

# LIFE09 NAT/SE/ 000344 (2010-2013)

## Management of the invasive Raccoon Dog (*Nyctereutes procyonoides*) in the north-European countries



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## Goal with the project

- Stop the raccoon dog from establishing in Sweden, Denmark and Norway

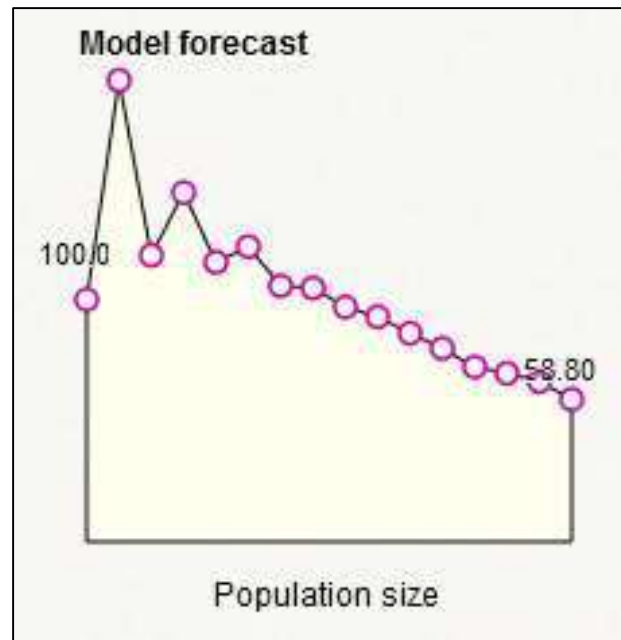




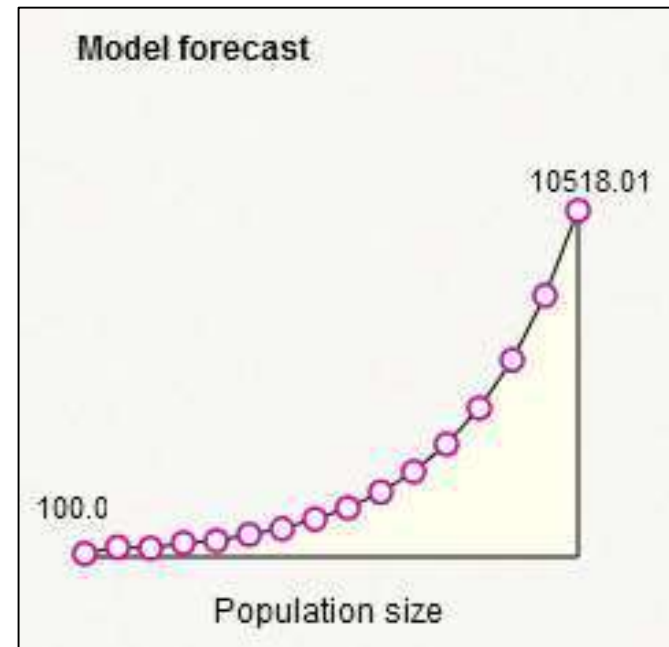
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## Population model – forecast for Sweden made in 2010



Population development 2010-2025 including our efforts in culling and sterilisation.



Population development 2010-2025 without our efforts in culling and sterilisation.



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# Adaptive management

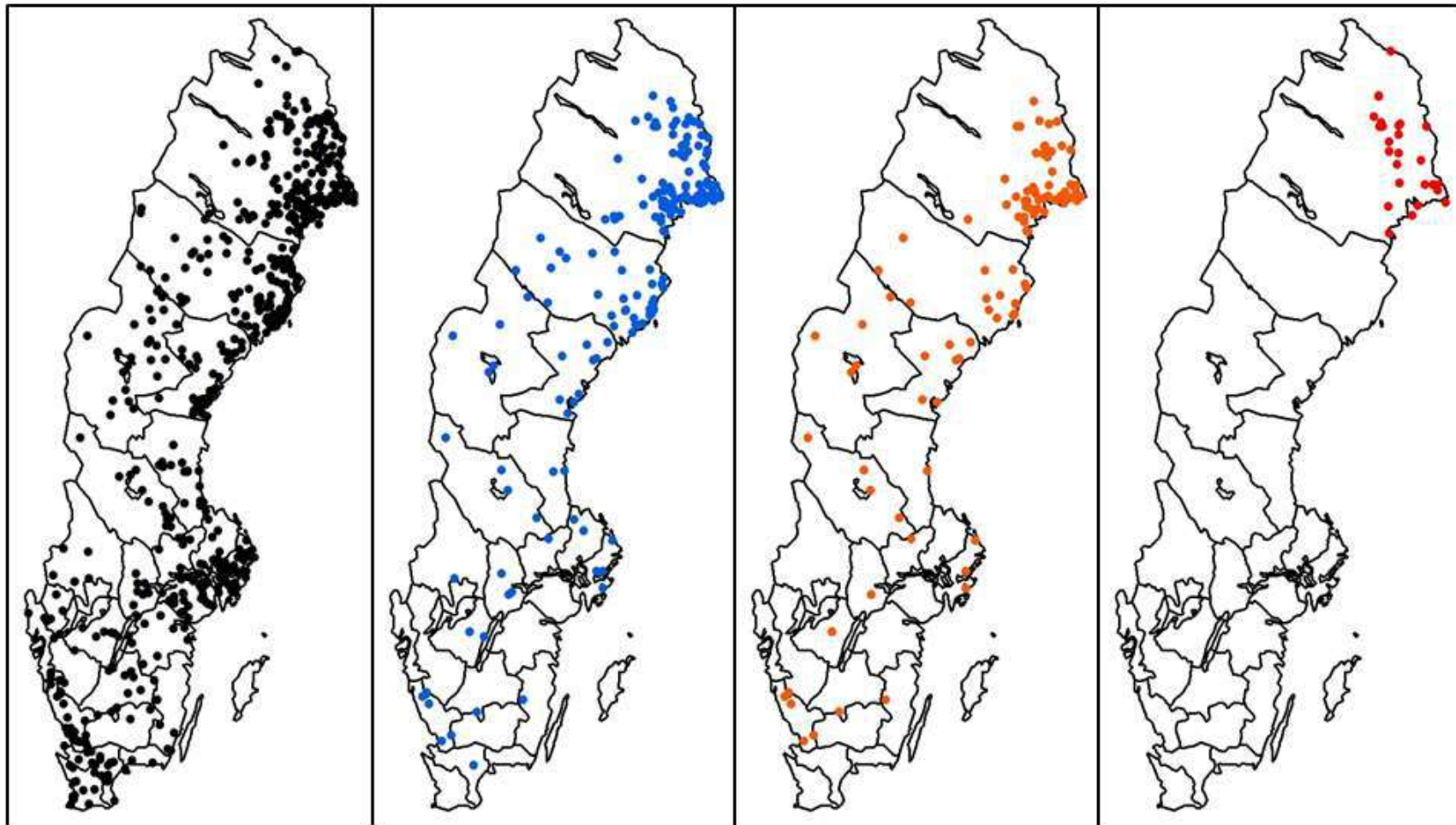
<b>Goal</b>	Prevent Eradicate Contain
<b>Knowledge about the system</b>	Dispersal Habitat selection Practical evaluations -Scent lures -Judas technique -Traps
<b>Management</b>	Information, dissemination, press Local education of hunters and public Observations and tips from the public , CS Professional managers Game cameras and scent lures Tracking, DNA, traps, dogs Judas animals Local hunting
<b>Monitoring</b>	Population monitoring Effect of efforts
<b>Follow up</b>	Reference group



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## Citizen science - public observations



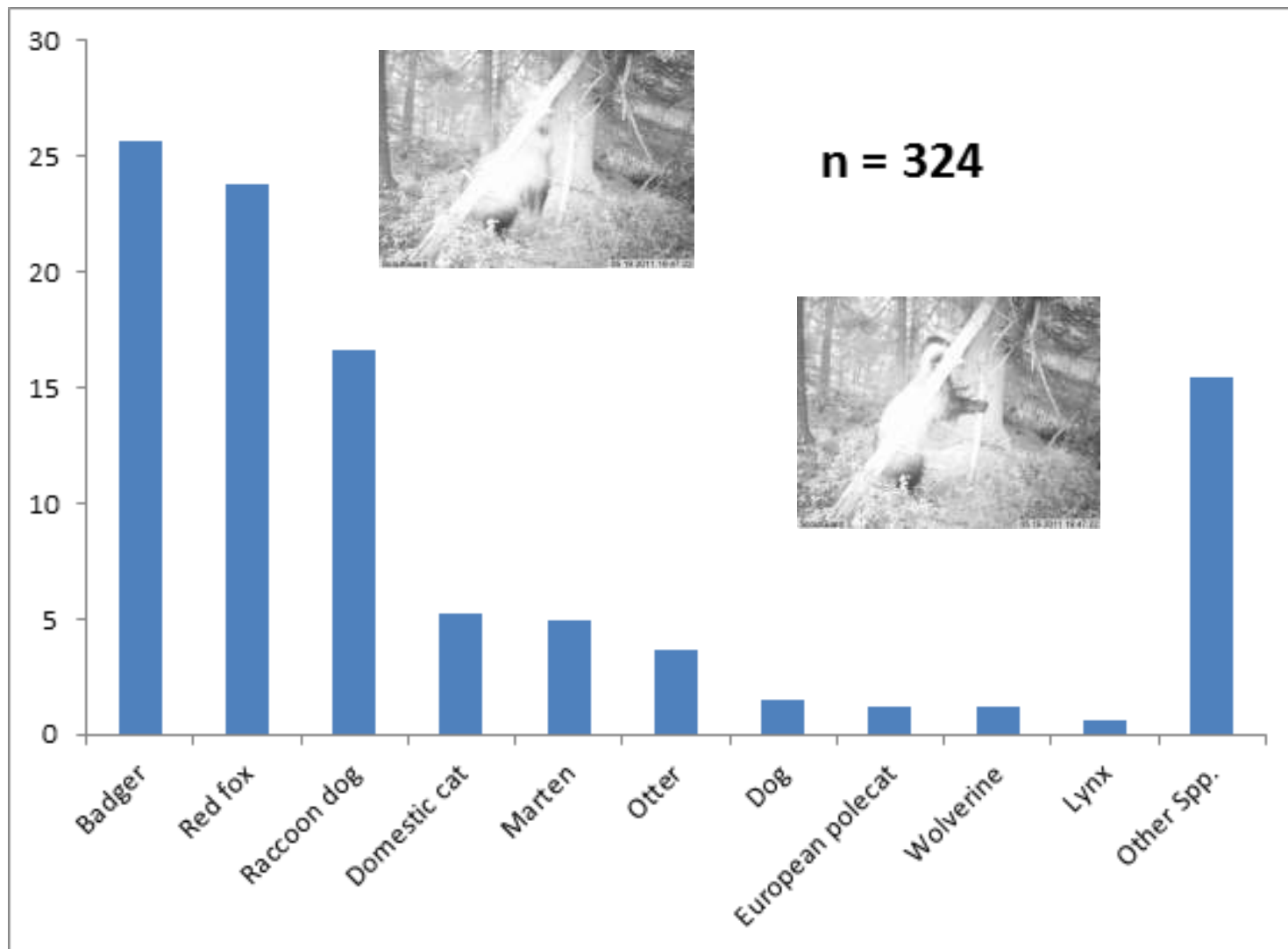
- a) Suspected RD reported to the project 2016 (616), b) observations visited in field (175),  
c) Observations where cameras have been put out (101) and  
d) Observations where RD could be confirmed (27).*



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## Distribution of citizen science species





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# Captured RD in Sweden 2010-2016

- Help from the public is important!
- About 50% of all RD are captured thanks to the public
  - About 30% are killed by private hunters
- The other 50% (+ 20% of the public tips) are captured by the project personnel

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Year	MMS-cameras	Judas	Projektet other	Private hunting	Traffic/dead	Total
2016	19	2	4	13	2	40
2015	24	5	11	18	4	62
2014	43	12	13	28	8	104
2011-2013						319
Total						525

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## Cameras + professional hunters & dogs



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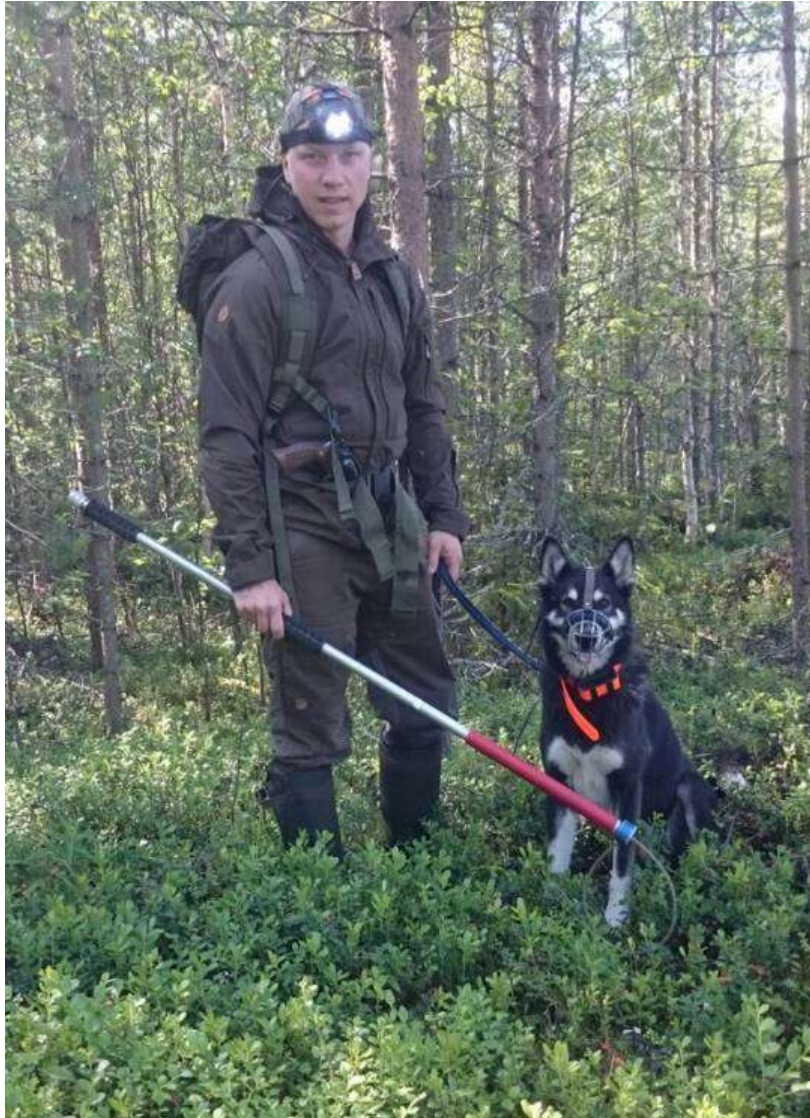


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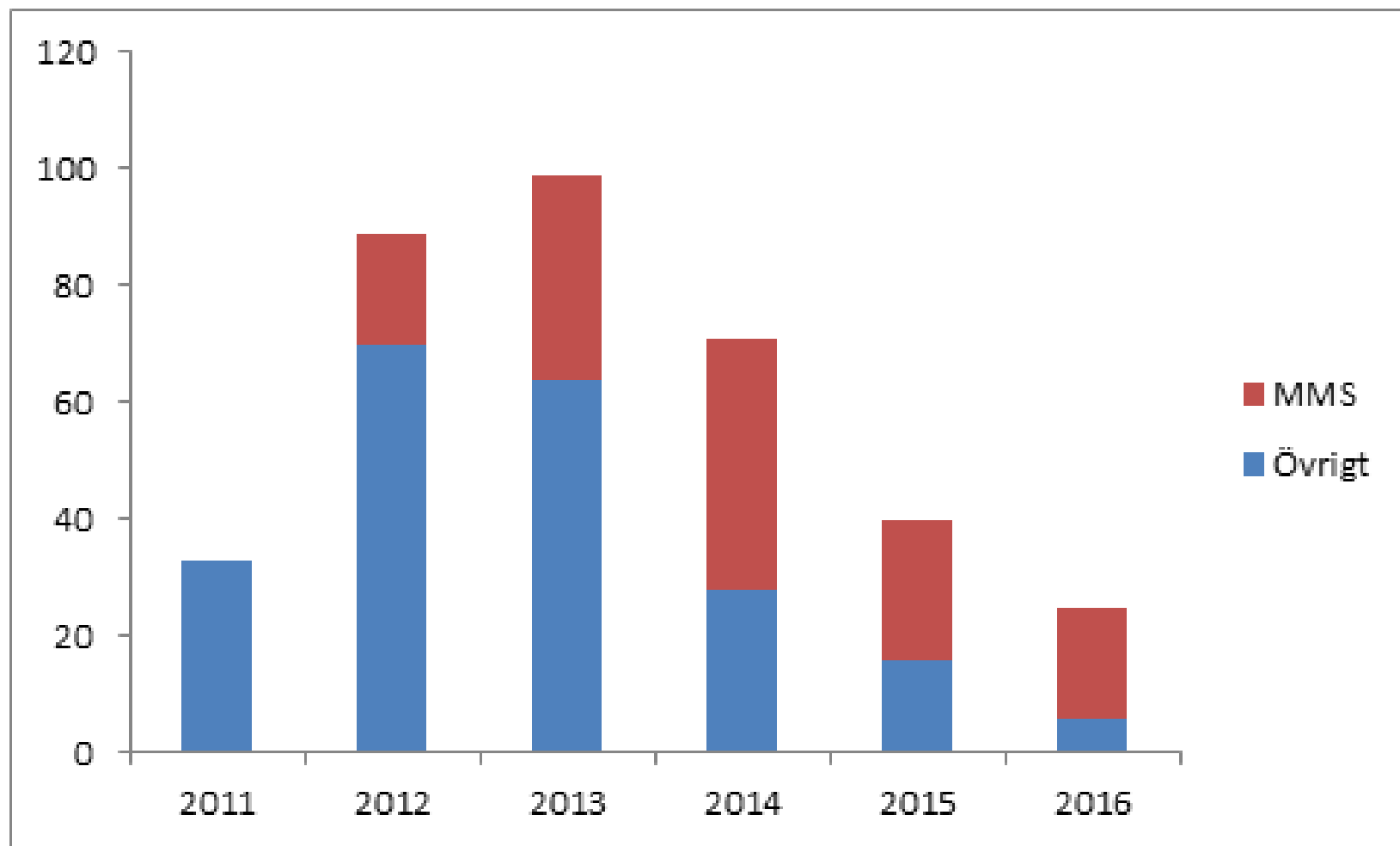
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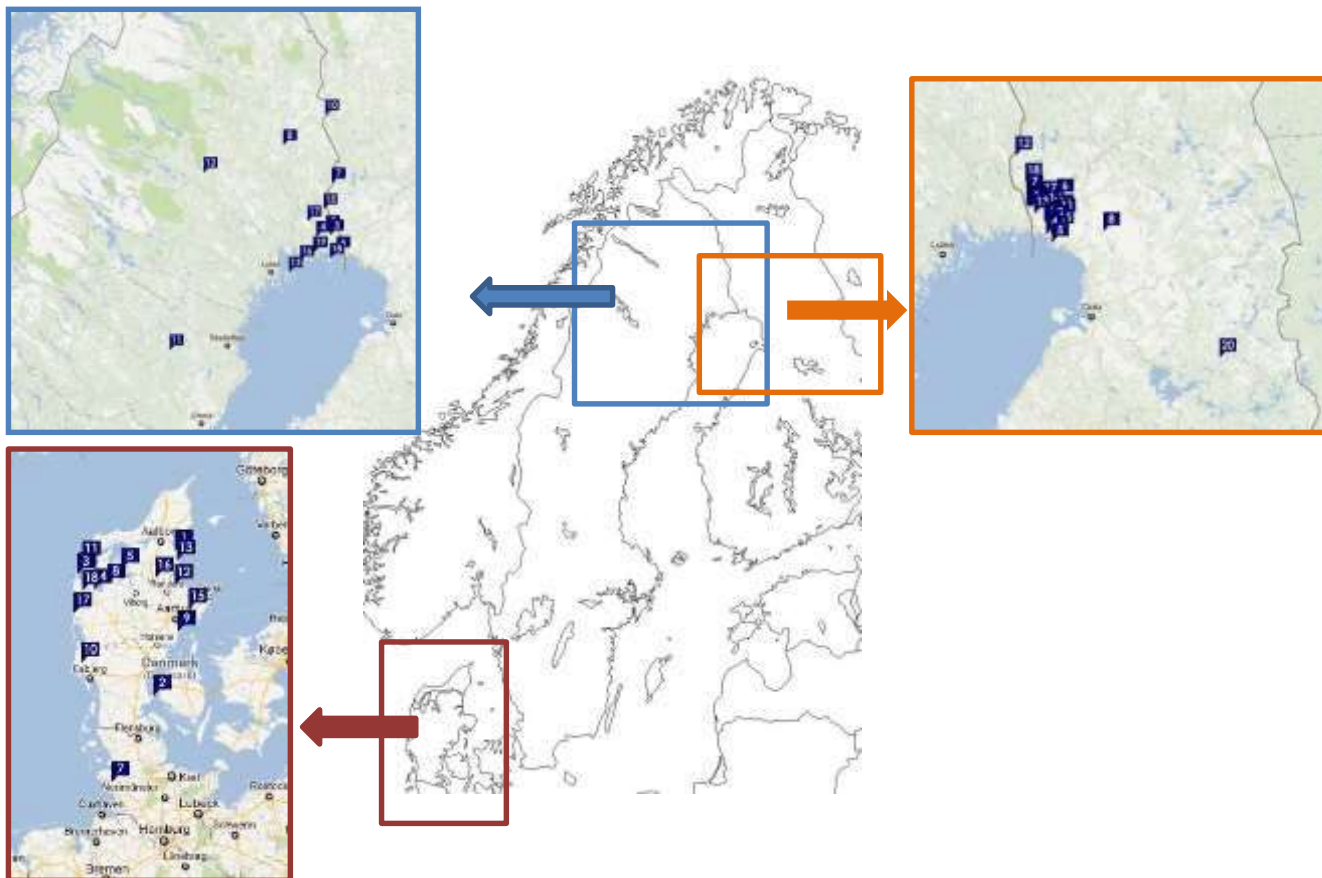
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*Judas animals are most efficient at very low population densities*



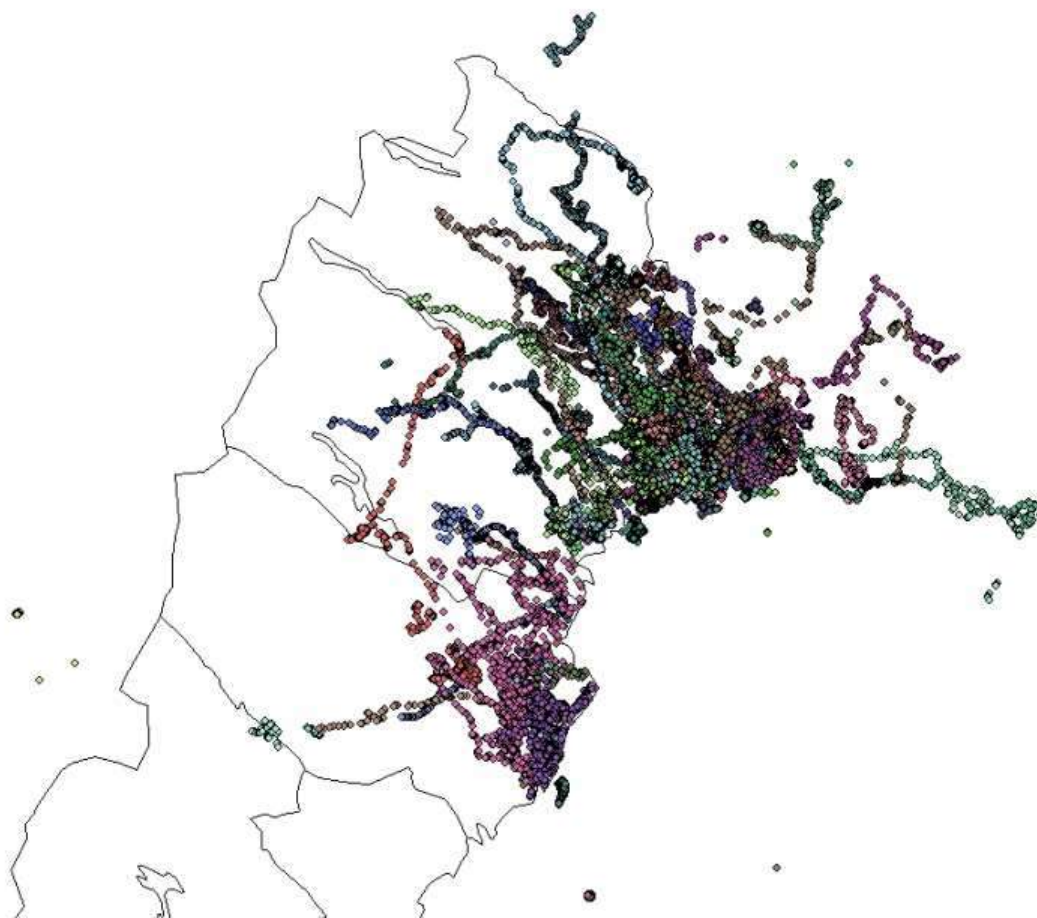
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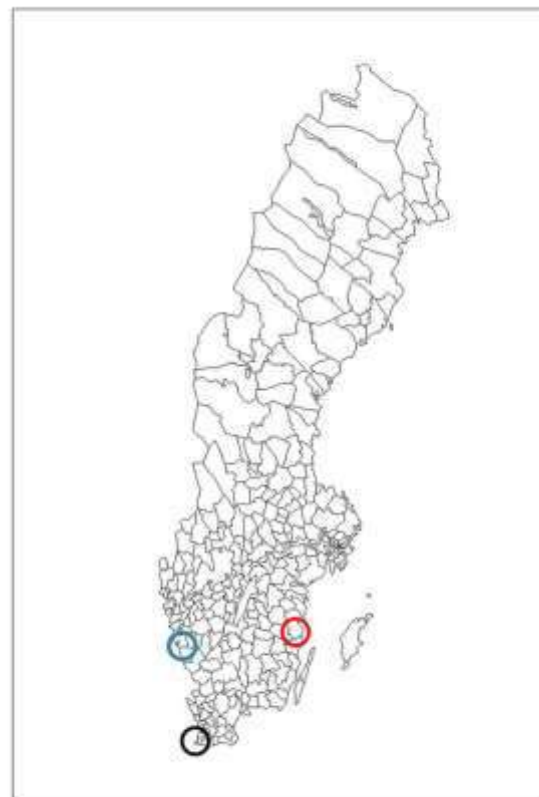
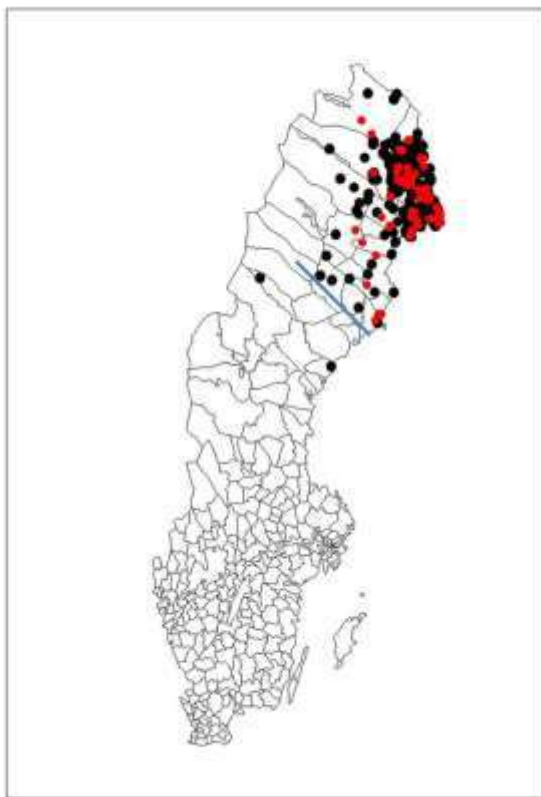
**Figur 1.** *Ostnärmårdhundens vandringar under två år i sitt sökande efter en partner.*



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# Confirmed observations raccoon dog/raccoon 2008 - 2016



*L.. Confirmed raccoon dogs 2008-2015 (black dots) and 2016 (red dots).*

*R. Confirmed raccoons 2010-2016. 2010 (blue), 2013 (red), 2014 (black).*

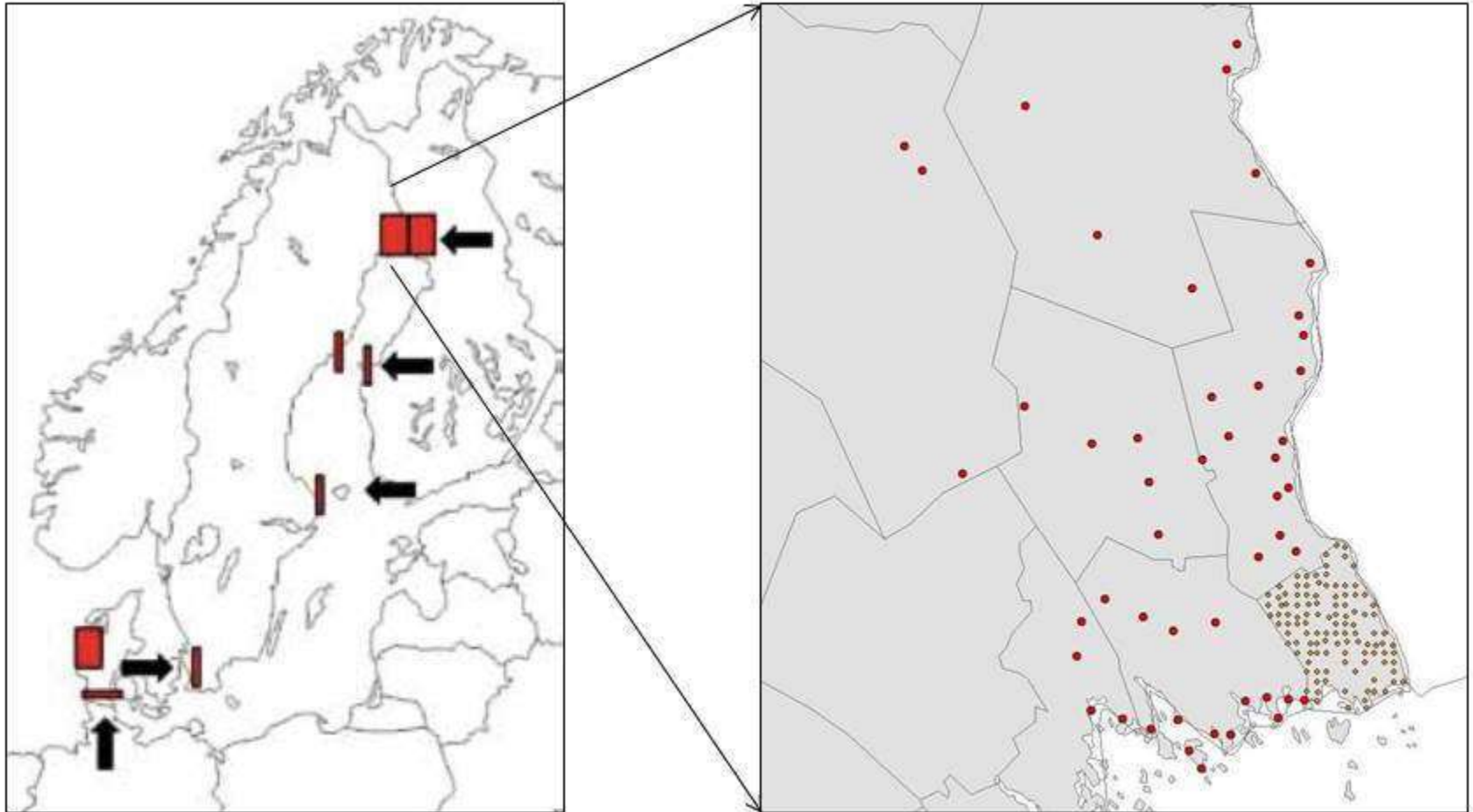




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# Monitoring systems

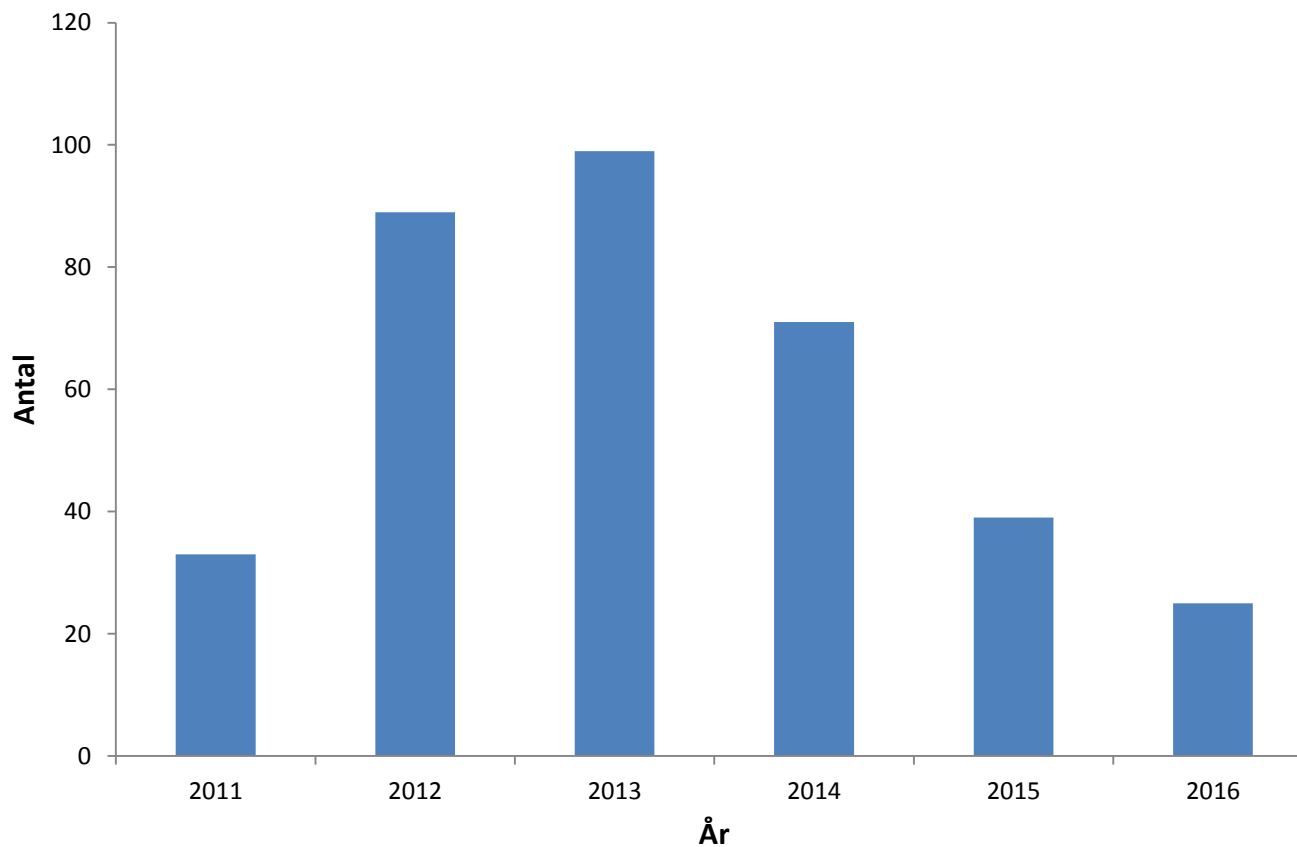




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## Number of RD culled by the project personnel with the same effort between years

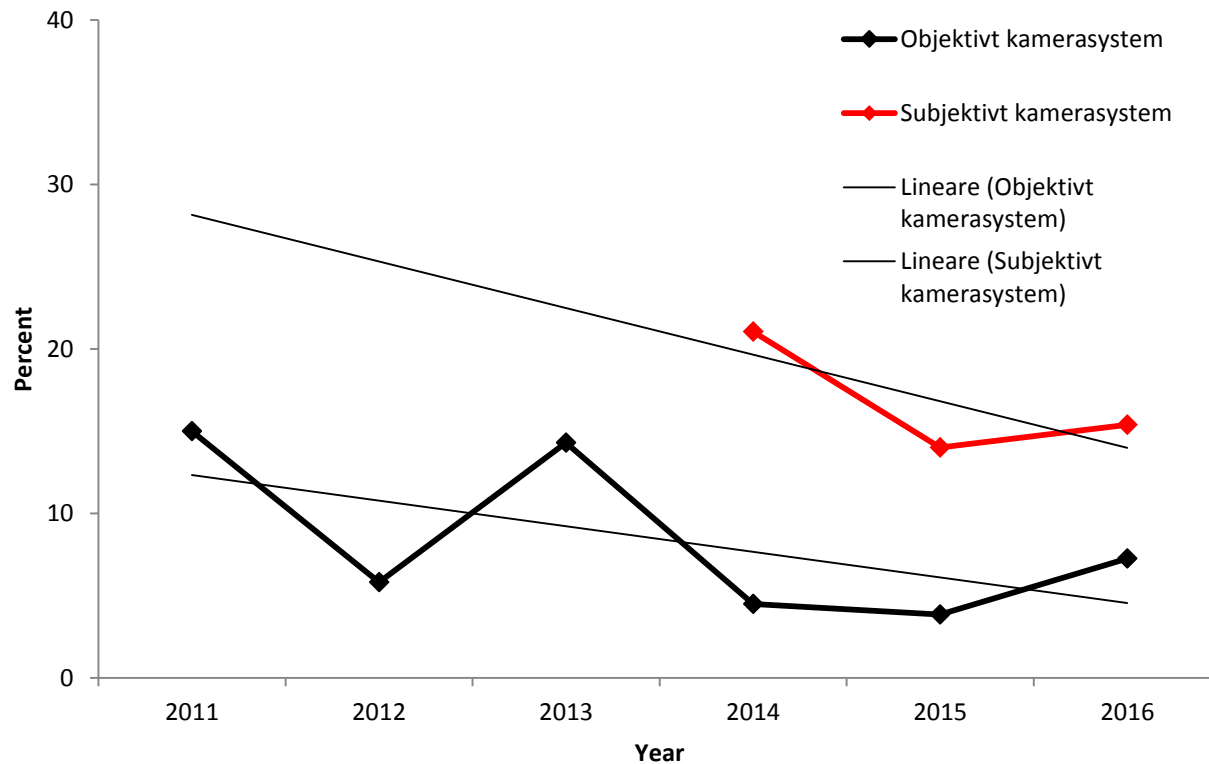




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# Monitoring











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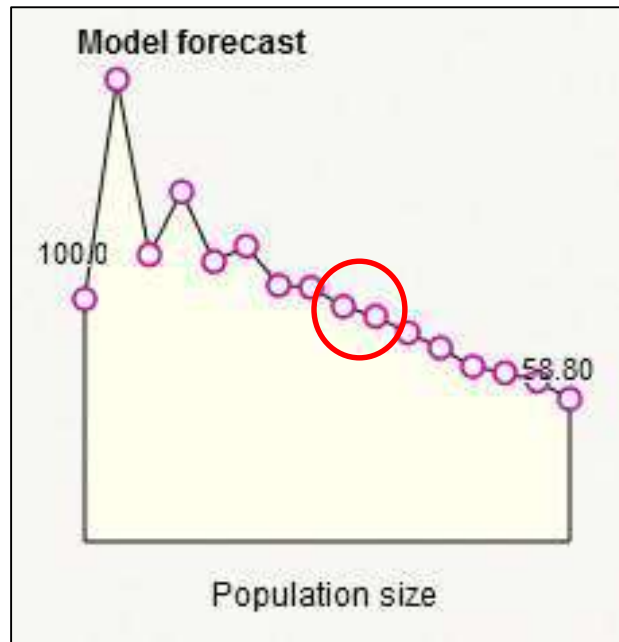




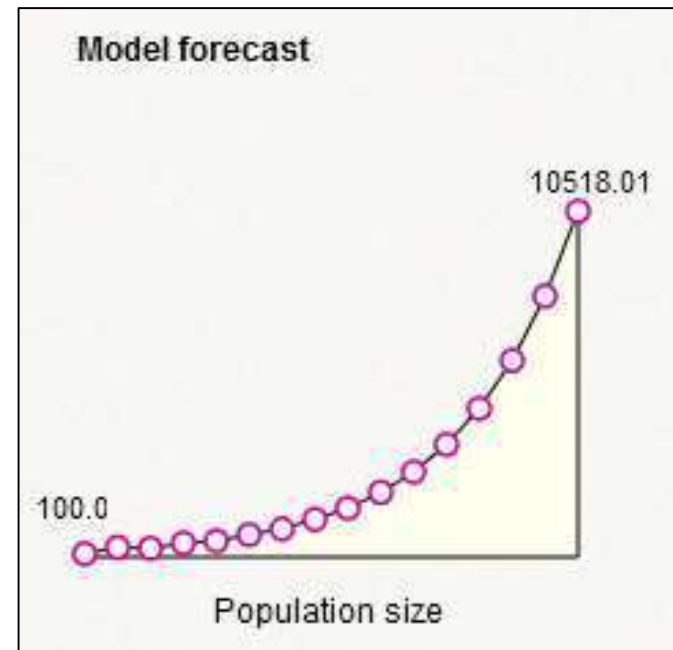
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# Population models



Population development 2010-2025 including our efforts in culling and sterilisation.



Population development 2010-2025 without our efforts in culling and sterilisation.





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# Denmark

- Judas-animal network, co-operation with local hunters, education and media/awareness raising work and culling of Raccoon Dogs.
  - Population kept stable during LIFE
  - Exponential increase after LIFE
  - Approximately 150 RD annually 2010-2014, last three years 260, 430 and so far almost 1000 in 2017.
  - RD only present on the mainland connecting with Germany (Jutland)
  - No active management in Schleswig-Holstein trying to reduce dispersal
  - Fyn and Sjaelland still free from RD
  - New goal is to keep the RD confined to Jutland





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# Finland

- Judas-animal network, co-operation with local hunters, education and media/awareness raising work and culling of Raccoon Dogs.
  - During After Life period more than 500 RD have been killed from Northern Finland.
  - The Raccoon Dog population has declined since the beginning of MIRDINEC LIFE.
  - Very few Judas animals disperse to Sweden/Norway today compared with during the LIFE-project
  - Many more Swedish Judas animals disperse to Finland
  - Continued effective management is needed to keep the Raccoon Dog population in control and low numbers.





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## Norway

- More confirmed RD before LIFE, only one RD confirmed annually the last three years
- Contributes to the Finnish funding to stop the RD from spreading to Norway
- National RD fund to take care of immigrating RD immediately
- Norway spend 1/8 of the Swedish funding on RD, mainly in Finland
- If it had not been for the transnational project it is likely that Norway would today spend at least the same amount as Sweden, probably much more



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## Summing up

- LIFE09 NAT/SE/ 000344
  - Have stopped the RD from establishing in Sweden, Norway and parts of Denmark
  - All participating MS continued the management after LIFE with National funding
  - RD on the Union list ensures continued commitment from all involved MS
  - Norway will also continue their support
- Transnational cooperation necessary for mammals and bird IAS – Norway/Sweden/Finland VS. Denmark/Germany
- Cost in Sweden 820 000 Euro annually
  - But, today covers all mammalian species on the Union-list present in Sweden
- Denmark 375 000 Euro, need of cooperation with Germany and new efficient tools, for example traps
- Finland 160 000 (80 000 from Norway) Euro in 2016
- Norway 110 000 Euro (80 000 to Norway)



# Eye of the Hunter for Nature



P-A Åhlén, Fredrik Dahl, Swedish Association for Hunting and Wildlife Management

(c) ensure appropriate checks at the Union borders, other than the official controls pursuant to Article 15.

5. The action plans established in accordance with paragraph 2 shall be transmitted to the Commission without delay. Member States shall review their action plans and transmit them to the Commission at least every six years.

#### CHAPTER III

#### EARLY DETECTION AND RAPID ERADICATION

##### Article 14

##### Surveillance system

1. Within 18 months of the adoption of the Union list, Member States shall establish a surveillance system of invasive alien species of Union concern, or include it in their existing system, which collects and records data on the occurrence in the environment of invasive alien species by survey, monitoring or other procedures to prevent the spread of invasive alien species into or within the Union.

2. The surveillance system referred to in paragraph 1 of this Article shall:

- (a) cover the territory, including marine territorial waters, of the Member States to determine the presence and distribution of new as well as already established invasive alien species of Union concern;
- (b) be sufficiently dynamic to detect rapidly the appearance in the environment of the territory or part of the territory of a Member State of any invasive alien species of Union concern, whose presence was previously unknown;
- (c) build upon, be compatible with, and avoid duplication of relevant provisions for assessment and monitoring laid down by Union law or under international agreements and make use of the information provided by the existing systems of surveillance and monitoring set out in Article 11 of Directive 92/43/EEC, Article 8 of Directive 2000/60/EC and Article 11 of Directive 2008/56/EC;
- (d) take into account the relevant transboundary impact and transboundary features, to the extent possible.

##### Article 15

##### Official controls

1. By 2 January 2016, Member States shall have in place fully functioning structures to carry out the official controls necessary to prevent the intentional introduction into the Union of invasive alien species of Union concern. Those official controls shall apply to the categories of goods falling within the Combined Nomenclature codes to which a reference is made in the Union list, pursuant to Article 4(5).

- $\approx 7\,000\,000$  hunters
- Everywhere



- $\approx 2\,000\,000$  trail cams?
- Billions of pictures
- Covering millions of hectares







ScoutGuard

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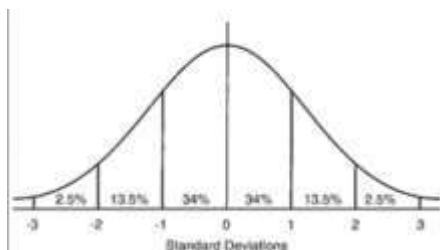
# EU-EWS for invasive species

- High areal coverage
- No or small costs for detection

National authorities and Commission

Information

Early detection of new invasive species



EU-EWS

[www.eyeofthehunter.eu](http://www.eyeofthehunter.eu)

Expert panel and  
knowledge bank  
IUCN/ISSG, SAHWM,  
FACE

Pictures

Best practice information  
for Rapid Response

Incentives

Hunters trail cams

# Thank you!



Description of project;

[http://www.issg.org/pdf/aliens\\_newsletters/A30.pdf](http://www.issg.org/pdf/aliens_newsletters/A30.pdf)

Home page;

[www.mardhund.se](http://www.mardhund.se)