

EGMP Webinar

Crippling of waterbirds by shotgun shooting 11 November 2021, 10-12 hours CET

Program

- What is crippling, what are the causes and consequences of crippling? Experiences from the Danish Action Plan to reduce crippling – 40 minutes; Jesper Madsen
- How to express crippling rates? 20 minutes; Kevin Kuhlmann Clausen
- Ongoing monitoring of crippling in geese 20 minutes; Sander Moonen
- Practical courses in effective goose shooting and avoidance of crippling – 20 minutes; Ove Martin Gundersen
- Discussion with the audience 20 minutes



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Practical notes

- The presentations will be recorded, including clarifying questions after each talk
- The final discussion will not be recorded
- If you want to take the floor, please use the Chat and write your name and affiliation
- Remember to switch on your microphone when you are talking
- > And please switch off your microphone when you have finished
- The recording will be put on the EGMP website: egmp.aewa.info

Background:

International species management and single species action plans implemented under the AEWA European Goose Management Platform (EGMP)



In all four plans crippling is raised as a major concern and reduction of crippling is a key objective

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AEWA European Goose Management Platform





What is crippling, what are the causes and consequences of crippling?

Experiences from the Danish Action Plan to reduce crippling

Jesper Madsen Department of Ecoscience, Aarhus University, Denmark Head of the EGMP Data Centre





Teamwork

Wildlife ecologists, weapon and ammunition experts, statisticians, veterinarians, social scientists



Catching pink-footed geese, Oulu, Finland, April 2018

Contents of presentation

- History of research into crippling in Denmark
- The extent of crippling with a focus on waterfowl
- The contribution of crippling to total losses (harvest) caused by hunting and their inclusion in harvest estimates to ensure sustainability
- The major causes of crippling
- The role of research and monitoring in developing a management approach and achieving change

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Why be concerned about crippling?

• An animal welfare issue

Hunting must not cause unnecessary suffering by game (Danish Act on hunting and game management, §22)

 Potential indirect harvest mortality affecting populations Crippling of pink-footed geese by shotgun shooting: model case

Part of a research and monitoring program since 1990

Aarhus University / Danish Nature Agency / Danish Research Council





Pink-footed Goose: Two almost discrete populations



Hunted in Denmark and Norway Protected in the Netherlands, Belgium, Sweden and Finland

ALL DE LOUIS

X-raying: three generations of techniques





Publication of scientific work (1996) leading to national action plan (1997)

Anskydning af vildt
Henning Noer
Jesper Madeen
Henning Noer
Henning Noer
Jesper Madeen
Henut Standbaard
Poul Hartmann
Danmarks Miljoundersogetier, 1995

Shotgun pellet loads and infliction rates in pink-footed geese Anser brachyrhynchus

Authors: Noer, Henning, and Madsen, Jesper Source: Wildlife Biology, 2(3) : 65-73 Published By: Nordic Board for Wildlife Research URL: https://doi.org/10.2981/wlb.1996.034

Decreased survival of pink-footed geese Anser brachyrhynchus carrying shotgun pellets

Authors: Madsen, Jesper, and Noer, Henning Source: Wildlife Biology, 2(3) : 75-82 Published By: Nordic Board for Wildlife Research URL: https://doi.org/10.2981/wlb.1996.035 National action plan to prevent crippling of game, 1997

By the National Wildlife Management Board & the Ministry of Environment

Active participation by the Danish Hunters' Association



<image><section-header>

Immediate actions taken Raising awareness Filling knowledge gaps Monitoring effects of action plan Follow-up actions

Game species included

Birds:

- Pink-footed goose
- Greylag goose
- Mallard
- Eider duck
- Common scoter
- Goldeneye
- Tufted duck
- Wood pigeon
- Pheasant

Mammals:

- Roe deer
- Red fox
- European hare

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What is crippling? And what do we measure by X-raying in spring?





7 3 5









Proportion (%) of adult pinkfeet with shotgun pellets in tissue



Proportion (%) of adult pinkfeet with shotgun pellets in tissue



Proportion (%) of adult pinkfeet with shotgun pellets in tissue



Noer, Madsen & Hartmann, J. Applied Ecology (2007)





Prevalences and selected trends in crippling, 1990s – 2010s

Birds:

- Pink-footed goose (36 -> 23%)
- Greylag goose (32%)
- Barnacle goose (11%)
- Mallard (15%)
- Eider duck males (34 -> 22%)
- Common scoter (10%)
- Goldeneye (14%)
- Tufted duck (11%)
- Wood pigeon (3%)
- Pheasant (6%)

Mammals:

- Roe deer (5% -> 3%)
- Red fox (25% -> 9%)
- European hare (8%)

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Contribution of crippling to total losses

- Not retrieved seriously crippled individuals
- Not retrieved *lightly crippled* individuals



*Prior to retrieving dogs being mandatory

Impact of crippling on survival in adult pinkfooted geese caught in spring



Madsen & Noer, Wildlife Biology (1996)

Impacts of crippling on body condition in pink-footed geese caught in spring?



No. of pellets

Madsen & Rigét, J. Wildlife Management (2007)

Selective vulnerability to hunting by juvenile geese and their parents



Line of argument:

- Families primarily fly in small flocks during autumn 1.
- Hunters' shooting opportunities are largely independent of flock size 2.
- The risk that families and parents are shot at is much higher than for non-breeders 3.
- It is a relatively small segment of the population which breeds successfully 4.
- Breeding birds are more vulnerable to being crippled (and killed) 5.

Madsen, European J Wildlife Research (2010)

1-20

Flock size

n=412

11-120 31-140

11-120

n=153

>150

Implementation of crippling rates in integrated population models (work in progress)

Use of priors:

- 1. Non-retrieved crippled (21% based on observations in the 1990s)
- 2. Trend in crippling ratio of juveniles (Clausen et al. 2017)



Year

Johnson et al., EGMP assessment report (2021)

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Causes of crippling examined:

- Use of ammunition and shotguns
- Use of retrieving dogs (in Denmark a retrieving dog has become mandatory)
- Shooting skills
- Goose shooting practises
- Shooting range (recommended range for geese in Denmark: 25 m)

Efficiency of shooting pink-footed geese



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Crippling of pink-footed geese

In the ISSMP for the pink-footed goose the following objective is stated as essential:

'Ensure sustainable hunting where practised (at present in Norway and Denmark) and following 'wise use' principals, whilst ensuring that crippling rates are kept at a minimum level'

Not an easy objective to achieve because, at the same time, it was agreed to increase the harvest rate in order to control the population size

Actions taken:

- Develop understanding of hunters' behaviour and motivations
- > Engage and train hunters in effective goose shooting (experimental voluntary demonstration projects in Norway and Denmark, 2010-2015)
- Develop practical and tailored training courses in effective goose shooting
- > Local and national dissemination of outcomes
- > Exchange of experiences internationally
- Engage local 'ambassadors' in ISSMP Working Groups nationally and internationally
- Continued monitoring and awareness campaigns



Danmarks Jægerforbund har gennemført en række kurser i Jylland for at optimere effektiviteten af jagten på den stigende bestand af kortnæbbede gæs. Kort sagt skal der "tages ved", når man jager – og så skal der være jagtfred på en del af området.



Management recommendations based on the research

Ways to avoid crippling:

- Stick to the recommended max. shooting range (25 m for geese; 30 m for ducks)
- Train shooting and judgement of shooting range under realistic conditions
- Shoot geese when they come into fields, not on passage
- Shoot in teams if possible
- Choose the right ammunition and shotgun
- Use a retrieving dog

Research impact

- The Danish action plan to reduce crippling (1997) was a direct political/management response to the scientific evidence provided
- The progress of the action plan has been monitored => repeated awareness campaigns
- Open questions have been scientifically addressed to find solutions => adjustments of regulations, training, proficiency tests and recommended best practises
- Reduction of crippling has been included as an objective in international flyway management plans

Thanks for your attention

Jørgen Peter Kjeldsen Lars Waade Magnus Elander Per Ivar Nicolaisen

John Frikke