



# Effects of wintering Geese on grassland yield and crop production in Northern Germany

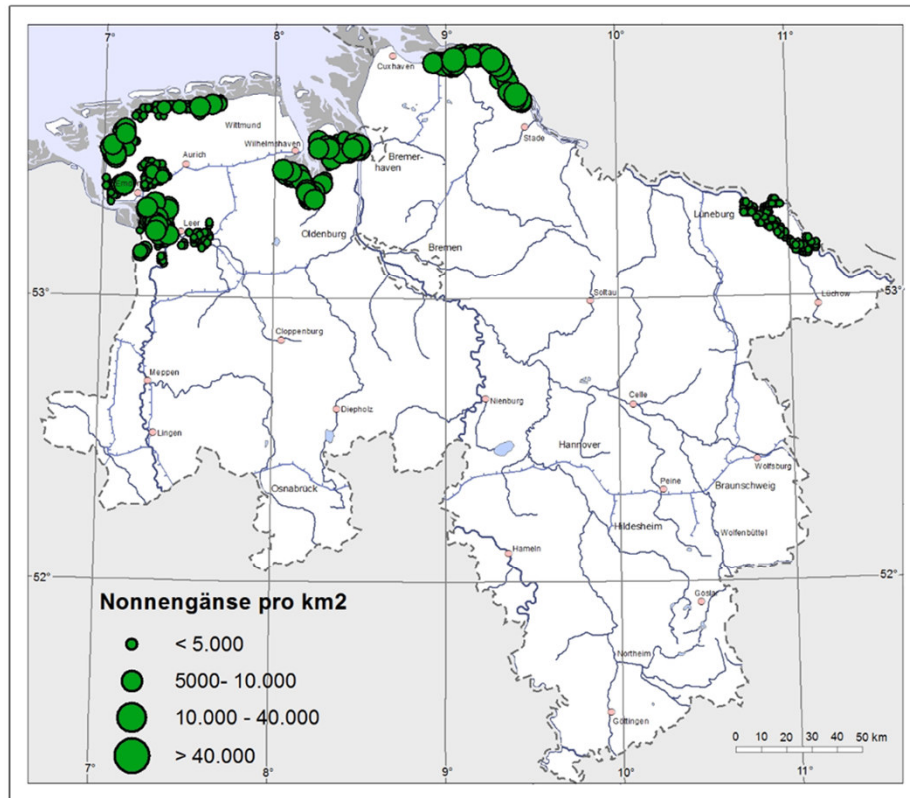
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Niedersächsisches Ministerium für Umwelt, Energie, Bauen und  
Klimaschutz

Foto: Degen



# Distribution of Barnacle Geese in Lower Saxony and Schleswig-Holstein

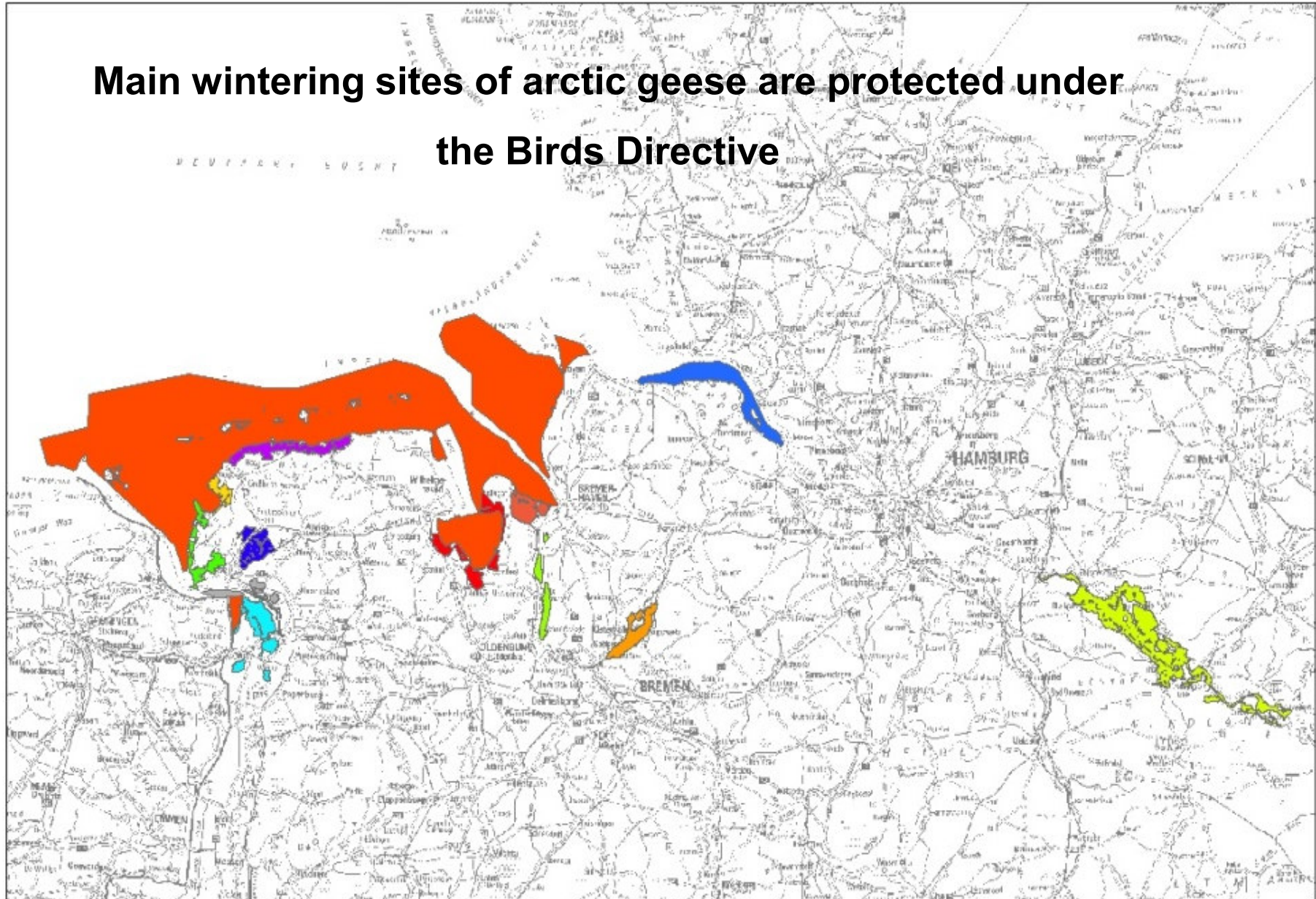


Brut- und Revierbestand

Konfliktbereiche



**Main wintering sites of arctic geese are protected under  
the Birds Directive**





## Herbivorous waterfowl community



Foto: Heinze

Barnacle Goose



Greater White-fronted Goose

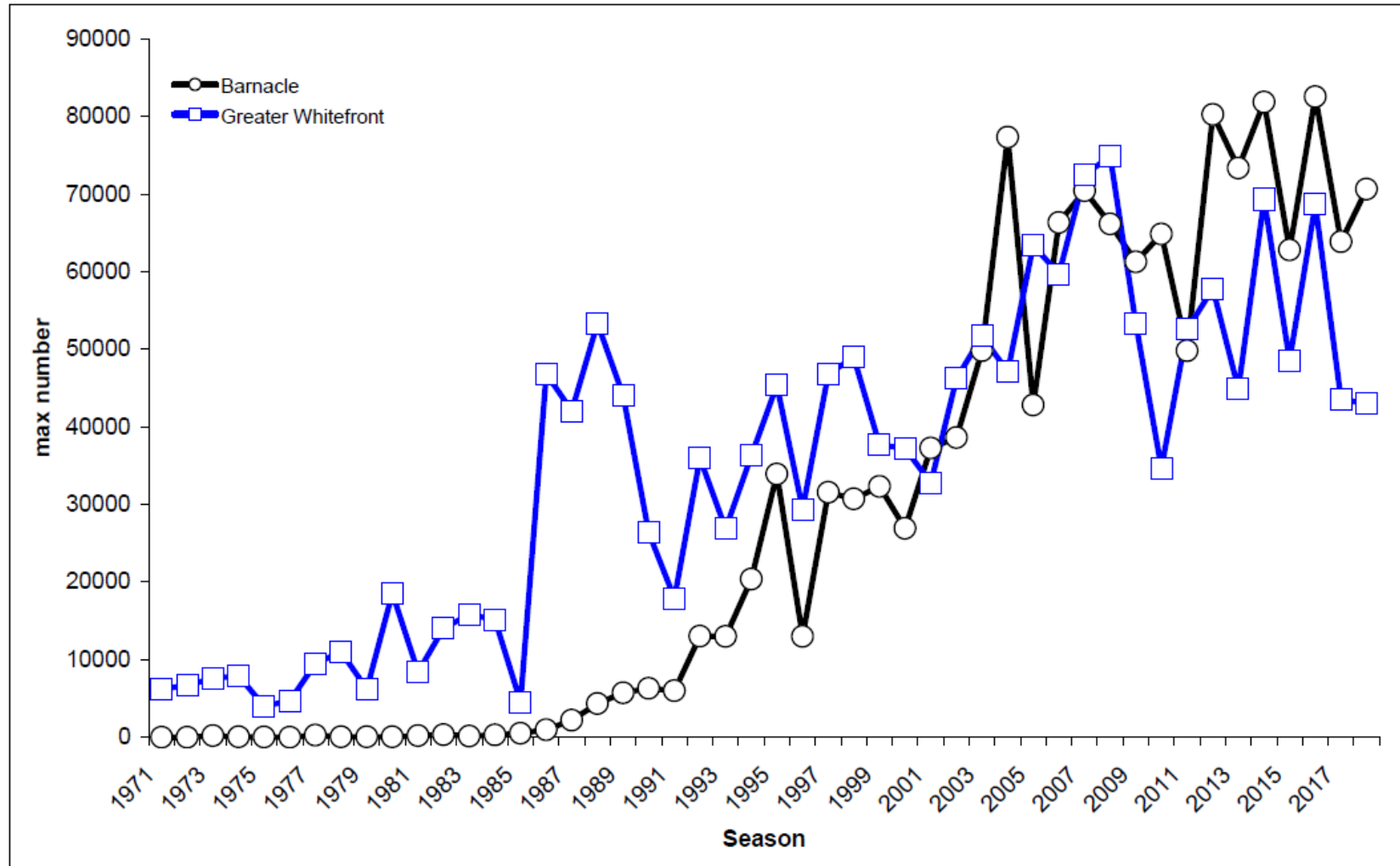
### Species:

- Brent Goose
- Greylag Goose
- Tundra Bean Goose
- Lesser White-fronted Goose
- Canada Goose
- Egyptian Goose
- Wigeon
- Pink-footed Goose
- Mute Swan
- Whooper Swan
- Bewick's Swan
- Barnacle Goose
- Great White-fronted Goose

### Dominance of two species in L.S:

Barnacle Goose: ø 250.000 birds

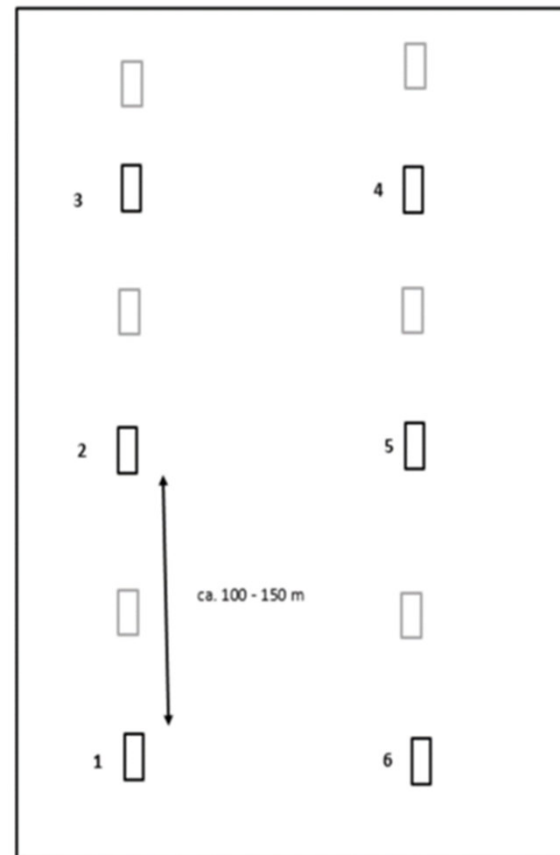
Gr. Whitefronts: ø 150.000 birds



Changes in the maximum numbers of wintering Barnacles and Gr. Whitefronts between 1971-2018 in the Dollard Region (Kruckenberg unpub.)



## Long-term study on goose damages in grasslands of the Dollard Region



□ ungrazed  
□ grazed

Study periods:

- 1996-1998
- 2008-2010
- 2016-2018

Investigated parameters:

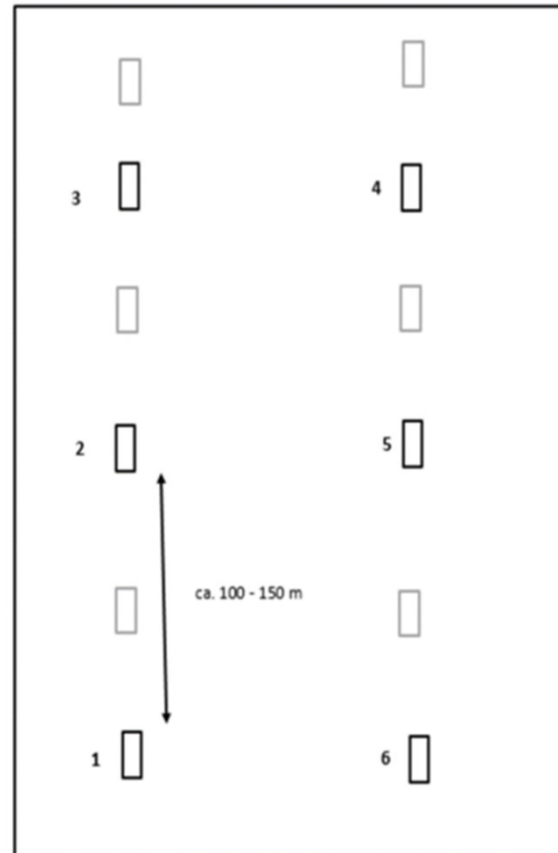
- dry biomass
- energy content
- crude protein
- fiber content
- crude ash



Foto: Kruckenberg



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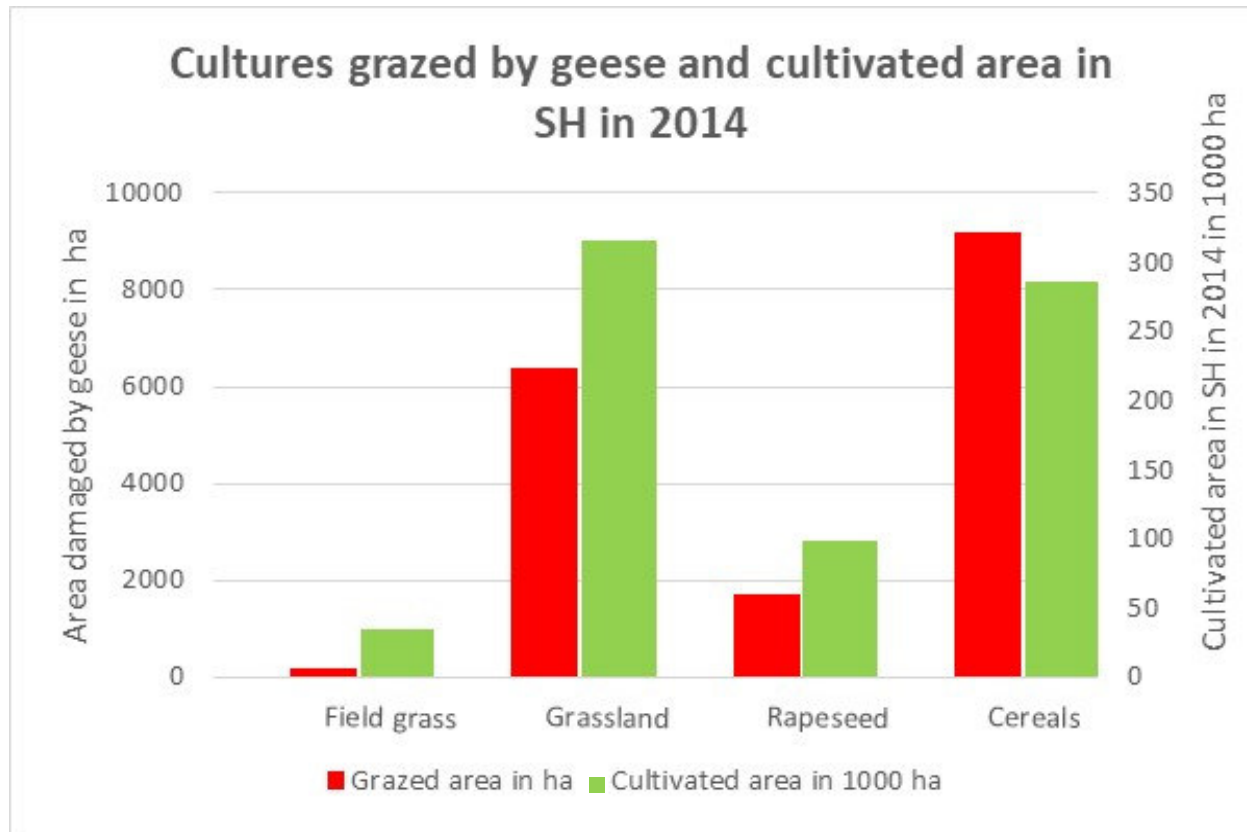
## Long-term study on goose damages in the Dollard Region

### Results:

- Increase in the mean loss of dry biomass with years on the first cut of grass:
  - 1996-1998: 15 – 20 %
  - 2008-2010: ca. 30 %
  - 2016-2018: ca. 50 %
- Ca. 80 % of the loss of dry biomass occurred in spring
- No evidence for contamination of the grass with remnants of goose droppings
- Tendency of higher crude protein content and less fiber content in grazed plots
- No long-term effects of goose foraging on later cuts of grass.
- Similar results have been obtained with regard to biomass losses in arable crops



## What crop types and grasslands are affected by wintering geese?



Vulnerability depends on the cultivated crops types: Maize and summer cereals are less vulnerable, because the geese departed already to the breeding grounds

Data culture grazed by geese: farmers association in 2014, n = ~ 17.500 ha of ~18.500 ha, other cultures (~ 1,3%), difference in ha: mixed area of field grass, grassland, rapeseed and cereals

Data cultivated area: Statistikamt Nord 2014, <https://www.statistik-nord.de/zahlen-fakten/landwirtschaft/>



Thank you for  
your attention!