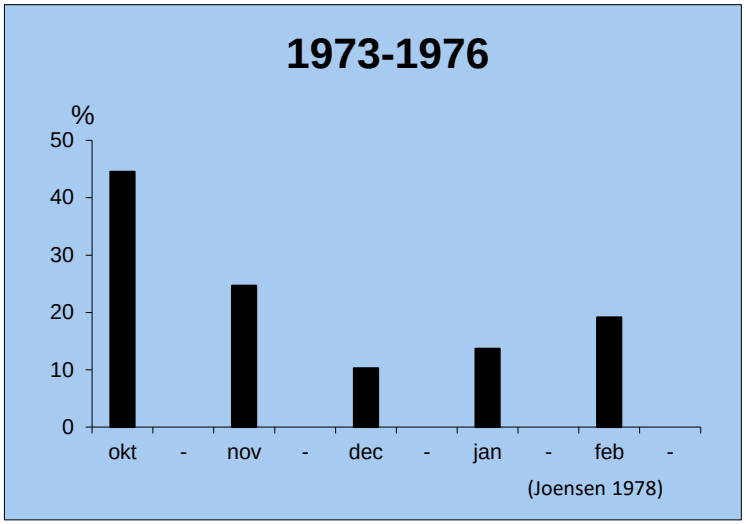


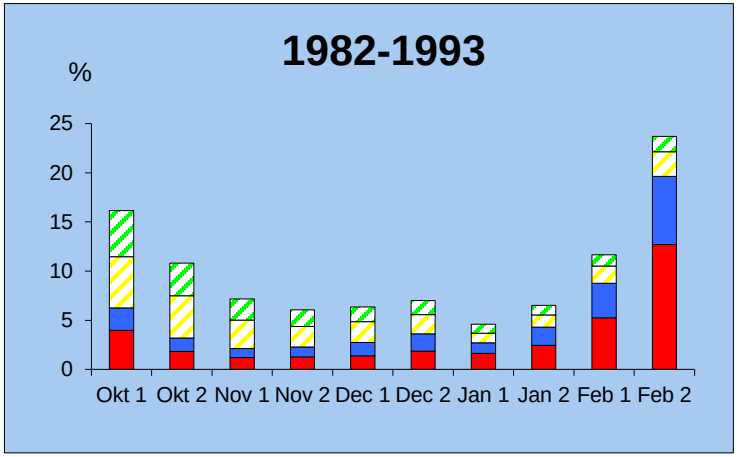
Ad hoc projects, bag and bag composition
Common eider (*Somateria mollissima*)



Annual bag composition: Season, age and sex

Common eider
Somateria mollissima





Annual bag composition: Season, age and sex

Common eider
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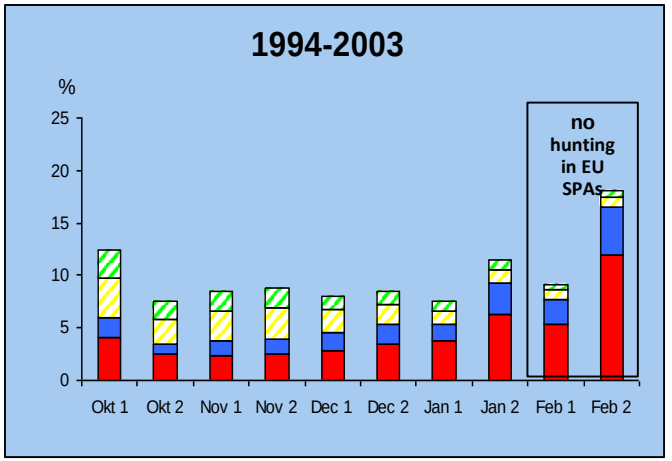
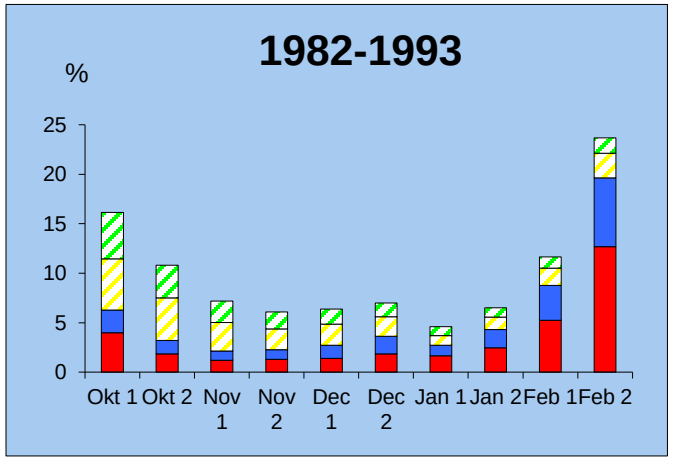


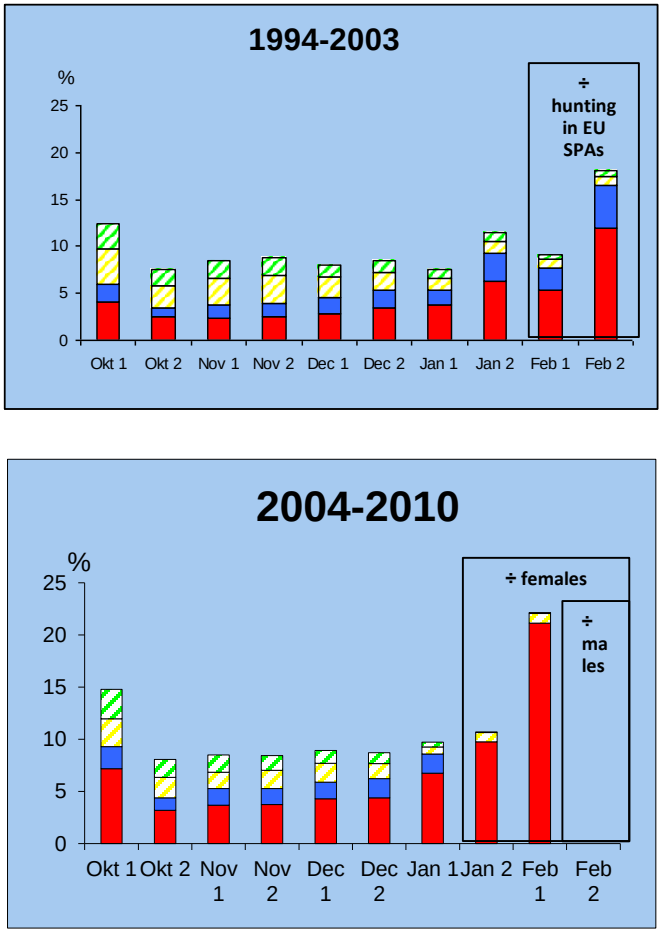


- Young female
- Young male
- Old female
- Old male

Annual bag composition: Season, age and sex

Common eider
Somateria mollissima

Young female
Young male
Old female
Old male



Annual bag composition: Season, age and sex

Common eider
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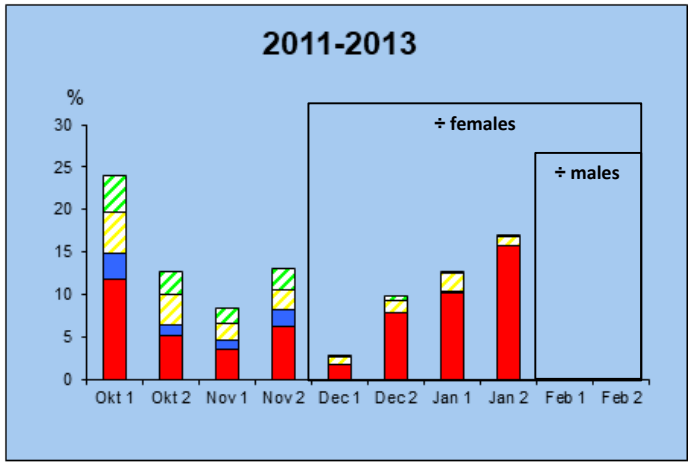

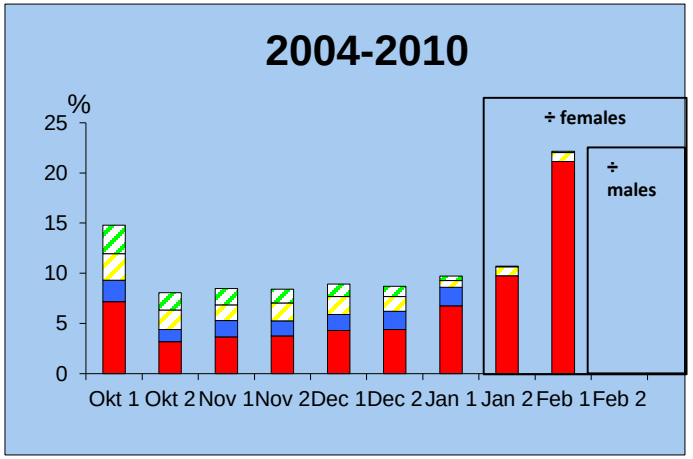

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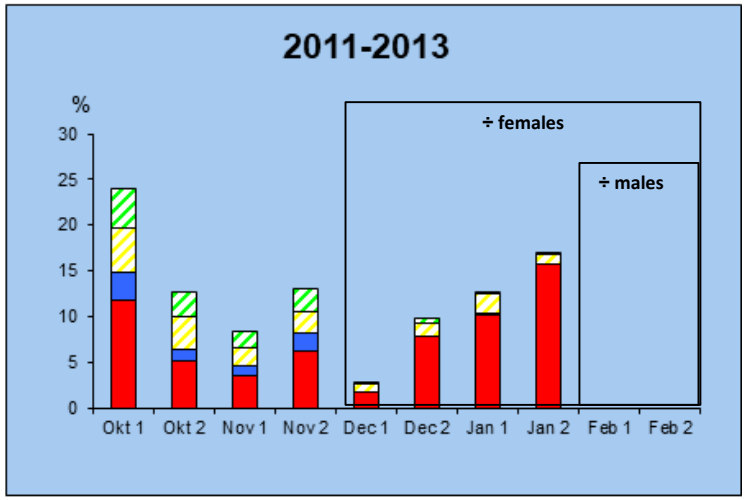
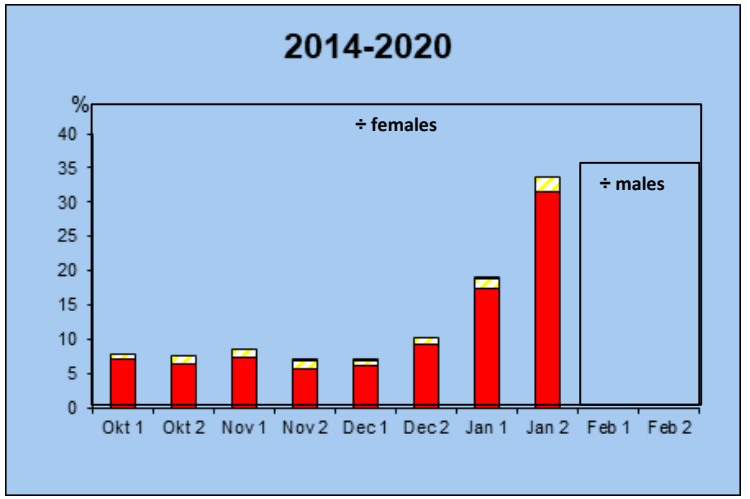
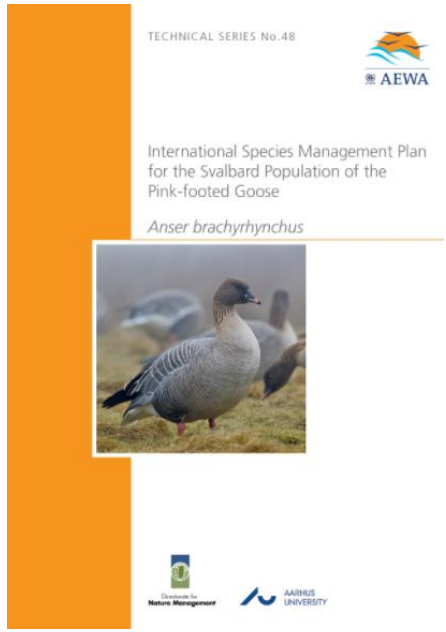
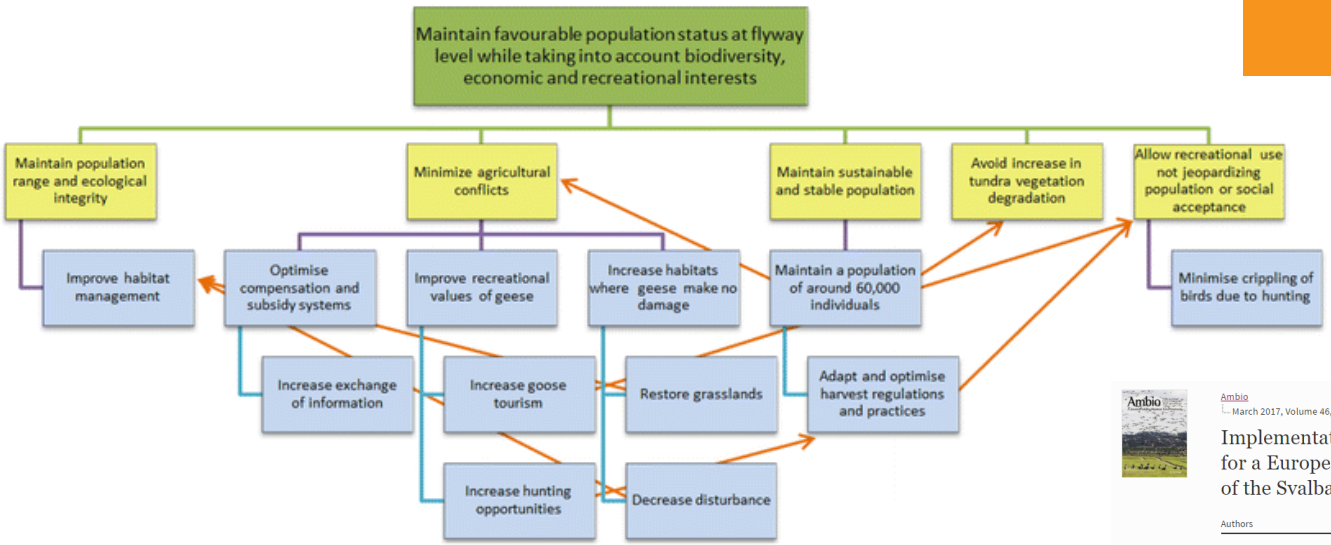




Adaptive management

A new approach!





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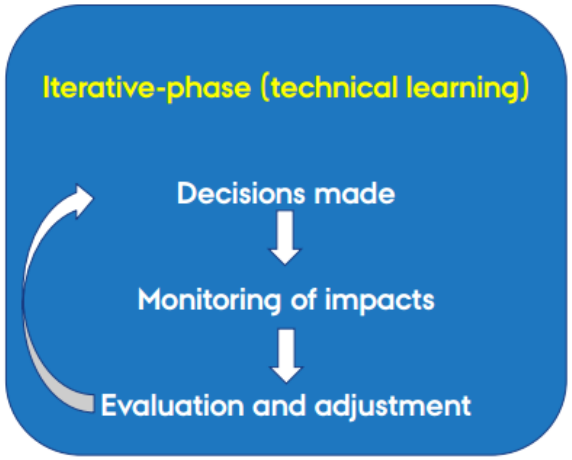
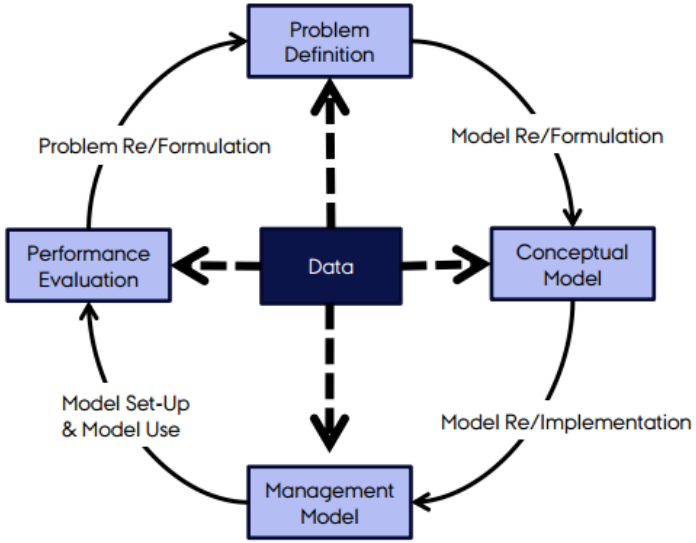
THE MODELLING CYCLE AND ADAPTIVE MANAGEMENT

Adaptive Management Process



Modelling Cycle



Annual cycle in monitoring, assessment and decision-making in the adaptive harvest management of the pink-footed goose