

# Taiga Bean Goose Workshop

## Identification of key knowledge gaps

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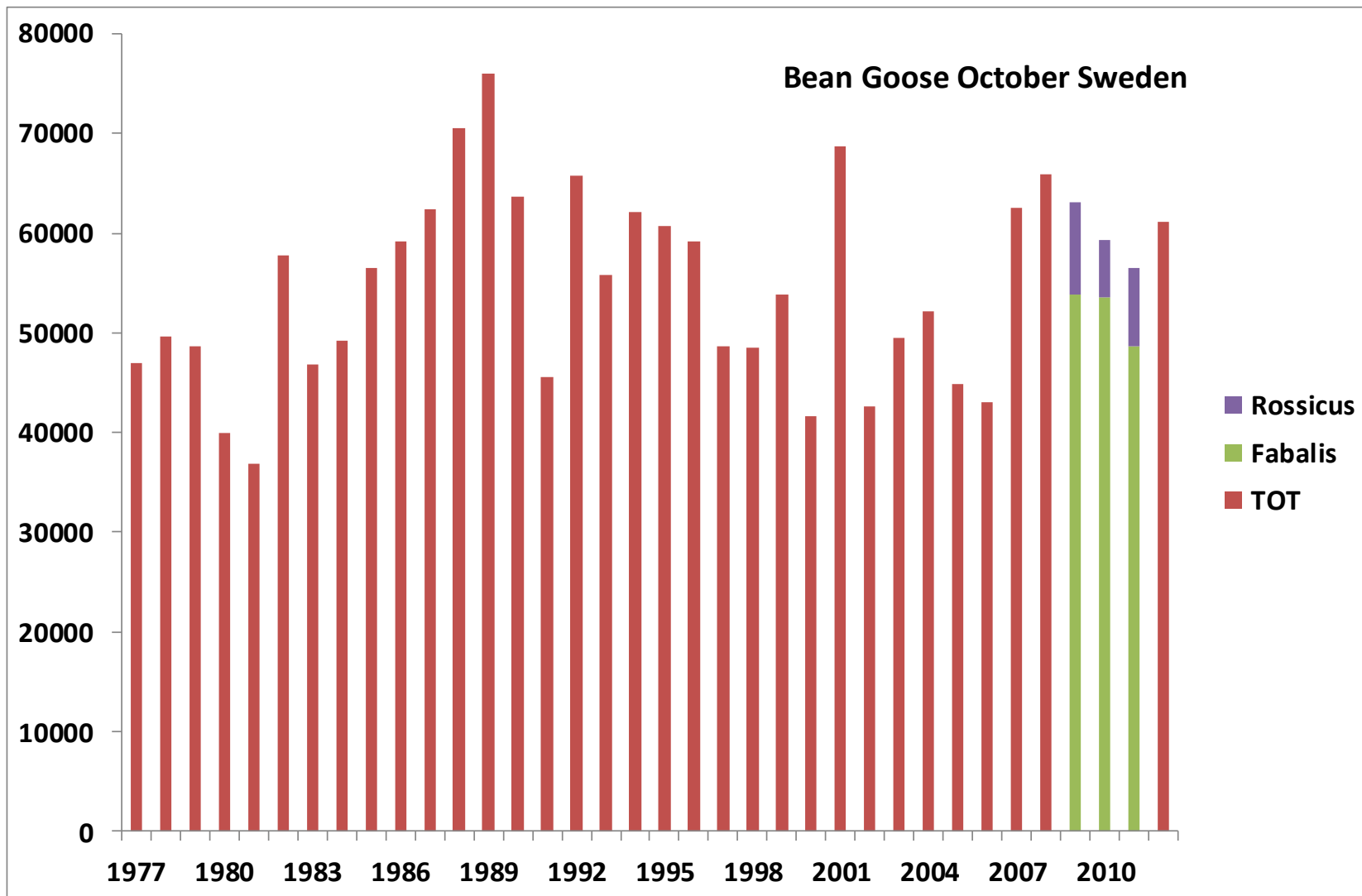


# Population estimates and trends





# Staging Population & Trend





**How to separate tundra and taiga  
Beans in dense flocks ??**



- True Taiga Bean Goose numbers during counts
- Training of observers to separate tundra/taiga geese
- Coordinated counts over the entire distribution area
- Standard protocol for monitoring
- Unknown staging/wintering sites (especially for the eastern populations)
- Standardized counting procedures for coordinated counts over the entire area to establish trends



# Spring staging areas



- **What characterizes a good spring staging area**
- **Pre-breeding staging sites: locations, requirements, threats and management with special emphasis to sites close to the actual breeding grounds**
- **Where are the main staging areas found for the different populations.**



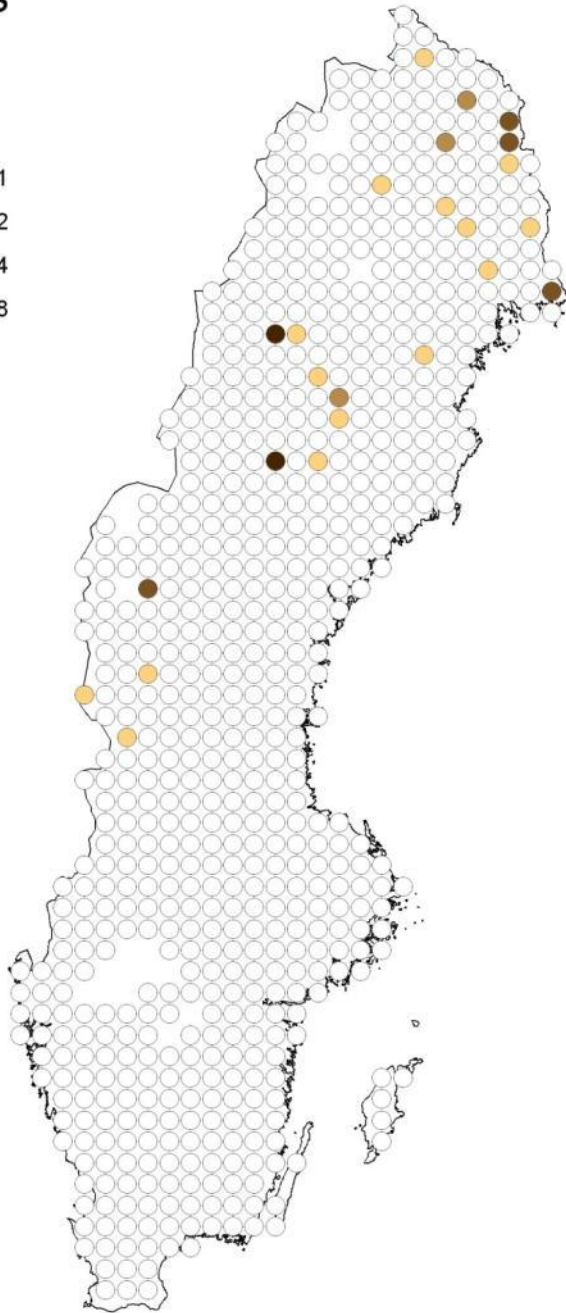
# Breeding areas





# Sädgås

Ind/år



Lack of detailed information  
about breeding distribution

Lack of accurate information  
about population size in the  
breeding areas









jun 15, 2009 6 pm



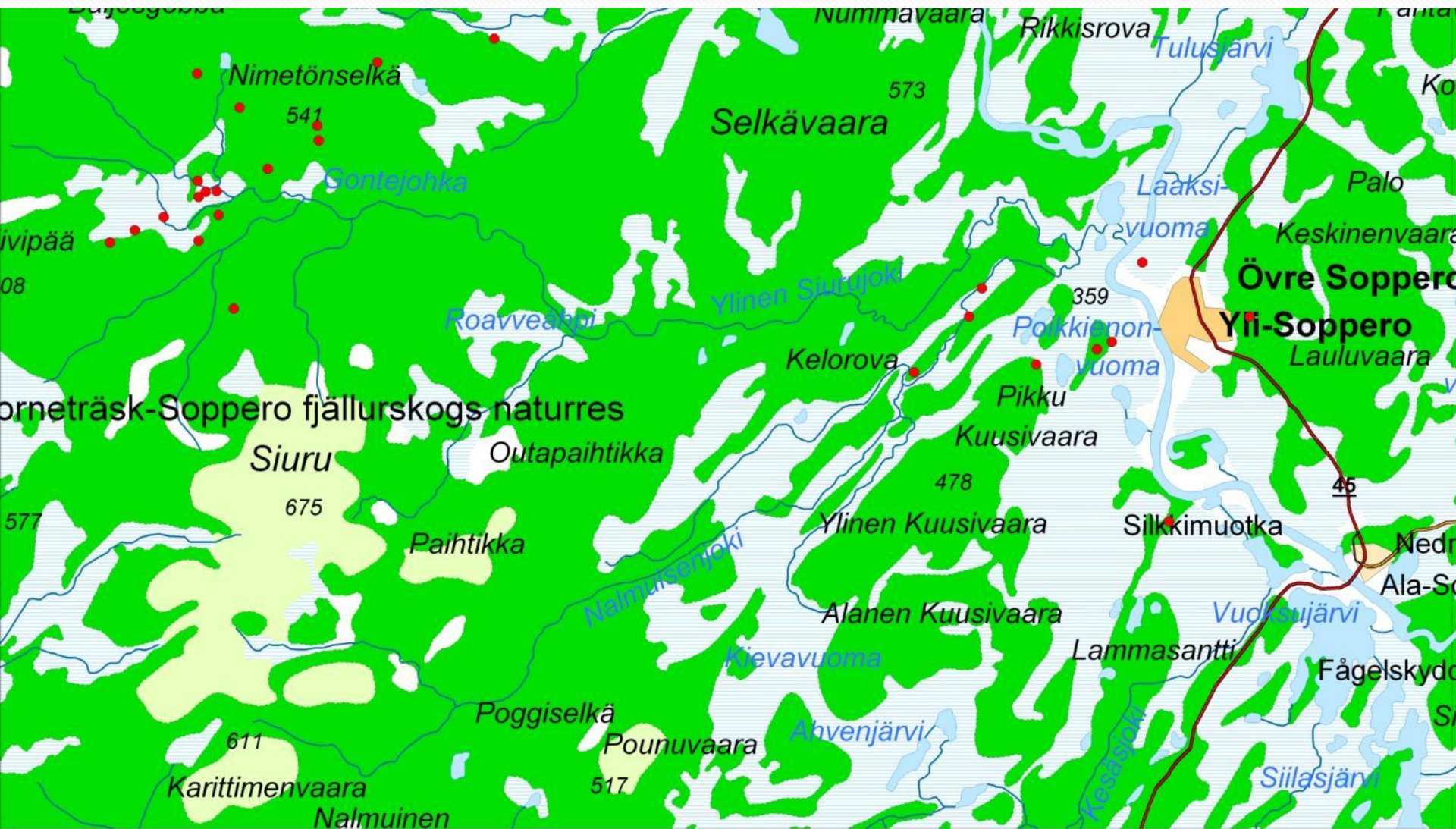
Image © 2009 TerraMetrics

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68°03'36.24" N 21°46'16.53" O höjd 371 m





- Current distribution and size of the breeding populations in different areas
- Possible *fabalis/rossicus* hybridization zone in Nordkalotten (N/FI/SE/RU)
- Factors of importance for the selection of breeding habitats and for the selection of nest sites.
- Definition of the main breeding habitats in different regions.
- Possible factors affecting the availability of good breeding habitats.
- Densities of breeding populations in different regions/habitat types
- Competition from e.g. Whooper Swans in breeding areas



- **Studies on population dynamics**
- **Modern analysis of survival rates for different populations and cohorts within population**
- **Solid data on reproduction rates**

# Moulting

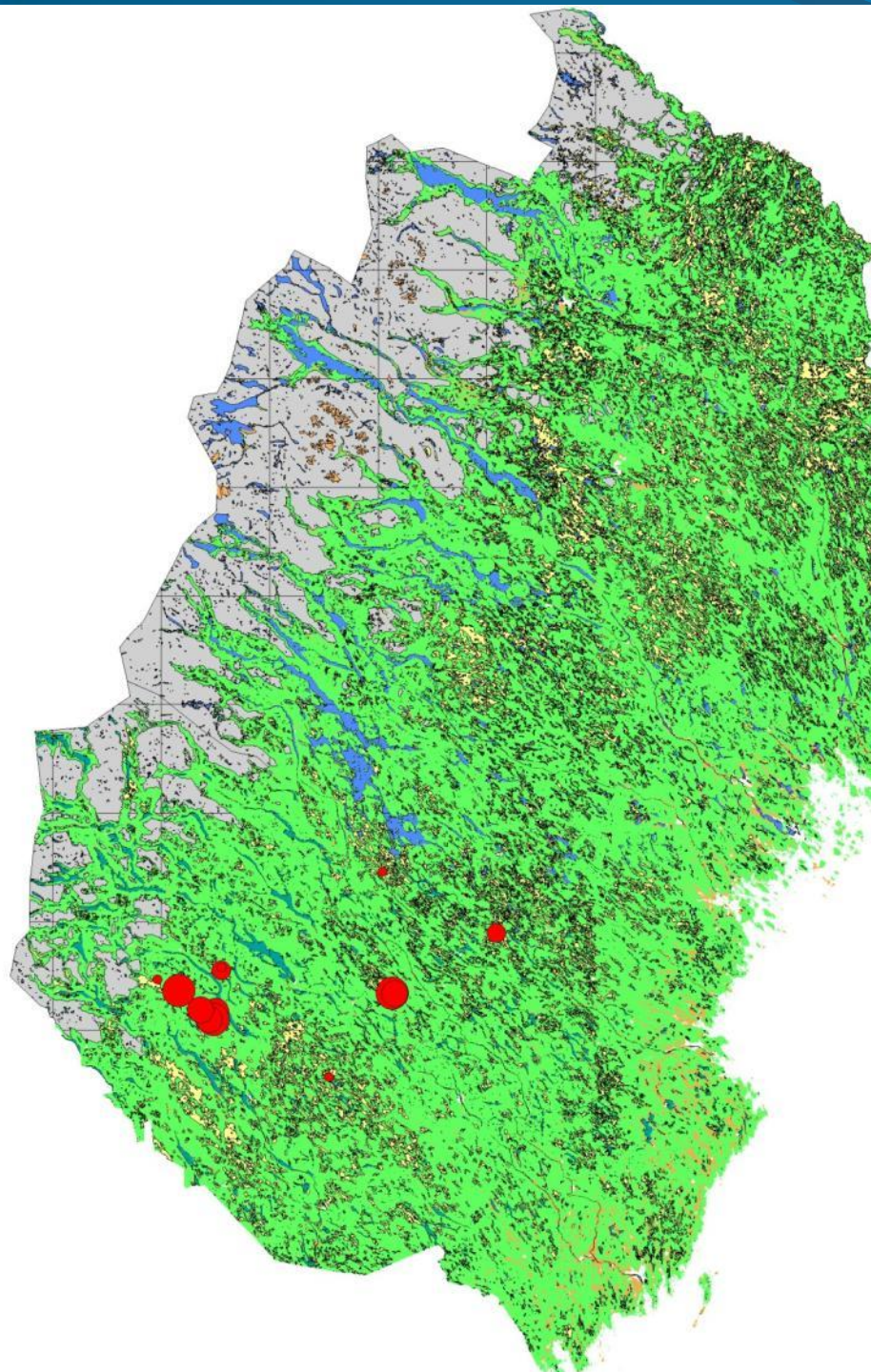




Where are the main moulting areas to be found??









aug 29, 2009 11 am

Longyearbyen

Grönlandshavet

an Mayen

Barents hav

Norska havet

Vita havet

864 km

Norge

© 2009 Google  
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70°33'11.95" N 32°44'52.73" O höjd -255 m

© 2009

Vision



27. aug. 2009 - 8 fm



7.74 km

Image © 2010 TerraMetrics

Image TB CAO

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75°21'26.70"N 57°39'05.93"E höld -24 eng. mil

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Google

Visningshöjd 2654 km

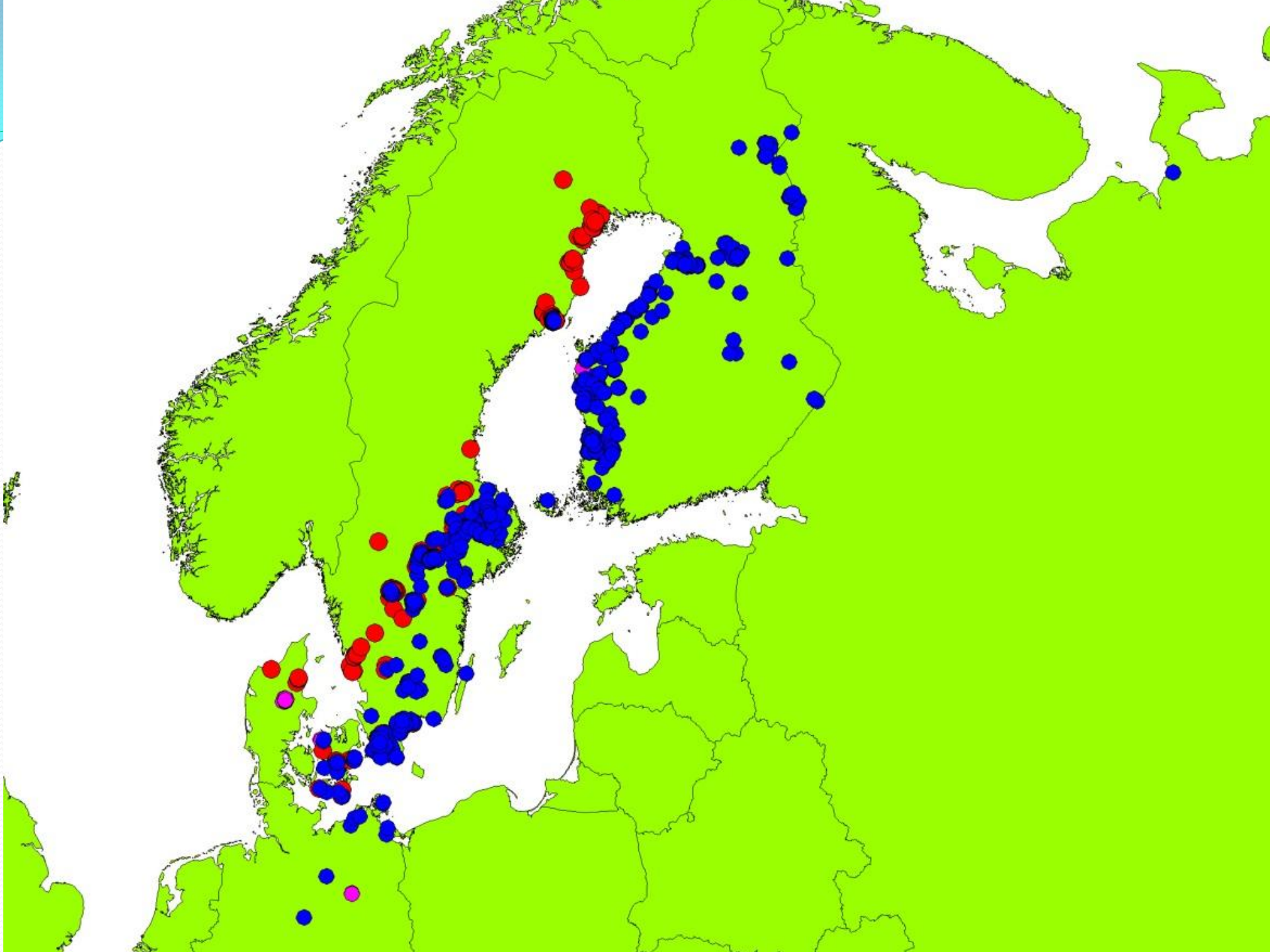


- **Locate moulting sites**
- **Factors affecting the selection of moulting sites for Taiga Bean Geese.**
- **The connectivity between breeding and moulting areas**
- **Dynamics of site use by moulting geese.**
- **Moulting site bonding processes**
- **Predation on moulting sites**
- **Competition from other goose species on moulting sites (e.g. vegetation degradation)**

# Migration







- **The connectivity between breeding and moulting areas**
- **Migration patterns for different populations (especially for the eastern populations and Karelia)**
- **The connectivity between breeding areas, staging areas and wintering areas.**
- **Marking programs to elucidate migration patterns of the birds from Karelia and the eastern area (GPS/GSM)**
- **Study the origin of geese in different wintering/staging areas with stable isotope techniques.**



## Staging/wintering areas



- **Unknown staging/wintering sites**
- **Landscape-level approaches to roost-foraging area management**
- **Sub-population structure: movements, numbers and management**



# Hunting



- “True” bag-sizes – for the different management units and countries
- Injures caused by hunting and their population-level impact
- Disturbance from hunting
- Influence of spring hunting
- Which harvest levels are sustainable??



